



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

PAPAKOLEA KAPAHU ST.
SLOPE IMPROVEMENTS

HONOLULU, OAHU, HAWAII

INVITATION FOR BIDS
IFB-22-HHL-007



August 2021

William J. Aila, Jr., Chairman

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**NOTICE TO BIDDERS
INVITATION FOR BID (IFB)
Department of Hawaiian Home Lands
Land Development Division**

IFB NO.: IFB-22-HHL-007

BID OFFERS for IFB No.: IFB-22-HHL-007, PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENTS, Papakolea, Island of Oahu, State of Hawaii, will be received by the Department of Hawaiian Home Lands (DHHL), at Hale Kalanianaʻole, 91-5420 Kapolei Parkway, Kapolei, Hawaii, 96707, until **2:00 p.m., Hawaii Standard Time (H.S.T.), September 22, 2021**, at which time all bids will be publicly opened and read aloud. Bids received after the time fixed for the opening or if delivered anywhere other than the location specified above will not be opened or considered.

This project consists of furnishing all labor, equipment, materials and supervision to prepare lot for subdivision and provide all grading and infrastructure work as indicated in the plans and specifications to satisfactorily complete the Papakolea Kapahu St. Slope Improvements, Honolulu, Oahu, Hawaii.

To be eligible to submit a bid, the Bidder and/or his subcontractors shall possess all required valid State of Hawaii licenses and specialty licenses needed to perform the work for this project. A surety bid bond will be required for this Invitation for Bids (IFB).

This project is subject to Section 103D, Hawaii Revised Statutes, and to the payment of not less than the prevailing salaries and wages promulgated by the State of Hawaii, Department of Labor and Industrial Relations.

Bid documents may be examined at or obtained from the State of Hawaii eProcurement system (HIePRO):

<https://hiepro.ehawaii.gov/sav-search.html>

It is the responsibility of Interested Bidders to check the HIePRO website for any addenda issued by DHHL.

All prospective bidders/offerors are invited to attend a PRE-BID CONFERENCE to be held at 10:00 a.m., H.S.T, on August 19, 2021 at the project site at 2136 Kapahu Street, Papakolea, Island of Oahu, Hawaii. Subcontractors and union representatives are also invited to attend. The conference is to provide bidders/offerors with an opportunity to ask questions about the contractual requirements and technical aspects of the project. Attendance of the pre-bid conference and/or site visit is not a condition for submitting a bid, but strongly recommended. Persons needing special accommodations due to a disability may submit such requests to Mitchell Kawamura, Project Manager, Land Development Division, via facsimile at (808) 620-9299, or e-mail to mitchell.h.kawamura@hawaii.gov.

A written NOTICE OF INTENTION TO BID is required and shall be received by the DHHL, Land Development Division, at 91-5420 Kapolei Parkway, Kapolei, Hawaii 96707, no later than September 1, 2021. Submittal of a NOTICE OF INTENTION TO BID via facsimile at (808) 620-9299, or e-mail to mitchell.h.kawamura@hawaii.gov is acceptable.

A properly executed and notarized STANDARD QUALIFICATION QUESTIONNAIRE FOR OFFERORS, SPO Form-21 ("Questionnaire") is required and shall be submitted to the DHHL Land Development Division, at 91-5420 Kapolei Parkway, Kapolei, Hawaii 96707 no later than 4:30 P.M., September 1, 2021. Submittal of the Questionnaire via e-mail is acceptable. The Questionnaire can be downloaded at the State Procurement Office website:

<http://spo.hawaii.gov/wp-content/uploads/2013/12/spo-021.pdf>

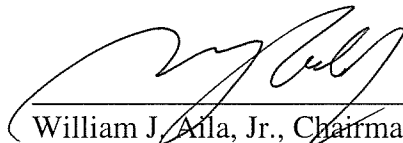
Bids shall comply with the requirements of the IFB. Bids that do not comply with the IFB may be subject to disqualification. DHHL reserves the right to amend the IFB by written addenda, to reject any and all bids, or to waive any defects in said bids where DHHL deems it is in the best interest of the State.

CAMPAIGN CONTRIBUTIONS BY STATE AND COUNTY CONTRACTORS PROHIBITED. If awarded a contract in response to this solicitation, offeror agrees to comply with HRS §11-355, which states that campaign contributions are prohibited from a State and county government contractor during the term of the contract if the contractor is paid with funds appropriated by the legislative body between the execution of the contract through the completion of the contract.

Questions regarding this project may be directed in writing to Mitchell Kawamura, Project Manager, Land Development Division, DHHL, 91-5420 Kapolei Parkway, Kapolei, Hawaii 96707, via facsimile at (808) 620-9299, or e-mail to mitchell.h.kawamura@hawaii.gov, or via HlePRO, no later than September 6, 2021.

Dated at Honolulu, Hawaii, this 2nd day of August 2021.

DEPARTMENT OF HAWAIIAN HOME LANDS



William J. Aila, Jr., Chairman
Hawaiian Homes Commission

Posted on the internet at: <https://hands.ehawaii.gov/hands/opportunities>

Instructions for Bid Submittal

General Instructions for Bid Submittal

The Bid Offer form must be completed and submitted to DHHL by the required due date and time, and in the form prescribed by DHHL.

For your convenience, an “IFB Checklist for Bidders” is included in this section for your use.

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.

Bid documents and all certifications should be written legibly or typed and completed with black ink.

I. PROPOSAL REQUIREMENTS AND CONDITIONS

A. QUALIFICATION OF BIDDERS.

Prospective Bidders must be capable of performing the work for which bids are invited and must be capable of entering into a public contract of \$25,000 (twenty-five thousand dollars) or more.

B. NOTICE OF INTENTION TO BID

1. In accordance with Section 103D-310, Hawaii Revised Statutes (HRS), and Section 3-122-108, Hawaii Administrative Rules (HAR), a written Notice of Intention to Bid, herein after “Notice” must be submitted to the Chairman, the Head of the Purchasing Agency (HOPA) who is the officer responsible for this procurement. The Notice may be faxed, hand carried, mailed, or e-mailed to the office indicated in the Notice.
2. The written Notice must be received by the DHHL no later than the date and time specified in the Notice to Bidders. The written Notice will be time stamped when received by DHHL. The time designated by the time stamping device in DHHL shall be official. If the written Notice is hand carried, then the bearer is responsible to ensure that the Notice is time stamped by DHHL. If the Notice is delivered through facsimile (fax) machine, the time of receipt by DHHL’s fax machine shall be official. If the Notice is sent by email, the time indicated in the date and time field of the email as received by DHHL shall be official.
3. It is the responsibility of the prospective Bidder to ensure that the written Notice is received in time and the Department assumes no responsibility for failure of timely delivery caused by the prospective Bidder or by any method of conveyance chosen by the prospective Bidder. DHHL shall use best efforts to return a signed acknowledgement of receipt of Notice from Bidder(s).

4. If two (2) or more prospective Bidders desire to bid jointly as a joint venture on a single project, they must file an affidavit of joint venture with their Notice. Such affidavit of joint venture will be valid only for the specific project for which it is filed. No further license is required when all parties to the joint venture possess current and appropriate contractor's licenses. Joint ventures are required to be licensed in accordance with Chapter 444 HRS, and the rules and regulations of the Contractor's License Board when any party to the joint venture agreement does not hold a current or appropriate contractor's license. The joint venture must be registered with the office of the Director of Commerce and Consumer Affairs in accordance with Chapter 425 HRS.
5. No persons, firm or corporation may bid where (1) the person, firm, or corporation, or (2) a corporation owned substantially by the person, firm, or corporation, or (3) a substantial stockholder or an officer of the corporation, or (4) a partner or substantial investor in the firm is in arrears in any payment owed to the State of Hawaii or any of its political subdivisions or is in default of any obligation to the State of Hawaii or to all or to any of its political subdivisions, including default as a surety or failure to perform faithfully and diligently any previous contract with DHHL.

C. STANDARD QUALIFICATION QUESTIONNAIRE FOR OFFERORS

1. Prospective Bidders shall submit answers to questions contained in the STANDARD QUALIFICATION QUESTIONNAIRE FOR OFFERORS (SPO Form-021), hereinafter "Questionnaire" properly executed and notarized, setting forth a complete statement of the experience of such prospective Bidder and its organization in performing similar work and a statement of the equipment proposed to be used, together with adequate proof of the availability of such equipment. The Questionnaire shall be submitted to the location on or prior to the date and time set forth in the Notice to Bidders. The Questionnaire will be time stamped when received by DHHL. The time designated by the time stamping device in DHHL shall be official. If the Questionnaire is hand carried, then the bearer is responsible to ensure that the notice is time stamped by DHHL. If the information in the Questionnaire proves satisfactory, the Bidder's proposal will be received. All information contained in the answers to the Questionnaire shall be kept confidential. The Questionnaire will be returned to the Bidder after it has served its purpose. Prior Questionnaires submitted for other Notice to Bidders are not acceptable.
2. If upon review of the Questionnaire, or otherwise, the Bidder appears not fully qualified or able to perform the intended work, the HOPA shall, after affording the Bidder an opportunity to be heard and if still of the opinion that the Bidder is not fully qualified to perform the work, refuse to receive or to consider any bid offered by the prospective Bidder.

3. Failure to complete and submit the prequalification questionnaire by the designated deadline will be sufficient cause for the Department to disqualify a prospective Bidder.

D. PROPOSAL FORM

1. Prospective Bidders are being furnished with the proposal form giving the location, description, and the contract time of the work contemplated for which a lump sum bid price is asked or containing a schedule of items, together with estimated quantities of work to be performed and materials to be furnished, for which unit bid prices and/or lump sum bid prices are asked.
2. All papers bound with or attached to the proposal form shall be considered a part thereof and shall not be detached or altered when the proposal is submitted.
3. The drawings, specifications and other documents designated in the proposal form will also be considered a part thereof whether attached or not.
4. When quantities for individual items of work are listed in the proposal form for which respective unit prices are asked, said quantities are estimated or approximate and are to be used by the Department only for the purpose of comparing on a uniform basis bids offered for the work. The Department does not, expressly or by implication agree that the actual quantity of work will correspond therewith.
5. On unit price bids, payment will be made only for the actual number of units incorporated into the finished project at the unit price bid, subject to DHHL Construction General Conditions (CGC), Section 4.7, VARIATIONS IN ESTIMATED QUANTITIES.
6. The Bidder's proposal must be submitted on the proposal form furnished by the Department. The proposal must be prepared in full accordance with the instructions herein. The Bidder must state, both in words and numerals, the lump sum price or total sum bid at which the work contemplated is proposed to be done. These prices must be written in ink or typed. In case of a discrepancy between the prices written in words and those written in figures, the words shall govern over the figures. The Bidder shall sign the proposal in the spaces provided with ink.
7. If the proposal is made by an individual, the person's name and post office address must be shown in the space provided. If made by a partnership, the name and post office address of each member of the partnership must be shown and the proposal signed by all partners or evidence in the form of a partnership agreement must be submitted showing the authority of the partner to enter, on behalf of said partnership, into contract with the Department. If made by a corporation the proposal must show the name, title and business address of the president, secretary and treasurer and also evidence in the form of a corporate resolution must be submitted showing the authority of the particular corporate representative to enter on behalf of said corporation into contract with the Department. If made by a joint-venture the name and post office address of each member of the individual firm,

partnership or corporation comprising the joint-venture must be shown with other pertinent information required of individuals, partnerships or corporations as the case may be. The proposal must be signed by all parties to the joint-venture or evidence in the form of a Joint-Venture Agreement must be submitted showing the authority of the joint-venture's representative to enter on behalf of said joint-venture into contract with the Department.

8. Pursuant to the requirements of Section 103D-302, HRS, each Bidder shall include in its bid the name of each person or firm to be engaged by the Bidder on the project as joint contractor or subcontractor indicating also the nature and scope of work to be performed by such joint contractor and/or subcontractor and their respective contractor's license number. A joint contractor or subcontractor performing less than or equal to one percent of the total bid amount is not required to be listed in the proposal. The Bidder shall be solely responsible for verifying that their joint contractor or subcontractor has the proper license at the time of the submitted bid.
9. It is understood and agreed that the Contractor shall make no claim for anticipated profit, loss of profit or unabsorbed field, branch or home office overhead and impact losses due to the exercise of the Departments right to eliminate entire portions of the work or to increase or decrease any or all the quantities shown in the proposal form.
10. By submitting a bid on the proposal form, a Bidder accepts the language therein as its own.

E BID SECURITY

1. Subject to the exceptions in Section 3-122-223(d) HAR, all lump sum bids of \$50,000 (fifty thousand dollars) and higher, or lump sum base bids including alternates of \$50,000 (fifty thousand dollars) and higher, that are not accompanied by bid security are non-responsive. Bid security shall be one of the following: §3-122-222(a) HAR
 - a. Surety bid bond underwritten by a company licensed to issue bonds in this State which shall be substantially in the form of the Surety Bid Bond form in Procurement Circular No. 2007-05; or
 - b. Legal Tender; or
 - c. Certificate of Deposit; credit union share certificate; or cashier's, treasurer's, teller's or official check drawn by, or a certified check accepted by, and payable on demand to the State by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration.
 - (a) These instruments may be utilized only to a maximum of \$100,000 (one hundred thousand dollars).

- (b) If the required security or bond amount totals over \$100,000 (one hundred thousand dollars), more than one instrument not exceeding \$100,000 (one hundred thousand dollars) each and issued by different financial institutions shall be accepted.
 - (c) CAUTION - Bidders are cautioned that certificates of deposit or share certificates with an early withdrawal penalty must have a face value sufficient to cover the maximum penalty amount in addition to the proposal guaranty requirement. If the certificate is made out to two names, the certificate must be assigned unconditionally to the Chairman.
- 2. Unless otherwise stated, 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 all additive alternates or in an amount required by the terms of the federal funding, where applicable.
- 3. If the Bidder is a corporation, evidence in the form of a corporate resolution, authorizing the corporate representative to execute the bond must be submitted with the proposal. (See sample in Appendix.) If the Bidder is a partnership, all partners must sign the bond or evidence in the form of a partnership agreement must be submitted showing the authority of the partner.
- 4. If the Bidder is a joint-venture, all parties to the joint-venture must sign the bond; provided, that one party to the joint-venture may sign on behalf of the joint-venture if evidence in the form of a joint-venture agreement or power of attorney, is submitted showing the authority of the signatory to sign the bond on behalf of the joint-venture.
- 5. In the case where the award will be made on a group or item basis, the amount of bid security shall be based on the total bid for all groups or items submitted.
- 6. Bidders are cautioned that surety bid bonds which place a limit in value to the difference between the bid amount and the next acceptable bid, such value not to exceed the purported amount of the bond, are not acceptable. Also, surety bid bonds which place a time limit on the right of the State to make claim other than allowed by statutes or the GENERAL CONDITIONS are not acceptable. Bidders are hereby notified that a surety bid bond containing such limitation(s) is not acceptable and a bid accompanied by such surety bid bond will be automatically rejected.

F. BIDDER'S RESPONSIBILITY FOR EXAMINATION OF CONTRACT DOCUMENTS, SITE OF WORK, ETC.

The Bidder shall carefully examine the project site and study all Contract Documents (as defined in the DHHL Construction General Conditions) and any documents or items referenced therein and contract and bond forms therefore. The submission of a bid shall be considered as a warranty that the Bidder has made such examination and is informed of

the conditions to be encountered in performing the Work and of the requirements of the Contract Documents and any documents and items referenced therein, and contract and bonds.

G. ADDENDA AND BID CLARIFICATIONS

1. The terms and requirements of the bid documents (i.e. drawings, specifications and other bid and contract documents) cannot be changed prior to the bid opening except by a duly issued addendum.
2. The Department may alter, increase or decrease the scope of the work or the contract time, provisions and conditions by issuing a written addendum which sets forth such alterations, increase or decrease.
3. If a Bidder discovers what it considers to be a discrepancy, ambiguity, omission or doubt as to the meaning of drawings, specifications and any other bid or contract documents, the Bidder shall request in writing an interpretation from the Chairman.
4. If the Department agrees that a discrepancy, ambiguity, omission or doubt exists, it shall issue a written addendum to the bid documents to all prospective Bidders known to have received a solicitation eight (8) days before the bids are opened. The Department may extend the bid opening to allow at least eight (8) days from the notification date of the addendum. Upon notification by the Department, all Bidders/addressees shall be deemed to be on notice of the information therein whether or not the addendum is actually received. All addenda so issued shall become part of the contract documents.
5. No claim for additional compensation and/or time for performance will be allowed if the Contractor discovered, or in the exercise of reasonable care, should have discovered a discrepancy, ambiguity, omission or doubt for which an interpretation was not requested.

H. SUBSTITUTION OF MATERIALS AND EQUIPMENT BEFORE BID OPENING

1. Brand names of materials or equipment are specified or shown on the drawings to indicate a quality, style, appearance or performance and not to limit competition. The Bidder shall base its bid on one of the specified brand names unless alternate brands are qualified as equal or better in an addendum. Qualifications of such proposed alternate brands shall be submitted in writing and addressed to the Project Manager. The face of the envelope containing the request must be clearly marked "SUBSTITUTION REQUEST". The request may be hand carried or mailed to DHHL, 91-5420 Kapolei Parkway, Kapolei, Hawai'i, 96707. In either case, the written request must be received by DHHL no later than fourteen (14) days before the bid opening date and time specified in the Notice to Bidders. The written request will be time stamped by DHHL. For the purpose of this section, the time designated by the time stamping device in DHHL shall be official. If the written request is hand carried, the bearer is responsible to ensure that the request is time stamped by DHHL.

2. Submit three (3) sets of the written request, technical brochures, and a statement of variances.
3. A statement of variances must list all features of the proposed substitution which differ from the drawings, specifications and/or product(s) specified and must further certify that the substitution has no other variant features. The brochure and information submitted shall be clearly marked showing make, model, size, options, etc., and must include sufficient evidence to evaluate each feature listed as a variance. A request will be denied if submitted without sufficient evidence. If after installing the substituted product, an unlisted variance is discovered, Contractor shall immediately replace the product with a specified product at no cost to the Department.
4. Any substitution request not complying with the above requirements will be denied. Substitution requests sent to other agencies and received by Project Manager after the deadline above will be denied.
5. An addendum shall be issued to inform all prospective Bidders of any accepted substitution.

I. DELIVERY OF PROPOSALS.

The entire proposal shall be placed together with the bid security, in a sealed envelope and delivered as indicated in the Notice to Bidders. Bids which do not comply with this requirement may not be considered. Proposals will be received up to the time fixed in the public notice for opening of bids and must be in the hands of the official by the time indicated. The time designated by the time stamping device in DHHL shall be official.

J. WITHDRAWAL OR REVISION OF PROPOSAL. Proposal may be modified prior to the deadline to submit the proposal by any of the following documents:

1 Withdrawal of Proposals:

- (a) A signed, written notice received in the office designated in the solicitation; or
- (b) A signed written notice faxed or e-mailed to the office designated in the solicitation.

2 Modification of Proposals:

- (a) A signed written notice received in the office designated in the solicitation, accompanied by a duly executed certificate of resolution for corporations, partnerships and joint-ventures, stating that a modification to the proposal is submitted; and
- (b) The actual modification sealed securely in a separate envelope or container, accompanying the written notice.
- (c) The modification may be sent by fax or email, provided that the originals must be submitted within two working days of the fax or email.

K. PUBLIC OPENING OF PROPOSALS.

Proposals will be opened and read publicly at the time and place indicated in the Notice to Bidders. Bidders, their authorized agents and other interested parties are invited to be present.

L. DISQUALIFICATION OF BIDDERS. Any one or more of the following causes will be considered as sufficient for the disqualification of a Bidder and the rejection of its proposal or proposals:

1. Non-compliance with Section I.A. QUALIFICATION OF BIDDERS;
2. Evidence of collusion among Bidders;
3. Lack of responsibility and cooperation as shown by past work such as failing to complete all of the requirements to close the project within a reasonable time or engaging in a pattern of unreasonable or frivolous claims for extra compensation;
4. Being in arrears on existing contracts with the State of Hawai‘i, or having defaulted on a previous contract with the State of Hawai‘i;
5. Lack of proper equipment and/or sufficient experience to perform the work contemplated, as revealed by the Standard Questionnaire and Financial Statement for Bidders;
6. No contractor’s license or a contractor’s license which does not cover type of work contemplated;
7. More than one proposal for the same work from an individual, firm, partnership, corporation or joint venture under the same or different name;
8. Delivery of bids after the deadline specified in the advertisement calling for bids;
9. Failure to pay, or satisfactorily settle, all bills overdue for labor and materials of former contracts in force at the time of issuance of proposal forms; and/or
10. Debarment or suspension pursuant to the provisions of Chapters 103D, 104 and 444, Hawai‘i Revised Statutes, as amended.

M. PROTESTS

1. Protests shall be governed by Section 103D-701, Hawai‘i Revised Statutes, and amended hereafter, and its implementing rules set forth in Title 3, Chapter 126, Subchapter 1, of the Hawai‘i Administrative Rules, and as amended hereafter.
2. The Chairman is the Department’s chief procurement officer to whom protests shall be addressed unless specified otherwise in the solicitation.

N. WRONGFUL REFUSAL TO ACCEPT A BID.

In the event the Chairman, for any reason, wrongfully refuses to accept what would otherwise be a responsive and responsible lowest bid, the exclusive remedy for such lowest Bidder shall be the recovery of the reasonable actual costs of preparing the bid. No other Bidder shall have any claim for damages.

II AWARD AND EXECUTION OF CONTRACT

A. CONSIDERATION OF PROPOSALS; CANCELLATION.

After the proposals are opened and read, the figures will be extended and/or totaled in accordance with the bid prices of the acceptable proposals and the totals will be compared and the results of such comparison shall be made public. In the event of a tie bid, the low Bidder shall be determined in accordance with HAR 3-122-34. In the comparison of bids, words written in the proposals will govern over figures and unit prices will govern over totals. Until the award of the contract, the Department may cancel the solicitation, reject any and all proposals in whole or part and may waive any defects or technicalities whenever such action is deemed to be in the best interest of the Department.

B. IRREGULAR PROPOSALS.

Proposals will be considered irregular and may be rejected for the following reasons:

1. If the proposal is unsigned.
2. If bid security is not in accordance with Section I.E. BID SECURITY.
3. If proposal is on a form other than that furnished by the Department; or if the form is altered or any part thereof detached.
4. If the proposal shows any non-compliance with applicable law, alteration of form, additions not called for, conditional bids, incomplete bids, non-initialed erasures, other defects, or if the prices are obviously unbalanced.
5. If the Bidder adds any provisions reserving the right to accept or reject an award.
6. If the Bidder adds any provisions reserving the right to enter into a contract pursuant to an award.
7. When a proposal is signed by an officer or officers of a corporation and a currently certified corporate resolution authorizing such signer(s) to submit such proposal is not submitted with the proposal or when the proposal is signed by an agent other than the officer or officers of a corporation or a member of a partnership and a power of attorney is not submitted with the proposal.
8. Where there is an incomplete or ambiguous listing of joint contractors and/or subcontractors the proposal may be rejected. All work which is not listed as being performed by joint contractors and/or subcontractors must be performed by the

Bidder with its own employees. Additions to the list of joint contractors or subcontractors will not be allowed. Whenever there is a doubt as to the completeness of the list, the Bidder will be required to submit within five (5) working days, a written confirmation that the work in question will be performed with its own work force. Whenever there is more than one joint contractor and/or subcontractor listed for the same item of work, the Bidder will be required to either confirm in writing within five (5) working days that all joint contractors or subcontractors listed will actually be engaged on the project or obtain within five (5) working days written releases from those joint contractors and/or subcontractors who will not be engaged.

9. If in the opinion of the Chairman, the Bidder and/or its listed subcontractors do not have the contractor's licenses or combination of contractor's licenses necessary to complete all of the work.

C. CORRECTION OF BIDS AND WITHDRAWAL OF BIDS (§3-122-31 HAR)

1. Corrections to bids after bid openings but prior to award may be made under the following conditions:
 - (a) If the mistake is attributable to an arithmetical error, the Chairman shall so correct the mistake. In case of error in extension of bid price, the unit price shall govern.
 - (b) If the mistake is a minor informality which shall not affect price, quantity, quality, delivery, or contractual conditions, the Bidder shall request correction by submitting proof of evidentiary value which demonstrates that a mistake was made. The Chairman shall prepare a written approval or denial in response to this request. Examples of such mistakes include:
 - (1) Typographical errors;
 - (2) Transposition errors;
 - (3) Failure of a Bidder to sign the bid, but only if the unsigned bid is accompanied by other material indicating the Bidder's intent to be bound.
 - (c) For reasons not allowable under Subsections II.C.1.(a) and II.C.1.(b) when the Chairman determines that the correction or waiver of an obvious mistake is in the best interest of the Department or is warranted for the fair treatment of other Bidders.
2. Withdrawal of bids after bid opening but prior to award may be made when the bid contains a mistake attributable to an obvious error which affects price, quantity, quality, delivery, or contractual conditions, and the Bidder requests withdrawal by submitting proof of evidentiary value which demonstrates that a mistake was made. The Chairman shall prepare a written approval or denial in response to this request.

3. Correction or withdrawal of bids after award is not permissible except in response to a written withdrawal or correction request by the Contractor, and the Chairman makes a written determination that the Department's procurement practices and policies would not be materially affected by such correction or withdrawal.

D. AWARD OF CONTRACT

1. The award of contract, if it be awarded, will be made within one hundred twenty (120) consecutive calendar days after the opening of the proposals to the lowest responsible and responsive Bidder (including the alternate or alternates which may be selected by the Chairman in the case of alternate bids) whose proposal complies with all the requirements prescribed, but in no case will an award be made until all necessary investigations are made. The successful Bidder will be notified, by letter mailed to the address shown on the proposal, that its bid has been accepted and that it has been awarded the contract.
2. If the contract is not awarded within the one hundred twenty (120) days noted in Subsection II.D.1 above, the Department may request the successful Bidder to extend the time for the acceptance of its bid. The Bidder may reject such a request without penalty; and in such case, the Department may at its sole discretion make a similar offer to the next lowest responsive and responsible Bidder and so on until a bid is duly accepted or until the Department elects to stop making such requests.
3. No contract will be awarded to any person or firm suspended or debarred under the provisions of Chapters 103D, 104 and Chapter 444, Hawai'i Revised Statutes as amended.
4. The contract will be drawn on the forms furnished by the Chairman. The contract will not be binding on the Department until all required signatures have been affixed thereto and written certification that funds are available for the work has been made.
5. Prior to award of the contract, the Department shall verify compliance with Sections 103D-310 and 103D-328 HRS via Hawai'i Compliance Express (HCE).

E. CANCELLATION OF AWARD.

The Department reserves the right to cancel the award of any contract at any time before the execution of said contract by all parties. The exclusive remedy to the awardee for such cancellation shall be payment of the reasonable bid preparation costs and the reimbursement of any direct expenses incurred as directed in the Notice of Award. Such cancellation will not incur any liability by the Department to any other Bidder.

F. RETURN OF BID SECURITY.

All bid securities, except those of the four (4) lowest Bidders, will be returned following the opening and checking of the proposals. The retained bid securities of the four lowest Bidders will be returned within five (5) working days following the complete execution of the contract.

G. REQUIREMENT OF PERFORMANCE AND PAYMENT BONDS

1. Performance and Payment Bonds shall be required for contracts \$50,000 (fifty thousand dollars) and higher. At the time of the execution of the contract, the successful Bidder shall file good and sufficient performance and payment bonds on the form furnished by the Department, 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. Acceptable performance and payment bonds shall be limited to the following:
 2. Surety bonds underwritten by a company licensed to issue bonds in this State; or
 3. A certificate of deposit; credit union share certificate; or cashier's, treasurer's, teller's or official check drawn by, or a certified check accepted by, and payable on demand to the Department by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration.
 - (a) These instruments may be utilized only a maximum of \$100,000 (one hundred thousand dollars).
 - (b) If the required security or bond amount totals over \$100,000 (one hundred thousand dollars), more than one instrument not exceeding \$100,000 (one hundred thousand dollars) each and issued by different financial institutions shall be acceptable.
4. If the Contractor fails to deliver the required performance and payment bonds, the Contractor's award shall be canceled, the Department shall have the remedies provided below under FAILURE TO EXECUTE THE CONTRACT and award of the contract shall be made to the next lowest responsible and responsive Bidder.

H. EXECUTION OF THE CONTRACT

1. The contract shall be signed by the successful Bidder and returned, together with satisfactory performance and payment bonds, within ten (10) calendar days after the Bidder is awarded the contract for execution or within such further time as the Chairman may allow. No proposal or contract shall be considered binding upon the Department until the contract has been fully and properly executed by all parties thereto. For projects funded with State Capital Improvement Project (CIP) funds, the Chairman shall also endorse thereon its certificate, as required by Section 103D-309, HRS, that there is an available unexpended appropriation or balance of an appropriation over and above all outstanding contracts sufficient to cover the Department's amount required by such contract.
2. On any individual award totaling less than \$25,000 (twenty-five thousand dollars), the Department reserves the right to execute the contract by the issuance of a Purchase Order. Issuance of a Purchase Order shall result in a binding contract between the parties without further action by the Department. The issuance of a Purchase Order shall not be deemed a waiver of the General Conditions, and Contract Document requirements.

I. FAILURE TO EXECUTE THE CONTRACT

1. Before the Award. If a low Bidder without legal justification withdraws its bid after the opening of bids but before the award of the contract, the Department shall be entitled to retain as damages the amount established as bid security, and may take all appropriate actions to recover the damages sum from the property or third-party obligations deposited as bid security.
2. After the Award. If the Bidder to which a contract is awarded shall fail or neglect to enter into the contract and to furnish satisfactory security within ten (10) calendar days after such award or within such further time as the Chairman may allow, the Department shall be entitled to recover from such Bidder its actual damages, including but not limited to the difference between the bid and the next lowest responsive bid, as well as personnel and administrative costs, consulting and legal fees and other expenses incurred in arranging a contract with the next low responsible and responsive Bidder or calling for new bids. The Department may apply all or part of the amount of the bid security to reduce its damages. If upon determination by the Department that the bid security exceeds the amount of its damages, it shall release or return the excess to the person who provided same.
3. Chairman's Options. Upon a withdrawal of the lowest responsive bid, or upon a refusal or failure of the lowest Bidder to execute the contract, the Chairman may thereupon award the contract to the next lowest responsible and responsive Bidder or may call for new bids, whichever method the Chairman may deem to be in the best interests of the Department.

IFB Checklist for Bidders
IFB-22- HHL-007
Papakolea Kapahu Street Slope Improvements

Items required prior to Bid Opening:

- ☐ Notice of Intention to Bid, no later than 2:00 p.m., September 1, 2021.
- ☐ SPO Form 21 (Standard Qualification Questionnaire), submitted to DHHL, Land Development Division by 2:00 p.m., September 1, 2021.
- ☐ Questions due on September 6, 2021.

Items required with Bid Offer via HlePRO:

- ☐ Bid Offer Form (included with this IFB)
The total sum bid amount must be typed or clearly written in both numbers and words in the appropriate space on the Bid Offer Form. Illegible writing on any portion of the Bid Offer Form, except for the signee's signature, may be grounds for considering a Bid "non-responsive".
- ☐ Corporate Resolution (Indicating who is authorized to sign bid documents and contracts), Or other authorizations required for partnerships, joint ventures, and Limited Liability Corporations.
- ☐ Bid Security (Surety companies executing bonds must appear on the U.S. Department of the Treasury's Listing of Certified Companies:
https://www.fiscal.treasury.gov/fsreports/ref/suretyBnd/c570_a-z.htm)
- ☐ Form 1 – Certification of Bidder's Participation in Approved Apprenticeship Program Under Act 17 (Apprenticeship Agreement Preference, if any).

**STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS**

BID OFFER FORM FOR

PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENTS

HONOLULU, OAHU, HAWAII

TAX MAP KEYS:

Portions of: (1) 2-4-041:017-025, (1) 2-4-042:10-17

IFB No.: IFB-22-HHL-007

Chairman
Hawaiian Homes Commission
Department of Hawaiian Home Lands
91-5420 Kapolei Parkway
Kapolei, Hawai'i 96707

The undersigned has carefully examined, read, and understands the terms and conditions in the Plans and Specifications, Special Conditions attached hereto, DHHL Construction General Conditions, and General Conditions specified in the Invitation for Bids (IFB) No. IFB-22-HHL-007. The State of Hawai'i's (State) Contract for Goods and Services Based on Competitive Sealed Bids AG-003 Rev. 6/22/2009, AG-008 103D General Conditions, are included by reference and made part hereof and available upon written request to the Procurement Officer. The undersigned hereby submits the following offer to perform the work for IFB No. IFB-22-HHL-007 as specified herein, all in accordance with the true intent and meaning thereof.

The undersigned understands and agrees that:

1. The State reserves the right to reject any and all offers and to waive any items that are defective when, in the State's opinion, such rejection or waiver will be in the best interest of the State. A solicitation may be rejected in whole or part when in the best interest of the State.
2. If awarded the contract, all services will be in accordance with Hawai'i Revised Statutes (HRS) § 103-55.5.
3. In submitting this offer, the Offeror is not in violation of HRS Chapter 84, concerning prohibited State contracts.
4. By submitting this offer, the Offeror certifies that the offer was independently arrived at without collusion and the Offeror did not participate in any practices to restrict competition.
5. It is understood that the failure to receive any addendum shall not relieve the Offeror from any obligation under this IFB.

Date: _____

The undersigned represents that it is: **(Check ✓ one only)**

- ☐ A **Hawai'i business** incorporated or organized under the laws of the State of Hawai'i; **OR**
☐ A **Compliant Non-Hawai'i business** not incorporated or organized under the laws of the State of Hawai'i, is or shall be registered at the State of Hawai'i Department of Commerce and Consumer Affairs Business Registration Division (DCCA-BREG) to do business in the State of Hawai'i.

State of incorporation: _____

Offeror is:

☐ Sole Proprietor ☐ Partnership ☐ Corporation ☐ Joint Venture ☐ Other: _____

Federal ID No.: _____

Hawai'i General Excise Tax ID No.: _____

Telephone No.: _____

Fax No.: _____

E-Mail Address.: _____

Payment address (other than street address below)

(Street Address, City, State, Zip Code)

Business address

(Street Address, City, State, Zip Code)

Respectfully submitted:

Authorized (Original) Signature

Name and Title (Please Type or Print)

* _____
Exact Legal Name of Company (Offeror)

*If Offeror shown above is a "dba" or a "division" of a corporation, furnish the exact legal name of the corporation under which the awarded contract will be executed:

The following bid is hereby submitted for the Papakolea Kapahu St. Slope Improvements to the Department of Hawaiian Home Lands.

DEMOLITION AND RESTORATION

- | | | | |
|----|-----------|--|-----------------|
| 1. | L.S. | Clearing, Grubbing, and boulder removal (non- slope face). | |
| | | Lump Sum | \$ _____ |
| 2. | L.S. | Demolition and Replacement of Rockfall Fencing. | |
| | | Lump Sum | \$ _____ |
| 3. | L.S. | Demolition of portion of wall at 611 Iaukea Street. Installation of Replacement Fencing. Clearing and Demolition of other existing unpermitted or obstructing structures or walls. | |
| | | Lump Sum | \$ _____ |
| 4. | Allowance | Repairs to City and County of Honolulu storm drain manhole at 605 Iaukea Street. | |
| | | Allowance | \$ <u>5,000</u> |

SITE IMPROVEMENTS

- | | | | |
|----|------|--|----------|
| 5. | L.S. | Temporary Erosion Control Measures (inclusive of but not limited to, installation and removal of silt fences, filter socks at access points, BMPs, watering and roadway cleaning, ESCP Coordinator and inspections). | |
| | | Lump Sum | \$ _____ |
| 6. | L.S. | Permanent Access through 605 Iaukea Street (including but not limited to clearing of vegetation and debris, driveway apron repair) | |
| | | Lump Sum | \$ _____ |
| 7. | L.S. | Permanent Access through 623 Iaukea Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk) | |

- | | | | |
|-----|-----------|---|-------------------|
| | | Lump Sum | \$ _____ |
| 8. | L.S. | Permanent Access through 2150 Kapahu Street (including but not limited to removing and replacing fencing, repair of lawn, driveway apron repair) | |
| | | Lump Sum | \$ _____ |
| 9. | L.S. | Permanent Access through 2132 Kapahu Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk) | |
| | | Lump Sum | \$ _____ |
| 10. | Allowance | Construction Access through 2218 Anianiku Street (including but not limited to wall reinforcement, lawn repair) | |
| | | Allowance | \$ <u>100,000</u> |
| 11. | L.S. | Construction Access through 605 Iaukea Street (including but not limited to clearing of vegetation and debris, driveway apron repair) | |
| | | Lump Sum | \$ _____ |
| 12. | L.S. | Construction Access through 653 Iaukea Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk) | |
| | | Lump Sum | \$ _____ |
| 13. | L.S. | Construction Access through 2132 Kapahu Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk) | |
| | | Lump Sum | \$ _____ |

- | | | | | |
|---------------------------------|-------|---|----------|----------|
| 14. | L.S. | Grading and drainage, including all demolition, site clearing, and grubbing; removal and disposal of abandoned material onsite, unclassified excavation, embankments - fill & backfill; roadway excavation, disposal of excess material; utility demolition and disposal. | Lump Sum | \$ _____ |
| 15. | L.S. | Installation of storm drainage system. Inclusive of all trench excavation, pipe cushion and backfill, installation of pipes and drain inlets, pipe connections to existing system, trench restoration, and all appurtenant and incidental items. | Lump Sum | \$ _____ |
| 16. | L.S. | Installation of concrete swale, including all demolition, site clearing, excavation, grading, and all appurtenant and incidental items. | Lump Sum | \$ _____ |
| <u>GEOTECHNICAL WORK</u> | | | | |
| 17. | L.S. | Clearing and Grubbing (slope face). | Lump Sum | \$ _____ |
| 18. | S.F. | Draped Wire Mesh (11,380 S.F.) | Lump Sum | \$ _____ |
| 19. | S.F. | Anchored Wire Mesh (48,330 S.F.) | Lump Sum | \$ _____ |
| 20. | M.H.. | Slope Scaling. | Lump Sum | \$ _____ |
| 21. | L.S. | Temporary Rockfall Barrier for Slope Scaling/ Trimming. | | |

| | | | |
|-----|-----------|---|------------------|
| | | Lump Sum | \$ _____ |
| 22. | C.Y. | Removal of Debris Generated from Slope Scaling (200 C.Y.). | |
| | | Unit Price: _____ | \$ _____ |
| 23. | L.S. | Mobilization. | |
| | | Lump Sum | \$ _____ |
| | | <u>MISCELLANEOUS ITEMS</u> | |
| 24. | L.S. | Temporary Controls at the Top and Bottom of Slope to Prevent Access to Homeowners and Public. | |
| | | Lump Sum | \$ _____ |
| 25. | Each | Project Sign for Department of Hawaiian Home Lands (DHHL) in place complete | |
| | | Lump Sum | \$ _____ |
| 26. | L.S. | Temporary traffic control and additional traffic control devices. | |
| | | Lump Sum | \$ _____ |
| 27. | L.S. | Staging and Field Office on 605 Iaukea Street. | |
| | | Lump Sum | \$ _____ |
| 28. | Allowance | Police officers at discretion of DHHL Project Manager. | |
| | | Allowance | \$ <u>10,000</u> |
| 29. | L.S. | Mobilization, including obtaining insurance, bonds, building permits and fees, scheduling, submittals and other activities to mobilize for project. | |

30. L.S. Demobilization, including removing excess materials and equipment, clean-up.

| | | |
|-----|-----------|---|
| 31. | Allowance | Archaeological Monitoring and Mitigation for inadvertent finds or adjustments to construction means and methods to avoid archaeological features. |
|-----|-----------|---|

TOTAL BID AMOUNT = _____

The CONTRACTOR shall complete all work as specified or indicated in the Contract Documents on or before **One Hundred Eighty (180)** calendar days after receiving written Notice to Proceed, subject to extensions, as may be granted.

Hawai'i Revised Statutes §103-55.6 (ACT 17, SLH 2009) provides for a Hawai'i Apprenticeship Preference for public works contracts having an estimated value of \$250,000.00 or more. The preference shall be in the form of a 5% bid adjustment applied to the Bidder's amount for bidders that are parties to apprenticeship agreements. The estimated value of this public works contract is \$250,000.00 or more and the apprenticeship agreement preference **shall** apply.

1. Be a party to an apprenticeship agreement registered with the DLIR at the time the bid is made for each apprenticeable trade the Bidder will employ to construct the public works project for which the bid is being made.
 - a. The apprenticeship agreement shall be registered and conform to the requirements of HRS Chapter 372.

- b. Subcontractors do not have to be a party to an apprenticeship agreement for the Bidder to obtain the preference.
 - c. The Bidder is not required to have apprentices in its employ at the time the bid is submitted to qualify for the preference.
 - d. If a Bidder's employee is multi-skilled and able to perform work in more than one trade (for example, a project requires a carpenter and a laborer, and the employee is a carpenter, but is also able to perform the work of a laborer), the Bidder need only be a party to the carpenter's apprenticeship agreement and does not need to be a party to the laborer's apprenticeship agreement in order to qualify for the preference. The Bidder is not "employing" a laborer, only a carpenter, and so only needs to be a party to the carpenter's apprenticeship agreement.
 - e. Qualification for the preference is given on a project-by-project basis and depends upon the specific offer for a specific project. A Bidder's employees may vary from project to project and may qualify for the preference on one project but may not qualify on another project. For example, on one project, if the Bidder only employs carpenters to perform work in the carpentry and labor trades, then the Bidder only needs to be a party to the carpenter's apprenticeship agreement in order to qualify for the preference. However, on another project if the same Bidder employs both carpenters and laborers, then the Bidder will not qualify for the preference if the Bidder is only a party to the carpenter's apprenticeship agreement and not the laborer's apprenticeship agreement.
2. State the trades the Bidder will employ to perform the work;
 3. For each trade to be employed to perform the work, the Bidder shall submit a completed signed original *CERTIFICATION OF BIDDER'S PARTICIPATION IN APPROVED APPRENTICESHIP PROGRAM UNDER ACT 17 (Certification Form 1)* verifying the participation in an apprenticeship program registered with the State Department of Labor and Industrial Relations (DLIR);
 4. The *Certification Form 1* shall be authorized by an apprenticeship sponsor of the DLIR list of registered apprenticeship programs. The authorization shall be an original signature by an authorized official of the apprenticeship sponsor; and
 5. The completed *Certification Form 1* for each trade must be submitted by the Bidder with the offer. A facsimile or copy is acceptable to be submitted with the offer; however, the completed signed original must be submitted within five (5) working days of the due date of the offer. If the signed original is not received within this timeframe, the preference may be denied. Previous certifications shall not apply.

Failure to comply with ALL of the conditions noted above, without exception, shall disqualify the Bidder from qualifying for, and thus receiving, benefit of the Hawai'i Apprenticeship Preference.

The *Certification Form 1* and the List of Construction Trades in Registered Apprenticeship Programs is available on the DLIR website at: <http://labor.hawaii.gov/wdd/>.

Upon receiving *Certification Form 1*, the DHHL will verify with DLIR that the apprenticeship program is on the list of apprenticeship programs registered with the DLIR. If the program(s) are not confirmed by the DLIR, the Bidder will not qualify for the preference.

If the Bidder is certified to participate in an apprenticeship program for each trade which will be employed by the Bidder for the project, a preference will be applied to decrease the Bidder's total bid amount by five per cent (5%) for evaluation purposes.

Should the Bidder qualify for other preferences, all applicable preferences shall be applied to the bid amount.

While preference for Hawai'i Apprenticeship will be taken into consideration to determine the low Bidder, the contract awarded shall be the original bid amount, exclusive of any preferences. The preference is only for evaluation purposes.

The Bidder hereby certifies that it will employ the following apprenticeable trades to perform the work for this project:

| <u>LIST OF APPRENTICEABLE TRADES TO BE EMPLOYED</u> | |
|---|---------------------------------------|
| <u>TRADE</u> | <u>APPRENTICESHIP PROGRAM SPONSOR</u> |
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(Add additional sheets if necessary)

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, Hawai‘i Revised Statutes, who will be engaged by the Bidder on this project to perform the nature and scope of work indicated pursuant to Section 103D-302, Hawai‘i Revised Statutes, and understands that failure to comply with this requirement shall 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 his own employees.

The Bidders must be sure that they possess and that the Subcontractors listed in the bid possess all the necessary 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 his 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 of Joint Contractor or Subcontractor | License Number | Hawai‘i Tax ID Number | Nature and Scope of Work to be Performed |
|---|----------------|-----------------------|--|
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(Add additional sheets if necessary)

METHOD OF AWARD

The Bidder is required to bid on the entire project. The low Bidder shall be determined by the procedures outlined in items 1) through 4) below:

1. Prior to opening of bids, the State will determine the amount of funds available for the project. This amount will be designated the "control amount". The control amount shall be announced at, and prior to the opening of bids.
2. The Base Bid and Alternate, if any, of each Bidder will be adjusted to reflect the applicable preferences in accordance with Chapter 103D, HRS. The Alternate, if any, will then be added to the Base Bid and compared with the control amount.
3. The low Bidder shall be the Bidder having the lowest aggregate amount, within the control amount (after application of the various preferences), for the Base Bid plus the Alternate, if any.
4. If adding the Alternate, if any, would make the aggregate amount exceed the control amount for all Bidders, the low Bidder shall be the Bidder having the lowest Base Bid after application of the various preferences.

It is further understood and agreed that:

5. The Chairman reserves the right to reject any and/or all bids and waive any defects when, in his opinion, such rejection or waiver will be in the best interest of the State.
6. After determining the low Bidder, an award may be made either on the amount of the Base Bid alone, or including the Alternate (exclusive of preferences), if:
 - a. It is in the best interest of the State;
 - b. Funds are available at time of the award; and
 - c. The combination of the Base Bid plus Alternate does not change the apparent low Bidder.
7. In the event the Base Bid for all Bidders exceed the control amount, the Chairman reserves the right to negotiate with the lowest responsible and responsive Bidder to award a contract within available funds.
8. In the event the award is made for the Base Bid alone, the Chairman reserves the right to amend the contract at a later date to include the Alternate should funds subsequently become available.

OTHER CONDITIONS

1. The liquidated damages per working day for failure to complete the work on time have been determined and are noted in the Special Conditions of the sample contract.
2. By submitting this bid, the undersigned is declaring that his firm has not been assisted or represented on this matter by an individual who has, in a State capacity, been involved in the subject matter of this contract in the past one (1) year.
3. By submitting this bid, the undersigned is declaring that Bidder's own organization will perform at least 20% of the contractor's work. For the purposes of this section, the Contractor's work is defined as: direct cost labor for contractor's forces; direct cost materials installed by the contractor's direct cost labor force; direct cost equipment, either owned or leased, used by the contractor's direct cost labor force; and field overhead cost to include: field supervision, field office trailer (if any), field office equipment and supplies, etc.
4. Upon the acceptance of the bid by the Chairman, the undersigned must enter into and execute a contract for the same and furnish a Performance and Payment Bond, as required by law. These bonds shall conform to the provisions of Sections 103D-324 and 325, Hawai'i Revised Statutes, and any law applicable thereto.
5. The quantities given herewith are approximate only and are subject to increase or decrease.
6. The estimated quantities shown for items for which a UNIT PRICE is asked in this bid are only for the purpose of comparing on a uniform basis bids offered for the work under this contract. No claim shall be filed for anticipated profit or loss because of any difference between the quantities of the various classes of work done or the materials and equipment actually installed and the said estimated quantities. Payment on UNIT PRICE items will be made only for the actual number of units incorporated into the finished project at the contract UNIT PRICE.
7. If the product of the UNIT PRICE BID and the number of units does not equal the total amount stated by the undersigned in the Bid for any item, it will be assumed that the error was made in computing the total amount. For the purpose of determining the lowest Bidder, the stated UNIT PRICE alone will be considered as representing the Bidder's intention and the total amount bid on such items shall be considered to be the amount arrived at by multiplying the UNIT PRICE by the number of units.
8. Certification for Safety and Health Programs for Bids in Excess of \$100,000. In accordance with Sections 103D-327 and 396-18, Hawai'i Revised Statutes, by submitting this bid, the undersigned certifies that his firm 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.

9. Any contract arising out of this offer is subject to the approval of the Department of the Attorney General as to form, and to all further approvals, including the approval of the Governor, required by statute, regulation, rule, order, or other directive.

Receipt of the following addenda issued by the Department is acknowledged by the date(s) of receipt indicated below:

| | Date | | Date |
|----------------|-------|----------------|-------|
| Addendum No. 1 | _____ | Addendum No. 5 | _____ |
| Addendum No. 2 | _____ | Addendum No. 6 | _____ |
| Addendum No. 3 | _____ | Addendum No. 7 | _____ |
| Addendum No. 4 | _____ | Addendum No. 8 | _____ |

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

Bid Security in the amount of: _____

_____ DOLLARS (\$_____)

as required by law, is enclosed herewith in the form of:

| | |
|--|---|
| <input type="checkbox"/> Surety Bond (*1) | <input type="checkbox"/> Official Check (*3) |
| <input type="checkbox"/> Legal Tender (*2) | <input type="checkbox"/> Share Certificate (*3) |
| <input type="checkbox"/> Cashier's Check (*3) | <input type="checkbox"/> Teller's Check (*3) |
| <input type="checkbox"/> Certificate of Deposit (*3) | <input type="checkbox"/> Treasurer's Check (*3) |
| <input type="checkbox"/> Certified Check (*3) | |

Respectfully submitted,

Name of Company, Joint Venture or Partnership

License No.

By _____
Signature (*4)

Title: _____

Date: _____

Address: _____

Telephone No.: _____

(IF A CORPORATION, AFFIX CORPORATE SEAL TO SIGNATURE, BE SURE TO FILL IN ATTACHED LIST OF SUBCONTRACTORS. THIS BID FORM MAY NOT BE ALTERED AND BIDDERS MAY NOT QUALIFY OR CONDITION THEIR BIDS IN ANY WAY.)

PLEASE FILL OUT THE ATTACHED CERTIFICATE OF RESOLUTION GIVING EVIDENCE OF THE AUTHORITY OF THIS OFFICER TO SUBMIT BIDS ON BEHALF OF THE COMPANY.

NOTES:

- *1. Surety bond underwritten by a company licensed to issue bonds in this State;
- *2. Legal tender; or
- *3. A certificate of deposit; share certificate; or cashier's, treasurer's, teller's, or official check accepted by, and payable on demand to the State by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation of the National Credit Union Administration.
 - 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. BID MUST BE INTACT; MISSING PAGES MAY INVALIDATE YOUR BID.

CERTIFICATE OF RESOLUTION

I, _____, Secretary of _____, a Hawai'i Corporation, do hereby certify that the following is a full, true and correct copy of a resolution duly adopted by the Board of Directors of said Corporation, at its meeting duly called and held at the office of the Corporation _____, Hawai'i, on _____ day of _____, 20____, at which a quorum was present and acting throughout; and that said resolution has not been modified, amended or rescinded and continues in full force and effect.

“RESOLVED that any individual at the time holding the position(s) of _____, be, and each of them hereby is, authorized to execute on behalf of the Corporation any bid, proposal or contract for the sale or rental of the products of the Corporation or for the services to be performed by the Corporation and to execute any bond required by any such bid, proposal or contract with the United States Government or the State of Hawai'i or the City and County of Honolulu, or any County of Municipal Government of said State, or any department or subdivision of any of them.”

IN WITNESS THEREOF, I have hereunto set my hand and affixed the corporate seal of said

_____ this _____ day of _____, 20____.

Secretary

END OF BID

Requirements of Chapter 104, HRS

Wages and Hours of Employees on Public Works Law

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

Rate of Wages for Laborers and Mechanics

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

Overtime

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

Weekly Pay

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

Posting of Wage Rate Schedules

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

Withholding of Accrued Payments

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

Certified Weekly Payrolls and Payroll Records

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

Termination of Work on Failure to Pay Wages

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

Apprentices and Trainees

- In order to be paid apprentice or trainee rates, apprentices and trainees must be parties to an agreement either registered with or recognized as a USDOL nationally approved apprenticeship program by the Department of Labor and Industrial Relations, Workforce Development Division, (808) 586-8877. [§12-22-6(1), HAR]
- The number of apprentices or trainees on any public work in relation to the number of journeymen in the same craft classification as the apprentices or trainees employed by the same employer on the same public work may not exceed the ratio allowed under the apprenticeship or trainee standards registered with or recognized by the Department of Labor and Industrial Relations. A registered or recognized apprentice receiving the journeyman rate will not be considered a journeyman for the purpose of meeting the ratio requirement. [§12-22-6(2), HAR]

Enforcement

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

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



| | |
|-------------------------------------|----------------|
| Oahu (Wage Standards Division)..... | (808) 586-8777 |
| Hawaii Island | (808) 322-4808 |
| Kauai | (808) 274-3351 |
| Maui | (808) 243-5322 |

State of Hawai'i
DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS
Princess Ruth Ke'elikolani Building
830 Punchbowl Street
Honolulu, Hawai'i 96813

February 15, 2021
WAGE RATE SCHEDULE BULLETIN NO. 499


This schedule of wage rates contained herein is recognized by the Director of Labor and Industrial Relations to be prevailing on public construction work for the purposes of Chapter 104, Hawai'i Revised Statutes. The schedule of wage rates determines the applicable wage determination for each classification and does not impose any staffing requirements for any classification. The schedule of wage rates is applicable only to those laborers and mechanics employed at the site of work.

As required by law, future wage rates for laborers and mechanics are incorporated into this bulletin based on available information and are subject to change. Whenever the Director determines that the prevailing wage has increased as shown in the wage rate schedule, the contractor must increase the wages accordingly during the performance of the contract. For addenda or additional wage rate schedules, please consult the Internet at <http://labor.hawaii.gov/rs>.

The Apprentice Schedule is available on the Internet or upon request from the Research and Statistics Office. Pursuant to Section 12-22-6 (1), Hawai'i Administrative Rules, the Apprentice Schedule is applicable only to apprentices who are parties to apprenticeship agreements registered with or recognized by the Department of Labor and Industrial Relations.

Questions on the schedule should be referred to the Research and Statistics Office at (808) 586-9005.

The next regular schedule will be issued on or about September 15, 2021.


ANNE EUSTAQUIO
Director



STATE OF HAWAII
DAVID Y. IGE, Governor

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS
ANNE EUSTAQUIO, Director
JOANN A. VIDINHAR, Deputy Director

RESEARCH AND STATISTICS OFFICE
JERI SATO, Acting Research & Statistics Officer

OPERATIONS MANAGEMENT INFORMATION STAFF
Mirasol Valdez, Acting Supervisor
Jarrett Ku, Research Statistician

In cooperation with:
WAGE STANDARDS DIVISION
SHERYL LEE, Administrator

WAGE RATE SCHEDULE BULLETIN NO. 499

| Classification | Current | | | 2021 | | | 2022 | | | 2023 | | | Remarks See Pg 6-8 |
|--|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|--------------------------|
| | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | |
| ASPHALT PAVING GROUP: | 9/21/20 | | | | | | | | | | | | |
| Asphalt Concrete Material Transfer | \$80.32 | \$46.45 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Asphalt Raker | \$79.36 | \$45.49 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Asphalt Spreader Operator | \$80.84 | \$46.97 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Laborer, Hand Roller | \$76.59 | \$42.72 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Roller Operator (5 tons and under) | \$79.09 | \$45.22 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Roller Operator (over 5 tons) | \$80.52 | \$46.65 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Screed Person | \$80.32 | \$46.45 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| EQUIPMENT OPERATOR: | | | | | | | | | | | | | |
| Combination Loader/Backhoe (over 3/4 cu. yd.) | \$79.36 | \$45.49 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Combination Loader/Backhoe (up to 3/4 cu. yd.) | \$78.38 | \$44.51 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Concrete saws and/or Grinder (self-propelled unit on streets, highways, airports and canals) | \$80.32 | \$46.45 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Grader, Soil Stabilizer, Cold Planer | \$81.15 | \$47.28 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Loader (2-1/2 cu. yds. and under) | \$80.32 | \$46.45 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Loader (over 2-1/2 cu. yds. to and including 5 cu. yds.) | \$80.64 | \$46.77 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| TRUCK DRIVER: | | | | | | | | | | | | | |
| Assistant to Engineer | \$79.09 | \$45.22 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Oil Tanker (double), Hot Liquid Asphalt Tanker | \$80.64 | \$46.77 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Semi-Trailer, Semi-Dump, Asphalt Distributor | \$80.32 | \$46.45 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Slip-in or Pup | \$80.64 | \$46.77 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Single or Rock Cans Tandem Dump Truck (8 cu. yds. & under, water level) | \$79.36 | \$45.49 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Single or Rock Cans Tandem Dump Truck (over 8 cu. yds., water level) | \$79.67 | \$45.80 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Tractor Trailer (hauling equipment) | \$80.75 | \$46.88 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| Utility, Flatbed | \$79.09 | \$45.22 | \$33.87 | - | - | - | - | - | - | - | - | - | 13 |
| BOILERMAKER | 2/17/20 | | | | | | | | | | | | |
| | \$67.58 | \$36.29 | \$31.29 | - | - | - | - | - | - | - | - | - | 13 |
| CARPENTER: | 9/21/20 | | | 8/30/21 | | | 9/5/22 | | | 9/4/23 | | | |
| Carpenter; Patent Scaffold Erector (14 feet and over); Piledriver; Pneumatic Nailer | \$74.09 | \$50.50 | \$23.59 | \$75.84 | \$51.25 | \$24.59 | \$77.59 | \$52.00 | \$25.59 | \$79.59 | \$53.00 | \$26.59 | 1,12,13 |
| Millwright | \$74.34 | \$50.75 | \$23.59 | \$76.09 | \$51.50 | \$24.59 | \$77.84 | \$52.25 | \$25.59 | \$79.84 | \$53.25 | \$26.59 | 1,12,13 |
| Power Saw Operator (2 h.p. & above) | \$74.24 | \$50.65 | \$23.59 | \$75.99 | \$51.40 | \$24.59 | \$77.74 | \$52.15 | \$25.59 | \$79.74 | \$53.15 | \$26.59 | 1,12,13 |
| CEMENT FINISHER: | 9/21/20 | | | 8/30/21 | | | 9/5/22 | | | 9/4/23 | | | |
| Cement Finisher; Curb Setter; Precast Panel Setter; Manhole Builder | \$73.93 | \$42.10 | \$31.83 | \$75.28 | \$42.60 | \$32.68 | \$76.76 | \$43.33 | \$33.43 | \$78.15 | \$44.12 | \$34.03 | 2,12,13 |
| Trowel Machine Operator | \$74.08 | \$42.25 | \$31.83 | \$75.43 | \$42.75 | \$32.68 | \$76.91 | \$43.48 | \$33.43 | \$78.30 | \$44.27 | \$34.03 | 2,12,13 |
| * CHAIN-LINK FENCE ERECTOR | 10/4/20 | | | 10/3/21 | | | 10/2/22 | | | 10/1/23 | | | |
| | \$42.45 | \$25.50 | \$16.95 | \$43.90 | \$26.25 | \$17.65 | \$45.35 | \$27.00 | \$18.35 | \$46.80 | \$27.75 | \$19.05 | 10,13 |

WAGE RATE SCHEDULE BULLETIN NO. 499

| Classification | Current | | | 2021 | | | 2022 | | | 2023 | | | Remarks See Pg 6-8 |
|--|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|--------------------------|
| | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | |
| CHLORINATOR | 9/16/19 | | | | | | | | | | | | |
| | \$28.84 | \$28.84 | - | - | - | - | - | - | - | - | - | - | |
| DIVER: | 9/21/20 | | | | | | | | | | | | |
| Diver (Aqua Lung) (Scuba) - Up to a depth of 30 feet | \$93.52 | \$60.21 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Diver (Aqua Lung) (Scuba) - Over a depth of 30 feet | \$102.89 | \$69.58 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Stand-By Diver (Aqua Lung) (Scuba) | \$84.14 | \$50.83 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Diver (Other than Aqua Lung) | \$102.89 | \$69.58 | \$33.31 | - | - | - | - | - | - | - | - | - | 3,13 |
| Stand-By Diver (Other than Aqua Lung) | \$84.14 | \$50.83 | \$33.31 | - | - | - | - | - | - | - | - | - | 3,13 |
| Tender (Other than Aqua Lung) | \$81.11 | \$47.80 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| DRAPERY INSTALLER | 9/16/19 | | | | | | | | | | | | |
| | \$33.11 | \$31.00 | \$2.11 | - | - | - | - | - | - | - | - | - | |
| DRYWALL INSTALLER | 9/21/20 | | | 8/30/21 | | | 9/5/22 | | | 9/4/23 | | | |
| | \$74.34 | \$50.75 | \$23.59 | \$76.09 | \$51.50 | \$24.59 | \$77.84 | \$52.25 | \$25.59 | \$79.84 | \$53.25 | \$26.59 | 12,13 |
| * DRYWALL TAPERS/FINISHERS | 1/3/21 | | | | | | 1/2/22 | | | 1/1/23 | | | |
| | \$74.75 | \$43.10 | \$31.65 | - | - | - | \$76.50 | \$43.85 | \$32.65 | \$78.25 | \$44.60 | \$33.65 | |
| ELECTRICIAN | 9/21/20 | | | | | | | | | | | | |
| Cable Splicer (inside/outside) | \$87.87 | \$56.71 | \$31.16 | - | - | - | - | - | - | - | - | - | 4,13 |
| Ground Worker (outside) | \$64.29 | \$38.66 | \$25.63 | - | - | - | - | - | - | - | - | - | 4,13 |
| Heavy Equipment Operator (outside) | \$74.40 | \$46.40 | \$28.00 | - | - | - | - | - | - | - | - | - | 4,13 |
| Line Installer (outside); Wire Installer (inside) | \$81.13 | \$51.55 | \$29.58 | - | - | - | - | - | - | - | - | - | 4,13 |
| Telecommunication Worker | 8/23/20 | | | 8/22/21 | | | 8/21/22 | | | | | | |
| Licensed Technician | \$45.65 | \$32.69 | \$12.96 | \$46.82 | \$33.69 | \$13.13 | \$48.63 | \$34.94 | \$13.69 | - | - | - | 13 |
| Technician I / Splicer | \$43.74 | \$31.06 | \$12.68 | \$44.85 | \$32.01 | \$12.84 | \$46.57 | \$33.19 | \$13.38 | - | - | - | 13 |
| * ELEVATOR CONSTRUCTOR MECHANIC | 2/15/21 | | | | | | | | | | | | |
| | \$99.005 | \$63.18 | \$35.825 | - | - | - | - | - | - | - | - | - | 13 |
| EQUIPMENT OPERATOR: | 9/21/20 | | | | | | | | | | | | |
| Group 1 | \$78.83 | \$45.52 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 2 | \$78.94 | \$45.63 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 3 | \$79.11 | \$45.80 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 4 | \$79.38 | \$46.07 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 5 | \$79.69 | \$46.38 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 6 | \$80.34 | \$47.03 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 7 | \$80.66 | \$47.35 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 8 | \$80.77 | \$47.46 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 9 | \$80.88 | \$47.57 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 9A | \$81.11 | \$47.80 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 10 | \$81.17 | \$47.86 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 10A | \$81.32 | \$48.01 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 11 | \$81.47 | \$48.16 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 12 | \$81.83 | \$48.52 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |
| Group 12A | \$82.19 | \$48.88 | \$33.31 | - | - | - | - | - | - | - | - | - | 5,13 |

WAGE RATE SCHEDULE BULLETIN NO. 499

| Classification | Current | | | 2021 | | | 2022 | | | 2023 | | | Remarks See Pg 6-8 |
|--|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|--------------------------|
| | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | |
| FENCE ERECTOR (CHAIN-LINK TYPE) | | | | | | | | | | | | | |
| See Chain-Link Fence Erector | - | - | - | - | - | - | - | - | - | - | - | - | |
| FLOOR LAYER (CARPET, LINOLEUM & SOFT TILE) | 9/21/20 | | | 2/28/21 | | | 2/27/22 | | | 3/5/23 | | | |
| | \$67.70 | \$36.77 | \$30.93 | \$69.69 | \$38.02 | \$31.67 | \$71.93 | \$39.27 | \$32.66 | \$73.42 | \$40.52 | \$32.90 | 12,13 |
| GLAZIER | 9/21/20 | | | | | | | | | | | | |
| | \$74.35 | \$39.50 | \$34.85 | - | - | - | - | - | - | - | - | - | 6,13 |
| HELICOPTER WORK: | 9/21/20 | | | | | | | | | | | | |
| Airborne Hoist Operator | \$82.69 | \$49.38 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Co-Pilot | \$82.83 | \$49.52 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Pilot | \$83.00 | \$49.69 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| INSULATOR | 8/30/20 | | | | | | | | | | | | |
| | \$67.55 | \$41.90 | \$25.65 | - | - | - | - | - | - | - | - | - | 7,13 |
| IRONWORKER: | 9/21/20 | | | 9/1/21 | | | | | | | | | |
| Reinforcing, Structural | \$79.34 | \$42.50 | \$36.84 | \$80.34 | \$43.50 | \$36.84 | - | - | - | - | - | - | 8,12,13 |
| * LABORER: | 9/21/20 | | | 8/30/21 | | | 9/5/22 | | | 9/4/23 | | | |
| Driller | \$62.38 | \$39.70 | \$22.68 | \$63.84 | \$40.35 | \$23.49 | \$65.25 | \$41.00 | \$24.25 | \$66.66 | \$41.65 | \$25.01 | 1,13 |
| Gunite Operator or Shotcrete Operator | \$61.88 | \$39.20 | \$22.68 | \$63.34 | \$39.85 | \$23.49 | \$64.75 | \$40.50 | \$24.25 | \$66.16 | \$41.15 | \$25.01 | 1,13 |
| High Scaler (Working Suspended) | \$61.88 | \$39.20 | \$22.68 | \$63.34 | \$39.85 | \$23.49 | \$64.75 | \$40.50 | \$24.25 | \$66.16 | \$41.15 | \$25.01 | 13 |
| Laborer I | \$61.38 | \$38.70 | \$22.68 | \$62.84 | \$39.35 | \$23.49 | \$64.25 | \$40.00 | \$24.25 | \$65.66 | \$40.65 | \$25.01 | 1,13 |
| Laborer II | \$58.78 | \$36.10 | \$22.68 | \$60.24 | \$36.75 | \$23.49 | \$61.65 | \$37.40 | \$24.25 | \$63.06 | \$38.05 | \$25.01 | 1,13 |
| Light/Final Clean-up (Janitorial) Laborer | \$47.82 | \$29.65 | \$18.17 | \$48.92 | \$30.05 | \$18.87 | \$50.02 | \$30.45 | \$19.57 | \$51.12 | \$30.85 | \$20.27 | 1,13 |
| Mason Tender/Hod Carrier | \$61.88 | \$39.20 | \$22.68 | \$63.34 | \$39.85 | \$23.49 | \$64.75 | \$40.50 | \$24.25 | \$66.16 | \$41.15 | \$25.01 | 1,13 |
| Powder Blaster | \$62.38 | \$39.70 | \$22.68 | \$63.84 | \$40.35 | \$23.49 | \$65.25 | \$41.00 | \$24.25 | \$66.66 | \$41.65 | \$25.01 | 1,13 |
| Window Washer (Outside) (On bosun's chair, cable-suspended scaffold or work platform) | \$60.88 | \$38.20 | \$22.68 | \$62.34 | \$38.85 | \$23.49 | \$63.75 | \$39.50 | \$24.25 | \$65.16 | \$40.15 | \$25.01 | 13 |
| * LANDSCAPER: | 2/15/21 | | | 8/30/21 | | | 9/5/22 | | | 9/4/23 | | | |
| Landscape & Irrigation Laborer A | \$40.65 | \$26.40 | \$14.25 | \$41.80 | \$26.75 | \$15.05 | \$43.05 | \$27.25 | \$15.80 | \$44.30 | \$27.85 | \$16.45 | |
| Landscape & Irrigation Laborer B | \$41.65 | \$27.40 | \$14.25 | \$42.80 | \$27.75 | \$15.05 | \$44.05 | \$28.25 | \$15.80 | \$45.30 | \$28.85 | \$16.45 | |
| Landscape & Irrigation Maintenance Laborer | \$35.95 | \$21.70 | \$14.25 | \$36.95 | \$21.90 | \$15.05 | \$37.95 | \$22.15 | \$15.80 | \$39.00 | \$22.55 | \$16.45 | |
| LATHER | 9/21/20 | | | 8/30/21 | | | 9/5/22 | | | 9/4/23 | | | |
| | \$74.34 | \$50.75 | \$23.59 | \$76.09 | \$51.50 | \$24.59 | \$77.84 | \$52.25 | \$25.59 | \$79.84 | \$53.25 | \$26.59 | 12,13 |
| MASON; Bricklayer; | 9/21/20 | | | 8/30/21 | | | 9/5/22 | | | 9/4/23 | | | |
| Cement Blocklayer; Stone Mason; Precast Sill Setter | \$75.09 | \$45.96 | \$29.13 | \$76.44 | \$46.46 | \$29.98 | \$77.97 | \$47.24 | \$30.73 | \$79.36 | \$48.03 | \$31.33 | 2,12,13 |
| Pointer-Caulker-Weatherproofer | \$75.34 | \$46.21 | \$29.13 | \$76.69 | \$46.71 | \$29.98 | \$78.22 | \$47.49 | \$30.73 | \$79.61 | \$48.28 | \$31.33 | 2,12,13 |
| * PAINTER: | 1/1/21 | | | 7/1/21 | | | | | | | | | |
| Painter; Spray Painter; Sandblaster or Waterblaster; Thermoplastic Stripper; Paper Hanger | \$68.99 | \$38.90 | \$30.09 | \$68.99 | \$38.90 | \$30.09 | - | - | - | - | - | - | 12 |

WAGE RATE SCHEDULE BULLETIN NO. 499

| Classification | Current | | | 2021 | | | 2022 | | | 2023 | | | Remarks See Pg 6-8 |
|--|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|--------------------------|
| | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | |
| PLASTERER: | 9/21/20 | | | 8/30/21 | | | 9/5/22 | | | 9/4/23 | | | |
| | \$75.52 | \$43.69 | \$31.83 | \$76.89 | \$44.21 | \$32.68 | \$78.43 | \$45.00 | \$33.43 | \$79.85 | \$45.82 | \$34.03 | 2,12,13 |
| * PLUMBER: | 1/3/21 | | | | | | | | | | | | |
| Plumber; Pipefitter; Refrigeration Fitter; Heating & Air Conditioning Fitter; Sprinkler Fitter; Steamfitter | \$73.60 | \$45.35 | \$28.25 | | | | - | - | - | - | - | - | 9,13 |
| ROOFER: | 9/21/20 | | | 9/5/21 | | | | | | | | | |
| Shingle, Tile, Built-up Roofing | \$61.65 | \$41.80 | \$19.85 | \$62.50 | \$42.55 | \$19.95 | - | - | - | - | - | - | 12 |
| Coal Tar Pitch | \$103.45 | \$83.60 | \$19.85 | \$105.05 | \$85.10 | \$19.95 | - | - | - | - | - | - | |
| SANDBLASTER OR WATERBLASTER: | | | | | | | | | | | | | |
| Use wages of craft to which sand or water blasting is incidental. | | | | | | | | | | | | | |
| SHEETMETAL WORKER: | 9/21/20 | | | 2/28/21 | | | 2/27/22 | | | 3/5/23 | | | |
| (Note: 2 increases for 2021, 2022, & 2023) | \$73.89 | \$44.39 | \$29.50 | \$74.85 | \$44.93 | \$29.92 | \$76.86 | \$46.22 | \$30.64 | \$78.73 | \$47.37 | \$31.36 | 13 |
| | | | | 8/29/21 | | | 9/4/22 | | | 9/23/23 | | | |
| | | | | \$75.95 | \$45.63 | \$30.32 | \$77.76 | \$46.78 | \$30.98 | \$79.78 | \$47.95 | \$31.83 | 13 |
| TERMITE TREATER | 9/16/19 | | | | | | | | | | | | |
| | \$20.53 | \$18.60 | \$1.93 | - | - | - | - | - | - | - | - | - | |
| TERRAZZO: | 9/21/20 | | | 8/30/21 | | | 9/5/22 | | | 9/4/23 | | | |
| Terrazzo Setter | \$74.77 | \$43.50 | \$31.27 | \$76.52 | \$44.40 | \$32.12 | \$78.10 | \$45.30 | \$32.80 | \$79.60 | \$46.20 | \$33.40 | 2,12,13 |
| Terrazzo Base Grinder | \$72.96 | \$41.69 | \$31.27 | \$74.71 | \$42.59 | \$32.12 | \$76.29 | \$43.49 | \$32.80 | \$77.79 | \$44.39 | \$33.40 | 2,12,13 |
| Certified Terrazzo Floor Grinder and Tender | \$71.41 | \$40.14 | \$31.27 | \$73.16 | \$41.04 | \$32.12 | \$74.74 | \$41.94 | \$32.80 | \$76.24 | \$42.84 | \$33.40 | 2,12,13 |
| Terrazzo Floor Grinder | \$68.41 | \$37.14 | \$31.27 | \$70.16 | \$38.04 | \$32.12 | \$71.74 | \$38.94 | \$32.80 | \$73.24 | \$39.84 | \$33.40 | 2,12,13 |
| TILE SETTER: | 9/21/20 | | | 8/30/21 | | | 9/5/22 | | | 9/4/23 | | | |
| Ceramic Hard Tile; Marble Setter | \$74.77 | \$43.50 | \$31.27 | \$76.52 | \$44.40 | \$32.12 | \$78.10 | \$45.30 | \$32.80 | \$79.60 | \$46.20 | \$33.40 | 2,12,13 |
| Certified Ceramic Tile & Marble Helper | \$71.41 | \$40.14 | \$31.27 | \$73.16 | \$41.04 | \$32.12 | \$74.74 | \$41.94 | \$32.80 | \$76.24 | \$42.84 | \$33.40 | 2,12,13 |
| TRUCK DRIVER: | 9/16/19 | | | | | | | | | | | | |
| Concrete Mixer | \$36.37 | \$30.95 | \$5.42 | - | - | - | - | - | - | - | - | - | |
| Concrete Mixer/Booster | \$48.63 | \$34.53 | \$14.10 | - | - | - | - | - | - | - | - | - | |
| Dump Truck, 8 cu. yds. & under (water level); Water Truck (up to & including 2,000 gallons) | 9/21/20 | | | | | | | | | | | | |
| Flatbed, Utility, etc. | \$79.38 | \$46.07 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| End Dump, Unlicensed (Euclid, Mack, Caterpillar, or similar); Tractor Trailer (hauling equipment) | \$79.11 | \$45.80 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Semi-Trailer, Rock Cans, or Semi-Dump | \$80.77 | \$47.46 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Slip-in or Pup | \$80.34 | \$47.03 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Tandem Dump Truck, over 8 cu. yds. (water level); Water Truck (over 2,000 gallons) | \$80.66 | \$47.35 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| | \$79.69 | \$46.38 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |

WAGE RATE SCHEDULE BULLETIN NO. 499

| Classification | Current | | | 2021 | | | 2022 | | | 2023 | | | Remarks See Pg 6-8 |
|--|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|--------------------------|
| | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | Prevailing Wage Total | Basic Hourly Rate | Fringe Hourly Rate | |
| UNDERGROUND LABORER: | 8/31/20 | | | 8/30/21 | | | 9/5/22 | | | 9/4/23 | | | |
| Worker in a raise, shaft, or tunnel. | | | | | | | | | | | | | |
| Group 1 | \$61.98 | \$39.30 | \$22.68 | \$63.44 | \$39.95 | \$23.49 | \$64.85 | \$40.60 | \$24.25 | \$66.26 | \$41.25 | \$25.01 | 13 |
| Group 2 | \$63.48 | \$40.80 | \$22.68 | \$64.94 | \$41.45 | \$23.49 | \$67.00 | \$42.75 | \$24.25 | \$67.76 | \$42.75 | \$25.01 | 13 |
| Group 3 | \$63.98 | \$41.30 | \$22.68 | \$65.44 | \$41.95 | \$23.49 | \$66.85 | \$42.60 | \$24.25 | \$68.26 | \$43.25 | \$25.01 | 13 |
| Group 4 | \$64.98 | \$42.30 | \$22.68 | \$66.44 | \$42.95 | \$23.49 | \$67.85 | \$43.60 | \$24.25 | \$69.26 | \$44.25 | \$25.01 | 13 |
| Group 5 | \$65.23 | \$42.55 | \$22.68 | \$66.69 | \$43.20 | \$23.49 | \$68.10 | \$43.85 | \$24.25 | \$69.51 | \$44.50 | \$25.01 | 13 |
| Group 6 | \$65.33 | \$42.65 | \$22.68 | \$66.79 | \$43.30 | \$23.49 | \$68.20 | \$43.95 | \$24.25 | \$69.61 | \$44.60 | \$25.01 | 13 |
| Group 7 | \$65.58 | \$42.90 | \$22.68 | \$67.04 | \$43.55 | \$23.49 | \$68.45 | \$44.20 | \$24.25 | \$69.86 | \$44.85 | \$25.01 | 13 |
| Group 8 | \$66.03 | \$43.35 | \$22.68 | \$67.49 | \$44.00 | \$23.49 | \$68.90 | \$44.65 | \$24.25 | \$70.31 | \$45.30 | \$25.01 | 13 |
| WATER FRONT CONSTRUCTION (DREDGING): | 9/21/20 | | | | | | | | | | | | |
| CLAMSHELL OR DIPPER DREDGES: | | | | | | | | | | | | | |
| Clamshell or Dipper Operator | \$81.83 | \$48.52 | \$33.31 | - | - | - | - | - | - | - | - | - | 11,13 |
| Mechanic; Welder; Watch Engineer | \$81.17 | \$47.86 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Deckmate; Bargemate | \$80.77 | \$47.46 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Fire Person; Oiler; Deckhand; Barge Worker | \$79.11 | \$45.80 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| HYDRAULIC SUCTION DREDGES: | | | | | | | | | | | | | |
| Lever Operator | \$81.47 | \$48.16 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Mechanic; Welder | \$81.17 | \$47.86 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Watch Engineer (steam or electric) | \$81.32 | \$48.01 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Dozer Operator | \$81.11 | \$47.80 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Deckmate | \$80.77 | \$47.46 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Winch Operator (stern winch on dredge) | \$80.66 | \$47.35 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Fire Person; Oiler; Deckhand (can operate anchor scow under direction of deckmate); Levee Operator | \$79.11 | \$45.80 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| DERRICKS: | | | | | | | | | | | | | |
| Operator: Derrick, Piledriver, Crane | \$81.83 | \$48.52 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Deckmate; Saurman Type Dragline (up to & including 5 yds.) | \$80.77 | \$47.46 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Saurman Type Dragline (over 5 cu. yds.) | \$81.17 | \$47.86 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Fire Person; Oiler; Deckhand | \$79.11 | \$45.80 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| BOAT OPERATORS: | | | | | | | | | | | | | |
| Master Boat Operator | \$81.47 | \$48.16 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Boat Operator | \$81.32 | \$48.01 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| Boat Deckhand | \$79.11 | \$45.80 | \$33.31 | - | - | - | - | - | - | - | - | - | 13 |
| WATER WELL DRILLER: | 9/16/19 | | | | | | | | | | | | |
| Water Well Driller | \$46.40 | \$35.00 | \$11.40 | - | - | - | - | - | - | - | - | - | |
| Water Well Driller Helper | \$32.38 | \$22.00 | \$10.38 | - | - | - | - | - | - | - | - | - | |
| WELDER: | | | | | | | | | | | | | |
| Use wages of craft to which welding is incidental, except for Chain-Link Fence Erector. See remark. | | | | | | | | | | | | | 10 |
| WINDOW FILM INSTALLER | 9/16/19 | | | | | | | | | | | | |
| | \$23.38 | \$22.62 | \$0.76 | - | - | - | - | - | - | - | - | - | |

Comments: Overtime must be paid at one and one-half times the basic hourly rate plus the hourly cost of required fringe benefits.

* Indicates a wage, fringe benefit, remark, or title change from the previous bulletin.

REMARKS:

1. Carpenter, Laborer (excluding High Scaler, Window Washer): \$.50 per hour shall be added to the regular straight-time rate for height pay for each hour while working from a bosun's chair and/or from a cable-suspended scaffold or work platform which is free swinging (not attached to building) for each hour worked on said rig.
2. Cement Finisher, Mason, Plasterer, Terrazzo, Tile Setter: \$1.00 per hour shall be added to the regular straight-time rate for height pay for each hour while working from a bosun's chair and/or from a cable-suspended scaffold or work platform which is free swinging (not attached to building) for each hour worked on said rig.
3. Diver (Other than Aqua Lung), Stand-By Diver (Other than Aqua Lung):
 - A. On any dive exceeding 50 feet, the diver shall, in addition, be paid the following amount of "depth money":

| | |
|----------------------|---|
| 50 feet to 100 feet | \$1.50 per foot in excess of 50 feet |
| 100 feet to 150 feet | \$100.00 plus \$2.00 per foot in excess of 100 feet |
| 150 feet to 200 feet | \$200.00 plus \$3.00 per foot in excess of 150 feet |
 - B. When it is necessary for a Diver to enter any pipe, tunnel or other enclosure, the said Diver shall, in addition to the hourly rate, receive a premium in accordance with the following schedule for distance traveled from the entrance of the pipe, tunnel or other enclosure:
 - 1) When able to stand erect, but in which there is no vertical ascent:

| | |
|-----------------------|--|
| 5 feet to 50 feet | \$5.00 per day |
| 50 feet to 100 feet | \$7.50 per day |
| 100 feet to 150 feet | \$12.50 per day |
| Greater than 150 feet | The premium shall be increased an additional \$7.50 for each succeeding 50 feet. |
 - 2) When unable to stand erect and in which there is no vertical ascent:

| | |
|----------------------|-----------------|
| 5 feet to 50 feet | \$5.00 per day |
| 50 feet to 100 feet | \$7.50 per day |
| 100 feet to 150 feet | \$12.50 per day |
| 150 feet to 200 feet | \$36.75 per day |
| 200 feet to 300 feet | \$1.00 per foot |
| 300 feet to 450 feet | \$1.50 per foot |
| 450 feet to 600 feet | \$2.50 per foot |
4. Electrician:
 - A. One and one-half times the straight-time rate while working in a tunnel under construction; under water with aqualung equipment; in a completed tunnel which has only one entrance or exit providing access to safety and where no other personnel are working; or in an underground structure having no access to safety or where no other personnel are working.
 - B. Double the straight-time rate shall be paid for the following types of hazardous work regardless if fall prevention devices are used:
 - 1) While working from poles, trusses, stacks, towers, tanks, bosun's chairs, swinging or rolling scaffolds, supporting structures, and open platforms, over 70 feet from the ground where the employee is subject to a free fall; provided, however, that when work is performed on stacks, towers or permanent platforms where the employees are on a firm footing within an enclosure, a hazardous condition does not exist regardless of height;
 - 2) While working outside of a railing or enclosure, or temporary platforms extending outside of a building, or from scaffolding or ladder within an enclosure where an employee's footing is within one foot of the top of such railing, and the employee is subject to a free fall of over 70 feet;
 - 3) Working on buildings while leaning over the railing or edge of the building, and is subject to a free fall of 70 feet; or
 - 4) Two hours minimum hazardous pay per day shall be paid while climbing to a stack, tower or permanent platform which exceeds 70 feet from the ground but where the employee is on a firm footing within an enclosure.
 - C. Five percent per hour shall be added to the hourly wage for height pay while working above 9,000 feet elevation.

REMARKS:

5. Equipment Operator:

- A. Operators and Assistants to Engineer (climbing a boom) of cranes (under 50 tons) with booms of eighty feet or more (including jib) or of cranes (under 50 tons) with leads of one hundred feet or more, shall receive additional premium according to the following schedule:

| | Per Hour |
|--|----------|
| Booms of 80 feet up to, or leads of 100 feet up to, but not including 130 feet | \$0.50 |
| Booms and/or leads of 130 feet up to, but not including 180 feet | \$0.75 |
| Booms and/or leads of 180 feet up to and including 250 feet | \$1.15 |
| Booms and/or leads over 250 feet | \$1.50 |

Operators and Assistants to Engineer (climbing a boom) of cranes (50 tons and over) with booms of 180 feet or more (including jib) shall receive additional premium according to the following schedule:

| | Per Hour |
|--|----------|
| Booms of 180 feet up to and including 250 feet | \$1.25 |
| Booms over 250 feet | \$1.75 |

Note: The boom shall be measured from the center of the heel pin to the center of the boom or jib point sheave.

- B. \$1.25 per hour shall be added to the hourly wage while operating a rig suspended by ropes or cables or to perform work on a Yo-Yo Cat.
- C. In a raise or shaft, a premium of \$.40 per hour will be paid in addition to the regular straight time wage.
 A raise is defined to be an underground excavation (lined or unlined) whose length exceeds its width and the inclination of the grade from the excavation is greater than 20 degrees from the horizontal.
 A shaft is defined to be an excavation (lined or unlined) made from the surface of the earth, generally vertical in nature, but may decline up to 75 degrees from the vertical, and whose depth is greater than 15 feet and its largest horizontal dimension. Includes an underground silo.
- D. In a tunnel, a premium of \$.30 per hour will be paid in addition to the regular straight time wages.
 A tunnel is defined to be an underground excavation (lined or unlined) whose length exceeds its width and the inclination of the grade from the excavation is no greater than 20 degrees from the horizontal.
6. Glazier: \$1.00 per hour shall be added to the hourly wage for height pay for exterior glazing work performed in a walking/working surface with an unprotected side or edge 10 feet or more above a lower level which requires protection from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, position devise systems, fall restraint systems, perimeter safety cables or controlled decking zones.
7. Insulator: Six percent per hour shall be added to the hourly wage for hazardous pay while working from a boatswain chair, staging or free standing scaffolding erected from the ground up or mezzanine floor subject to a free fall and skyclimber suspended from a permanent structure and when working above 40 feet.
8. Ironworker: \$.50 per hour shall be added to the hourly wage while working in tunnels or coffer dams. \$1.00 per hour shall be added to the hourly wage while working under or covered with water (submerged), or on the summits of Mauna Kea, Mauna Loa or Haleakala.
9. Plumber: One and one-half times the straight-time rate for height pay while working from OSHA approved trusses, stacks, towers, tanks, bosun's chair, swinging or rolling scaffolding, supporting structures or on open platforms where the employee is subject to a direct fall of 40 feet or more. Provided, however, that when said work is performed where the employee is on a firm footing within an enclosure, a hazardous condition does not exist regardless of height. \$1.00 per hour shall be added to the straight-time rate while working with flame cutting or any type of welding equipment on any galvanized material or product for at least an hour.
10. Chain-Link Fence Erector: \$1.00 per hour shall be added to the hourly wage while performing welding services.
11. Water Front Construction: Clamshell or Dipper Operator: \$.50 per hour shall be added to the straight-time rate while working with boom (including jib) over 130 feet.
12. Possible wage/fringe option increases:
 Carpenter, Drywall Installer, Lather: Effective WRS #500 - \$0.25; 9/5/22 - \$0.50; 9/4/23 - \$0.50
 Cement Finisher & Plasterer: Effective: WRS #500 - \$0.30; 9/5/22 - \$0.30; 9/4/23 - \$0.30
 Floor Layer: Effective WRS: 3/5/23 - \$0.29
 Ironworker: Effective WRS #500 - \$1.36
 Mason; Bricklayer, Cement Blocklayer; Stone Mason; Precast Sill Setter Pointer-Caulker-Weatherproofer: Effective WRS #500 - \$0.30; 9/5/22 - \$0.30; 9/4/23 - \$0.30
 Painter: Effective WRS #500 - \$0.48
 Roofer: Effective WRS #500 - \$0.80
 Terrazzo, Tile Setter: Effective WRS #500- \$0.30; 9/5/22 - \$0.30; 9/4/23 - \$0.10

REMARKS:

13. Overtime/Holiday must be paid at one and one-half times the basic hourly rate, plus the hourly cost of required fringe, with the following exceptions:

A. Two times the basic hourly rate, plus the hourly cost of required fringe.

Asphalt Paving: Sunday, New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Boilermaker: Sunday, New Year's Day, President's Day, Memorial Day, Kamehameha Day, July 4th, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Diver: Sunday, New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Electrician: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

Elevator Constructor: Saturday, Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Equipment Operator: Sunday, New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Floor Layer: Labor Day.

Glazier: Sunday.

Helicopter Worker: Sunday, New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Ironworker: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Plumber: Sunday, New Year's Day, Martin Luther King Jr. Day, President's Day, Memorial Day, Kamehameha Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Sheetmetal Worker: Sunday, New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Kamehameha Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Telecommunication: Sunday, New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

Truck Driver, except Concrete Mixer & Concrete Mixer/Booster: Sunday, New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Water Front Construction (Dredging): Sunday, New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

B. Three times the basic hourly wage, plus the hourly cost of required fringe on Labor Day.

Carpenter
Cement Finisher
Chain Link Fence Erector
Drywall Installer
Insulator
Laborer
Lather
Mason
Plasterer
Terrazzo
Tile Setter
Underground Laborer

APPRENTICE SCHEDULE BULLETIN NO. 499 February 15, 2021

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

| Apprentice Classifications | Interval Hrs | BASIC HOURLY RATE | | | | | | | | | | FRINGE BENEFIT HOURLY RATE | Remarks See Pg 9-10 |
|---------------------------------|-----------------|-------------------|---------|---------|---------|---------|---------|---------|---------|-----|------|----------------------------------|---------------------------|
| | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | Total | |
| BOILERMAKER | 1000 | \$25.40 | \$27.22 | \$29.03 | \$30.85 | \$32.66 | \$34.48 | | | | | \$31.29 | 10 |
| CARPENTER | | | | | | | | | | | | | |
| Indentured After 9/1/02 | 1000 | \$20.20 | | | | | | | | | | \$8.67 | 1,10 |
| " | 1000 | | \$22.73 | | | | | | | | | \$12.99 | 1,10 |
| " | 1000 | | | \$25.25 | \$30.30 | | | | | | | \$17.09 | 1,10 |
| " | 1000 | | | | | \$35.35 | \$40.40 | | | | | \$19.09 | 1,10 |
| " | 1000 | | | | | | | \$45.45 | \$47.98 | | | \$21.09 | 1,10 |
| (Effective date 8/30/21) | | | | | | | | | | | | | |
| * CARPENTER | | | | | | | | | | | | | |
| Indentured After 9/1/02 | 1000 | \$20.50 | | | | | | | | | | \$8.67 | 1,10 |
| " | 1000 | | \$23.06 | | | | | | | | | \$12.99 | 1,10 |
| " | 1000 | | | \$25.63 | \$30.75 | | | | | | | \$17.09 | 1,10 |
| " | 1000 | | | | | \$35.88 | \$41.00 | | | | | \$19.09 | 1,10 |
| " | 1000 | | | | | | | \$46.13 | \$48.69 | | | \$21.09 | 1,10 |
| CEMENT FINISHER | | | | | | | | | | | | | |
| Indentured Prior to 9/1/03 | 1000 | \$21.05 | | | | | | | | | | \$10.87 | 2,10 |
| " | 1000 | | \$23.16 | \$25.26 | \$29.47 | \$31.58 | \$33.68 | \$35.79 | \$37.89 | | | \$31.83 | 2,10 |
| Indentured On or After 9/1/03 | 1000 | \$21.05 | \$23.16 | \$25.26 | \$29.47 | \$31.58 | \$33.68 | \$35.79 | \$37.89 | | | \$19.63 | 2,10 |
| (Effective date 8/30/21) | | | | | | | | | | | | | |
| * CEMENT FINISHER | | | | | | | | | | | | | |
| Indentured Prior to 9/1/03 | 1000 | \$21.30 | | | | | | | | | | \$10.87 | 2,10 |
| " | 1000 | | \$23.43 | \$25.56 | \$29.82 | \$31.95 | \$34.08 | \$36.21 | \$38.34 | | | \$31.83 | 2,10 |
| Indentured On or After 9/1/03 | 1000 | \$21.30 | \$23.43 | \$25.56 | \$29.82 | \$31.95 | \$34.08 | \$36.21 | \$38.34 | | | \$19.63 | 2,10 |

APPRENTICE SCHEDULE BULLETIN NO. 499 February 15, 2021

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

| Apprentice Classifications | Interval Hrs | BASIC HOURLY RATE | | | | | | | | | | FRINGE BENEFIT HOURLY RATE | Remarks See Pg 9-10 |
|-------------------------------------|-----------------|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------------------------------|---------------------------|
| | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | Total | |
| CONSTRUCTION EQUIPMENT OPERATOR | | | | | | | | | | | | | |
| Indentured On or After 9/1/02 | 1000 | \$23.90 | | | | | | | | | | \$9.25 | 3,10 |
| " | 1000 | | \$26.29 | | | | | | | | | \$20.34 | 3,10 |
| " | 1000 | | | \$28.68 | | | | | | | | \$21.35 | 3,10 |
| " | 1000 | | | | \$33.46 | | | | | | | \$23.37 | 3,10 |
| " | 1000 | | | | | \$38.24 | | | | | | \$25.38 | 3,10 |
| " | 1000 | | | | | | \$43.02 | | | | | \$27.40 | 3,10 |
| DRYWALL INSTALLER | | | | | | | | | | | | | |
| Indentured After 9/1/02 | 1000 | \$20.30 | | | | | | | | | | \$8.67 | 10 |
| " | 1000 | | \$22.84 | | | | | | | | | \$12.99 | 10 |
| " | 1000 | | | \$25.38 | \$30.45 | | | | | | | \$17.09 | 10 |
| " | 1000 | | | | | \$35.53 | \$40.60 | | | | | \$19.09 | 10 |
| " | 1000 | | | | | | | \$45.68 | \$48.21 | | | \$21.09 | 10 |
| (Effective date 8/30/21) | | | | | | | | | | | | | |
| * DRYWALL INSTALLER | | | | | | | | | | | | | |
| Indentured After 9/1/02 | 1000 | \$20.60 | | | | | | | | | | \$8.67 | 10 |
| " | 1000 | | \$23.18 | | | | | | | | | \$12.99 | 10 |
| " | 1000 | | | \$25.75 | \$30.90 | | | | | | | \$17.09 | 10 |
| " | 1000 | | | | | \$36.05 | \$41.20 | | | | | \$19.09 | 10 |
| " | 1000 | | | | | | | \$46.35 | \$48.93 | | | \$21.09 | 10 |
| DRYWALL TAPERS/FINISHERS | | | | | | | | | | | | | |
| | 1000 | \$17.24 | \$19.40 | \$21.55 | \$23.71 | | | | | | | \$12.45 | |
| | 1000 | | | | | \$25.86 | | | | | | \$14.45 | |
| | 1000 | | | | | | \$28.02 | | | | | \$14.95 | |
| | 1000 | | | | | | | \$32.33 | \$36.64 | | | \$17.45 | |
| ELECTRICIAN (WIRE & LINE INSTALLER) | | | | | | | | | | | | | |
| " | 1000 | \$18.04 | | | | | | | | | | \$10.18 | 10 |
| " | 1000 | | \$20.62 | | | | | | | | | \$10.56 | 10 |
| " | 1000 | | | \$23.20 | | | | | | | | \$17.46 | 4,10 |
| " | 1000 | | | | \$25.78 | | | | | | | \$18.56 | 4,10 |
| " | 1000 | | | | | \$28.35 | | | | | | \$19.66 | 4,10 |
| " | 1000 | | | | | | \$30.93 | | | | | \$20.77 | 4,10 |
| " | 1000 | | | | | | | \$33.51 | | | | \$21.87 | 4,10 |
| " | 1000 | | | | | | | | \$36.09 | | | \$22.97 | 4,10 |
| " | 1000 | | | | | | | | | \$41.24 | | \$25.17 | 4,10 |
| " | 1000 | | | | | | | | | | \$46.40 | \$27.38 | 4,10 |

APPRENTICE SCHEDULE BULLETIN NO. 499 February 15, 2021

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

| Apprentice Classifications | Interval Hrs | BASIC HOURLY RATE | | | | | | | | | | FRINGE BENEFIT HOURLY RATE | Remarks See Pg 9-10 |
|-------------------------------|-----------------|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------------------------------|---------------------------|
| | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | Total | |
| * ELEVATOR CONSTRUCTOR | | | | | | | | | | | | | |
| " | 850 | \$31.59 | | | | | | | | | | - | 10 |
| " | 850 | | \$34.75 | | | | | | | | | \$34.765 | 10 |
| " | 1700 | | | \$41.07 | \$44.23 | \$50.54 | | | | | | \$34.765 | 10 |
| FLOOR LAYER | | | | | | | | | | | | | |
| Indentured after 2/27/94 | 1000 | \$16.55 | \$18.39 | | | | | | | | | \$19.81 | 10 |
| " " | 1000 | | | \$20.22 | \$22.06 | | | | | | | \$25.31 | 10 |
| " " | 1000 | | | | | \$23.90 | \$25.74 | \$29.42 | \$33.09 | | | \$30.93 | 10 |
| (Effective: 2/28/21) | | | | | | | | | | | | | |
| FLOOR LAYER | | | | | | | | | | | | | |
| Indentured after 2/27/94 | 1000 | \$17.11 | \$19.01 | | | | | | | | | \$20.05 | 10 |
| " " | 1000 | | | \$20.91 | \$22.81 | | | | | | | \$25.55 | 10 |
| " " | 1000 | | | | | \$24.71 | \$26.61 | \$30.42 | \$34.22 | | | \$31.67 | 10 |
| GLAZIER | | | | | | | | | | | | | |
| Indentured On or After 7/1/99 | 1000 | \$17.78 | | | | | | | | | | \$32.21 | 5,10 |
| " | 1000 | | \$19.75 | | | | | | | | | \$32.45 | 5,10 |
| " | 1000 | | | \$21.73 | | | | | | | | \$32.69 | 5,10 |
| " | 1000 | | | | \$23.70 | | | | | | | \$32.93 | 5,10 |
| " | 1000 | | | | | \$27.65 | | | | | | \$33.41 | 5,10 |
| " | 1000 | | | | | | \$29.63 | | | | | \$33.65 | 5,10 |
| " | 1000 | | | | | | | \$31.60 | | | | \$33.89 | 5,10 |
| " | 1000 | | | | | | | | \$33.58 | | | \$34.13 | 5,10 |
| " | 1000 | | | | | | | | | \$35.55 | | \$34.37 | 5,10 |
| " | 1000 | | | | | | | | | | \$37.53 | \$34.61 | 5,10 |
| HEAVY DUTY REPAIRER & WELDER | | | | | | | | | | | | | |
| Indentured on or after 9/1/02 | 1000 | \$23.90 | | | | | | | | | | \$9.25 | 3,10 |
| " | 1000 | | \$26.29 | | | | | | | | | \$20.34 | 3,10 |
| " | 1000 | | | \$28.68 | | | | | | | | \$21.35 | 3,10 |
| " | 1000 | | | | \$33.46 | | | | | | | \$23.37 | 3,10 |
| " | 1000 | | | | | \$38.24 | | | | | | \$25.38 | 3,10 |
| " | 1000 | | | | | | \$40.63 | | | | | \$26.40 | 3,10 |
| " | 1000 | | | | | | | \$43.02 | | | | \$27.40 | 3,10 |
| " | 1000 | | | | | | | | \$45.41 | | | \$28.42 | 3,10 |

APPRENTICE SCHEDULE BULLETIN NO. 499 February 15, 2021

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

| Apprentice Classifications | Interval Hrs | BASIC HOURLY RATE | | | | | | | | | | FRINGE BENEFIT HOURLY RATE | Remarks See Pg 9-10 |
|---|-----------------|-------------------|---------|---------|---------|---------|---------|-----|-----|-----|------|----------------------------------|---------------------------|
| | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | Total | |
| INSULATOR | | | | | | | | | | | | | |
| Indentured After 5/3/95 | 2000 | \$20.95 | | | | | | | | | | \$8.15 | 6,10 |
| " | 2000 | | \$20.95 | | | | | | | | | \$19.16 | 6,10 |
| " | 2000 | | | \$25.14 | | | | | | | | \$19.50 | 6,10 |
| " | 2000 | | | | \$29.33 | | | | | | | \$19.85 | 6,10 |
| " | 2000 | | | | | \$33.52 | | | | | | \$20.19 | 6,10 |
| IRONWORKER (REINFORCING & STRUCTURAL) | | | | | | | | | | | | | |
| Indentured After 10/31/93 | 1000 | \$21.25 | | | | | | | | | | \$30.72 | 7,10 |
| " | 1000 | | \$23.38 | | | | | | | | | \$31.33 | 7,10 |
| " | 1000 | | | \$25.50 | | | | | | | | \$31.94 | 7,10 |
| " | 1000 | | | | \$29.75 | | | | | | | \$33.16 | 7,10 |
| " | 1000 | | | | | \$34.00 | | | | | | \$34.38 | 7,10 |
| " | 1000 | | | | | | \$38.25 | | | | | \$34.70 | 7,10 |
| (Effective Date 9/1/21) | | | | | | | | | | | | | |
| * IRONWORKER (REINFORCING & STRUCTURAL) | | | | | | | | | | | | | |
| Indentured After 10/31/93 | 1000 | \$21.75 | | | | | | | | | | \$30.72 | 7,10 |
| " | 1000 | | \$23.93 | | | | | | | | | \$31.33 | 7,10 |
| " | 1000 | | | \$26.10 | | | | | | | | \$31.94 | 7,10 |
| " | 1000 | | | | \$30.45 | | | | | | | \$33.16 | 7,10 |
| " | 1000 | | | | | \$34.80 | | | | | | \$34.38 | 7,10 |
| " | 1000 | | | | | | \$39.15 | | | | | \$34.70 | 7,10 |
| LABORER I | | | | | | | | | | | | | |
| CONSTRUCTION CRAFT | | | | | | | | | | | | | |
| Indentured On or After 9/3/02 | 1000 | \$19.35 | | | | | | | | | | \$9.10 | 1,10 |
| " | 1000 | | \$23.22 | \$27.09 | \$30.96 | | | | | | | \$16.90 | 1,10 |
| HAZARDOUS WASTE MATERIAL TECHNICIAN | | | | | | | | | | | | | |
| " | 1000 | \$19.35 | | | | | | | | | | \$7.80 | 1,10 |
| " | 1000 | | \$23.22 | \$27.09 | \$30.96 | | | | | | | \$15.10 | 1,10 |

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APPRENTICE SCHEDULE BULLETIN NO. 499 February 15, 2021

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

| Apprentice Classifications | Interval Hrs | BASIC HOURLY RATE | | | | | | | | | | FRINGE BENEFIT HOURLY RATE | Remarks See Pg 9-10 |
|-------------------------------------|-----------------|-------------------|---------|---------|---------|---------|---------|---------|---------|-----|------|----------------------------------|---------------------------|
| | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | Total | |
| (Effective Date 8/30/21) | | | | | | | | | | | | | |
| LABORER I | | | | | | | | | | | | | |
| CONSTRUCTION CRAFT | | | | | | | | | | | | | |
| Indentured On or After 9/3/02 | 1000 | \$19.68 | | | | | | | | | | \$9.10 | 1,10 |
| " | 1000 | | \$23.61 | \$27.55 | \$31.48 | | | | | | | \$16.90 | 1,10 |
| HAZARDOUS WASTE MATERIAL TECHNICIAN | | | | | | | | | | | | | |
| " | 1000 | \$19.68 | | | | | | | | | | \$7.80 | 1,10 |
| " | 1000 | | \$23.61 | \$27.55 | \$31.48 | | | | | | | \$15.10 | 1,10 |
| * LANDSCAPER | 1000 | \$17.16 | | | | | | | | | | \$7.75 | |
| " | 1000 | | \$18.48 | \$19.80 | \$21.12 | | | | | | | \$11.85 | |
| MASON | | | | | | | | | | | | | |
| BRICKLAYER | | | | | | | | | | | | | |
| Indentured prior to 9/1/03 | 1000 | \$22.98 | | | | | | | | | | \$10.62 | 2,10 |
| Indentured On or After 9/1/03 | 1000 | \$22.98 | \$25.28 | \$27.58 | \$32.17 | \$34.47 | \$36.77 | \$39.07 | \$41.36 | | | \$19.58 | 2,10 |
| STONE MASON | | | | | | | | | | | | | |
| Indentured On or After 9/1/03 | 1000 | \$25.28 | \$27.58 | \$29.87 | \$32.17 | \$34.47 | \$36.77 | \$39.07 | \$41.36 | | | \$19.58 | 2,10 |
| POINTER-CAULKER-WEATHERPROOFER | | | | | | | | | | | | | |
| Indentured On or After 9/1/03 | 1000 | \$23.11 | \$25.42 | \$27.73 | \$32.35 | \$36.97 | \$41.59 | | | | | \$19.58 | 2,10 |
| (Effective Date 8/30/21) | | | | | | | | | | | | | |
| * MASON | | | | | | | | | | | | | |
| BRICKLAYER | | | | | | | | | | | | | |
| Indentured prior to 9/1/03 | 1000 | \$23.23 | | | | | | | | | | \$10.92 | 2,10 |
| Indentured On or After 9/1/03 | 1000 | \$23.23 | \$25.55 | \$27.88 | \$32.52 | \$34.85 | \$37.17 | \$39.49 | \$41.81 | | | \$20.13 | 2,10 |
| STONE MASON | | | | | | | | | | | | | |
| Indentured On or After 9/1/03 | 1000 | \$25.55 | \$27.88 | \$30.20 | \$32.52 | \$34.85 | \$37.17 | \$39.49 | \$41.81 | | | \$20.13 | 2,10 |
| POINTER-CAULKER-WEATHERPROOFER | | | | | | | | | | | | | |
| Indentured On or After 9/1/03 | 1000 | \$23.36 | \$25.69 | \$28.03 | \$32.70 | \$37.37 | \$42.04 | | | | | \$20.13 | 2,10 |

APPRENTICE SCHEDULE BULLETIN NO. 499 February 15, 2021

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

| Apprentice Classifications | Interval Hrs | BASIC HOURLY RATE | | | | | | | | | | FRINGE BENEFIT HOURLY RATE | Remarks See Pg 9-10 |
|---|-----------------|-------------------|---------|---------|---------|---------|---------|---------|---------|-----|------|----------------------------------|---------------------------|
| | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | Total | |
| MILLWRIGHT Indentured After 10/14/19 | 1000 | \$20.30 | | | | | | | | | | \$8.67 | 10 |
| | 1000 | | \$22.84 | | | | | | | | | \$12.99 | 10 |
| | 1000 | | | \$25.38 | \$30.45 | | | | | | | \$17.09 | 10 |
| | 1000 | | | | | \$35.53 | \$40.60 | | | | | \$19.09 | 10 |
| | 1000 | | | | | | | \$45.68 | \$48.21 | | | \$21.09 | 10 |
| (Effective Date 8/30/21) | | | | | | | | | | | | | |
| * MILLWRIGHT Indentured After 10/14/19 | 1000 | \$20.60 | | | | | | | | | | \$8.67 | 10 |
| | 1000 | | \$23.18 | | | | | | | | | \$12.99 | 10 |
| | 1000 | | | \$25.75 | \$30.90 | | | | | | | \$17.09 | 10 |
| | 1000 | | | | | \$36.05 | \$41.20 | | | | | \$19.09 | 10 |
| | 1000 | | | | | | | \$46.35 | \$48.93 | | | \$21.09 | 10 |
| (Effective 1/1/21) | | | | | | | | | | | | | |
| PAINTER | 1000 | \$17.51 | | | | | | | | | | \$9.50 | |
| " | 1000 | | \$19.45 | \$21.40 | \$23.34 | \$25.29 | | | | | | \$13.00 | |
| " | 1000 | | | | | | \$27.23 | | | | | \$14.00 | |
| " | 1000 | | | | | | | \$29.18 | \$33.07 | | | \$14.75 | |
| * (Effective 7/1/21) | | | | | | | | | | | | | |
| PAINTER | 1000 | \$17.51 | | | | | | | | | | \$9.50 | |
| " | 1000 | | \$19.45 | \$21.40 | \$23.34 | \$25.29 | | | | | | \$13.00 | |
| " | 1000 | | | | | | \$27.23 | | | | | \$14.00 | |
| " | 1000 | | | | | | | \$29.18 | \$33.07 | | | \$14.75 | |
| (Effective 1/1/21) | | | | | | | | | | | | | |
| PAVING EQUIPMENT OPERATOR | 1000 | \$25.55 | | | | | | | | | | \$9.25 | 10 |
| " | 1000 | | \$32.52 | | | | | | | | | \$20.79 | 10 |
| " | 1000 | | | \$37.16 | | | | | | | | \$23.94 | 10 |
| " | 1000 | | | | \$41.81 | | | | | | | \$28.15 | 10 |

APPRENTICE SCHEDULE BULLETIN NO. 499 February 15, 2021

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

| Apprentice Classifications | Interval Hrs | BASIC HOURLY RATE | | | | | | | | | | FRINGE BENEFIT HOURLY RATE | Remarks See Pg 9-10 |
|---|-----------------|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------------------------------|---------------------------|
| | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | Total | |
| PLASTERER | | | | | | | | | | | | | |
| Indentured On or After 9/1/03 | 1000 | \$17.48 | \$19.66 | \$21.85 | \$24.03 | \$26.21 | \$30.58 | \$34.95 | \$39.32 | | | \$19.63 | 2,10 |
| (Effective 8/30/21) | | | | | | | | | | | | | |
| * PLASTERER | | | | | | | | | | | | | |
| Indentured On or After 9/1/03 | 1000 | \$17.68 | \$19.89 | \$22.11 | \$24.32 | \$26.53 | \$30.95 | \$35.37 | \$39.79 | | | \$19.63 | 2,10 |
| (Effective 1/3/21) | | | | | | | | | | | | | |
| PLUMBER: | | | | | | | | | | | | | |
| PLUMBER; FIRE SPRINKLER FITTER; REFRIGERATION | | | | | | | | | | | | | |
| AIR CONDITIONING; STEAMFITTER-WELDER | | | | | | | | | | | | | |
| Indentured On or After 9/2/85 | 1000 | \$18.23 | | | | | | | | | | \$10.63 | 8,10 |
| " | 1000 | | \$18.23 | | | | | | | | | \$10.68 | 8,10 |
| " | 1000 | | | \$21.54 | | | | | | | | \$13.44 | 8,10 |
| " | 1000 | | | | \$21.54 | | | | | | | \$13.44 | 8,10 |
| " | 1000 | | | | | \$24.94 | | | | | | \$14.19 | 8,10 |
| " | 1000 | | | | | | \$24.94 | | | | | \$14.19 | 8,10 |
| " | 1000 | | | | | | | \$29.48 | | | | \$15.15 | 8,10 |
| " | 1000 | | | | | | | | \$29.48 | | | \$15.15 | 8,10 |
| " | 1000 | | | | | | | | | \$34.01 | | \$15.84 | 8,10 |
| " | 1000 | | | | | | | | | | \$34.01 | \$15.84 | 8,10 |
| ROOFER | | | | | | | | | | | | | |
| Indentured Prior to 11/1/98 | 1000 | \$18.81 | \$20.90 | \$25.08 | | | | | | | | \$15.60 | 9 |
| " | 1000 | | | | \$29.26 | \$33.44 | \$37.62 | \$39.71 | | | | \$19.85 | |
| Indentured On or After 11/1/98 and Prior to 11/4/12 | 1000 | \$18.81 | \$20.90 | \$25.08 | | | | | | | | \$15.60 | 9 |
| " | 1000 | | | | \$29.26 | \$33.44 | \$35.53 | \$37.62 | \$39.71 | | | \$19.85 | |
| Indentured On or After 11/4/12 | 2000 | \$18.81 | \$25.08 | | | | | | | | | \$15.60 | 9 |
| " | 2000 | | | \$33.44 | \$37.62 | | | | | | | \$19.85 | 9 |

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APPRENTICE SCHEDULE BULLETIN NO. 499 February 15, 2021

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

| Apprentice Classifications | | Interval Hrs | BASIC HOURLY RATE | | | | | | | | | | FRINGE BENEFIT HOURLY RATE | Remarks See Pg 9-10 |
|---|------|-----------------|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------------------------------|---------------------------|
| | | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | Total | |
| (Effective 9/5/21) | | | | | | | | | | | | | | |
| * ROOFER | | | | | | | | | | | | | | |
| Indentured Prior to 11/1/98 | 1000 | \$19.15 | \$21.28 | \$25.53 | | | | | | | | \$15.60 | 9 | |
| " | 1000 | | | | \$29.79 | \$34.04 | \$38.30 | \$40.42 | | | | \$19.85 | | |
| Indentured On or After 11/1/98 and Prior to 11/4/12 | 1000 | \$19.15 | \$21.28 | \$25.53 | | | | | | | | \$15.60 | 9 | |
| " | 1000 | | | | \$29.79 | \$34.04 | \$36.17 | \$38.30 | \$40.42 | | | \$19.85 | | |
| Indentured On or After 11/4/12 | 2000 | \$19.15 | \$25.53 | | | | | | | | | \$15.60 | 9 | |
| " | 2000 | | | \$34.04 | \$38.30 | | | | | | | \$19.85 | 9 | |
| SHEETMETAL WORKER | | | | | | | | | | | | | | |
| " | 1000 | \$17.76 | | | | | | | | | | \$12.96 | 10 | |
| " | 1000 | | \$19.98 | | | | | | | | | \$13.21 | 10 | |
| " | 1000 | | | \$22.20 | | | | | | | | \$23.58 | 10 | |
| " | 1000 | | | | \$24.41 | | | | | | | \$24.18 | 10 | |
| " | 1000 | | | | | \$26.63 | | | | | | \$24.76 | 10 | |
| " | 1000 | | | | | | \$28.85 | | | | | \$25.37 | 10 | |
| " | 1000 | | | | | | | \$31.07 | | | | \$25.95 | 10 | |
| " | 1000 | | | | | | | | \$33.29 | | | \$26.55 | 10 | |
| " | 1000 | | | | | | | | | \$35.51 | | \$27.13 | 10 | |
| " | 1000 | | | | | | | | | | \$37.73 | \$27.73 | 10 | |
| (Effective: 2/28/21) | | | | | | | | | | | | | | |
| SHEETMETAL WORKER | | | | | | | | | | | | | | |
| " | 1000 | \$17.97 | | | | | | | | | | \$13.15 | 10 | |
| " | 1000 | | \$20.22 | | | | | | | | | \$13.40 | 10 | |
| " | 1000 | | | \$22.47 | | | | | | | | \$23.93 | 10 | |
| " | 1000 | | | | \$24.71 | | | | | | | \$24.51 | 10 | |
| " | 1000 | | | | | \$26.96 | | | | | | \$25.11 | 10 | |
| " | 1000 | | | | | | \$29.20 | | | | | \$25.72 | 10 | |
| " | 1000 | | | | | | | \$31.45 | | | | \$26.32 | 10 | |
| " | 1000 | | | | | | | | \$33.70 | | | \$26.91 | 10 | |
| " | 1000 | | | | | | | | | \$35.94 | | \$27.52 | 10 | |
| " | 1000 | | | | | | | | | | \$38.19 | \$28.12 | 10 | |
| CONTINUED On the Next Page | | | | | | | | | | | | | | |

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APPRENTICE SCHEDULE BULLETIN NO. 499 February 15, 2021

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

| Apprentice Classifications | | BASIC HOURLY RATE | | | | | | | | | | FRINGE BENEFIT HOURLY RATE | Remarks See Pg 9-10 |
|--|------|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------------------------|---------------------|
| | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | Total | |
| (Effective: 8/29/21) * SHEETMETAL WORKER | | | | | | | | | | | | | |
| " | 1000 | \$18.25 | | | | | | | | | | \$13.15 | 10 |
| " | 1000 | | \$20.53 | | | | | | | | | \$13.40 | 10 |
| " | 1000 | | | \$22.06 | | | | | | | | \$23.93 | 10 |
| " | 1000 | | | | \$25.10 | | | | | | | \$24.51 | 10 |
| " | 1000 | | | | | \$27.38 | | | | | | \$25.11 | 10 |
| " | 1000 | | | | | | \$29.66 | | | | | \$25.72 | 10 |
| " | 1000 | | | | | | | \$31.94 | | | | \$26.32 | 10 |
| " | 1000 | | | | | | | | \$34.22 | | | \$26.91 | 10 |
| " | 1000 | | | | | | | | | \$36.50 | | \$27.52 | 10 |
| " | 1000 | | | | | | | | | | \$38.79 | \$28.12 | 10 |
| | | | | | | | | | | | | | |
| TELECOMMUNICATION WORKER (TECHNICIAN I / SPLICER) | | 1000 | \$18.64 | | | | | | | | | \$10.58 | 10 |
| " | " | 1000 | | \$20.19 | | | | | | | | \$10.84 | 10 |
| " | " | 1000 | | | \$21.74 | | | | | | | \$11.10 | 10 |
| | | | | | | | | | | | | | |
| (Effective: 8/22/21) TELECOMMUNICATION WORKER (TECHNICIAN I / SPLICER) | | | | | | | | | | | | | |
| " | " | 1000 | | | | \$23.30 | | | | | | \$11.36 | 10 |
| " | " | 1000 | | | | | \$24.85 | | | | | \$11.62 | 10 |
| " | " | 1000 | | | | | | \$27.95 | | | | \$12.16 | 10 |
| | | | | | | | | | | | | | |
| (Effective: 8/22/21) * TELECOMMUNICATION WORKER (TECHNICIAN I / SPLICER) | | 1000 | \$19.21 | | | | | | | | | \$10.67 | 10 |
| " | " | 1000 | | \$20.81 | | | | | | | | \$10.93 | 10 |
| " | " | 1000 | | | \$22.41 | | | | | | | \$11.22 | 10 |
| " | " | 1000 | | | | \$24.01 | | | | | | \$11.48 | 10 |
| " | " | 1000 | | | | | \$25.61 | | | | | \$11.74 | 10 |
| " | " | 1000 | | | | | | \$28.81 | | | | \$12.29 | 10 |

APPRENTICE SCHEDULE BULLETIN NO. 499 February 15, 2021

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

| Apprentice Classifications | Interval Hrs | BASIC HOURLY RATE | | | | | | | | | | FRINGE BENEFIT HOURLY RATE | Remarks See Pg 9-10 |
|-------------------------------|-----------------|-------------------|---------|---------|---------|---------|---------|---------|---------|-----|------|----------------------------------|---------------------------|
| | | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | Total | |
| TILE SETTER | | | | | | | | | | | | | |
| CERAMIC & HARD TILE | | | | | | | | | | | | | |
| Indentured Prior to 9/1/03 | 1000 | \$21.75 | | | | | | | | | | \$10.62 | 2,10 |
| " | 1000 | | \$23.93 | \$26.10 | \$30.45 | \$32.63 | \$34.80 | \$36.98 | \$39.15 | | | \$31.27 | 2,10 |
| Indentured On or After 9/1/03 | 1000 | \$21.75 | \$23.93 | \$26.10 | \$30.45 | \$32.63 | \$34.80 | \$36.98 | \$39.15 | | | \$19.92 | 2,10 |
| (Effective: 8/30/21) | | | | | | | | | | | | | |
| * TILE SETTER | | | | | | | | | | | | | |
| CERAMIC & HARD TILE | | | | | | | | | | | | | |
| Indentured Prior to 9/1/03 | 1000 | \$22.20 | | | | | | | | | | \$10.62 | 2,10 |
| " | 1000 | | \$24.42 | \$26.64 | \$31.08 | \$33.30 | \$35.52 | \$37.74 | \$39.96 | | | \$31.27 | 2,10 |
| Indentured On or After 9/1/03 | 1000 | \$22.20 | \$24.42 | \$26.64 | \$31.08 | \$33.30 | \$35.52 | \$37.74 | \$39.96 | | | \$19.92 | 2,10 |

* Indicates a wage, fringe benefit, remark, or title change from the previous bulletin.

REMARKS:

1. Carpenter, Construction Craft Laborer: \$.50 per hour shall be added to the regular straight-time rate for height pay for each hour while working from a bosun's chair and/or from a cable-suspended scaffold or work platform which is free swinging (not attached to building) for each hour worked on said rig.
2. Cement Finisher, Mason, Plasterer, Tile Setter: \$1.00 per hour shall be added to the regular straight-time rate for height pay for each hour while working from a bosun's chair and/or from a cable-suspended scaffold or work platform which is free swinging (not attached to building) for each hour worked on said rig.
3. Construction Equipment Operator, Heavy Duty Repairer & Welder: \$1.25 per hour shall be added to the hourly wage while operating a rig suspended by ropes or cables or to perform work on a Yo-Yo Cat.
4. Electrician:
 - A. One and one-half times the straight-time rate while working in a tunnel under construction; under water with aqualung equipment; in a completed tunnel which has only one entrance or exit providing access to safety and where no other personnel are working; or in an underground structure having no access to safety or where no other personnel are working.
 - B. Double the straight-time rate shall be paid for the following types of hazardous work regardless if fall prevention devices are used:
 - 1) While working from poles, trusses, stacks, towers, tanks, bosun's chairs, swinging or rolling scaffolds, supporting structures, and open platforms, over 70 feet from the ground where the employee is subject to a free fall; provided, however, that when work is performed on stacks, towers or permanent platforms where the employees are on a firm footing within an enclosure, a hazardous condition does not exist regardless of height;
 - 2) While working outside of a railing or enclosure, or temporary platforms extending outside of a building, or from scaffolding or ladder within an enclosure where an employee's footing is within one foot of the top of such railing, and the employee is subject to a free fall of over 70 feet;
 - 3) Working on buildings while leaning over the railing or edge of the building, and is subject to a free fall of 70 feet; or
 - 4) Two hours minimum hazardous pay per day shall be paid while climbing to a stack, tower or permanent platform which exceeds 70 feet from the ground but where the employee is on a firm footing within an enclosure.
 - C. Five percent per hour shall be added to the hourly wage for height pay while working above 9,000 feet elevation.
5. Glazier: \$1.00 per hour shall be added to the hourly wage for height pay for exterior glazing work performed in a walking/working surface with an unprotected side or edge 10 feet or more above a lower level which requires protection from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, position devise systems, fall restraint systems, perimeter safety cables or controlled decking zones.
6. Insulator: Six percent per hour shall be added to the hourly wage for hazardous pay while working from a boatswain chair, staging or free standing scaffolding erected from ground up or mezzanine floor subject to a free fall and skyclimber suspended from a permanent structure and when working above 40 feet.
7. Ironworker: \$.50 per hour shall be added to the hourly wage while working in tunnels or coffer dams. \$1.00 per hour shall be added to the hourly wage while working under or covered with water (submerged), or on the summits of Mauna Kea, Mauna Loa or Haleakala.
8. Plumber: One and one-half times the straight-time rate for height pay while working from OSHA approved trusses, stacks, towers, tanks, bosun's chair, swinging or rolling scaffolding, supporting structures or on open platforms where the employee is subject to a direct fall of 40 feet or more. Provided, however, that when said work is performed where the employee is on a firm footing within an enclosure, a hazardous condition does not exist regardless of height. \$1.00 per hour shall be added to the straight-time rate while working with flame cutting or any type of welding equipment on any galvanized material or product for at least an hour.
9. Roofer: When an apprentice has accumulated 2500 hours, \$4.25 will be added to his/her pension/annuity plan.
The apprenticeship program for apprentices indentured on or after November 4, 2012, consists of four steps with 2,000 hours for each step.

REMARKS:

10. Overtime/Holiday must be paid at one and one-half times the basic hourly rate, plus the hourly cost of required fringe, with the following exceptions:

A. **Two times the basic hourly rate, plus the hourly cost of required fringe.**

Boilermaker: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, July 4th, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Construction Equipment Operator: Sunday, New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Electrician: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

Elevator Constructor: Saturday, Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Floor Layer: Labor Day.

Glazier: Sunday.

Heavy Duty Repairer & Welder: Sunday, New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Ironworker: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Paving Equipment Operator: Sunday, New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

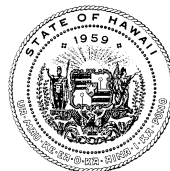
Plumber: Sunday, New Year's Day, Martin Luther King Jr. Day, President's Day, Memorial Day, Kamehameha Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Sheetmetal Worker: Sunday, New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Kamehameha Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Telecommunication Worker: Sunday, New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

B. **Three times the basic hourly wage, plus the hourly cost of required fringe on Labor Day.**

Carpenter
Cement Finisher
Drywall Installer
Insulator
Construction Craft Laborer
Mason
Plasterer
Tile Setter



STATE OF HAWAII
DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

List of Construction Trades in Registered Apprenticeship Programs

Apprenticeship programs for the following construction trades were approved and registered by the State Department of Labor and Industrial Relations in accordance with Chapter 372, Hawaii Revised Statutes, and Title 12, Chapter 30, Hawaii Administrative Rules. Union and non-union programs are listed separately. The minimum requirements are not exclusive as a program sponsor may add other requirements in their selection procedures.

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|------------------|--|-------|-----------|-------------------------------|-------------------------------------|---|--|
| Boilermaker | Western States Area Joint Apprenticeship Committee (International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmith, Forgers, and Helpers and Subordinate, Lodge No. 627, AFL-CIO, and the Western States Joint Apprenticeship Committee, and Association of Boilermaker Employers) | x | | 03/18/1991 | 6,000 | <ul style="list-style-type: none"> At least 18 years old High school graduate or GED equivalent | Coordinator Address: PO Box 1612 Page, Arizona 86040 Phone: (928)645-0277 Website: http://www.westernstatesjac.org/ *No training staff currently based in Hawaii |
| Bricklayer-Mason | Joint Apprenticeship Committee for Bricklayer-Mason (Masonry Contractors Association of Hawaii and Other Signatory Employers and Local 1 of Hawaii of the Bricklayers and Allied Craftsmen International Union, AFL-CIO) | x | | 02/10/1964 | 8,000 | <ul style="list-style-type: none"> At least 16 years old High school graduate or GED equivalent Physically able to perform duties of the trade | Director of Training or Training Coordinator Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819 Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.bacweb.org |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|-----------------|--|-------|-----------|-------------------------------|-------------------------------------|--|---|
| Carpenter | <p>Carpenters Joint Apprenticeship Committee aka Hawaii Carpenters Apprenticeship and Training Program</p> <p>(General Contractors Association of Hawaii and Building Industry Labor Association and Other Signatory Contractors and the United Brotherhood of Carpenters and Joiners of America, Local 745 AFL-CIO)</p> | x | | 04/01/1964 | 8,000 | <ul style="list-style-type: none"> At least 17 years old High school diploma or equivalent education, or equivalent work experience Pass basic math test Complete questionnaire Able to lift 75 lbs. | <p>Director of Training</p> <p>Address: 1311 Houghtailing Street Room 201 Honolulu, HI 96817</p> <p>Phone: (808) 848-0794 Ext. 5 Fax: (808) 841-5961 (808) 841-0300 Website: http://www.carpenters.org/</p> |
| Carpenter | Associated Builders and Contractors Apprenticeship Committee | | x | 02/08/1990 | 8,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED Full-time employee of a member company for a period of not less than six continuous weeks Legally able to work Physically able to perform duties of the trade | <p>Director of Training</p> <p>Address: 1375 Dillingham Blvd. Suite 200 Honolulu, HI 96817</p> <p>Phone: (808) 845-4887 Fax: (808) 847-7876 Website: http://www.abchawaii.org/</p> |
| Cement Finisher | <p>Joint Apprenticeship Committee for Cement Finishers</p> <p>(Operative Plasterers and Cement Finishers International Association, Local 630, AFL-CIO, and Local 1 of the International Union of Bricklayers and Allied Craftsmen, AFL-CIO)</p> | x | | 04/01/1961 | 8,000 | <ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade | <p>Director of Training or Training Coordinator</p> <p>Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819</p> <p>Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.opcmia.org/ http://www.bacweb.org</p> |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|--|---|-------|-----------|-------------------------------|-------------------------------------|--|--|
| Construction Craft Laborer | Hawaii Laborers' Joint Apprenticeship Committee (International Union of North America, Local 368, and Signatory Contractors Association) | x | | 02/11/2000 | 4,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED Driver's license Successfully complete Pre-Construction Apprentice Evaluation Course | <p>Director of Training</p> <p>Address: 96-138 Farrington Hwy. Pearl City, HI 96782</p> <p>Phone: (808) 455-7979 Fax: (808) 456-8689 Website: http://www.liuna.org/</p> |
| Construction Equipment Operator | Hawaii Joint Apprenticeship Committee for Operating Engineers (General Contractors Labor Association and the Building Industry Labor Association and International Union of Operating Engineers, Local Union #3, AFL-CIO) | x | | 11/14/1967 | 6,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED or C-based test Physically able to perform duties of the trade School transcripts Driver's license Current State DOT PUC physical Pass industry or general knowledge test Have reliable transportation | <p>State Administrator</p> <p>Address: P.O. Box 428 Kahuku, HI 96731-0428</p> <p>Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/</p> |
| Drywall, Acoustic and Lather Installer | Carpenters Joint Apprenticeship Committee aka Hawaii Carpenters Apprenticeship and Training Program (General Contractors Association of Hawaii and Building Industry Labor Association and Other Signatory Contractors and the United Brotherhood of Carpenters and Joiners of America, Local 745, AFL-CIO) | x | | 04/06/1988 | 8,000 | <ul style="list-style-type: none"> At least 17 years old High school diploma or GED Complete questionnaire Pass basic math test Able to lift 100 lbs. | <p>Director of Training</p> <p>Address: 1311 Houghtailing Street Room 201 Honolulu, HI 96817</p> <p>Phone: (808) 848-0794 Ext. 5 Fax: (808) 848-5961 (808) 841-0300 Website: http://www.carpenters.org/</p> |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|--------------------------|---|-------|-----------|-------------------------------|-------------------------------------|--|---|
| Electrical Wireperson | PECA-HEW Joint Apprenticeship Committee (Pacific Electrical Contractors Association and the Hawaii Electrical Workers Division of Laborers International, Local 368) | x | | 11/20/1991 | 10,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED Pass color code test Pass aptitude test Transcript of high school or post high school courses Pass one-year high school Algebra 1 (not pre-Algebra) or higher Valid driver's license | <p>Training Coordinator</p> <p>Address: 1617 Palama Street Honolulu, HI 96817</p> <p>Phone: (808) 841-5877 Ext 234 Fax: (808) 847-7829 Website: N/A</p> |
| Electrician | Associated Builders and Contractors Apprenticeship Committee | | x | 02/08/1990 | 10,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED Full-time employee of a member company for a period of not less than six continuous weeks Legally able to work Physically able to perform duties of the trade Pass eye examination for color blindness Completed one-year high school algebra (not pre-algebra) | <p>Director of Training</p> <p>Address: 1375 Dillingham Blvd. Suite 200 Honolulu, HI 96817</p> <p>Phone: (808) 845-4887 Fax: (808) 847-7876 Website: http://www.abchawaii.org/</p> |
| (Electrician) Wireperson | Hawaii Electricians Joint Apprenticeship Committee (International Brotherhood of Electrical Workers (IBEW) Local 1186, AFL-CIO, and Signatory Employers) | x | | 04/08/1947 | 10,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED Complete the National Joint Apprenticeship and Training Committee Math Course or one-year high school Algebra 1 Transcript of high school or post high school | <p>Apprenticeship or Training Coordinator</p> <p>Address: 1935 Hau Street Room 301 Honolulu, HI 96819</p> <p>Phone: (808) 847-0629 Fax: (808) 843-8818 Website: http://www.njatc.org/</p> |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|-----------------------|---|-------|-----------|-------------------------------|-------------------------------------|--|---|
| | | | | | | courses <ul style="list-style-type: none"> • Pass industry aptitude test to qualify for oral interview • Application fee (non-refundable) | |
| Elevator Constructor | International Union of Elevator Constructors Local 126 Joint Apprenticeship Committee (International Union of Elevator Constructors, Local 126 and Signatory Employers) | x | | 03/27/2003 | 6,800 | <ul style="list-style-type: none"> • At least 18 years old • High school diploma or GED • School transcripts • Pass aptitude test (math, reading) • Pass medical exam • Physically able to perform duties of the trade | Business Representative Address: 707 Alakea Street Room 314 Honolulu, HI 96813 Phone: (808) 536-8653 Fax: (808) 537-3779 Website: http://iuec.org/ |
| Fire Sprinkler Fitter | Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry <i>aka</i> JATC of UA Plumbers and Fitters, Local 675, AFL-CIO, and PAMCAH (Plumbing and Mechanical Contractors Association of Hawaii and United Association of Plumbers and Pipefitters Local 675, AFL-CIO) | x | | 10/19/1992 | 10,000 | <ul style="list-style-type: none"> • At least 17 years old • High school diploma or GED • School transcripts • Pass placement evaluation with minimum score of 70% • Driver's license | Training Coordinator Address: 720 Iwilei Road, Suite 222 Honolulu, HI 96817 Phone: (808) 456-0585 Fax: (808) 456-7131 Website: http://www.ua.org/ |
| Floor Layer | Joint Apprenticeship and Training Committee for Floor Layers (Hawaii Floor Covering Association and Carpet, Linoleum, and Soft Tile Union Local 1926, AFL-CIO) | x | | 02/17/1966 | 8,000 | <ul style="list-style-type: none"> • At least 18 years old • Driver's license • Distinguish colors • High school diploma or equivalent • Physically able to perform duties | Training Coordinator Address: 2240 Young Street Honolulu, HI 96826 Phone: (808) 942-3988 Fax: (808) 946-6667 Website: http://www.iupat.org/ |
| Glazier | Joint Apprenticeship Committee for Glaziers, Architectural Metal and Glassworkers Industry <i>aka</i> Glaziers, Architectural Metal and Glassworkers JATC (Glass/Metal Contractors Association of Hawaii and | x | | 04/01/2001 | 10,000 | <ul style="list-style-type: none"> • At least 18 years old • High school diploma or GED • Driver's license • Physically able to perform duties of the trade | Training Coordinator Address: 2240 Young Street Honolulu, HI 96826 Phone: (808) 942-3988 Fax: (808) 946-6667 Website: http://www.iupat.org/ |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|-------------------------------------|--|-------|-----------|-------------------------------|-------------------------------------|--|--|
| | Other Signatory Contractors and the Glaziers, Architectural Metal and Glassworkers Union Local 1889, AFL-CIO) | | | | | | |
| Hazardous Waste Material Technician | Hawaii Laborers; Union Local 368 | x | | 9/19/2017 | 4000 | <ul style="list-style-type: none"> At least 18 years old High School Diploma or GED Possess a Valid Driver's License Pass a Pre-Evaluation course Physical abilities to perform duties of the trade | 96-138 Farrington Highway Pearl City, Hawaii 96782 Phone (808) 455-7979 |
| Heat and Frost Insulator | Honolulu Joint Apprenticeship Committee for the Heat and Frost Asbestos Insulator Trade (Heat and Frost Insulators and Asbestos Workers, Local 132, and Signatory Participating Employers) | x | | 07/23/1971 | 10,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED Physically able to perform duties of the trade | Training Coordinator Address: 1019 Lauia Street Bay #4 Kapolei, HI 96707 Phone: (808) 521-6405 Fax: (808) 523-9861 Website: http://www.insulators.org/ |
| Heavy Duty Repairman and Welder | Hawaii Joint Apprenticeship Committee for Operating Engineers (General Contractors Labor Association and the Building Industry Labor Association and International Union of Operating Engineers, Local Union #3, AFL-CIO) | x | | 11/14/1967 | 8,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED or C-based test Physically able to perform duties of the trade School transcripts Driver's license Current State DOT PUC physical Ranked on general knowledge and hands on test Have reliable transportation | State Administrator Address: P.O. Box 428 Kahuku, HI 96731-0428 Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/ |
| Ironworker Shop Fabricator / Welder | Hawaii Shopmen's Local 803 Joint Apprenticeship and Training Committee (International Association of Bridge, | x | | 12/31/1963 | 8,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED Physically able to perform duties of the trade | Training Coordinator Address: 94-497 Ukee Street Waipahu, HI 96797 Phone: (808) 671-4344 |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|--------------------------|--|-------|-----------|-------------------------------|-------------------------------------|---|--|
| | Structural and Ornamental Ironworkers, Local 803, AFL-CIO, and Participating Employers) | | | | | <ul style="list-style-type: none"> Must be sponsored by employer who is signatory to the Shopmen's Local 803 collective bargaining agreement | Fax: (808) 676-1144 Website: http://www.ironworkers.org/ |
| Ironworker (Reinforcing) | Joint Apprenticeship Committee for Ironworker (Reinforcing) <i>aka</i> Ironworkers Joint Apprenticeship Committee (Reinforcing) (International Association of Bridge, Structural and Ornamental Ironworkers, Local 625, AFL-CIO and Participating Employers) | x | | 06/26/1953 | 6,000 | <ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade | Training Coordinator Address: 94-497 Ukee Street Waipahu, HI 96797 Phone: (808) 671-8225 Fax: (808) 676-1144 Website: http://www.ironworkers.org/ |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|----------------------------------|---|-------|-----------|-------------------------------|-------------------------------------|--|--|
| Ironworker (Structural) | Joint Apprenticeship Committee for Ironworker (Structural) aka Ironworkers Joint Apprenticeship Committee (Structural) (International Association of Bridge, Structural and Ornamental Ironworkers, Local 625, AFL-CIO and Participating Employers) | x | | 03/01/1961 | 6,000 | <ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade | Training Coordinator Address: 94-497 Ukee Street Waipahu, HI 96797 Phone: (808) 671-8225 Fax: (808) 676-1144 Website: http://www.ironworkers.org/ |
| Landscape and Irrigation Laborer | Hawaii Laborers Union Local 368 | x | | 03/30/2016 | 4,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED or 10th grade education Valid driver's license Complete and pass the Pre-Landscape and Irrigation Apprentice Evaluation Course | Director of Training Address: 96-138 Farrington Hwy. Pearl City, HI 96782 Phone: (808) 455-7979 Fax: (808) 456-8689 Website: http://www.liuna.org/ |
| Painter | Joint Apprenticeship and Training Committee for Painters (Painting and Decorating Contractors of Hawaii (PDCA) and the International Union of Painters and Allied Trades (IUPAT) Local 1791, AFL-CIO) | x | | 09/01/1961 | 8,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED Driver's license Physically able to perform the duties of the trade Pass color code vision test Pass entry level test of math and vocabulary | Training Coordinator Address: 2240 Young Street Honolulu, HI 96826 Phone: (808) 947-6606 Fax: (808) 942-0195 Websites: http://www.dc50.org/ http://www.iupat.org/ |
| Painter | Associated Builders and Contractors Apprenticeship Committee | | x | 05/02/1990 | 8,000 | <ul style="list-style-type: none"> At least 18 years old Full-time employee of a member company for a period of not less than six continuous weeks Legally able to work Physically able to perform duties of the trade Pass physical examination if required by Committee | Director of Training Address: 1375 Dillingham Blvd. Suite 200 Honolulu, HI 96817 Phone: (808) 845-4887 Fax: (808) 847-7876 Website: http://www.abchawaii.org/ |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|---------------------------|--|-------|-----------|-------------------------------|-------------------------------------|--|---|
| | | | | | | | |
| Painter | Color Dynamics, Inc. | | x | 12/01/1989 | 8,000 | <ul style="list-style-type: none"> At least 16 years old Physically fit to perform duties of the trade Must not be color blind | President Address: 816 Gulick Avenue Honolulu, HI 96819 Phone: (808) 848-7000 Fax: (808) 842-0800 Website: http://www.colordynamics.com |
| Painter | Kawika's Painting | | x | 10/01/1984 | 8,000 | <ul style="list-style-type: none"> At least 16 years old Physically fit to perform duties of the trade Must not be color blind | President Address: 2147 Eluwene Street Honolulu, HI 96819 Phone: (808) 848-0003 Fax: (808) 842-1908 Website: http://www.kawikaspainting.com |
| Paving Equipment Operator | Hawaii Joint Apprenticeship Committee for Operating Engineers (General Contractors Labor Association and the Building Industry Labor Association and International Union of Operating Engineers, Local Union #3, AFL-CIO) | x | | 04/29/2010 | 4,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED or C-based test Physically able to perform duties of the trade School transcripts Driver's license showing address in HI Current State DOT PUC physical Ranked on general knowledge and hands on test Have reliable transportation | State Administrator Address: P.O. Box 428 Kahuku, HI 96731-0428 Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/ |
| Plasterer | Joint Apprenticeship Committee for Plasterers (Pacific Bureau for Lathing and Plastering and the Operative Plasterers and Cement Finishers Association of the U.S. and | x | | 06/30/1959 | 8,000 | <ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade | Director of Training or Training Coordinator Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819 |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|--------------------------------|--|-------|-----------|-------------------------------|-------------------------------------|--|---|
| | Canada, Local 630, AFL-CIO) | | | | | | Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.opcmia.org/ http://www.bacweb.org |
| Plumber | Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry aka JATC of UA Plumbers and Fitters, Local 675, AFL-CIO, and PAMCAH (Plumbing and Mechanical Contractors Association of Hawaii and United Association of Plumbers and Pipefitters Local 675, AFL-CIO) | x | | 11/14/1952 | 10,000 | <ul style="list-style-type: none"> • At least 17 years old • High school diploma or GED • School transcripts • Pass placement evaluation with a minimum score of 70% • Driver's license | Training Coordinator Address: 720 Iwilei Road, Suite 222 Honolulu, HI 96817 Phone: (808) 456-0585 Fax: (808) 456-7131 Website: http://www.ua.org/ |
| Plumber | Associated Builders and Contractors Apprenticeship Committee | | x | 02/02/1999 | 10,000 | <ul style="list-style-type: none"> • At least 18 years old • Full-time employee of a member company for a period of not less than six continuous weeks • Legally able to work • Physically able to perform duties of the trade • Pass physical examination if required by Committee | Director of Training Address: 1375 Dillingham Blvd. Suite 200 Honolulu, HI 96817 Phone: (808) 845-4887 Fax: (808) 847-7876 Website: http://www.abchawaii.org/ |
| Pointer-Caulker-Weatherproofer | Joint Apprenticeship Committee for Pointer-Caulker-Weatherproofer (Pointing, Caulking and Weatherproofing Contractors and the International Union of Bricklayers and Allied Crafts, Local 1, AFL-CIO) | x | | 08/23/1995 | 6,000 | <ul style="list-style-type: none"> • At least 16 years old • High school graduate or GED equivalent • Physically able to perform duties of the trade | Director of Training or Training Coordinator Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819 |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|-----------------------------------|---|-------|-----------|-------------------------------|-------------------------------------|--|--|
| | | | | | | | Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.bacweb.org |
| Refrigeration Air-Conditioning | Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry <i>aka</i> JATC of UA Plumbers and Fitters, Local 675, AFL-CIO, and PAMCAH (Plumbing and Mechanical Contractors Association of Hawaii and United Association of Plumbers and Pipefitters Local 675, AFL-CIO) | x | | 09/04/1962 | 10,000 | <ul style="list-style-type: none"> • At least 17 years old • High school diploma or GED • School transcripts • Pass placement evaluation with a minimum score of 70% • Driver's license | Training Coordinator Address: 720 Iwilei Road, Suite 222 Honolulu, HI 96817 Phone: (808) 456-0585 Fax: (808) 456-7131 Website: http://www.ua.org/ |
| Roofer | Joint Apprenticeship and Training Committee for Roofers (United Union of Roofers, Waterproofers and Allied Workers, AFL-CIO, Local 221, and All Participating Employers) | x | | 01/13/1968 | 8,000 | <ul style="list-style-type: none"> • At least 16 years old • High school diploma or GED • Driver's license • Physically able to perform duties of the trade • Able to lift 100 lbs. | Training Director Address: 2045 Kamehameha IV Rd. Room 203 Honolulu, HI 96819 Phone: (808) 847-5757 Fax: (808) 848-8707 Website: http://www.unionroofers.com |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|--------------------|--|-------|-----------|-------------------------------|-------------------------------------|--|--|
| Roofer | Associated Builders and Contractors Apprenticeship Committee | | x | 01/09/1996 | 7,000 | <ul style="list-style-type: none"> At least 18 years old Full-time employee of a member company for a period of not less than six continuous weeks Legally able to work Physically able to perform duties of the trade Pass physical examination if required by Committee | <p>Director of Training</p> <p>Address: 1375 Dillingham Blvd. Suite 200 Honolulu, HI 96817</p> <p>Phone: (808) 845-4887</p> <p>Fax: (808) 847-7876</p> <p>Website: http://www.abchawaii.org/</p> |
| Sheet Metal Worker | <p>Hawaii Joint Apprenticeship Committee for the Sheet Metal Industry</p> <p>(Sheet Metal Contractor's Association and Sheet Metal Workers' International Association, Local 293)</p> | x | | 01/02/1958 | 10,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED Complete industry test Driver's license Physically able to perform work | <p>Apprenticeship Coordinator</p> <p>Address: 1405 North King Street Room 403 Honolulu, HI 96817</p> <p>Phone: (808) 841-6106</p> <p>Fax: (808) 841-1842</p> <p>Website: http://www.smwia.org/</p> |
| Steamfitter/Welder | <p>Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry aka JATC of UA Plumbers and Fitters, Local 675, AFL-CIO, and PAMCAH</p> <p>(Plumbing and Mechanical Contractors Association of Hawaii and United Association of Plumbers and Pipefitters Local 675, AFL-CIO)</p> | x | | 02/05/2002 | 10,000 | <ul style="list-style-type: none"> At least 17 years old High school diploma or GED School transcripts Pass placement evaluation with a minimum score of 70% Driver's license | <p>Training Coordinator</p> <p>Address: 720 Iwilei Road, Suite 222 Honolulu, HI 96817</p> <p>Phone: (808) 456-0585</p> <p>Fax: (808) 456-7131</p> <p>Website: http://www.ua.org/</p> |
| Stone Mason | <p>Joint Apprenticeship Committee for Stone Mason Industry</p> <p>(Masonry Contractors Association of Hawaii and Local 1 of Hawaii of the Bricklayers and Allied Craftsmen International Union, AFL-CIO, and Other Signatory Employers)</p> | x | | 02/10/1964 | 8,000 | <ul style="list-style-type: none"> At least 16 years old High school graduate or GED equivalent Physically able to perform duties of the trade | <p>Director of Training or Training Coordinator</p> <p>Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819</p> |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|---|--|-------|-----------|-------------------------------|-------------------------------------|--|--|
| | | | | | | | Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.bacweb.org |
| Taper | Joint Apprenticeship Committee for Tapers (Gypsum Drywall Contractors Association of Hawaii and the International Brotherhood of Painters and Allied Trades Tapers Local Union 1944, AFL-CIO) | x | | 09/01/1967 | 8,000 | <ul style="list-style-type: none"> At least 18 years old Physically able to perform duties of the trade Driver's license High school diploma or equivalent | Training Coordinator Address: 2240 Young Street Honolulu, HI 96826 Phone: (808) 941-0991 Fax: (808) 946-6623 Website: http://www.dc50.org/ |
| Telecommunication / CATV Installer Technician | Hawaii Electricians Joint Apprenticeship Committee aka Joint Apprenticeship Committee for Telecommunications (International Brotherhood of Electrical Workers Local Union 1186, AFL-CIO, and Signatory Employers) | x | | 09/16/1998 | 6,000 | <ul style="list-style-type: none"> At least 18 years old High school diploma or GED Complete the National Joint Apprenticeship and Training Committee Math Course or one-year high school Algebra 1 Transcript of high school or post high school courses Pass industry aptitude test to qualify for oral interview Application fee (non-refundable) | Apprenticeship or Training Coordinator Address: 1935 Hau Street Room 301 Honolulu, HI 96819 Phone: (808) 847-0629 Fax: (808) 843-8818 Website: http://www.njatc.org/ |
| Tile Setter | Joint Apprenticeship Committee for Tile Setters (Tile, Marble and Terrazo Contractors Association of Hawaii and Local 1 of Hawaii of the Bricklayers, and Allied Craftsmen International Union of America, AFL-CIO) | x | | 06/24/1958 | 8,000 | <ul style="list-style-type: none"> At least 16 years old High school graduate or GED equivalent Physically able to perform duties of the trade | Director of Training or Training Coordinator Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819 Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.bacweb.org |

| Trade | Sponsor | Union | Non-Union | Date of Approval/Registration | No. of Hours of On-the-Job Training | Minimum Requirements | Contact Information |
|---------------------------|---|-------|-----------|-------------------------------|-------------------------------------|--|---|
| Truck Operator and Driver | <p>Hawaii Joint Apprenticeship Committee for Operating Engineers</p> <p>(General Contractors Labor Association and the Building Industry Labor Association and International Union of Operating Engineers, Local Union #3, AFL-CIO)</p> | x | | 03/01/91 | 2,000 | <ul style="list-style-type: none"> • At least 18 years old • High school diploma or GED or C-based test • Physically able to perform duties of the trade • School transcripts • Driver's license • Current State DOT PUC physical • Ranked on general knowledge and hands on test • Have reliable transportation | <p>State Administrator</p> <p>Address: P.O. Box 428 Kahuku, HI 96731-0428</p> <p>Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/</p> |

LINDA LINGLE
GOVERNOR



AARON S. FUJIOKA
ADMINISTRATOR

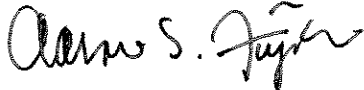
PROCUREMENT POLICY BOARD
LESLIE S. CHINEN
DARYLE ANN HO
GREGORY L. KING
RUSS K. SAITO
PAMELA A. TORRES

**STATE OF HAWAII
STATE PROCUREMENT OFFICE**

P.O. Box 119
Honolulu, Hawaii 96810-0119
Tel: (808) 587-4700 Fax: (808) 587-4703
www.spo.hawaii.gov

July 24, 2007

PROCUREMENT CIRCULAR NO. 2007-05

TO: Executive Department Heads
FROM: Aaron S. Fujioka 
SUBJECT: Bid Security, Contract Performance and Payment Bonds

This circular is issued to:

- 1) Rescind Procurement Circular No. 1998-09, dated November 23, 1998; and
- 2) Reissue amended bond forms Exhibits B, D, F, and includes the bond and acknowledgment forms Exhibits A, C, E, G, H, I, J, which did not require any changes. The forms are as required by HAR Subchapter 24, Chapter 3-122, and in accordance with HRS §§103D-323 to 103D-328.

Bonds are to protect against the failure or refusal of the offeror to proceed with the performance of the contract, secure the faithful performance of contract requirements, and payment of suppliers or subcontractors. Exemptions on the use of these bond forms are allowed, with the prior approval of the Administrator.

Changes made to the bond forms, effective June 21, 2007, are as follows:

1) **Exhibits B & D:**

Page 1, 2nd paragraph, is amended to read: "WHEREAS, the above-bound Principal has ~~[entered into]~~ signed a Contract with Oblige [dated] on _____ for the following project: _____."

2) **Exhibit F:**

- a. Page 1, 2nd paragraph, is amended to read: "WHEREAS: The Principal has by written agreement dated _____ ~~[entered into]~~ signed a contract with Oblige for the following Project: . . ."
- b. Page 2, 5th paragraph, is amended to read: ". . .the performance of the Contract who has not been paid in full therefor after ~~[two months]~~ ninety days from the completion . . ."
- c. Page 3, 1st sentence, is amended to read: "The amount of this bond may be reduced in accordance with and subject to section ~~[3-122-226]~~ 3-122-225, Hawaii Administrative Rules."

3) **Exhibits A, C, E, G, H, I, J:** No changes were made to these exhibits.

Purchasing agencies shall utilize bond and acknowledgment forms as provided in the exhibits listed below:

- EXHIBIT A:** Surety bid security titled "*Surety [Bid] [Proposal] Bond*", dated 11/17/98.
- EXHIBIT B:** Surety contract performance bond titled "*Performance Bond (Surety)*", dated 6/21/07.
- EXHIBIT C:** Contract performance bond for types of security pursuant to HAR §3-122-222(2) and (3), titled "*Performance Bond*", dated 11/17/98.
- EXHIBIT D:** Surety contract labor and material payment bond titled "*Labor and Material Payment Bond (Surety)*", dated 6/21/07.
- EXHIBIT E:** Contract labor and material payment bond for types of security pursuant to HAR §3-122-222(2) and (3), titled "*Labor and Material Payment Bond*", dated 11/17/98.
- EXHIBIT F:** Surety combination contract performance and payment bond titled "*Combination Performance and Payment Bond*", dated 6/21/07.
- EXHIBIT G:** Surety contract performance bond for goods and services supplemental agreement titled "*Performance Bond (Surety) for Supplemental Agreement for Goods and Services*", dated 11/17/98.
- EXHIBIT H:** Contract performance bond for goods and services supplemental agreement for types of security pursuant to HAR §3-122-222(2) and (3), titled "*Performance Bond for Supplemental Agreement for Goods and Services*", dated 11/17/98.
- EXHIBIT I:** Contractor acknowledgement form for use with contract performance and payment bonds titled "*Contractor Acknowledgment*", dated 11/12/97.
- EXHIBIT J:** Surety acknowledgement form for use with contract performance and payment bonds titled "*Surety Acknowledgment*", dated 11/12/97.

The exhibit bond and related forms are available on the SPO homepage at www.spo.hawaii.gov, under the "Quick Links" section, click on "Forms for State Agencies". To view the complete listing of all current Procurement Circulars, click on "Procurement Circulars".

Questions may be directed to Justin Fo at 586-0577 or Colin Tanaka at 586-0558, or call me at 587-4700.

Years 2021 and 2022

Holidays to be observed by the HAWAII STATE GOVERNMENT

www.dhrd.hawaii.gov

Website where State Holiday Schedule posted

Year 2021 HAWAII STATE HOLIDAYS

(Hawaii Rev. Statutes, Sec. 8-1) Day Observed in 2021 Official Date Designated in Statute/Constitution

| | | |
|---|------------------------|------------------------------------|
| New Year's Day..... | Jan. 1, Friday | The first day in January |
| Dr. Martin Luther King, Jr. Day..... | Jan. 18 Monday | The third Monday in January |
| Presidents' Day..... | Feb. 15 Monday | The third Monday in February |
| Prince Jonah Kuhio Kalaniana'ole Day..... | Mar. 26 Friday | The twenty-sixth day in March |
| Good Friday..... | April 2 Friday..... | The Friday preceding Easter Sunday |
| Memorial Day..... | May 31 Monday | The last Monday in May |
| King Kamehameha I Day..... | June 11 Friday..... | The eleventh day in June |
| Independence Day..... | July 5 Monday | The fourth day in July |
| Statehood Day..... | Aug. 20 Friday..... | The third Friday in August |
| Labor Day..... | Sept. 6 Monday | The first Monday in September |
| Veterans' Day..... | Nov 11 Thursday | The eleventh day in November |
| Thanksgiving..... | Nov. 25 Thursday | The fourth Thursday in November |
| Christmas..... | Dec. 24 Friday | The twenty-fifth day in December |

Year 2022 HAWAII STATE HOLIDAYS

(Hawaii Rev. Statutes, Sec. 8-1) Day Observed in 2022 Official Date Designated in Statute/Constitution

| | | |
|---|------------------------|---|
| New Year's Day..... | Dec. 31, Friday..... | The first day in January |
| Dr. Martin Luther King, Jr. Day..... | Jan. 17 Monday | The third Monday in January |
| Presidents' Day..... | Feb. 21 Monday | The third Monday in February |
| Prince Jonah Kuhio Kalaniana'ole Day..... | Mar. 25 Friday | The twenty-sixth day in March |
| Good Friday..... | April 15 Friday | The Friday preceding Easter Sunday |
| Memorial Day..... | May 30 Monday | The last Monday in May |
| King Kamehameha I Day..... | June 10 Friday..... | The eleventh day in June |
| Independence Day..... | July 4 Monday | The fourth day in July |
| Statehood Day..... | Aug. 19 Friday..... | The third Friday in August |
| Labor Day..... | Sept. 5 Monday | The first Monday in September |
| Election Day..... | Nov. 8 Tuesday..... | The first Tuesday in November following the first Monday of even numbered years (<i>Hawaii State Constitution, Article 2-Section 8</i>) |
| Veterans' Day..... | Nov 11 Friday..... | The eleventh day in November |
| Thanksgiving..... | Nov. 24 Thursday | The fourth Thursday in November |
| Christmas..... | Dec. 26 Monday | The twenty-fifth day in December |

FOOTNOTES: For use solely by State government agencies. Federal government and local banking holidays may differ. For State agencies that operate on other than Monday-Friday 7:45 AM to 4:30 PM schedules, also refer to appropriate collective bargaining agreements. Created by the Department of Human Resources Development 5/20/2020 subject to change.



STATE OF HAWAII
CONTRACT FOR GOODS OR SERVICES
BASED UPON
COMPETITIVE SEALED BIDS

This Contract, executed on the respective dates indicated below, is effective as of _____, _____, between _____ Department of Hawaiian Home Lands _____,
(Insert name of state department, agency, board or commission)
State of Hawaii ("STATE"), by its _____ Chairman, Hawaiian Homes Commission _____,
(Insert title of person signing for State)
(hereafter also referred to as the HEAD OF THE PURCHASING AGENCY or designee ("HOPA")),
whose address is 91-5420 Kapolei Parkway, Kapolei, Hawaii 96707 _____
_____ and _____
("CONTRACTOR"), a _____
(Insert corporation, partnership, joint venture, sole proprietorship, or other legal form of the Contractor)
under the laws of the State of _____, whose business address and federal
and state taxpayer identification numbers are as follows: _____

RECITALS

A. The STATE desires to retain and engage the CONTRACTOR to provide the goods or services, or both, described in this Contract and its attachments, and the CONTRACTOR is agreeable to providing said goods or services, or both.

B. The STATE has issued an invitation for competitive sealed bids, and has received and reviewed bids submitted in response to the invitation.

C. The solicitation for bids and the selection of the CONTRACTOR were made in accordance with section 103D-302, Hawaii Revised Statutes ("HRS"), Hawaii Administrative Rules, Title 3, Department of Accounting and General Services, Subtitle 11 ("HAR"), Chapter 122, Subchapter 5, and applicable procedures established by the appropriate Chief Procurement Officer ("CPO").

D. The CONTRACTOR has been identified as the lowest responsible and responsive bidder whose bid meets the requirements and criteria set forth in the invitation.

E. Pursuant to _____ HHCA of 1920, as amended _____, the STATE
(Legal authority to enter into this Contract)
is authorized to enter into this Contract.

F. Money is available to fund this Contract pursuant to:

(1) _____
(Identify state sources)

or (2) _____
(Identify federal sources)

or both, in the following amounts: State \$ _____
Federal \$ _____

NOW, THEREFORE, in consideration of the promises contained in this Contract, the STATE and the CONTRACTOR agree as follows:

1. Scope of Services. The CONTRACTOR shall, in a proper and satisfactory manner as determined by the STATE, provide all the goods or services, or both, set forth in the Invitation for Bids number IFB-22-HHL-007 ("IFB") * and the CONTRACTOR'S accepted bid ("Bid"), both of which, even if not physically attached to this Contract, are made a part of this Contract.

2. Compensation. The CONTRACTOR shall be compensated for goods supplied or services performed, or both, under this Contract in a total amount not to exceed _____
* and summarized in Attachment S-1

TBD _____ DOLLARS

(\$ TBD), including approved costs incurred and taxes, at the time and in the manner set forth in the IFB and CONTRACTOR'S Bid. And generally described in Attachment S-2.

3. Time of Performance. The services or goods required of the CONTRACTOR under this Contract shall be performed and completed in accordance with the Time of Performance set forth in Attachment-S3, which is made a part of this Contract.

4. Bonds. The CONTRACTOR ☒ is required to provide or ☐ is not required to provide: ☐ a performance bond, ☐ a payment bond, ☒ a performance and payment bond each in the amount of _____ DOLLARS (\$ _____).

5. Standards of Conduct Declaration. The Standards of Conduct Declaration of the CONTRACTOR is attached to and made a part of this Contract.

6. Other Terms and Conditions. The General Conditions, Construction General Conditions, and any Special Conditions are attached to and made a part of this Contract. In the event of a conflict between the General Conditions, Construction General Conditions, and the Special Conditions, the Special Conditions shall control. In the event of a conflict among the documents, the order of precedence shall be as follows: (1) this Contract, including all attachments and addenda; (2) the IFB, including all attachments and addenda; and (3) the CONTRACTOR'S Bid.

7. Liquidated Damages. Liquidated damages shall be assessed in the amount of One Thousand and 00/100 _____ DOLLARS (\$ 1,000.00) per day, in accordance with the terms of paragraph 9 of the General Conditions.

8. Notices. Any written notice required to be given by a party to this Contract shall be (a) delivered personally, or (b) sent by United States first class mail, postage prepaid. Notice to the STATE shall be sent to the HOPA'S address indicated in the Contract. Notice to the CONTRACTOR shall be sent to the CONTRACTOR'S address indicated in the Contract. A notice shall be deemed to have been received three (3) days after mailing or at the time of actual receipt, whichever is earlier. The CONTRACTOR is responsible for notifying the STATE in writing of any change of address.

IN VIEW OF THE ABOVE, the parties execute this Contract by their signatures, on the dates below, to be effective as of the date first above written.

STATE

(Signature)

William J. Aila Jr.

(Print Name)

Chairman, Hawaiian Homes Commission

(Print Title)

(Date)

CONTRACTOR

(Name of Contractor)

(Signature)

(Print Name)

(Print Title)

(Date)

CORPORATE SEAL
(If available)

APPROVED AS TO FORM:

Deputy Attorney General

*Evidence of authority of the CONTRACTOR'S representative to sign this Contract for the CONTRACTOR must be attached.



STATE OF HAWAII

CONTRACTOR'S STANDARDS OF CONDUCT DECLARATION

For the purposes of this declaration:

"Agency" means and includes the State, the legislature and its committees, all executive departments, boards, commissions, committees, bureaus, offices; and all independent commissions and other establishments of the state government but excluding the courts.

"Controlling interest" means an interest in a business or other undertaking which is sufficient in fact to control, whether the interest is greater or less than fifty per cent (50%).

"Employee" means any nominated, appointed, or elected officer or employee of the State, including members of boards, commissions, and committees, and employees under contract to the State or of the constitutional convention, but excluding legislators, delegates to the constitutional convention, justices, and judges. (Section 84-3, HRS).

On behalf of _____, CONTRACTOR, the undersigned does declare as follows:

1. CONTRACTOR ☐ is* ☐ is not a legislator or an employee or a business in which a legislator or an employee has a controlling interest. (Section 84-15(a), HRS).
2. CONTRACTOR has not been represented or assisted personally in the matter by an individual who has been an employee of the agency awarding this Contract within the preceding two years and who participated while so employed in the matter with which the Contract is directly concerned. (Section 84-15(b), HRS).
3. CONTRACTOR has not been assisted or represented by a legislator or employee for a fee or other compensation to obtain this Contract and will not be assisted or represented by a legislator or employee for a fee or other compensation in the performance of this Contract, if the legislator or employee had been involved in the development or award of the Contract. (Section 84-14 (d), HRS).
4. CONTRACTOR has not been represented on matters related to this Contract, for a fee or other consideration by an individual who, within the past twelve (12) months, has been an agency employee, or in the case of the Legislature, a legislator, and participated while an employee or legislator on matters related to this Contract. (Sections 84-18(b) and (c), HRS).

CONTRACTOR understands that the Contract to which this document is attached is voidable on behalf of the STATE if this Contract was entered into in violation of any provision of chapter 84, Hawaii Revised Statutes, commonly referred to as the Code of Ethics, including the provisions which are the source of the declarations above. Additionally, any fee, compensation, gift, or profit received by any person as a result of a violation of the Code of Ethics may be recovered by the STATE.

* Reminder to Agency: If the "is" block is checked and if the Contract involves goods or services of a value in excess of \$10,000, the Contract must be awarded by competitive sealed bidding under section 103D-302, HRS, or a competitive sealed proposal under section 103D-303, HRS. Otherwise, the Agency may not award the Contract unless it posts a notice of its intent to award it and files a copy of the notice with the State Ethics Commission. (Section 84-15(a), HRS).

CONTRACTOR

By _____
(Signature)

Print Name _____

Print Title _____

Name of Contractor _____

Date _____



STATE OF HAWAII

SCOPE OF SERVICES

Project: Papakolea Kapahu St. Slope Improvements
Location: Honolulu, Island of Oahu, Hawaii
Contractor: TBD
IFB No.: IFB-22-HHL-007

Pursuant to 103D, Hawaii Revised Statutes, the CONTRACTOR shall perform and provide the Scope of Services listed below and detailed in Invitation for Bids IFB-22-HHL-007 and in CONTRACTOR's proposal submitted on **September, 22, 2021**, in a proper and satisfactory manner as determined by the STATE and in accordance with all Federal, STATE AND LOCAL LAWS, BOTH OF WHICH ARE INCORPORATED BY REFERENCE.

DEMOLITION AND RESTORATION

1. Clearing, Grubbing, and Boulder Removal (non- slope face).
2. Demolition and replacement of rockfall fencing.
3. Demolition of portion of wall at 611 Iaukea Street. Installation of Replacement Fencing. Clearing and Demolition of other existing unpermitted or obstructing structures or walls.
4. Repairs to City and County of Honolulu storm drain manhole at 605 Iaukea Street (allowance).

SITE IMPROVEMENTS

5. Temporary erosion control measures (inclusive but not limited to, installation and removal of silt fences, filter socks at access points, BMPs, watering and roadway cleaning, ESCP Coordinator and inspections).
6. Permanent Access through 605 Iaukea Street (including but not limited to clearing of vegetation and debris, driveway apron repair)
7. Permanent Access through 623 Iaukea Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk)
8. Permanent Access through 2150 Kapahu Street (including but not limited to removing and replacing fencing, repair of lawn, driveway apron repair)
9. Permanent Access through 2132 Kapahu Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk)
10. Construction Access through 2218 Anianiku Street (including but not limited to wall reinforcement, lawn repair) (allowance).
11. Construction Access through 605 Iaukea Street (including but not limited to clearing of vegetation and debris, driveway apron repair)
12. Construction Access through 653 Iaukea Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk)



STATE OF HAWAII

SCOPE OF SERVICES

13. Construction Access through 2132 Kapahu Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk)
14. Grading and drainage, including site clearing & grubbing; removal and disposal of abandoned material onsite, unclassified excavation, embankments – fill & backfill; roadway excavation, disposal of excess material; utility demolition and disposal.
15. Installation of storm drainage system. Inclusive of all trench excavation, pipe cushion and backfill, installation of pipes and drain inlets, pipe connections, trench restoration, and all appurtenant and incidental items.
16. Installation of concrete swale, including all demolition, site clearing, excavation, grading, and all appurtenant and incidental items.

GEOTECHNICAL WORK

17. Clearing and Grubbing (slope face).
18. Draped Wire Mesh (11,380 S.F.)
19. Anchored Wire Mesh (48,330 S.F.)
20. Slope Scaling.
21. Temporary Rockfall Barrier for Slope Scaling/ Trimming.
22. Removal of debris generated from slope scaling (200 C.Y.)
23. Mobilization.

MISCELLANEOUS ITEMS

24. Temporary controls at the top and bottom of slope to prevent access to homeowners and public.
25. Project Sign for Department of Hawaiian Home Lands (DHHL) in place complete.
26. Temporary traffic control and additional traffic control devices.
27. Staging and field office on 605 Iaukea Street.
28. Police officers at discretion of DHHL Project Manager (allowance).
29. Mobilization, including obtaining insurance, bonds, grading/permits, scheduling, submittals and other activities to mobilize for project.
30. Demobilization, including removing excess materials and equipment, clean-up.
31. Archaeological Monitoring and Mitigation for inadvertent finds or adjustments to construction means and methods to avoid archaeological features (allowance).



STATE OF HAWAII

SCOPE OF SERVICES

The CONTRACTOR shall complete all work as specified or indicated in the Contract Documents on or before 180 calendar days after receiving written Notice to proceed, subject to extensions, as may be granted.



STATE OF HAWAII

COMPENSATION AND PAYMENT SCHEDULE**Project:** Papakolea Kapahu St. Slope Improvements**Location:** Honolulu, Island of Oahu, Hawaii**Contractor:** TBD**IFB No.:** IFB-22-HHL-007

The State shall pay the CONTRACTOR a sum not to exceed _____ AND ___/100 DOLLARS (\$_____) for the satisfactory completion of the work under this contract.

DEMOLITION AND RESTORATION

1. L.S. Clearing, Grubbing, and Boulder Removal (non-slope face).
Lump Sum \$ _____
2. L.S. Demolition and Replacement of Rockfall Fencing.
Lump Sum \$ _____
3. L.S. Demolition of portion of wall at 611 Iaukea Street. Installation of Replacement Fencing. Clearing and Demolition of other existing unpermitted or obstructing structures or walls.
Lump Sum \$ _____
4. Allowance Repair to City and County of Honolulu storm drain manhole at 605 Iaukea Street.
Allowance \$ ____5,000_____

SITE IMPROVEMENTS

5. L.S. Temporary Erosion Control Measures (inclusive of but not limited to, installation and removal of silt fences, filter socks at access points, BMPs, watering and roadway cleaning, ESCP Coordinator and inspections).
Lump Sum \$ _____
6. L.S. Permanent Access through 605 Iaukea Street (including but not limited to clearing of vegetation and debris, driveway apron repair).
Lump Sum \$ _____
7. L.S. Permanent Access through 623 Iaukea Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk).
Lump Sum \$ _____
8. L.S. Permanent Access through 2150 Kapahu Street (including but not limited to removing and
\$ _____



STATE OF HAWAII

COMPENSATION AND PAYMENT SCHEDULE

replacing fencing, repair of lawn, driveway apron repair).

Lump Sum

- | | | | | |
|-----|-----------|---|-----------|------------------|
| 9. | L.S. | Permanent Access through 2132 Kapahu Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk). | Lump Sum | \$ _____ |
| 10. | Allowance | Construction Access through 2218 Anianiku Street (including but not limited to wall reinforcement, lawn repair). | Allowance | \$__100,000_____ |
| 11. | L.S. | Construction Access through 605 Iaukea Street (including but not limited to clearing of vegetation and debris, driveway apron repair). | Lump Sum | \$ _____ |
| 12. | L.S. | Construction Access through 653 Iaukea Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk). | Lump Sum | \$ _____ |
| 13. | L.S. | Construction Access through 2132 Kapahu Street (including but not limited to removing and replacing fencing, repair of lawn, removing and replacing curb, gutter, and sidewalk). | Lump Sum | \$ _____ |
| 14. | L.S. | Grading and drainage, including all demolition, site clearing, and grubbing; removal and disposal of abandoned material onsite, unclassified excavation, embankments – fill and backfill; roadway excavation, disposal of excess material; utility demolition and disposal. | Lump Sum | \$ _____ |
| 15. | L.S. | Installation of storm drainage system. Inclusive of all trench excavation, pipe cushion and backfill, installation of pipes and drain inlets, pipe connections to existing system, trench restoration, and all appurtenant and incidental items. | Lump Sum | \$ _____ |



STATE OF HAWAII

COMPENSATION AND PAYMENT SCHEDULE

| | | | | |
|-----------------------------------|-----------|---|-----------|-------------------|
| 16. | L.S. | Installation of concrete swale, including all demolition, site clearing, excavation, grading, and all appurtenant and incidental items. | Lump Sum | \$_____ |
| <u>GEOTECHNICAL WORK</u> | | | | |
| 17. | L.S. | Clearing and grubbing (slope face). | Lump Sum | \$_____ |
| 18. | S.F. | Draped Wire Mesh (11,380 S.F.) | Lump Sum | \$_____ |
| 19. | S.F. | Anchored Wire Mesh (48,330 S.F.) | Lump Sum | \$_____ |
| 20. | M.H. | Slope Scaling | Lump Sum | \$_____ |
| 21. | L.S. | Temporary Rockfall Barrier for Slope Scaling/ Trimming. | Lump Sum | \$_____ |
| 22. | C.Y. | Removal of Debris Generated from Slope Scaling (200 C.Y.) | Lump Sum | \$_____ |
| 23. | L.S. | Mobilization. | Lump Sum | \$_____ |
| <u>MISCELLANEOUS ITEMS</u> | | | | |
| 24. | L.S. | Temporary Controls at the top and bottom of slope to prevent access to homeowners and public. | Lump Sum | \$_____ |
| 25. | EA | Project Sign for Department of Hawaiian Home Lands (DHHL) in place complete. | Lump Sum | \$_____ |
| 26. | L.S. | Temporary Traffic Control and additional traffic control devices. | Lump Sum | \$_____ |
| 27. | L.S. | Staging and field office on 605 Iaukea Street. | Lump Sum | \$_____ |
| 28. | Allowance | Police officers at discretion of DHHL Project Manager. | Allowance | \$____10,000_____ |



STATE OF HAWAII

COMPENSATION AND PAYMENT SCHEDULE

| | | | | |
|----------------------|-----------|---|-----------|--------------|
| 29. | L.S. | Mobilization, including obtaining insurance, bonds, building permits and fees, scheduling, submittals and other activities to mobilize for project. | Lump Sum | \$_____ |
| 30. | L.S. | Demobilization, including removing excess materials and equipment, clean-up. | Lump Sum | \$_____ |
| 31. | Allowance | Archaeological Monitoring and Mitigation for inadvertent finds or adjustments to construction means and methods to avoid archaeological features. | Allowance | \$__30,000__ |
| TOTAL SUM BID | | | | \$_____ |



STATE OF HAWAII

TIME OF PERFORMANCE

Project: Papakolea Kapahu St. Site Improvements
Location: Honolulu, Island of Oahu, Hawaii
Contractor: TBD
IFB No.: IFB-22-HHL-007

1. The Time of Performance for this Contract shall be **One Hundred Eighty (180)** Calendar Days from the effective date specified in the Notice to Proceed, unless extended by delays excused by the STATE as documented in writing. The Notice to Proceed shall be issued by the STATE separately to the CONTRACTOR.
2. This Contract shall expire on the date on which the later of the following occurs:
 - (a) the State makes final payment to the CONTRACTOR in accordance with (1) paragraph 17(d) of the General Conditions (AG-008 103D General Conditions) and (2) no dispute between the parties hereto as to the Work or other obligations of the CONTRACTOR hereunder is outstanding, or
 - (b) the STATE issues a Final Acceptance letter to the CONTRACTOR.
3. The Contract expiration date is for administrative purposes only and not to be confused with the Time of Performance which refers to the time in which the CONTRACTOR is required to complete the work, or with any continuing obligations on the part of the CONTRACTOR.



STATE OF HAWAII

**CERTIFICATE OF EXEMPTION
FROM CIVIL SERVICE****1. By Heads of Departments Delegated by the Director of the Department of Human Resources Development (“DHRD”).***

Pursuant to a delegation of the authority by the Director of DHRD, I certify that the services to be provided under this Contract, and the person(s) providing the services under this Contract are exempt from the civil service, pursuant to § 76-16, Hawaii Revised Statutes (HRS).

(Signature)**William J. Aila Jr.**

(Print Name)**Chairman, Hawaiian Homes Commission**

(Print Title)

(Date)

* This part of the form may be used by all department heads and the heads of attached agencies to whom the Director of DHRD expressly has delegated authority to certify § 76-16, HRS, civil service exemptions. The specific paragraph(s) of § 76-16, HRS, upon which an exemption is based should be noted in the contract file. If an exemption is based on § 76-16(b)(15), the contract must meet the following conditions:

- (1) It involves the delivery of completed work or product by or during a specific time;
- (2) There is no employee-employer relationship; and
- (3) The authorized funding for the service is from other than the "A" or personal services cost element.

NOTE: Not all attached agencies have received a delegation under § 76-16(b)(15). If in doubt, attached agencies should check with the Director of DHRD prior to certifying an exemption under § 76-16(b)(15). Authority to certify exemptions under §§ 76-16(b)(2), and 76-16(b)(12), HRS, has not been delegated; only the Director of DHRD may certify §§ 76-16(b)(2), and 76-16(b)(12) exemptions.

2. By the Director of DHRD, State of Hawaii.

I certify that the services to be provided under this Contract, and the person(s) providing the services under this Contract are exempt from the civil service, pursuant to § 76-16, HRS.

(Signature)

(Print Name)

(Print Title, if designee of the Director of DHRD)

(Date)



STATE OF HAWAII
SPECIAL CONDITIONS

Project: Papakolea Kapahu St. Slope Improvements
Location: Honolulu, Oahu, Hawaii
Contractor: TBD
IFB No.: IFB-22-HHL-007

SC-01 INTERCHANGEABLE TERMS

The following terms are one and the same:

- a. “Contract” and “Agreement”.
- b. “Department of Hawaiian Home Lands” “Department” “DHHL” and “STATE”.
- c. “Project Manager” and “DHHL Project Manager”

SC-02 INSURANCE COVERAGE

The CONTRACTOR shall obtain separate insurance coverage for this project that complies with the requirements set forth in the DHHL Construction General Conditions, Article 7, Section 7.3, as amended. Payment for all work required to comply with this item will not be paid for separately but shall be considered incidental to the various contract items.

CONTRACTOR shall maintain insurance acceptable to the STATE in full force and effect throughout the term of this Contract. The policies of insurance maintained by CONTRACTOR shall provide the following minimum coverage:

| <u>Coverage</u> | <u>Limit</u> |
|---|---|
| General Liability Insurance (occurrence form) | Bodily Injury and Property Damage (combined single limit): <u>\$1,000,000</u> per occurrence and <u>\$2,000,000</u> aggregate Personal Injury: <u>\$1,000,000</u> per occurrence and <u>\$2,000,000</u> aggregate |
| Automobile Insurance (covering all owned, non-owned and hired automobiles) | Bodily Injury: <u>\$1,000,000</u> per person and <u>\$1,000,000</u> per occurrence. Property Damage: <u>\$1,000,000</u> per accident or combined single limit of <u>\$2,000,000</u> . |
| Workers Compensation (statutory limit is required by laws of the State of Hawaii) | Insurance to include Employer’s Liability. Both such coverages shall apply to all employees of the CONTRACTOR and, in case any sub-contractor fails to provide adequate similar protection for all his employees, to all employees of subcontractors. |
| Builder’s Risk covering the CONTRACTOR and all subcontractors | 100% Replacement Value |



STATE OF HAWAII

SPECIAL CONDITIONS

Fire and extended coverage 100% Replacement Value

Malicious Mischief 100% Replacement Value

Flood Insurance, if applicable Maximum Coverage available

- a. The State of Hawaii, Department of Hawaiian Home Lands, its elected and appointed officials, officers, employees, and agents shall be named as additional insured with respect to operations, services or products provided to the State of Hawaii. CONTRACTOR agrees to provide to the DHHL, before the effective date of the Contract, certificate(s) of insurance necessary to evidence compliance with insurance provisions of this Contract. CONTRACTOR shall keep such insurance in effect and the certificate(s) on deposit with DHHL during the entire term of this Contract. Upon request by the STATE, CONTRACTOR shall furnish a copy of the policy or policies.
- b. Failure of CONTRACTOR to provide and keep in force such insurance shall be regarded as a material default under this Contract. The STATE shall be entitled to exercise any or all of the remedies provided in this Contract for default of CONTRACTOR.
- c. The procuring of such required policy or policies of insurance shall not be construed to limit CONTRACTOR's liability under this Contract or to fulfill the indemnification provisions and requirements of this Contract. Notwithstanding said policy or policies of insurance, CONTRACTOR shall be obliged for the full and total amount of any damage, injury, or loss caused by negligence or neglect connected with this Contract.
- d. CONTRACTOR shall immediately provide written notice to the contracting department or agency should any of the insurance policies evidenced on its Certificate of Insurance form be cancelled, limited in scope, or not renewed upon expiration.
- e. DHHL is a self-insured State agency. CONTRACTOR's insurance shall be primary. Any insurance maintained by the State of Hawaii shall apply in excess of, and shall not contribute with, insurance provided by CONTRACTOR.
- f. The CONTRACTOR shall require all subcontractors to have in full force and effect the same insurance coverage as required of the CONTRACTOR. Such insurance shall name the State of Hawaii, Department of Hawaiian Home Lands, its elected and appointed officials, officers, employees, and agents as additional insured with respect to operations, services or products provided to the State of Hawaii. The CONTRACTOR shall be responsible to enforce its subcontractors' compliance with these insurance requirements and CONTRACTOR shall, upon request, provide the STATE a copy of the policy or policies of insurance for any subcontractor.

SC-03 COMPLETION SCHEDULE AND LIQUIDATED DAMAGES

The CONTRACTOR shall complete all work as specified or indicated in the Contract Documents on or before **One Hundred Eighty (180)** calendar days after receiving written Notice to Proceed, subject to extensions, as may be granted.

In case of failure on the part of the CONTRACTOR to complete the work within the time



STATE OF HAWAII

SPECIAL CONDITIONS

specified, the CONTRACTOR shall pay to DHHL as liquidated damages, and not as a penalty, **\$1,000.00** per calendar day for each day that the project, in its entirety, remains incomplete.

SC-04 PROCESS THROUGH DHHL

Until Notice to Proceed (NTP) is issued, any and all submittals, reports, request claims, and notices under the contract pertaining to work for this project shall be processed through the Land Development Division Project Manager, at Hale Kalanianaʻole, 91-5420 Kapolei Parkway, Kapolei, Hawaii 96707.

After Notice to Proceed has been issued, any and all submittals, reports, requests, claims, and notices under the contract that pertain to this project shall be processed through the Construction Manager (CM) with copies submitted to DHHL and the above Consultant as applicable. The CM contract person and number will be identified at the pre-construction meeting.

SC-05 SURVEYING SERVICES

Refer to DHHL Interim General Condition 5.9.3.

The CONTRACTOR shall submit the name of the surveyor, who shall be licensed in the State of Hawaii and will be doing this work for it throughout the course of the project, to DHHL prior to beginning work at the site.

Upon request, DHHL shall provide subdivision plat maps to the CONTRACTOR to enable its surveyor to stake out the various work.

Property pins for the existing lots adjacent to the project site may remain intact and may be visible. However, DHHL makes no warranty that these existing pins are accurate or have not been disturbed.

The CONTRACTOR shall not disturb any existing property pins and is solely responsible for their replacement. The CONTRACTOR shall accurately replace any existing property pins disturbed or removed by it and shall certify that they have been re-installed in the correct locations at no cost to DHHL.

The CONTRACTOR and CONTRACTOR's Licensed Professional Land Surveyor shall provide a letter jointly certifying that all work, including the grading, were built to the lines and grades shown on the record drawings.

Except where specifically provided for in the proposal, all work necessary for, or related to surveying services shall be considered incidental to the various contract items.

Any surveying services required shall be the responsibility of the CONTRACTOR and considered incidental to the scope of work under this contract and therefore covered under the terms of this Contract. No separate payment shall be made.

Upon completion, the CONTRACTOR shall prepare an as-built plan for the project site in which the finished grades are certified by a Hawaii Licensed Professional Land Surveyor. Six (6) copies of the as-built plan shall be submitted to the Construction Manager and



STATE OF HAWAII

SPECIAL CONDITIONS

Project Manager. The cost of the as-built plan shall be incidental to the Contract. No separate payment shall be made.

SC-06 ALLOWANCES

The proposal may contain payment items designated as allowances (i.e. mitigation of any inadvertent discovery of human remains). Funds listed in allowance items are to be spent at the direction of DHHL. The allowance is an estimate only and is subject to increase or decrease depending on the actual cost of the item. The funds are for the direct costs of an item and all pricing, submittal and review, overhead, installation, profit, insurance, surety, processing of the issuance of checks for payment to other parties, and all other costs will be included. No payment will be made for incidental costs.

Allowances specifically set aside for construction work and materials will be negotiated when the scope of work is determined. Any unspent allowance costs will be deducted from the Contract by change order prior to final payment.

SC-07 SCHEDULE OF PRICES

The CONTRACTOR shall submit a schedule of values in accordance with DHHL Construction General Conditions, Article 7.2.4 Schedule of Prices within 14 calendar days of the Notice to Proceed. The format and breakdown of the schedule of values shall be acceptable to DHHL.

The schedule of values shall show the work of each subcontractor and shall be based on installed work. No payment will be made until the CONTRACTOR has presented an acceptable schedule of values to DHHL. Performance and Payment Bonds costs shall be a separate line item and the cost shall be authenticated by surety invoice. All overhead and profit shall be prorated across all payment line items.

SC-08 PERMITS AND FEES

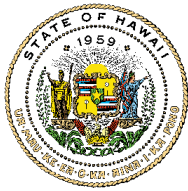
The CONTRACTOR shall apply and pay for all permits and inspection fees as required by all governmental agencies having jurisdiction over this project.

All work necessary to comply with this item will not be paid for separately but shall be considered incidental to the various contract items. No separate payment will be made.

SC-09 COORDINATION WITH OTHER PARTIES

The CONTRACTOR shall coordinate all the necessary work for temporary utility services, permanent service and appurtenances with the appropriate agencies, including but not limited to the State Department of Transportation, the State Department of Health, the City and County of Honolulu (County), Hawaiian Electric Company (HECO), and sandwich Isle Communications (SIC).

The CONTRACTOR shall coordinate all the necessary work for maintaining water service to include disruption or restriction to water service, temporary utility services, permanent service and appurtenances with the Project Manager and appropriate agencies, including



STATE OF HAWAII

SPECIAL CONDITIONS

but not limited to DHHL for potable water, and the Honolulu Fire Department for fire protection.

The CONTRACTOR shall request, coordinate and schedule all inspections during construction, including but not limited to preliminary, pre-final, and final inspections, by all necessary government agencies having jurisdiction or vested interests over or in any and all elements of the project.

All work necessary to comply with this item shall be considered incidental to the various contract items. No separate payment will be made.

SC-10 CONTRACTOR'S LICENSING

It is the CONTRACTOR's sole responsibility to review the requirements of this project and determine the appropriate contractor's licenses that are required to complete the project. If the CONTRACTOR does not hold all of the licenses required to perform a particular item of work on this project with its own workers, when bidding, he must list subcontractors that hold the appropriate licenses in its proposal.

SC-11 WATER CHARGES AND REQUIREMENTS

DHHL will make reasonable quantities of potable water available for the CONTRACTOR use at no cost to the CONTRACTOR. CONTRACTOR shall coordinate and obtain authorization for the water supply point(s) and amounts of water required with the Project Manager. Contractor shall furnish, install, and maintain a temporary flow meter at the supply point as accepted by the Project Manager. Flow meter shall be calibrated as accepted by the Project Manager. Contractor shall provide weekly reports of water usage to the Project Manager.

SC-12 SOIL AND DUST CONTROL

To control the dust during construction, the CONTRACTOR shall have an adequate supply of water for dust control and if necessary, moisture conditioning of fill material at all times. The CONTRACTOR shall institute an erosion control program and dust control program to minimize soil erosion and wind erosion and airborne fugitive dust nuisance, respectively for the entire duration of this project.

The CONTRACTOR shall re-designate the project's erosion and sediment control plan (ESCP) Coordinator and provide ESCP Coordinator duties required for the appropriate project category and City and County of Honolulu Department of Planning and Permitting (DPP) requirements.

SC-13 NPDES PERMITS

DHHL will submit an NPDES Permit application to the Department of Health. Authorization to proceed with clearing, grubbing or grading work will not be granted until the permit is approved.

The CONTRACTOR agrees to schedule and sequence his operations to take all of the foregoing into account along with the requirements of DHHL General Condition 7.21.4



STATE OF HAWAII

SPECIAL CONDITIONS

shall govern in the event of any delay(s) in DHHL obtaining approvals for these NPDES permits.

The CONTRACTOR shall provide the Consultant with the additional pertinent information required for preparation of the site-specific Best Management Practices (BMPs) Plan, and the Solid Waste Disclosure Form for Construction Sites for this project.

SC-14 NOTIFICATION OF WORK

The CONTRACTOR shall notify the Project Manager, and give a minimum of five (5) working days' notice before starting any work. The CONTRACTOR shall notify the Project Manager a minimum of five (5) working days prior to start of any critical activities including, but not limited to, activities impacting noise, access, and air quality.

SC-15 EXISTING OCCUPIED LOTS

The CONTRACTOR shall provide and maintain continuous vehicular access and utility service (water, telephone and electrical) to the various occupied lots within and surrounding the project for the duration of construction and to the satisfaction of the Project Manager. The CONTRACTOR shall identify, locate and protect all utility services to these lots prior to any construction activity.

The CONTRACTOR shall provide safe and convenient access to these lots at all times to the satisfaction of the Project Manager. The CONTRACTOR shall also coordinate any temporary utility services with the proper utility companies. The CONTRACTOR shall pay all utility installation charges and fees to any utility company for any temporary utility connections.

SC-16 FINAL INSPECTION

Throughout the construction period, the work may be subject to periodic inspection by DHHL, the Construction Management (CM) Inspector, the Department of Health, the County and other applicable government agencies. Once work has been satisfactorily completed, the County, accompanied by DHHL and CM Inspector, will make the final inspection of the work to determine whether all work has been done in complete compliance with the requirements of the plans and these specifications.

The CONTRACTOR shall therefore schedule the final inspection with the County, Department of Health, Department of Transportation and the CM Inspector, and notify the DHHL Project Manager one week prior to the final inspection.

Neither the scheduling nor the conduct of the aforementioned final inspection shall be deemed a waiver of DHHL's right to subsequently require CONTRACTOR to complete all unfinished or defective work to the satisfaction of DHHL.

SC-17 GENERAL CONDITIONS

In the event of conflicts and/or discrepancies, the DHHL Construction General Conditions shall govern over Form AG-008, 103D General Conditions (eff. 10/17/13).



STATE OF HAWAII

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SC-18 CAMPAIGN CONTRIBUTIONS BY STATE AND COUNTY CONTRACTORS

CONTRACTORS are hereby notified of the applicability of Section 11-355, HRS, which states that campaign contributions 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.

SC-19 CONTRACTOR'S DAILY REPORT

The CONTRACTOR shall submit a daily report electronically, for DHHL review. The report shall include:

1. Date
2. Weather
3. Activity at the site for the CONTRACTOR
 - a. Labor – who and what classification, i.e., carpenter, laborer, supervisor, etc.
 - b. Equipment
 - c. Materials delivered
 - d. Work performed
4. Activity at the site for subcontractors
 - a. Labor – who and what classification, i.e., carpenter, laborer, supervisor, etc.
 - b. Equipment
 - c. Materials delivered
 - d. Work performed
5. Visitors to the site – Construction Manager, Inspectors, etc.
6. Problems or Questions (including suggested resolutions, if any)
7. Safety report status
8. Quality control report status

SC-20 APPRENTICESHIP AGREEMENT PREFERENCE – CONTRACTOR'S RESPONSIBILITY

1. For the duration of the contract awarded utilizing the Hawai'i Apprenticeship Preference, the CONTRACTOR shall certify each month that work is being conducted on the project, that it continues to be a participant in the relevant apprenticeship program for each trade it employs.
2. Monthly certification shall be made on *MONTHLY REPORT OF CONTRACTOR'S PARTICIPATION IN APPROVED APPRENTICESHIP PROGRAM UNDER ACT 17 (Monthly Certification Form 2)* prepared and made available by the DLIR. *Monthly Certification Form 2* shall be a signed original by the respective apprenticeship program sponsor's authorized official, and submitted by the CONTRACTOR with its monthly payment requests. *Monthly Certification Form 2* is available on the DLIR website at: <http://hawaii.gov/labor/wdd>



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3. Should the CONTRACTOR fail or refuse to submit its monthly certification forms, or at any time during the construction of the project, cease to be a party to a registered apprenticeship agreement for each apprenticeable trade the CONTRACTOR employs, the CONTRACTOR will be subject to the following sanctions:
 - a. Withholding of the requested payment until the required form(s) are submitted;
 - b. Temporary or permanent cessation of work on the project, without recourse to breach of contract claims by the CONTRACTOR; provided the DHHL shall be entitled to restitution for nonperformance or liquidated damages claims; or
 - c. Proceed to debar pursuant to HRS §103D-702.
4. If events such as “acts of God,” acts of a public enemy, acts of the State or any other governmental body in its sovereign or contractual capacity, fires, floods, epidemics, freight embargoes, unusually severe weather, or strikes or other labor disputes prevent the CONTRACTOR from submitting the certification forms, the CONTRACTOR shall not be penalized as provided herein, provided the CONTRACTOR completely and expeditiously complies with the certification process when the event is over.

SC-21 ENERGY EFFICIENCY

The CONTRACTOR and its subcontractors shall comply with the Energy Policy and Conservation Act (P.L. 94-163) and all mandatory State and County standards and policies relating to energy efficiency.

SC-22 CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

Developer and its subcontractors shall to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387).

SC-23 CONTRACT WORK HOURS AND SAFETY STANDARDS

Developer and its subcontractors shall comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5).

SC-24 INADVERTENT DISCOVERY OF HUMAN BURIALS

Although not expected, in the event human burials are inadvertently discovered, the CONTRACTOR shall immediately stop work in the vicinity of the burial and contact the following parties and agencies immediately: State Historic Preservation Division (SHPD), DHHL, Office of Hawaiian Affairs (OHA) and the Oahu Island Burial Council.

The discovery of human remains should not prevent the contractor from working on other areas at the work site.

DHHL may provide the CONTRACTOR with a Supplemental Agreement for additional time added to the CONTRACTOR’s performance schedule for the mitigation of any inadvertent discovery of human remains per the DHHL Construction General Conditions, sections 7.21.5 through 7.21.5.4.



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The CONTRACTOR shall provide unit cost prices for the mitigation work, and time and materials will be negotiated when the scope of work is determined. No work shall be performed by the CONTRACTOR without prior written authorization from DHHL. Any unspent allowance costs will be deducted from the Contract by change order prior to final payment.

SC-25 CERTIFICATION

The CONTRACTOR and CONTRACTOR's Hawaii Licensed Professional Land Surveyor shall jointly certify the finish elevation(s) of any new work, referenced to mean sea level (MSL).

SC-26 GEOTECHNICAL ENGINEER

The services of a geotechnical engineering firm will be retained by CONTRACTOR. The CONTRACTOR shall notify the Project Manager and the Construction Manager whenever the geotechnical engineering firm's presence is needed at the site. The geotechnical engineer shall be present to observe site grading and other work concerning excavation, placing and compacting soil materials, and to take field density tests. Also, the geotechnical engineer shall perform laboratory testing of all imported soils or on-site soils to determine its acceptability for its intended use as select material or general fill material. The geotechnical engineering hired by the CONTRACTOR shall also verify the installation of the soil nails such that they comply with the project Geotechnical Engineering Report and requirements, for both scope of inspections and schedule of inspections. Inspections and verification costs shall be borne by the CONTRACTOR. The geotechnical engineer shall compile the daily observations, test data, test results and recommendations into a weekly submittal to the Construction Manager. The geotechnical engineer shall ensure that the geotechnical work complies with the specifications and drawings.

Upon completion of the grading operation, the geotechnical engineer shall provide the information needed to complete the "Report After Grading" as required by the Revised Ordinances of Honolulu. As a minimum, six (6) copies of compaction data with 11"x17" location map, moisture content at the time of compaction, and certification letter (stamped and signed by a licensed engineer in the State of Hawaii) that the work was done in conformity to the specifications.

SC-27 SAMPLING AND TESTING

The CONTRACTOR shall retain the services of a geotechnical engineering firm and/or certified testing laboratory to perform sampling and testing as called for by this Contract. Sampling and testing shall include materials testing and field testing as required. Cost for this work shall be considered included in the contract bid amount. No separate payment shall be made.

SC-28 STANDARD SPECIFICATIONS

The "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, September 1986", as amended of the Departments of Public Works, County of Kauai, County of Maui, County of Hawaii and City and County of Honolulu, of the State of



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Hawaii, is by reference incorporated herein and made a part of these specifications. The term "Standard Specifications" used hereinafter refers to this "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, September 1986."

The "STANDARD SPECIFICATIOS FOR ROAD AND BRIDGE CONSTRUCTION, 2005, State of Hawaii and all applicable updates is by reference incorporated herein and made a part of these specifications. Copies of the Standard Specifications are available for purchase from State of Hawaii, Department of Transportation, Highways Division.

SC-29 STANDARD DETAILS

The "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, September 1984", as amended of the Departments of Public Works, County of Kauai, County of Maui, County of Hawaii and City and County of Honolulu, of the State of Hawaii, is by reference incorporated herein and made a part of these specifications. The term "Standard Details" used hereinafter refers to this "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, September 1984." Copies of the Standard Details are on file and may be inspected at the Division of Purchasing during regular business hours of the City and County of Honolulu.

The work embraced herein shall be done in accordance with the Standard Details insofar as they may apply.

SC-30 WATER SYSTEM SPECIFICATIONS

The "WATER SYSTEM STANDARDS," State of Hawaii, dated 2002, and all subsequent amendments and additions, are by reference incorporated herein and made a part of these contract documents. The work embraced herein shall be performed by the CONTRACTOR in accordance with the "WATER SYSTEM STANDARDS," and the various sections of the Special Conditions.

The term "Water System Standards" used in these contract documents refers to the "WATER SYSTEM STANDARDS" State of Hawaii, dated 2002, and all subsequent amendments and additions.

SC-31 EARTHWORK QUANTITIES

Prior to any grading operations, the CONTRACTOR shall submit to the Project Manager a list of estimated quantities for excavation and embankment. The CONTRACTOR shall also estimate a reasonable percentage for loss/shrinkage and percentage of unsuitable excavated materials. The percentages shall be updated as the grading work progresses. The CONTRACTOR is responsible for disposal of all excavated material offsite. Borrow material shall not be imported until all excavation work is completed and authorized by the Project Manager.

SC-32 CONSTRUCTION YARD AND RIGHT-OF-ENTRY



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CONTRACTOR'S staging area may be located on-site, within the designated project area, and within the DHHL Right-of-Way, as approved by the Construction Manager. Should the staging area measure more than 1 acre, the CONTRACTOR will be responsible to apply for and obtain a National General Permit Coverage (NGPC) for Storm Water Associated with Construction Activities from the State Department of Health, Clean Water Branch, including associated fees, before starting any work.

Access to the project site will be specified by the DHHL Project Manager and the Construction Manager.

SC-33 CITY AND COUNTY OF HONOLULU INSPECTION

All work within the project site and any County maintained easements and right-of-way shall be inspected and approved by the applicable agencies of the County. The CONTRACTOR shall make arrangements directly with the appropriate agencies to arrange for inspection of work. All work and/or fees necessary to comply with this item shall be considered incidental to the various Contract items. No separate payment shall be made. Special Inspections shall be the responsibility of the Contractor to fulfill building permit requirements.

SC-34 STATE GENERAL EXCISE TAX

This project is not exempt from the State of Hawaii General Excise Tax. The CONTRACTOR's prices shall include the General Excise Tax for all work.

SC-35 CONSTRUCTION PHASING

The CONTRACTOR shall prepare and submit to the Project Manager, prior to start of field construction work, a construction phasing plan that outlines and describes the work scope and sequence, in order to maintain public access with minimal interruption and restriction to usage. Plan shall describe all planned phases of work and is to include estimated times and durations. Measures to maintain access may include and are not limited to: creating separate areas of work and sequencing and phasing work on specific areas in lieu of closing off the entire site, and construction fencing.

Notification to include lead times for notification to public and governmental service agencies shall be identified and scheduled.

DHHL will not provide additional time to the CONTRACTOR or the CONTRACTOR's performance schedule should land disturbing activities exceed the time duration identified in this condition.

The CONTRACTOR shall coordinate the construction plans as well as the development of the construction phasing plan with the Project Manager.

The CONTRACTOR shall ensure that all materials, equipment, labor and incidentals are on-site as needed to ensure rapid and continuous work to minimize or avoid water service disruptions to the DHHL water system and its service customers.

SC-36 DELETED ITEMS



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Depending on the site conditions, soil conditions and other factors, the Project Manager may decide to delete a portion or all of a proposal item in its entirety. A change order shall be issued to delete the work and the contract amount shall be reduced by subtracting the corresponding proposal item amount.

No claim shall be filed for anticipated profit or loss resulting from deletion of all or part of the proposal item except as indicated in DHHL Construction General Condition 4.6.

SC-37 RESTORATION OF DHHL PROPERTY

Any areas cleared or graded by the CONTRACTOR for field office(s), staging or storage operations located in DHHL lots shall be backfilled to the original (or finished) elevations, slopes and grades (shown on the plans) and/or graded to provide proper drainage prior to the completion of the project. The backfilled areas shall be covered with a 2-inch layer of topsoil and immediately grassed.

In addition, any adjustments to homeowner's/ lessee's property including but not limited to access, slope improvements, or erosion control measures shall be repaired and restored to the original condition. Existing conditions shall be documented prior to start of construction with DHHL project manager and Construction Manager.

SC-38 FINAL SETTLEMENT OF CONTRACT

The following shall be made additional conditions of compliance with DHHL Construction General Condition 7.33:

1. The CONTRACTOR shall coordinate with all government agencies and utility companies on behalf of DHHL to obtain letter(s) from each respective government agency or utility company indicating that acceptance of the contract work for the project has been granted to DHHL. Copies of the letters shall be submitted to DHHL.
2. Signature, execution, and return of the "Record Drawing" Title tracings.

Payment for all work required to comply with the above items will not be paid for separately but shall be considered incidental to the various contract items.

SC-39 SHOP DRAWINGS AND OTHER SUBMITTALS

The CONTRACTOR is required to submit a complete list of shop drawings and other submittals to the Construction Manager, for DHHL and the consultant team's review, by one week after the notice to proceed (NTP) is given, or at the pre-construction meeting, whichever comes first.

The CONTRACTOR is then required to submit all submittals and shop drawings that are listed within ONE MONTH after the notice to proceed is given. The CONTRACTOR will not be given schedule or cost considerations for delay of materials if shop drawings or submittals are not submitted by this time.

SC-40 AS-BUILT DRAWINGS / RECORD DRAWINGS

As-Built Drawings:



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The CONTRACTOR shall provide as-built drawings. The As-Built drawings shall show the actual construction so that any future renovations or tie-ins can be anticipated accurately.

The CONTRACTOR shall record all deviations from the drawings that were authorized by the Project Manager onto the copy of the field plans. The changes shall be recorded immediately after they have been constructed in place to assure they are recorded before they are forgotten.

The CONTRACTOR shall record the changes onto the field office plans using a red pencil. The CONTRACTOR shall stamp, sign and date each sheet of the field office plans. The stamp shall contain the words: “AS-BUILT DRAWINGS” and include a statement signed by the CONTRACTOR certifying that the drawings on the sheet accurately and completely reflect and show the actual as-built construction. The stamp format and wording shall be submitted to the Project Manager for prior approval.

The CONTRACTOR shall submit the marked-up field office plans for the project, stamped, signed and dated, to the Project Manager after the improvements for each respective portion of the project have been completed.

Record Drawings:

All changes shown on the As-Built drawings will be recorded on the original tracings, which will then become the Record Drawings. The Consultant(s) shall be responsible for preparing the Record Drawings. The Consultant(s) shall stamp, sign and date the Title Sheet tracing of the Record Drawings. The stamp shall contain the words “Record Drawings.”

The CONTRACTOR shall review the changes made and certify the Record Drawings by signing and dating the Record Drawing Title Sheet tracing where indicated. Any deviations from the plans determined by the Project Manager to be missing from, incomplete, or inaccurately drawn on the As-Built Drawings shall be corrected on the Record Drawing tracings by the State and the CONTRACTOR shall be charged for the services. The State will keep a record of the associated cost impacts and deduct them from the Contract price.

Payment for all work required to comply with this item will not be paid for separately but shall be considered incidental to the various Contract items.

SC-42 COMPENSATION FOR REMOVAL OF ABANDONED VEHICLES, TRASH OR DUMPED ITEMS

Any and all abandoned vehicles, boats or other means of transportation and all appliances and discards of every description found within 5-feet of the actual work limits during the duration of this contract shall be promptly and totally removed from the site. The cost shall be considered incidental to the various Contract items.

The CONTRACTOR is solely responsible for taking precautions to prevent unauthorized access during working and non-working hours to eliminate illegal dumping within these areas during the entire duration of the project. Refer to DHHL Construction General Conditions 4.9.1.2, 7.30 and 7.34.

GENERAL CONDITIONS

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GENERAL CONDITIONS

1. Coordination of Services by the STATE. The head of the purchasing agency ("HOPA") (which term includes the designee of the HOPA) shall coordinate the services to be provided by the CONTRACTOR in order to complete the performance required in the Contract. The CONTRACTOR shall maintain communications with HOPA at all stages of the CONTRACTOR'S work, and submit to HOPA for resolution any questions which may arise as to the performance of this Contract. "Purchasing agency" as used in these General Conditions means and includes any governmental body which is authorized under chapter 103D, HRS, or its implementing rules and procedures, or by way of delegation, to enter into contracts for the procurement of goods or services or both.
2. Relationship of Parties: Independent Contractor Status and Responsibilities, Including Tax Responsibilities.
 - a. In the performance of services required under this Contract, the CONTRACTOR is an "independent contractor," with the authority and responsibility to control and direct the performance and details of the work and services required under this Contract; however, the STATE shall have a general right to inspect work in progress to determine whether, in the STATE'S opinion, the services are being performed by the CONTRACTOR in compliance with this Contract. Unless otherwise provided by special condition, it is understood that the STATE does not agree to use the CONTRACTOR exclusively, and that the CONTRACTOR is free to contract to provide services to other individuals or entities while under contract with the STATE.
 - b. The CONTRACTOR and the CONTRACTOR'S employees and agents are not by reason of this Contract, agents or employees of the State for any purpose, and the CONTRACTOR and the CONTRACTOR'S employees and agents shall not be entitled to claim or receive from the State any vacation, sick leave, retirement, workers' compensation, unemployment insurance, or other benefits provided to state employees.
 - c. The CONTRACTOR shall be responsible for the accuracy, completeness, and adequacy of the CONTRACTOR'S performance under this Contract. Furthermore, the CONTRACTOR intentionally, voluntarily, and knowingly assumes the sole and entire liability to the CONTRACTOR'S employees and agents, and to any individual not a party to this Contract, for all loss, damage, or injury caused by the CONTRACTOR, or the CONTRACTOR'S employees or agents in the course of their employment.
 - d. The CONTRACTOR shall be responsible for payment of all applicable federal, state, and county taxes and fees which may become due and owing by the CONTRACTOR by reason of this Contract, including but not limited to (i) income taxes, (ii) employment related fees, assessments, and taxes, and (iii) general excise taxes. The CONTRACTOR also is responsible for obtaining all licenses, permits, and certificates that may be required in order to perform this Contract.
 - e. The CONTRACTOR shall obtain a general excise tax license from the Department of Taxation, State of Hawaii, in accordance with section 237-9, HRS, and shall comply with all requirements thereof. The CONTRACTOR shall obtain a tax clearance certificate from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of the Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR have been paid and submit the same to the STATE prior to commencing any performance under this Contract. The CONTRACTOR shall also be solely responsible for meeting all requirements necessary to obtain the tax clearance certificate required for final payment under sections 103-53 and 103D-328, HRS, and paragraph 17 of these General Conditions.
 - f. The CONTRACTOR is responsible for securing all employee-related insurance coverage for the CONTRACTOR and the CONTRACTOR'S employees and agents that is or may be required by law, and for payment of all premiums, costs, and other liabilities associated with securing the insurance coverage.

- g. The CONTRACTOR shall obtain a certificate of compliance issued by the Department of Labor and Industrial Relations, State of Hawaii, in accordance with section 103D-310, HRS, and section 3-122-112, HAR, that is current within six months of the date of issuance.
- h. The CONTRACTOR shall obtain a certificate of good standing issued by the Department of Commerce and Consumer Affairs, State of Hawaii, in accordance with section 103D-310, HRS, and section 3-122-112, HAR, that is current within six months of the date of issuance.
- i. In lieu of the above certificates from the Department of Taxation, Labor and Industrial Relations, and Commerce and Consumer Affairs, the CONTRACTOR may submit proof of compliance through the State Procurement Office's designated certification process.

3. Personnel Requirements.

- a. The CONTRACTOR shall secure, at the CONTRACTOR'S own expense, all personnel required to perform this Contract.
- b. The CONTRACTOR shall ensure that the CONTRACTOR'S employees or agents are experienced and fully qualified to engage in the activities and perform the services required under this Contract, and that all applicable licensing and operating requirements imposed or required under federal, state, or county law, and all applicable accreditation and other standards of quality generally accepted in the field of the activities of such employees and agents are complied with and satisfied.

4. Nondiscrimination. No person performing work under this Contract, including any subcontractor, employee, or agent of the CONTRACTOR, shall engage in any discrimination that is prohibited by any applicable federal, state, or county law.

5. Conflicts of Interest. The CONTRACTOR represents that neither the CONTRACTOR, nor any employee or agent of the CONTRACTOR, presently has any interest, and promises that no such interest, direct or indirect, shall be acquired, that would or might conflict in any manner or degree with the CONTRACTOR'S performance under this Contract.

6. Subcontracts and Assignments. The CONTRACTOR shall not assign or subcontract any of the CONTRACTOR'S duties, obligations, or interests under this Contract and no such assignment or subcontract shall be effective unless (i) the CONTRACTOR obtains the prior written consent of the STATE, and (ii) the CONTRACTOR'S assignee or subcontractor submits to the STATE a tax clearance certificate from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR'S assignee or subcontractor have been paid. Additionally, no assignment by the CONTRACTOR of the CONTRACTOR'S right to compensation under this Contract shall be effective unless and until the assignment is approved by the Comptroller of the State of Hawaii, as provided in section 40-58, HRS.

- a. Recognition of a successor in interest. When in the best interest of the State, a successor in interest may be recognized in an assignment contract in which the STATE, the CONTRACTOR and the assignee or transferee (hereinafter referred to as the "Assignee") agree that:

- (1) The Assignee assumes all of the CONTRACTOR'S obligations;
- (2) The CONTRACTOR remains liable for all obligations under this Contract but waives all rights under this Contract as against the STATE; and
- (3) The CONTRACTOR shall continue to furnish, and the Assignee shall also furnish, all required bonds.

- b. Change of name. When the CONTRACTOR asks to change the name in which it holds this Contract with the STATE, the procurement officer of the purchasing agency (hereinafter referred to as the "Agency procurement officer") shall, upon receipt of a document acceptable or satisfactory to the

Agency procurement officer indicating such change of name (for example, an amendment to the CONTRACTOR'S articles of incorporation), enter into an amendment to this Contract with the CONTRACTOR to effect such a change of name. The amendment to this Contract changing the CONTRACTOR'S name shall specifically indicate that no other terms and conditions of this Contract are thereby changed.

- c. Reports. All assignment contracts and amendments to this Contract effecting changes of the CONTRACTOR'S name or novations hereunder shall be reported to the chief procurement officer (CPO) as defined in section 103D-203(a), HRS, within thirty days of the date that the assignment contract or amendment becomes effective.
 - d. Actions affecting more than one purchasing agency. Notwithstanding the provisions of subparagraphs 6a through 6c herein, when the CONTRACTOR holds contracts with more than one purchasing agency of the State, the assignment contracts and the novation and change of name amendments herein authorized shall be processed only through the CPO's office.
7. Indemnification and Defense. The CONTRACTOR shall defend, indemnify, and hold harmless the State of Hawaii, the contracting agency, and their officers, employees, and agents from and against all liability, loss, damage, cost, and expense, including all attorneys' fees, and all claims, suits, and demands therefore, arising out of or resulting from the acts or omissions of the CONTRACTOR or the CONTRACTOR'S employees, officers, agents, or subcontractors under this Contract. The provisions of this paragraph shall remain in full force and effect notwithstanding the expiration or early termination of this Contract.
 8. Cost of Litigation. In case the STATE shall, without any fault on its part, be made a party to any litigation commenced by or against the CONTRACTOR in connection with this Contract, the CONTRACTOR shall pay all costs and expenses incurred by or imposed on the STATE, including attorneys' fees.
 9. Liquidated Damages. When the CONTRACTOR is given notice of delay or nonperformance as specified in paragraph 13 (Termination for Default) and fails to cure in the time specified, it is agreed the CONTRACTOR shall pay to the STATE the amount, if any, set forth in this Contract per calendar day from the date set for cure until either (i) the STATE reasonably obtains similar goods or services, or both, if the CONTRACTOR is terminated for default, or (ii) until the CONTRACTOR provides the goods or services, or both, if the CONTRACTOR is not terminated for default. To the extent that the CONTRACTOR'S delay or nonperformance is excused under paragraph 13d (Excuse for Nonperformance or Delay Performance), liquidated damages shall not be assessable against the CONTRACTOR. The CONTRACTOR remains liable for damages caused other than by delay.
 10. STATE'S Right of Offset. The STATE may offset against any monies or other obligations the STATE owes to the CONTRACTOR under this Contract, any amounts owed to the State of Hawaii by the CONTRACTOR under this Contract or any other contracts, or pursuant to any law or other obligation owed to the State of Hawaii by the CONTRACTOR, including, without limitation, the payment of any taxes or levies of any kind or nature. The STATE will notify the CONTRACTOR in writing of any offset and the nature of such offset. For purposes of this paragraph, amounts owed to the State of Hawaii shall not include debts or obligations which have been liquidated, agreed to by the CONTRACTOR, and are covered by an installment payment or other settlement plan approved by the State of Hawaii, provided, however, that the CONTRACTOR shall be entitled to such exclusion only to the extent that the CONTRACTOR is current with, and not delinquent on, any payments or obligations owed to the State of Hawaii under such payment or other settlement plan.
 11. Disputes. Disputes shall be resolved in accordance with section 103D-703, HRS, and chapter 3-126, Hawaii Administrative Rules ("HAR"), as the same may be amended from time to time.
 12. Suspension of Contract. The STATE reserves the right at any time and for any reason to suspend this Contract for any reasonable period, upon written notice to the CONTRACTOR in accordance with the provisions herein.
 - a. Order to stop performance. The Agency procurement officer may, by written order to the CONTRACTOR, at any time, and without notice to any surety, require the CONTRACTOR to stop all or any part of the performance called for by this Contract. This order shall be for a specified

period not exceeding sixty (60) days after the order is delivered to the CONTRACTOR, unless the parties agree to any further period. Any such order shall be identified specifically as a stop performance order issued pursuant to this section. Stop performance orders shall include, as appropriate: (1) A clear description of the work to be suspended; (2) Instructions as to the issuance of further orders by the CONTRACTOR for material or services; (3) Guidance as to action to be taken on subcontracts; and (4) Other instructions and suggestions to the CONTRACTOR for minimizing costs. Upon receipt of such an order, the CONTRACTOR shall forthwith comply with its terms and suspend all performance under this Contract at the time stated, provided, however, the CONTRACTOR shall take all reasonable steps to minimize the occurrence of costs allocable to the performance covered by the order during the period of performance stoppage. Before the stop performance order expires, or within any further period to which the parties shall have agreed, the Agency procurement officer shall either:

- (1) Cancel the stop performance order; or
 - (2) Terminate the performance covered by such order as provided in the termination for default provision or the termination for convenience provision of this Contract.
- b. Cancellation or expiration of the order. If a stop performance order issued under this section is cancelled at any time during the period specified in the order, or if the period of the order or any extension thereof expires, the CONTRACTOR shall have the right to resume performance. An appropriate adjustment shall be made in the delivery schedule or contract price, or both, and the Contract shall be modified in writing accordingly, if:
- (1) The stop performance order results in an increase in the time required for, or in the CONTRACTOR'S cost properly allocable to, the performance of any part of this Contract; and
 - (2) The CONTRACTOR asserts a claim for such an adjustment within thirty (30) days after the end of the period of performance stoppage; provided that, if the Agency procurement officer decides that the facts justify such action, any such claim asserted may be received and acted upon at any time prior to final payment under this Contract.
- c. Termination of stopped performance. If a stop performance order is not cancelled and the performance covered by such order is terminated for default or convenience, the reasonable costs resulting from the stop performance order shall be allowable by adjustment or otherwise.
- d. Adjustment of price. Any adjustment in contract price made pursuant to this paragraph shall be determined in accordance with the price adjustment provision of this Contract.

13. Termination for Default.

- a. Default. If the CONTRACTOR refuses or fails to perform any of the provisions of this Contract with such diligence as will ensure its completion within the time specified in this Contract, or any extension thereof, otherwise fails to timely satisfy the Contract provisions, or commits any other substantial breach of this Contract, the Agency procurement officer may notify the CONTRACTOR in writing of the delay or non-performance and if not cured in ten (10) days or any longer time specified in writing by the Agency procurement officer, such officer may terminate the CONTRACTOR'S right to proceed with the Contract or such part of the Contract as to which there has been delay or a failure to properly perform. In the event of termination in whole or in part, the Agency procurement officer may procure similar goods or services in a manner and upon the terms deemed appropriate by the Agency procurement officer. The CONTRACTOR shall continue performance of the Contract to the extent it is not terminated and shall be liable for excess costs incurred in procuring similar goods or services.
- b. CONTRACTOR'S duties. Notwithstanding termination of the Contract and subject to any directions from the Agency procurement officer, the CONTRACTOR shall take timely, reasonable, and

necessary action to protect and preserve property in the possession of the CONTRACTOR in which the STATE has an interest.

- c. Compensation. Payment for completed goods and services delivered and accepted by the STATE shall be at the price set forth in the Contract. Payment for the protection and preservation of property shall be in an amount agreed upon by the CONTRACTOR and the Agency procurement officer. If the parties fail to agree, the Agency procurement officer shall set an amount subject to the CONTRACTOR'S rights under chapter 3-126, HAR. The STATE may withhold from amounts due the CONTRACTOR such sums as the Agency procurement officer deems to be necessary to protect the STATE against loss because of outstanding liens or claims and to reimburse the STATE for the excess costs expected to be incurred by the STATE in procuring similar goods and services.
- d. Excuse for nonperformance or delayed performance. The CONTRACTOR shall not be in default by reason of any failure in performance of this Contract in accordance with its terms, including any failure by the CONTRACTOR to make progress in the prosecution of the performance hereunder which endangers such performance, if the CONTRACTOR has notified the Agency procurement officer within fifteen (15) days after the cause of the delay and the failure arises out of causes such as: acts of God; acts of a public enemy; acts of the State and any other governmental body in its sovereign or contractual capacity; fires; floods; epidemics; quarantine restrictions; strikes or other labor disputes; freight embargoes; or unusually severe weather. If the failure to perform is caused by the failure of a subcontractor to perform or to make progress, and if such failure arises out of causes similar to those set forth above, the CONTRACTOR shall not be deemed to be in default, unless the goods and services to be furnished by the subcontractor were reasonably obtainable from other sources in sufficient time to permit the CONTRACTOR to meet the requirements of the Contract. Upon request of the CONTRACTOR, the Agency procurement officer shall ascertain the facts and extent of such failure, and, if such officer determines that any failure to perform was occasioned by any one or more of the excusable causes, and that, but for the excusable cause, the CONTRACTOR'S progress and performance would have met the terms of the Contract, the delivery schedule shall be revised accordingly, subject to the rights of the STATE under this Contract. As used in this paragraph, the term "subcontractor" means subcontractor at any tier.
- e. Erroneous termination for default. If, after notice of termination of the CONTRACTOR'S right to proceed under this paragraph, it is determined for any reason that the CONTRACTOR was not in default under this paragraph, or that the delay was excusable under the provisions of subparagraph 13d, "Excuse for nonperformance or delayed performance," the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to paragraph 14.
- f. Additional rights and remedies. The rights and remedies provided in this paragraph are in addition to any other rights and remedies provided by law or under this Contract.

14. Termination for Convenience.

- a. Termination. The Agency procurement officer may, when the interests of the STATE so require, terminate this Contract in whole or in part, for the convenience of the STATE. The Agency procurement officer shall give written notice of the termination to the CONTRACTOR specifying the part of the Contract terminated and when termination becomes effective.
- b. CONTRACTOR'S obligations. The CONTRACTOR shall incur no further obligations in connection with the terminated performance and on the date(s) set in the notice of termination the CONTRACTOR will stop performance to the extent specified. The CONTRACTOR shall also terminate outstanding orders and subcontracts as they relate to the terminated performance. The CONTRACTOR shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated performance subject to the STATE'S approval. The Agency procurement officer may direct the CONTRACTOR to assign the CONTRACTOR'S right, title, and interest under terminated orders or subcontracts to the STATE. The CONTRACTOR must still complete the performance not terminated by the notice of termination and may incur obligations as necessary to do so.

- c. Right to goods and work product. The Agency procurement officer may require the CONTRACTOR to transfer title and deliver to the STATE in the manner and to the extent directed by the Agency procurement officer:

- (1) Any completed goods or work product; and
- (2) The partially completed goods and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called "manufacturing material") as the CONTRACTOR has specifically produced or specially acquired for the performance of the terminated part of this Contract.

The CONTRACTOR shall, upon direction of the Agency procurement officer, protect and preserve property in the possession of the CONTRACTOR in which the STATE has an interest. If the Agency procurement officer does not exercise this right, the CONTRACTOR shall use best efforts to sell such goods and manufacturing materials. Use of this paragraph in no way implies that the STATE has breached the Contract by exercise of the termination for convenience provision.

- d. Compensation.

- (1) The CONTRACTOR shall submit a termination claim specifying the amounts due because of the termination for convenience together with the cost or pricing data, submitted to the extent required by chapter 3-122, HAR, bearing on such claim. If the CONTRACTOR fails to file a termination claim within one year from the effective date of termination, the Agency procurement officer may pay the CONTRACTOR, if at all, an amount set in accordance with subparagraph 14d(3) below.
- (2) The Agency procurement officer and the CONTRACTOR may agree to a settlement provided the CONTRACTOR has filed a termination claim supported by cost or pricing data submitted as required and that the settlement does not exceed the total Contract price plus settlement costs reduced by payments previously made by the STATE, the proceeds of any sales of goods and manufacturing materials under subparagraph 14c, and the Contract price of the performance not terminated.
- (3) Absent complete agreement under subparagraph 14d(2) the Agency procurement officer shall pay the CONTRACTOR the following amounts, provided payments agreed to under subparagraph 14d(2) shall not duplicate payments under this subparagraph for the following:
 - (A) Contract prices for goods or services accepted under the Contract;
 - (B) Costs incurred in preparing to perform and performing the terminated portion of the performance plus a fair and reasonable profit on such portion of the performance, such profit shall not include anticipatory profit or consequential damages, less amounts paid or to be paid for accepted goods or services; provided, however, that if it appears that the CONTRACTOR would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss;
 - (C) Costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to subparagraph 14b. These costs must not include costs paid in accordance with subparagraph 14d(3)(B);
 - (D) The reasonable settlement costs of the CONTRACTOR, including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the Contract and for the termination of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to the terminated portion of this Contract. The total sum to be paid the CONTRACTOR under this subparagraph shall not exceed the

total Contract price plus the reasonable settlement costs of the CONTRACTOR reduced by the amount of payments otherwise made, the proceeds of any sales of supplies and manufacturing materials under subparagraph 14d(2), and the contract price of performance not terminated.

- (4) Costs claimed, agreed to, or established under subparagraphs 14d(2) and 14d(3) shall be in accordance with Chapter 3-123 (Cost Principles) of the Procurement Rules.

15. Claims Based on the Agency Procurement Officer's Actions or Omissions.

- a. Changes in scope. If any action or omission on the part of the Agency procurement officer (which term includes the designee of such officer for purposes of this paragraph 15) requiring performance changes within the scope of the Contract constitutes the basis for a claim by the CONTRACTOR for additional compensation, damages, or an extension of time for completion, the CONTRACTOR shall continue with performance of the Contract in compliance with the directions or orders of such officials, but by so doing, the CONTRACTOR shall not be deemed to have prejudiced any claim for additional compensation, damages, or an extension of time for completion; provided:

- (1) Written notice required. The CONTRACTOR shall give written notice to the Agency procurement officer:

- (A) Prior to the commencement of the performance involved, if at that time the CONTRACTOR knows of the occurrence of such action or omission;
- (B) Within thirty (30) days after the CONTRACTOR knows of the occurrence of such action or omission, if the CONTRACTOR did not have such knowledge prior to the commencement of the performance; or
- (C) Within such further time as may be allowed by the Agency procurement officer in writing.

- (2) Notice content. This notice shall state that the CONTRACTOR regards the act or omission as a reason which may entitle the CONTRACTOR to additional compensation, damages, or an extension of time. The Agency procurement officer, upon receipt of such notice, may rescind such action, remedy such omission, or take such other steps as may be deemed advisable in the discretion of the Agency procurement officer;

- (3) Basis must be explained. The notice required by subparagraph 15a(1) describes as clearly as practicable at the time the reasons why the CONTRACTOR believes that additional compensation, damages, or an extension of time may be remedies to which the CONTRACTOR is entitled; and

- (4) Claim must be justified. The CONTRACTOR must maintain and, upon request, make available to the Agency procurement officer within a reasonable time, detailed records to the extent practicable, and other documentation and evidence satisfactory to the STATE, justifying the claimed additional costs or an extension of time in connection with such changes.

- b. CONTRACTOR not excused. Nothing herein contained, however, shall excuse the CONTRACTOR from compliance with any rules or laws precluding any state officers and CONTRACTOR from acting in collusion or bad faith in issuing or performing change orders which are clearly not within the scope of the Contract.

- c. Price adjustment. Any adjustment in the price made pursuant to this paragraph shall be determined in accordance with the price adjustment provision of this Contract.

16. Costs and Expenses. Any reimbursement due the CONTRACTOR for per diem and transportation expenses under this Contract shall be subject to chapter 3-123 (Cost Principles), HAR, and the following guidelines:

- a. Reimbursement for air transportation shall be for actual cost or coach class air fare, whichever is less.
- b. Reimbursement for ground transportation costs shall not exceed the actual cost of renting an intermediate-sized vehicle.
- c. Unless prior written approval of the HOPA is obtained, reimbursement for subsistence allowance (i.e., hotel and meals, etc.) shall not exceed the applicable daily authorized rates for inter-island or out-of-state travel that are set forth in the current Governor's Executive Order authorizing adjustments in salaries and benefits for state officers and employees in the executive branch who are excluded from collective bargaining coverage.

17. Payment Procedures; Final Payment; Tax Clearance.

- a. Original invoices required. All payments under this Contract shall be made only upon submission by the CONTRACTOR of original invoices specifying the amount due and certifying that services requested under the Contract have been performed by the CONTRACTOR according to the Contract.
- b. Subject to available funds. Such payments are subject to availability of funds and allotment by the Director of Finance in accordance with chapter 37, HRS. Further, all payments shall be made in accordance with and subject to chapter 40, HRS.
- c. Prompt payment.
 - (1) Any money, other than retainage, paid to the CONTRACTOR shall be disbursed to subcontractors within ten (10) days after receipt of the money in accordance with the terms of the subcontract; provided that the subcontractor has met all the terms and conditions of the subcontract and there are no bona fide disputes; and
 - (2) Upon final payment to the CONTRACTOR, full payment to the subcontractor, including retainage, shall be made within ten (10) days after receipt of the money; provided that there are no bona fide disputes over the subcontractor's performance under the subcontract.
- d. Final payment. Final payment under this Contract shall be subject to sections 103-53 and 103D-328, HRS, which require a tax clearance from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR have been paid. Further, in accordance with section 3-122-112, HAR, CONTRACTOR shall provide a certificate affirming that the CONTRACTOR has remained in compliance with all applicable laws as required by this section.

18. Federal Funds. If this Contract is payable in whole or in part from federal funds, CONTRACTOR agrees that, as to the portion of the compensation under this Contract to be payable from federal funds, the CONTRACTOR shall be paid only from such funds received from the federal government, and shall not be paid from any other funds. Failure of the STATE to receive anticipated federal funds shall not be considered a breach by the STATE or an excuse for nonperformance by the CONTRACTOR.

19. Modifications of Contract.

- a. In writing. Any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract permitted by this Contract shall be made by written amendment to this Contract, signed by the CONTRACTOR and the STATE, provided that change orders shall be made in accordance with paragraph 20 herein.
- b. No oral modification. No oral modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract shall be permitted.

- c. Agency procurement officer. By written order, at any time, and without notice to any surety, the Agency procurement officer may unilaterally order of the CONTRACTOR:
 - (A) Changes in the work within the scope of the Contract; and
 - (B) Changes in the time of performance of the Contract that do not alter the scope of the Contract work.
 - d. Adjustments of price or time for performance. If any modification increases or decreases the CONTRACTOR'S cost of, or the time required for, performance of any part of the work under this Contract, an adjustment shall be made and this Contract modified in writing accordingly. Any adjustment in contract price made pursuant to this clause shall be determined, where applicable, in accordance with the price adjustment clause of this Contract or as negotiated.
 - e. Claim barred after final payment. No claim by the CONTRACTOR for an adjustment hereunder shall be allowed if written modification of the Contract is not made prior to final payment under this Contract.
 - f. Claims not barred. In the absence of a written contract modification, nothing in this clause shall be deemed to restrict the CONTRACTOR'S right to pursue a claim under this Contract or for a breach of contract.
 - g. Head of the purchasing agency approval. If this is a professional services contract awarded pursuant to section 103D-303 or 103D-304, HRS, any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract which increases the amount payable to the CONTRACTOR by at least \$25,000.00 and ten per cent (10%) or more of the initial contract price, must receive the prior approval of the head of the purchasing agency.
 - h. Tax clearance. The STATE may, at its discretion, require the CONTRACTOR to submit to the STATE, prior to the STATE'S approval of any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract, a tax clearance from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR have been paid.
 - i. Sole source contracts. Amendments to sole source contracts that would change the original scope of the Contract may only be made with the approval of the CPO. Annual renewal of a sole source contract for services should not be submitted as an amendment.
20. Change Order. The Agency procurement officer may, by a written order signed only by the STATE, at any time, and without notice to any surety, and subject to all appropriate adjustments, make changes within the general scope of this Contract in any one or more of the following:
- (1) Drawings, designs, or specifications, if the goods or services to be furnished are to be specially provided to the STATE in accordance therewith;
 - (2) Method of delivery; or
 - (3) Place of delivery.
- a. Adjustments of price or time for performance. If any change order increases or decreases the CONTRACTOR'S cost of, or the time required for, performance of any part of the work under this Contract, whether or not changed by the order, an adjustment shall be made and the Contract modified in writing accordingly. Any adjustment in the Contract price made pursuant to this provision shall be determined in accordance with the price adjustment provision of this Contract. Failure of the parties to agree to an adjustment shall not excuse the CONTRACTOR from proceeding with the Contract as changed, provided that the Agency procurement officer promptly and duly makes the provisional adjustments in payment or time for performance as may be reasonable. By

proceeding with the work, the CONTRACTOR shall not be deemed to have prejudiced any claim for additional compensation, or any extension of time for completion.

- b. Time period for claim. Within ten (10) days after receipt of a written change order under subparagraph 20a, unless the period is extended by the Agency procurement officer in writing, the CONTRACTOR shall respond with a claim for an adjustment. The requirement for a timely written response by CONTRACTOR cannot be waived and shall be a condition precedent to the assertion of a claim.
- c. Claim barred after final payment. No claim by the CONTRACTOR for an adjustment hereunder shall be allowed if a written response is not given prior to final payment under this Contract.
- d. Other claims not barred. In the absence of a change order, nothing in this paragraph 20 shall be deemed to restrict the CONTRACTOR'S right to pursue a claim under the Contract or for breach of contract.

21. Price Adjustment.

- a. Price adjustment. Any adjustment in the contract price pursuant to a provision in this Contract shall be made in one or more of the following ways:
 - (1) By agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;
 - (2) By unit prices specified in the Contract or subsequently agreed upon;
 - (3) By the costs attributable to the event or situation covered by the provision, plus appropriate profit or fee, all as specified in the Contract or subsequently agreed upon;
 - (4) In such other manner as the parties may mutually agree; or
 - (5) In the absence of agreement between the parties, by a unilateral determination by the Agency procurement officer of the costs attributable to the event or situation covered by the provision, plus appropriate profit or fee, all as computed by the Agency procurement officer in accordance with generally accepted accounting principles and applicable sections of chapters 3-123 and 3-126, HAR.
- b. Submission of cost or pricing data. The CONTRACTOR shall provide cost or pricing data for any price adjustments subject to the provisions of chapter 3-122, HAR.

22. Variation in Quantity for Definite Quantity Contracts. Upon the agreement of the STATE and the CONTRACTOR, the quantity of goods or services, or both, if a definite quantity is specified in this Contract, may be increased by a maximum of ten per cent (10%); provided the unit prices will remain the same except for any price adjustments otherwise applicable; and the Agency procurement officer makes a written determination that such an increase will either be more economical than awarding another contract or that it would not be practical to award another contract.

23. Changes in Cost-Reimbursement Contract. If this Contract is a cost-reimbursement contract, the following provisions shall apply:

- a. The Agency procurement officer may at any time by written order, and without notice to the sureties, if any, make changes within the general scope of the Contract in any one or more of the following:
 - (1) Description of performance (Attachment 1);
 - (2) Time of performance (i.e., hours of the day, days of the week, etc.);
 - (3) Place of performance of services;

- (4) Drawings, designs, or specifications when the supplies to be furnished are to be specially manufactured for the STATE in accordance with the drawings, designs, or specifications;
 - (5) Method of shipment or packing of supplies; or
 - (6) Place of delivery.
 - b. If any change causes an increase or decrease in the estimated cost of, or the time required for performance of, any part of the performance under this Contract, whether or not changed by the order, or otherwise affects any other terms and conditions of this Contract, the Agency procurement officer shall make an equitable adjustment in the (1) estimated cost, delivery or completion schedule, or both; (2) amount of any fixed fee; and (3) other affected terms and shall modify the Contract accordingly.
 - c. The CONTRACTOR must assert the CONTRACTOR'S rights to an adjustment under this provision within thirty (30) days from the day of receipt of the written order. However, if the Agency procurement officer decides that the facts justify it, the Agency procurement officer may receive and act upon a proposal submitted before final payment under the Contract.
 - d. Failure to agree to any adjustment shall be a dispute under paragraph 11 of this Contract. However, nothing in this provision shall excuse the CONTRACTOR from proceeding with the Contract as changed.
 - e. Notwithstanding the terms and conditions of subparagraphs 23a and 23b, the estimated cost of this Contract and, if this Contract is incrementally funded, the funds allotted for the performance of this Contract, shall not be increased or considered to be increased except by specific written modification of the Contract indicating the new contract estimated cost and, if this contract is incrementally funded, the new amount allotted to the contract.
24. Confidentiality of Material.
- a. All material given to or made available to the CONTRACTOR by virtue of this Contract, which is identified as proprietary or confidential information, will be safeguarded by the CONTRACTOR and shall not be disclosed to any individual or organization without the prior written approval of the STATE.
 - b. All information, data, or other material provided by the CONTRACTOR to the STATE shall be subject to the Uniform Information Practices Act, chapter 92F, HRS.
25. Publicity. The CONTRACTOR shall not refer to the STATE, or any office, agency, or officer thereof, or any state employee, including the HOPA, the CPO, the Agency procurement officer, or to the services or goods, or both, provided under this Contract, in any of the CONTRACTOR'S brochures, advertisements, or other publicity of the CONTRACTOR. All media contacts with the CONTRACTOR about the subject matter of this Contract shall be referred to the Agency procurement officer.
26. Ownership Rights and Copyright. The STATE shall have complete ownership of all material, both finished and unfinished, which is developed, prepared, assembled, or conceived by the CONTRACTOR pursuant to this Contract, and all such material shall be considered "works made for hire." All such material shall be delivered to the STATE upon expiration or termination of this Contract. The STATE, in its sole discretion, shall have the exclusive right to copyright any product, concept, or material developed, prepared, assembled, or conceived by the CONTRACTOR pursuant to this Contract.
27. Liens and Warranties. Goods provided under this Contract shall be provided free of all liens and provided together with all applicable warranties, or with the warranties described in the Contract documents, whichever are greater.

28. Audit of Books and Records of the CONTRACTOR. The STATE may, at reasonable times and places, audit the books and records of the CONTRACTOR, prospective contractor, subcontractor, or prospective subcontractor which are related to:
- a. The cost or pricing data, and
 - b. A state contract, including subcontracts, other than a firm fixed-price contract.
29. Cost or Pricing Data. Cost or pricing data must be submitted to the Agency procurement officer and timely certified as accurate for contracts over \$100,000 unless the contract is for a multiple-term or as otherwise specified by the Agency procurement officer. Unless otherwise required by the Agency procurement officer, cost or pricing data submission is not required for contracts awarded pursuant to competitive sealed bid procedures.
- If certified cost or pricing data are subsequently found to have been inaccurate, incomplete, or noncurrent as of the date stated in the certificate, the STATE is entitled to an adjustment of the contract price, including profit or fee, to exclude any significant sum by which the price, including profit or fee, was increased because of the defective data. It is presumed that overstated cost or pricing data increased the contract price in the amount of the defect plus related overhead and profit or fee. Therefore, unless there is a clear indication that the defective data was not used or relied upon, the price will be reduced in such amount.
30. Audit of Cost or Pricing Data. When cost or pricing principles are applicable, the STATE may require an audit of cost or pricing data.
31. Records Retention.
- (1) Upon any termination of this Contract or as otherwise required by applicable law, CONTRACTOR shall, pursuant to chapter 487R, HRS, destroy all copies (paper or electronic form) of personal information received from the STATE.
 - (2) The CONTRACTOR and any subcontractors shall maintain the files, books, and records that relate to the Contract, including any personal information created or received by the CONTRACTOR on behalf of the STATE, and any cost or pricing data, for at least three (3) years after the date of final payment under the Contract. The personal information shall continue to be confidential and shall only be disclosed as permitted or required by law. After the three (3) year, or longer retention period as required by law has ended, the files, books, and records that contain personal information shall be destroyed pursuant to chapter 487R, HRS or returned to the STATE at the request of the STATE.
32. Antitrust Claims. The STATE and the CONTRACTOR recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the purchaser. Therefore, the CONTRACTOR hereby assigns to STATE any and all claims for overcharges as to goods and materials purchased in connection with this Contract, except as to overcharges which result from violations commencing after the price is established under this Contract and which are not passed on to the STATE under an escalation clause.
33. Patented Articles. The CONTRACTOR shall defend, indemnify, and hold harmless the STATE, and its officers, employees, and agents from and against all liability, loss, damage, cost, and expense, including all attorneys fees, and all claims, suits, and demands arising out of or resulting from any claims, demands, or actions by the patent holder for infringement or other improper or unauthorized use of any patented article, patented process, or patented appliance in connection with this Contract. The CONTRACTOR shall be solely responsible for correcting or curing to the satisfaction of the STATE any such infringement or improper or unauthorized use, including, without limitation: (a) furnishing at no cost to the STATE a substitute article, process, or appliance acceptable to the STATE, (b) paying royalties or other required payments to the patent holder, (c) obtaining proper authorizations or releases from the patent holder, and (d) furnishing such security to or making such arrangements with the patent holder as may be necessary to correct or cure any such infringement or improper or unauthorized use.

34. Governing Law. The validity of this Contract and any of its terms or provisions, as well as the rights and duties of the parties to this Contract, shall be governed by the laws of the State of Hawaii. Any action at law or in equity to enforce or interpret the provisions of this Contract shall be brought in a state court of competent jurisdiction in Honolulu, Hawaii.
35. Compliance with Laws. The CONTRACTOR shall comply with all federal, state, and county laws, ordinances, codes, rules, and regulations, as the same may be amended from time to time, that in any way affect the CONTRACTOR'S performance of this Contract.
36. Conflict Between General Conditions and Procurement Rules. In the event of a conflict between the General Conditions and the procurement rules, the procurement rules in effect on the date this Contract became effective shall control and are hereby incorporated by reference.
37. Entire Contract. This Contract sets forth all of the agreements, conditions, understandings, promises, warranties, and representations between the STATE and the CONTRACTOR relative to this Contract. This Contract supersedes all prior agreements, conditions, understandings, promises, warranties, and representations, which shall have no further force or effect. There are no agreements, conditions, understandings, promises, warranties, or representations, oral or written, express or implied, between the STATE and the CONTRACTOR other than as set forth or as referred to herein.
38. Severability. In the event that any provision of this Contract is declared invalid or unenforceable by a court, such invalidity or unenforceability shall not affect the validity or enforceability of the remaining terms of this Contract.
39. Waiver. The failure of the STATE to insist upon the strict compliance with any term, provision, or condition of this Contract shall not constitute or be deemed to constitute a waiver or relinquishment of the STATE'S right to enforce the same in accordance with this Contract. The fact that the STATE specifically refers to one provision of the procurement rules or one section of the Hawaii Revised Statutes, and does not include other provisions or statutory sections in this Contract shall not constitute a waiver or relinquishment of the STATE'S rights or the CONTRACTOR'S obligations under the procurement rules or statutes.
40. Pollution Control. If during the performance of this Contract, the CONTRACTOR encounters a "release" or a "threatened release" of a reportable quantity of a "hazardous substance," "pollutant," or "contaminant" as those terms are defined in section 128D-1, HRS, the CONTRACTOR shall immediately notify the STATE and all other appropriate state, county, or federal agencies as required by law. The Contractor shall take all necessary actions, including stopping work, to avoid causing, contributing to, or making worse a release of a hazardous substance, pollutant, or contaminant, and shall promptly obey any orders the Environmental Protection Agency or the state Department of Health issues in response to the release. In the event there is an ensuing cease-work period, and the STATE determines that this Contract requires an adjustment of the time for performance, the Contract shall be modified in writing accordingly.
41. Campaign Contributions. The CONTRACTOR is hereby notified of the applicability of 11-355, HRS, which states that campaign contributions are prohibited from specified state or county government contractors during the terms of their contracts if the contractors are paid with funds appropriated by a legislative body.
42. Confidentiality of Personal Information.
- a. Definitions.
- "Personal information" means an individual's first name or first initial and last name in combination with any one or more of the following data elements, when either name or data elements are not encrypted:
- (1) Social security number;
 - (2) Driver's license number or Hawaii identification card number; or

- (3) Account number, credit or debit card number, access code, or password that would permit access to an individual's financial information.

Personal information does not include publicly available information that is lawfully made available to the general public from federal, state, or local government records.

"Technological safeguards" means the technology and the policy and procedures for use of the technology to protect and control access to personal information.

b. Confidentiality of Material.

- (1) All material given to or made available to the CONTRACTOR by the STATE by virtue of this Contract which is identified as personal information, shall be safeguarded by the CONTRACTOR and shall not be disclosed without the prior written approval of the STATE.
- (2) CONTRACTOR agrees not to retain, use, or disclose personal information for any purpose other than as permitted or required by this Contract.
- (3) CONTRACTOR agrees to implement appropriate "technological safeguards" that are acceptable to the STATE to reduce the risk of unauthorized access to personal information.
- (4) CONTRACTOR shall report to the STATE in a prompt and complete manner any security breaches involving personal information.
- (5) CONTRACTOR agrees to mitigate, to the extent practicable, any harmful effect that is known to CONTRACTOR because of a use or disclosure of personal information by CONTRACTOR in violation of the requirements of this paragraph.
- (6) CONTRACTOR shall complete and retain a log of all disclosures made of personal information received from the STATE, or personal information created or received by CONTRACTOR on behalf of the STATE.

c. Security Awareness Training and Confidentiality Agreements.

- (1) CONTRACTOR certifies that all of its employees who will have access to the personal information have completed training on security awareness topics relating to protecting personal information.
- (2) CONTRACTOR certifies that confidentiality agreements have been signed by all of its employees who will have access to the personal information acknowledging that:
 - (A) The personal information collected, used, or maintained by the CONTRACTOR will be treated as confidential;
 - (B) Access to the personal information will be allowed only as necessary to perform the Contract; and
 - (C) Use of the personal information will be restricted to uses consistent with the services subject to this Contract.

d. Termination for Cause. In addition to any other remedies provided for by this Contract, if the STATE learns of a material breach by CONTRACTOR of this paragraph by CONTRACTOR, the STATE may at its sole discretion:

- (1) Provide an opportunity for the CONTRACTOR to cure the breach or end the violation; or
- (2) Immediately terminate this Contract.

In either instance, the CONTRACTOR and the STATE shall follow chapter 487N, HRS, with respect to notification of a security breach of personal information.

e. Records Retention.

- (1) Upon any termination of this Contract or as otherwise required by applicable law, CONTRACTOR shall, pursuant to chapter 487R, HRS, destroy all copies (paper or electronic form) of personal information received from the STATE.
- (2) The CONTRACTOR and any subcontractors shall maintain the files, books, and records that relate to the Contract, including any personal information created or received by the CONTRACTOR on behalf of the STATE, and any cost or pricing data, for at least three (3) years after the date of final payment under the Contract. The personal information shall continue to be confidential and shall only be disclosed as permitted or required by law. After the three (3) year, or longer retention period as required by law has ended, the files, books, and records that contain personal information shall be destroyed pursuant to chapter 487R, HRS or returned to the STATE at the request of the STATE.

Department of Hawaiian Home Lands
CONSTRUCTION GENERAL CONDITIONS
Dated March 2014

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ARTICLE 1: DEFINITIONS AND ABBREVIATIONS

- 1.1 DEFINITIONS.** Whenever the following terms or pronouns are used in these Construction General Conditions, or in any contract documents or instruments where these Construction General Conditions govern, the intent and meaning shall be interpreted as follows:

ADDENDUM (*plural - Addenda*). A written or graphic document, including Drawings and Specifications, issued by the Chairman during the bidding period which modifies or interprets the bidding documents, by additions, deletions, clarifications or corrections, which shall be considered and made a part of the bid proposal and the contract.

ADDITION (*to the contract sum*). Amount added to the contract sum by Change Order.

ADMINISTRATIVE RULES. Hawaii Administrative Rules for Chapter 103-D of the Hawaii Revised Statutes.

ADVERTISEMENT. A public announcement inviting bids for work to be performed or materials to be furnished.

BAD WEATHER DAY. When weather or other conditions prevent a minimum of four hours of work with the Contractor's normal work force on controlling items of work at the site. (See excess bad weather day.)

BENEFICIAL OCCUPANCY. The point of project completion when the Department can use the constructed facility in whole or in part for its intended purpose even though substantial completion may not be achieved.

BID. See PROPOSAL.

BID SECURITY. The security furnished by the Bidder from which the Department may recover its damages in the event the Bidder breaches its promise to enter into a contract with the Department and fails to execute the required bonds covering the work contemplated, if its proposal is accepted.

BIDDER. Any individual, partnership, firm, corporation, joint venture, or other legal entity submitting, directly or through a duly authorized representative or agent, a proposal for the work contemplated.

BIDDING DOCUMENTS. The advertisement "Notice to Contractors", or invitation to bid, instructions to Bidders, proposal requirements, the bid form and the proposed Contract Documents including all addenda issued prior to receipt of Bids.

BULLETIN. A written notice to the Contractor requesting a price and / or time proposal for contemplated changes preparatory to the issuance of a field order or change order.

BY OR TO THE PROJECT MANAGER. To avoid cumbersome and confusing repetition of expressions in these General Conditions, it is provided that whenever the following words or words of like import are used, they shall be understood as if they were followed by the words "by the Project Manager" or "to the Project Manager", unless the context clearly indicates another meaning: contemplated, required, determined, directed, specified, authorized, ordered, given, designated, indicated, considered necessary, deemed necessary, permitted, reserved, suspended, established, approval, approved, disapproved, acceptable, unacceptable, suitable, accepted, satisfactory, unsatisfactory, sufficient, insufficient, rejected or condemned.

CALENDAR DAY. Any day shown on the calendar beginning at midnight and ending at midnight the following day. If no designation of calendar or working day is made, “day” shall mean calendar day.

CHAIRMAN. The Chairman of the Hawaiian Homes Commission, Department of Hawaiian Home Lands.

CHANGE ORDER. A written order signed by the Chairman that establishes the full payment and final settlement of all claims for direct, indirect and consequential costs, including costs of delays, and establishes any adjustments to contract time related to the work covered and affected by one or more field orders, or for change work done or agreed to be done without issuance of a separate field order. A change order signed by all the parties to the contract constitutes a supplemental agreement.

COMPLETION. See SUBSTANTIAL COMPLETION and FINAL COMPLETION.

CONSULTANT. A person, firm or corporation having a contract with the Department to furnish services with respect to the project.

CONTRACT. The written agreement between the Contractor and the Department by its Chairman, by which the Contractor is bound to furnish all labor, equipment, and materials and to perform the specified work within the contract time stipulated, and by which DHHL is obligated to compensate the Contractor therefor at the prices set forth therein. The contract shall include the Contract Documents, also any and all amendments, and change orders, which are required to complete the construction in an acceptable manner.

CONTRACT COMPLETION DATE. The calendar day on which all work on the project, required by the contract, must be completed. See CONTRACT TIME and FINAL COMPLETION.

CONTRACT DOCUMENTS. The Contract, Addenda (which pertain to the Contract Documents, Contractor’s Proposal (including Wage Schedule, List of Subcontractors and other documentation accompanying the Bid and any post bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the contract, the Notice to Proceed, the Bonds, these General Conditions, the SPECIAL CONDITIONS, the Specifications and the Drawings as the same are more specifically identified in the contract together with all written Amendments, Change Orders, Field Orders, any written order for minor changes in the work and Project Manager’s written interpretations and clarifications issued on or after the effective date of the contract.

CONTRACT PRICE. The amount designated on the face of the contract for the performance of work including allowances, if any.

CONTRACT TIME. The number of working or calendar days provided in the contract for completion of the contract, exclusive of authorized time extensions. The number of days shall begin running on the effective date in the Notice to Proceed. If in lieu of providing a number of working or calendar days, the contract requires completion by a certain date, the work shall be completed by that date.

CONTRACTOR. Any individual, partnership, firm, corporation, joint venture, or other legal entity undertaking the execution of the work under the terms of the contract with the State of Hawaii, and acting directly or through its agents, or employees.

DEPARTMENT. The Department of Hawaiian Home Lands (abbreviated DHHL).

DRAWINGS (or Plans). The contract drawings in graphic or pictorial form, which show the design, location, character, dimensions and details of the work to be done and which shall be a part of the Contract Documents.

EQUAL OR APPROVED EQUAL. Whenever this term is used in the drawings or specifications, it shall be interpreted to mean a brand or article, prequalified in accordance with Section 6.3 SUBSTITUTION OF MATERIALS AND EQUIPMENT AFTER BID OPENING, that may be used in place of the one specified.

EXCESS BAD WEATHER DAY. A working day on which inclement weather prevents work on the contract and is beyond the average weather for the location of the project and the time of the year.

FIELD ORDER. A written order issued by the Project Manager to the Contractor requiring the contract work to be performed in accordance with a change or changes in the work. A field order may (1) establish a price adjustment and/or time adjustment in an amount the Project Manager believes is reasonable for the change; or (2) may declare that the Project Manager does not intend to adjust contract time or price for the work; or (3) may request the Contractor to submit a proposal for an adjustment to the contract time and/or price by a certain date.

FINAL COMPLETION. The date set by the Chairman that all work required by the contract and any amendments or changes thereto is in full compliance with the contract.

FORCE ACCOUNT. Term used when work is ordered to be done at the sole option of the Department and is to be billed for at cost of labor, materials and equipment, insurance(s), taxes, etc., plus a percentage for overhead and profit.

GUARANTEE. Legally enforceable assurance of the duration of satisfactory performance of quality of a product or work.

HAZARDOUS MATERIALS. Any and all radioactive materials, asbestos, polychlorinated biphenyls, petroleum, crude oil, chemicals known to cause cancer or reproductive toxicity, pollutants, contaminants, toxic substances or materials cited in Hazardous Material Laws. Abandoned motor vehicles or parts thereof are not hazardous material.

HOLIDAYS. The days of each year which are set apart and established as State holidays pursuant to Chapter 8, Hawaii Revised Statutes.

INSPECTOR. The person assigned by the Department to make detailed inspections of contract performance and materials supplied for the work.

LAWS. All Federal, State, City and County Laws, ordinances, rules and regulations, and standard specifications, including any amendments thereto effective as of the date of the call for sealed bids.

LETTER OF AWARD. A written notice from the Chairman to the successful Bidder(s) stating that the Department has accepted its proposal.

LIQUIDATED DAMAGES. The amount prescribed in the Special Conditions, LIQUIDATED DAMAGES to be paid to the Department or to be deducted from any payments due or to become due the Contractor for each working day or calendar day (as applicable) delay in completing the whole or any specified portion of the work beyond the Contract Time.

MAJOR UNIT PRICE ITEM. A unit price item which, when extended on its estimated quantities in the proposal form, exceeds five percent (5%) of the total base bid proposal less any allowance and contingent items included in the proposal.

NON-CONFORMING WORK. Work that does not meet the requirements of the Contract Documents.

NOTICE TO PROCEED. A written notice from the Project Manager to the Contractor advising it of the date on which it is to begin the prosecution of the work, which date shall also be the beginning of Contract Time.

POST CONTRACT DRAWINGS. Drawings issued after the award of the contract for the purpose of clarification and / or changes to the work indicated in the original drawings and which may be made a part of the contract.

PROJECT ACCEPTANCE DATE. The calendar day on which the Project Manager accepts the project as sufficiently completed in compliance with the contract so that the Department can occupy or utilize the work for its intended use. See SUBSTANTIAL COMPLETION.

PROJECT CONTRACT LIMITS (or CONTRACT ZONE). The portion of the site as delineated on the drawings which define the Contractor's primary area of operation for the prosecution of the work. It does not define the exact limits of all construction that may be required under the contract.

PROJECT MANAGER. The Department's Contract Administrator as described in ARTICLE 5, CONTROL OF WORK.

PROJECT GUARANTEE. A guarantee issued by the Contractor to the Department. See GUARANTEE.

PROPOSAL (BID). The executed document submitted by a Bidder in the prescribed manner, in response to a request for proposals or invitation to Bid, to perform at the prices quoted, for the work specified under the contract, within the time prescribed for performance.

PROPOSAL FORM. The form prepared by the Department on which the written offer or formal bid for the work to be done is submitted by the Bidder. By submitting a bid on the proposal form, a Bidder adopts the language therein as its own.

PUNCHLIST. A list compiled by the Project Manager (or Contractor) stating work yet to be completed or corrected by the Contractor in order to substantially complete or finally complete the contract requirements.

SHOP DRAWINGS/SUBMITTALS. All drawings, diagrams illustrations, schedules and other data or information which are prepared or assembled by the Contractor and submitted by Contractor to illustrate some portion of the work.

SPECIAL CONDITIONS. The specific clauses that supplements or modify the standard clauses of the GENERAL CONDITIONS setting forth conditions or requirements peculiar to the individual project under consideration, which are not thoroughly or satisfactorily covered, described or explained in these GENERAL CONDITIONS.

SPECIFICATIONS. That portion of the Contract Documents consisting of written descriptions for materials, equipment, construction systems, standards, workmanship, directions, provisions and

requirements that pertain to the method and manner of performing the work and certain administrative requirements applicable thereto.

STATE. The State of Hawaii acting through its authorized representative.

SUBCONTRACT. Any written agreement between the Contractor and its subcontractors which contains the conditions under which the subcontractor is to perform a portion of the work for the Contractor.

SUBCONTRACTOR. An individual, partnership, firm, corporation, joint venture or other legal entity, as covered in Chapter 444, Hawaii Revised Statutes, which enters into an agreement with the Contractor to perform a portion of the work for the Contractor.

SUBSTANTIAL COMPLETION. The status of the project when the Contractor has completed all the work and (1) all utilities and services are connected and working; (2) all equipment is in acceptable working condition; (3) additional activity by the Contractor to correct punchlist items as described herein will not prevent or disrupt use of the work or the facility in which the work is located; and 4) the building, structure, improvement or facility can be used for its intended purpose.

SUPERINTENDENT. The employee of the Contractor, authorized to receive and fulfill instructions from the Project Manager, who is charged with the responsibility of all the work.

SURETY. The qualified individual, firm or corporation other than the Contractor, which executes a bond with and for the Contractor to ensure its acceptable performance of the contract.

UNUSUALLY SEVERE WEATHER. Uncommonly harsh weather including but not limited to hurricanes, tornadoes, tropical storms and tropical depressions.

WORK. The furnishing of all labor, materials, equipment, and other incidentals necessary or convenient for the successful completion of the project and the execution of all the duties and obligations imposed by the contract.

WORKING DAY. A calendar day, exclusive of Saturdays, Sundays and State-recognized legal holidays for the month in question.

1.2 ABBREVIATIONS

| | |
|-------------|------------------------------------|
| DHHL | Department of Hawaiian Home Lands. |
| HAR | Hawaii Administrative Rules |
| HRS | Hawaii Revised Statutes |
| VECP | Value Engineering Cost Proposal |

~ END OF ARTICLE 1~

ARTICLE 2: [reserved]

ARTICLE 3: CONTRACT

3.1 NOTICE TO PROCEED

3.1.1 After the contract is fully executed and signed by the Chairman, the Contractor will be sent a formal Notice to Proceed letter advising the Contractor of the date on which it may proceed with the work. The Contractor shall be allowed ten (10) consecutive working days from said date to begin its work. In the event that the Contractor refuses or neglects to start the work, the Chairman may terminate the contract in accordance with Section 7.27, TERMINATION OF CONTRACT FOR CAUSE.

3.1.2 The Contractor may commence its operations strictly at its own risk prior to receipt of the formal notice to proceed, provided it makes a written request and has received approval from the Chairman in writing. All work performed shall be conducted in accordance with Section 7.1, PROSECUTION OF THE WORK.

3.1.3 In certain cases, the Department, with agreement of the Contractor, may issue a Notice to Proceed before full execution of the contract by the Chairman and it may further issue a Notice to Proceed concurrently with the Notice of Award.

3.1.4 In the event the Notice to Proceed is not issued within one hundred eighty (180) days after (1) the date the contract is executed by all parties; or (2) for projects funded with State Capital Improvement Project (CIP) funds, the date that the written certificate that funds are available is issued, whichever is later, the Contractor may submit a claim for increased labor and material costs (but not overhead costs) which are directly attributable to the delay beyond the first one hundred eighty (180) days. Such claims shall be accompanied with the necessary documentation to justify the claim. No payment will be made for assumed escalation costs.

3.2 RELATIONSHIP OF PARTIES. Independent Contractor Status and Responsibilities, including Tax Responsibilities.

3.2.1 In the performance of services required under this Contract, the CONTRACTOR is an “independent contractor,” with the authority and responsibility to control and direct the performance and details of the work and services required under this Contract; however, the STATE shall have a general right to inspect work in progress to determine whether, in the STATE’s opinion, the services are being performed by the CONTRACTOR in compliance with this Contract. Unless otherwise provided by special condition, it is understood that the STATE does not agree to use the CONTRACTOR exclusively, and that the CONTRACTOR is free to contract to provide services to other individuals or entities while under contract with the STATE.

3.2.2 The CONTRACTOR and the CONTRACTOR’s employees and agents are not by reason of this Contract, agents or employees of the State for any purpose, and the CONTRACTOR and the CONTRACTOR’s employees and agents shall not be entitled to claim or receive from the STATE any vacation, sick leave, retirement, workers’ compensation, unemployment insurance, or other benefits provided to state employees.

3.2.3 The CONTRACTOR shall be responsible for the accuracy, completeness, and adequacy of the CONTRACTOR’s performance under this Contract. Furthermore, the CONTRACTOR intentionally, voluntarily, and knowingly assumes the sole and entire liability to the CONTRACTOR’s employees

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and agents, and to any individual not a party to this Contract, for all loss, damage, or injury caused by the CONTRACTOR, or the CONTRACTOR's employees or agents in the course of their employment.

- 3.2.4 The CONTRACTOR shall be responsible for payment of all applicable federal, state, and county taxes and fees which may become due and owing by the CONTRACTOR by reason of this Contract, including but not limited to (i) income taxes, (ii) employment related fees, assessments, and taxes, and (iii) general excise taxes. The CONTRACTOR also is responsible for obtaining all licenses, permits, and certificates that may be required in order to perform this Contract.
- 3.2.5 The CONTRACTOR shall obtain a general excise tax license from the Department of Taxation, State of Hawaii, in accordance with Section 237-9, HRS, and shall comply with all requirements thereof.
- 2.2.6 The CONTRACTOR is responsible for securing all employee-related insurance coverage for the CONTRACTOR and the CONTRACTOR's employees and agents that is or may be required by law, and for payment of all premiums, costs, and other liabilities associated with securing the insurance coverage.
- 3.3 PERSONNEL REQUIREMENTS:
- 3.3.1 The CONTRACTOR shall secure, at the CONTRACTOR's own expense, all personnel required to perform this Contract.
- 3.3.2 The CONTRACTOR shall ensure that the CONTRACTOR's employees or agents are experienced and fully qualified to engage in the activities and perform the services required under this Contract, and that all applicable licensing and operating requirements imposed or required under federal, state, or county law, and all applicable accreditation and other standards of quality generally accepted in the field of the activities of such employees and agents are complied with and satisfied.
- 3.4 NONDISCRIMINATION. No person performing work under this Contract, including any subcontractor, employee, or agent of the Contractor, shall engage in any discrimination that is prohibited by any applicable federal, state, or county law.
- 3.5 CONFLICTS OF INTEREST. The CONTRACTOR represents that neither the CONTRACTOR, nor any employee or agent of the CONTRACTOR, presently has any interest, and promises that no such interest, direct or indirect, shall be acquired, that would or might conflict in any manner or degree with the CONTRACTOR's performance under this Contract.
- 3.6 EMPLOYMENT OF STATE RESIDENTS (§103B-3 HRS). The Contractor shall ensure that Hawaii residents comprise not less than eighty per cent of the workforce employed to perform the contract work on the project. The 80% requirement shall be determined by dividing the total number of hours worked on the contract by Hawaii residents, by the total number of hours worked on the contract by all employees of the Contractor in the performance of the contract. The hours worked by any Subcontractor of the Contractor shall count towards the calculation for this section. The hours worked by employees within shortage trades, as determined by the Department of Labor and Industrial Relations (DLIR), shall not be included in the calculation for this section.

~END OF ARTICLE 3~

ARTICLE 4: SCOPE OF WORK

- 4.1 INTENT OF CONTRACT, DUTY OF CONTRACTOR. The intent of the Contract is to provide for the construction, complete in every detail, of the work described at the accepted bid price and within the time established by the contract. The Contractor has the duty to furnish all labor, materials, equipment, tools, transportation, incidentals and supplies and to determine the means, methods and schedules required to complete the work in accordance with the drawings, specifications and terms of the contract.
- 4.1.1 ENTIRE CONTRACT. This Contract sets forth all of the Contract, conditions, understandings, promises, warranties, and representations between the STATE and the CONTRACTOR relative to this Contract. This Contract supersedes all prior Contracts, conditions, understandings, promises, warranties and representations, which shall have no further force or effect. There are no Contracts, conditions, understandings, promises, warranties, or representations, oral or written, express or implied, between the STATE and the CONTRACTOR other than as set forth or as referred to herein.
- 4.2 CHANGES. The Project Manager may at any time, during the progress of the work, by written order, and without notice to the sureties, make changes in the work as may be found to be necessary or desirable. Such changes shall not invalidate the Contract nor release the Surety, and the Contractor will perform the work as changed, as though it had been a part of the original Contract.
- 4.2.1 MINOR CHANGES. Minor changes in the work may be directed by the Project Manager with no change in contract price or time of performance. Minor changes are consistent with the intent of the Contract Documents and do not substantially alter the type of work to be performed or involve any adjustment to the contract sum or extension of the contract time.
- 4.2.2 ORAL ORDERS
- 4.2.2.1 Any oral order, direction, instruction, interpretation or determination from the Chairman or any other person which in the opinion of the Contractor causes any change, shall be considered as a change only if the Contractor gives the Chairman written notice of its intent to treat such oral order, direction, instruction, interpretation or determination as a change directive. Such written notice must be delivered to both the Chairman and the Project Manager before the Contractor acts in conformity with the oral order, direction, instruction, interpretation or determination, but not more than five (5) days after delivery of the oral order to the Contractor. The written notice shall state the date, circumstances, whether a time extension will be requested, and source of the order that the Contractor regards as a change. Such written notice may not be waived and shall be a condition precedent to the filing of any claim by the Contractor. Unless the Contractor acts in accordance with this procedure, any such oral order shall not be treated as a change for which the Contractor may make a claim for an increase in the contract time or contract price related to such work.
- 4.2.2.2 No more than five (5) days after receipt of the written notice from the Contractor, a Field Order shall be issued for the subject work if the Department agrees that it constitutes a change. If no Field Order is issued in the time established, it shall be deemed a rejection of Contractor's claim for a change. If the Contractor objects to the failure to issue a Field Order, it shall file a written protest with the Chairman within thirty (30) days after delivery to the Chairman of the Contractor's written notice of its intention to treat the oral order as a change. In all cases, the Contractor shall proceed with the work. The protest shall be determined as provided in Section 7.25, DISPUTES AND CLAIMS.
- 4.2.3 FIELD ORDERS. All changes will be set forth in a field order or change order. Upon receipt of a field order, the Contractor shall proceed with the changes as ordered. If the Contractor does not agree

with any of the terms or conditions or in the adjustment or non-adjustment to the contract time and/or contract price set forth therein, it shall file with the Chairman a written protest setting forth its reasons in detail within thirty (30) days after receipt of the field order. In all cases, the Contractor shall proceed with the work as changed. The protest shall be determined as provided in Section 7.25, DISPUTES AND CLAIMS. Failure to file such a protest within the time specified shall constitute agreement on the part of the Contractor with the terms, conditions, amounts and adjustments or non-adjustment to the contract price and/or contract time set forth in the field order.

4.2.4 CHANGE ORDERS

4.2.4.1 The Department will issue sequentially numbered change orders at times it deems appropriate during the contract period. A change order may contain the adjustment in contract price and / or time for a number of Field Orders. No payment for any change will be made until the change order is issued.

4.2.4.2 The penal sum of the Surety Performance and Payment Bonds will be adjusted by the amount of each and every change order.

4.3 DUTY OF CONTRACTOR TO PROVIDE PROPOSAL FOR CHANGES

4.3.1 A Field Order may request the Contractor to supply the Department with a proposal for an adjustment to the contract time or contract price for the work described therein. Any such request for a proposal shall not affect the duty of the Contractor to proceed as ordered with the work described in the Field Order.

4.3.2 The Project Manager from time to time may issue a Bulletin to the Contractor requesting price and / or time adjustment proposals for contemplated changes in the work. A Bulletin is not a directive for the Contractor to perform the work described therein.

4.3.3 Within seven (7) days after receipt of a Bulletin or Field Order containing a request for proposal, the Contractor shall submit to the Project Manager a detailed written statement setting forth all charges the Contractor proposes for the change and the proposed adjustment of the contract time, all properly itemized and supported by sufficient substantiating data to permit evaluation. No time extension will be granted for delays caused by late Contractor pricing of changes or proposed changes. If the project is delayed because Contractor failed to submit the cost proposal within the seven (7) days, or longer as allowed by the Project Manager, liquidated damages will be assessed in accordance with Section 7.26, FAILURE TO COMPLETE THE WORK ON TIME.

4.3.4 No payment shall be allowed to the Contractor for pricing or negotiating proposed or actual changes. No time extension will be granted for delay caused by late Contractor pricing of changes or proposed changes.

4.3.5 The Chairman may accept the entire proposal, or any discreet cost item contained within the proposal or the proposed adjustment to contract time by a notice in writing to the Contractor delivered to the Contractor within thirty (30) days after receipt of the proposal. The written acceptance by the Chairman of all or part of the Contractor's proposal shall create a binding agreement between the parties for that aspect of the change.

4.3.6 If the Department refuses to accept the Contractor's entire proposal, the Chairman may issue a Field Order for the work; or if a Field Order has already been issued, the Department may issue a supplemental Field Order establishing the remaining adjustments to contract price and/or contract time for the ordered changes. If the Contractor disagrees with any term, condition or adjustment

contained in such Field Order or supplemental Field Order, it shall follow the protest procedures set forth in and be subject to the other terms of Subsection 4.2.3, FIELD ORDERS.

4.4 PRICE ADJUSTMENT (§3-125-13 HAR)

4.4.1 Any adjustment in the contract price pursuant to a change or claim in this contract shall be made in one or more of the following ways:

4.4.1.1 By agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;

4.4.1.2 By unit prices specified in the contract or subsequently agreed upon;

4.4.1.3 Whenever there is a variation in quantity for any work covered by any line item in the schedule of costs submitted as required by Section 7.2, COMMENCEMENT REQUIREMENTS, by the Department at its discretion, adjusting the lump sum price proportionately;

4.4.1.4 In such other manner as the parties may mutually agree;

4.4.1.5 At the sole option of the Project Manager, by the costs attributable to the event or situation covered by the change, plus appropriate profit or fee, all as specified in Section 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT and the force account provision of Section 8.3, PAYMENT FOR ADDITIONAL WORK; or

4.4.1.6 In the absence of an agreement between the two parties, by a unilateral determination by the Department of the reasonable and necessary costs attributable to the event or situation covered by the change, plus appropriate profit or fee, all as computed in accordance with applicable Sections of Chapters 3-123 and 3-126 of the Hawaii Administrative Rules and Regulations, and Section 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT.

4.5 ALLOWANCES FOR OVERHEAD AND PROFIT (§3-125-13 HAR)

4.5.1 In determining the cost or credit to the Department resulting from a change, the allowances for all overhead, including, extended overhead resulting from adjustments to contract time (including home office, branch office and field overhead, and related delay impact costs) and profit combined, shall not exceed the percentages set forth below:

4.5.1.1 For the Contractor, for any work performed by its own labor forces, twenty percent (20%) of the direct cost;

4.5.1.2 For each subcontractor involved, for any work performed by its own forces, twenty percent (20%) of the direct cost;

4.5.1.3 For the Contractor or any subcontractor, for work performed by their subcontractors, ten percent (10%) of the amount due the performing subcontractor.

4.5.1.4 Field overhead includes, but is not limited to all costs of supervision, engineering, clerical, layout, temporary facilities, improvements and structures, all general condition expenditures, storage, transport and travel, housing, small tools (as defined in 8.3.4.5(h)), pickup trucks and automobiles.

- 4.5.2 Not more than three markup allowance line item additions not exceeding the maximum percentage shown above will be allowed for profit and overhead, regardless of the number of tier subcontractors.
- 4.5.3 The allowance percentages will be applied to all credits and to the net increase of direct costs where work is added and deleted by the changes.
- 4.6 PAYMENT FOR DELETED MATERIAL
- 4.6.1 CANCELED ORDERS. If acceptable material was ordered by the Contractor for any item deleted by an ordered change in the work prior to the date of notification of such deletion by the Project Manager, the Contractor shall use its best efforts to cancel the order. The Department shall pay reasonable cancellation charges required by the supplier excluding any markup for overhead and profit to the Contractor.
- 4.6.2 RETURNED MATERIALS - If acceptable deleted material is in the possession of the Contractor or is ultimately received by the Contractor, if such material is returnable to the supplier and the Project Manager so directs, the material shall be returned and the Contractor will be paid for the reasonable charges made by the supplier for the return of the material, excluding any markup for overhead and profit to the Contractor. The cost to the Contractor for handling the returned material will be paid for as provided in Section 4.4, PRICE ADJUSTMENT.
- 4.6.3 UNCANCELLED MATERIALS. If orders for acceptable deleted material cannot be canceled at a reasonable cost, it will be paid for at the actual cost to the Contractor including an appropriate markup for overhead and profit as set forth in Section 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT. In such case, the material paid for shall become the property of the Department and the cost of further storage and handling shall be paid for as provided in Section 4.4, PRICE ADJUSTMENT.
- 4.7 VARIATIONS IN ESTIMATED QUANTITIES (§3-125-10 HAR)
- 4.7.1 Where the quantity of a major unit price item in this contract is estimated on the proposal form and where the actual quantity of such pay item varies more than fifteen percent (15%) above or below the estimated quantity stated in this contract, an adjustment in the contract price shall be made upon demand of either party. The adjustment shall be based upon any increase or decrease in costs due solely to the variation above one hundred fifteen percent (115%) or below eighty-five percent (85%) of the estimated quantity. The adjustment shall be subject to Section 4.4 PRICE ADJUSTMENT and Section 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT. If the quantity variation is such as to cause an increase in the time necessary for completion, the Chairman shall, upon receipt of a written request for an extension of time within thirty (30) days of the item's completion, ascertain the facts and make such adjustment to the completion date as the Chairman finds justified.
- 4.8 VARIATIONS IN BOTTOM ELEVATIONS. The Contractor shall plan and construct to the bottom elevations of footings, piles, drilled shafts, or cofferdams as shown on the drawings. When the bottom of a footing, pile, drilled shaft, or cofferdam is shown as an estimated or approximate elevation, the Contractor shall plan and construct to that elevation or to any deeper elevation required by the drawings or direction of the Project Manager. In the event the bottom elevation is lowered, the Contractor shall be entitled to additional payment in accordance with Sections 4.4 PRICE ADJUSTMENT and 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT. In the event the bottom elevation is raised, the Department shall be entitled to a credit in accordance with Sections 4.2 CHANGES, 4.4, PRICE ADJUSTMENT and 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT.

- 4.9 DIFFERING SITE CONDITIONS (§3-125-11 HAR)
- 4.9.1 During the progress of the work, if the Contractor encounters conditions at the site differing materially from those shown in the drawings and specifications, Contractor shall promptly, and before any such conditions are disturbed or damaged (except in an emergency as required by Subsection 7.17.8. EMERGENCIES), notify the Project Manager in writing of:
- 4.9.1.1 Subsurface or latent physical conditions at the site differing materially from those indicated in the contract; or
- 4.9.1.2 Unknown physical conditions at the site, of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. Unclaimed motor vehicles or parts thereof and discarded materials or unclaimed items are not unknown or unforeseen physical conditions. (See also Section 5.8, EXAMINATION OF DRAWINGS, SPECIFICATIONS, PROJECT SITE).
- 4.9.2 After receipt of written notice, the Chairman shall promptly investigate the site, and if it is found that such conditions do materially differ and cause an increase in the Contractor's cost of, or the time required to, perform any part of the work, whether or not changed as a result of such conditions, an adjustment shall be made and the contract modified accordingly. Any adjustment in contract price made pursuant to this Section 4.9. DIFFERING SITE CONDITIONS (§3-125-11 HAR) shall be determined in accordance with Sections 4.4, PRICE ADJUSTMENT and 7.25, DISPUTES AND CLAIMS.
- 4.9.3 Nothing contained in this Section 4.9, DIFFERING SITE CONDITONS shall be grounds for an adjustment in compensation if the Contractor had actual knowledge or should have known of the existence of such conditions prior to the submission of bids.
- 4.10 COSTS AND EXPENSES. Any reimbursement due the CONTRACTOR for per diem and transportation expenses under this Contract shall be subject to Chapter 3-123 (Cost Principles) of the Procurement Rules and the following guidelines:
- 4.10.1 Reimbursement for air transportation shall be actual cost or coach class air fare, whichever is less.
- 4.10.2 Reimbursement for ground transportation costs shall not exceed the actual cost of renting an intermediate-sized vehicle.
- 4.10.3 Unless prior written approval of the CHAIRMAN is obtained, reimbursement for subsistence allowance (i.e., hotel and meals, etc.) shall not exceed the applicable daily authorized rates for interisland or out-of-state travel that are set forth in the current Governor's Executive Order authorizing adjustments in salaries and benefits for state officers and employees in the Chairman branch who are excluded from collective bargaining coverage.

~END OF ARTICLE 4~

ARTICLE 5: CONTROL OF WORK

- 5.1 **AUTHORITY OF THE CHAIRMAN** - The Chairman shall make final and conclusive decisions on all questions which may arise relating to the quality and acceptability of the materials furnished and work performed, the manner of performance and the rate of progress of the work, the interpretation of the plans and specifications, the acceptable fulfillment of the contract on the part of the Contractor, the compensation under the contract and the mutual rights of the parties to the contract. The Chairman shall have the authority to enforce and make effective such decisions and orders at the Contractor's expense when the Contractor fails to carry such decisions and orders out promptly and diligently. The Chairman shall have the authority to suspend the work wholly or in part as provided in Section 7.24, SUSPENSION OF WORK.
- 5.2 **AUTHORITY OF THE PROJECT MANAGER.** The Project Manager has the authority to act on behalf of the Department on all matters regarding the contract and the work that are not reserved for the Chairman. The Project Manager's authority is vested exclusively in the Project Manager except when specific authority to act for the Project Manager has been delegated to a specific person or persons. Such delegation of authority may be established by the Contract Documents; otherwise, it is not effective or binding upon the Department until such written notification of the delegation is received by the Contractor. The Administrator of the Land Development Division of the Department, or his designee, shall also have authority to act on behalf of the Department on all matters regarding the contract that are not reserved for the Chairman.
- 5.3 **AUTHORITY OF THE INSPECTOR**
- 5.3.1 The Inspector shall observe and inspect the contract performance and materials. The Inspector does not have any authority vested in the Project Manager unless specifically delegated in writing.
- 5.3.2 The Inspector may offer advice and recommendations to the Contractor, but any such advice or recommendations are not directives from the Project Manager.
- 5.3.3 The Inspector has no authority to allow deviations from the Contract Documents and may reject any and all work that the Inspector deems is not in conformity with the contract requirements. Failure of an Inspector at any time to reject non-conforming work shall not be considered a waiver of the Department's right to require work in strict conformity with the Contract Documents as a condition of final acceptance.
- 5.4 **AUTHORITY OF CONSULTANT(S).** The Department may engage Consultant(s) for limited or full observation to supplement the inspections performed by the Department and respective Counties. Unless otherwise specified in writing to the Contractor, such retained Consultant(s) will have the authority of an Inspector.
- 5.5 **SHOP DRAWINGS AND OTHER SUBMITTALS.** The following documents shall be submitted where required by the Contract Documents:
- 5.5.1 **SHOP DRAWING**
- (a) The Contractor shall prepare, thoroughly check, and approve all shop drawings, including those prepared by subcontractors or any other persons. The Contractor shall indicate its approval by stamping and signing each drawing. Any shop drawing submitted without being reviewed, stamped and signed will be considered as not having been submitted, and any delay caused thereby shall be the Contractor's responsibility.

- (b) Shop drawings shall indicate in detail all parts of an item of work, including erection and setting instructions and engagements with work of other trades or other separate contractors. Shop drawings for structural steel, millwork and pre-cast concrete shall consist of calculations, fabrication details, erection drawings and other working drawings to show the details, dimensions, sizes of members, anchor bolt plans, insert locations and other information for the complete fabrication and erection of the structure to be constructed.
- (c) The Contractor shall be responsible for the design of all structural curtain walls, all connections and fasteners for structural steel and architectural and structural precast concrete. Curtain walls, connections and fasteners shall be designed by a licensed professional engineer to carry the indicated or necessary loads. The precast concrete pieces shall be designed to withstand erection, transportation and final loading stresses. All calculations shall be performed by a licensed professional engineer and submitted to the Project Manager for review.
- (d) The cost of shop drawings or any other submittal shall not be a separate or individual pay item. All costs of furnishing shop drawings required by the contract shall be included in the price agreed to be paid for the various contract items of work, and no additional allowances will be made therefor.
- (e) All shop drawings as required by the contract, or as determined by the Project Manager to be necessary to illustrate details of the work shall be submitted to the Project Manager with such promptness as to cause no delay in the work or in that of any other Contractor. Delay caused by the failure of the Contractor to submit shop drawings on a timely basis to allow for review, possible resubmittal and acceptance will not be considered as a justifiable reason for a contract time extension. Contractor, at its own risk, may proceed with the work affected by the shop drawings before receiving acceptance; however the Department shall not be liable for any costs or time required for the correction of work done without the benefit of accepted shop drawings.
- (f) It is the Contractor's obligation and responsibility to check all of its and its subcontractor's shop drawings and be fully responsible for them and for coordination with connecting and other related work. The Contractor shall prepare, and submit to the Project Manager coordination drawings showing the installation locations of all plumbing, piping, duct and electrical work including equipment throughout the project. By approving and submitting shop drawings, the Contractor thereby represents that it has determined and verified all field measurements and field construction criteria, or will do so, and that it has checked and coordinated each shop drawing with the requirements of the work and the contract documents. When shop drawings are prepared and processed before field measurements and field construction criteria can be or have been determined or verified, the Contractor shall make all necessary adjustments in the work or resubmit further shop drawings, all at no change in contract price or time.

5.5.1.1 **SHOP DRAWING FORM.** Each drawing and/or series of drawings submitted must be accompanied by a letter of transmittal giving a list of the titles and number of the drawings. Each series shall be numbered consecutively for ready reference and each drawing shall be marked with the following information:

- (a) Date of Submission
- (b) Name of Project
- (c) Project Number
- (d) Location of Project
- (e) Name of submitting Contractor and Subcontractor
- (f) Revision Number
- (g) Specification and/or any drawing reference by article or sheet number.

- 5.5.1.2 No shop drawing shall be smaller than 24" x 36" nor larger than 28" x 42". At the determination of the Project Manager, each sheet of drawings for the submittal shall consist of either (1) reproducible transparency and three ozalid prints; or (2) six ozalid prints.
- 5.5.1.3 The Department will not be responsible for any cost of modifying/adjusting precast structures to fit the final as-built design, actual field conditions and finished work. To this end, the Contractor shall follow the following procedures:
- (a) Submit shop drawings for general design conformity for approval. Delay precasting operations.
 - (b) Start infrastructure work. Expose, check grade and install improvements requiring precast structures. Resubmit shop drawings with schedule for all structures indicating required deviations, correct and final inverts, depths, openings, special reinforcing and details, alignments, correct configurations, tops, grating, etc. The Contractor shall submit a schedule for the precasting work. Precast operations may commence based on approved shop drawings. During precast operations, the Project Manager may inspect the operations at least once per differing group of structures. The Contractor shall assume all risks and costs associated with modifying/adjusting the precast structures due to incomplete field verification, premature analysis and shop drawings.
- 5.5.2 **DESCRIPTIVE SHEETS AND OTHER SUBMITTALS.** When a submittal is required by the contract, the Contractor shall submit to the Project Manager eight (8) complete sets of descriptive sheets such as brochures, catalogs, illustrations, etc., which will completely describe the material, product, equipment, furniture or appliances to be used in the project as shown in the drawings and specifications. Prior to the submittal, the Contractor will review and check all descriptive sheets for conformity to the contract requirements and indicate such conformity by marking or stamping and signing each sheet. It is the responsibility of the Contractor to submit descriptive sheets for review and acceptance by the Project Manager as required at the earliest possible date after the date of award in order to meet the construction schedule. Delays caused by the failure of the Contractor to submit descriptive sheets as required will not be considered as justifiable reasons for contract time extension. The submittal shall list the seven (7) items of information as listed in Subsection 5.5.1, Shop Drawing.
- 5.5.3 **MATERIAL SAMPLES AND COLOR SAMPLES.** Prior to their submittal, all color samples and material shall be assembled and presented as required by the Department. When sample submittals are required by the contract, the Contractor shall review, approve, indicate its approval and submit to the Project Manager samples of the materials to be used in the project and color selection samples. It is the responsibility of the Contractor to submit material and color samples for review as required at the earliest possible date after the date of award in order to meet the construction schedule. Delays caused by the failure of the Contractor to submit material and color samples will not be considered as justifiable reasons for contract time extension. The submittal shall list the seven (7) items of information as listed in Subsection 5.5.1, Shop Drawing.
- 5.5.4 **SUBMITTAL VARIANCES.** The Contractor shall include with the submittal, written notification clearly identifying all deviations or variances from the contract drawings, specifications and other Contract Documents. The notice shall be in a written form separate from the submittal. The variances shall also be clearly indicated on the shop drawing, descriptive sheet, material sample or color sample. Failure to so notify of and identify such variances shall be grounds for the subsequent rejection of the related work or materials, notwithstanding that the submittal was accepted by the Project Manager. If the variances are not acceptable to the Project Manager, the Contractor will be

required to furnish the item as specified or indicated on the Contract Documents at no additional cost or time.

- 5.5.5 **REVIEW AND ACCEPTANCE PROCESS.** The Project Manager shall check shop drawings and within forty-five (45) days of receipt return them to the Contractor unless otherwise agreed between the Contractor and the Department. Submittals required for work to be installed within the first sixty days after the notice to proceed shall be returned by the Project Manager within twenty (20) days. If the volume of shop drawings submitted at any time for review is unusually large, the Contractor may inform the Project Manager of its preferred order for review and the Project Manager shall use reasonable efforts to accommodate the Contractor's priorities.
- 5.5.5.1 The acceptance by the Project Manager of the Contractor's submittal relates only to their sufficiency and compliance with the intention of the contract. Acceptance by the Project Manager of the Contractor's submittal does not relieve the Contractor of any responsibility for accuracy of dimensions, details, and proper fit, and for agreement and conformity of submittal with the Contract Drawings and Specifications. Nor will the Project Manager's acceptance relieve the Contractor of responsibility for variance from the Contract Documents unless the Contractor, at the time of submittal, has provided notice and identification of such variances required by this section. Acceptance of a variance shall not justify a contract price or time adjustment unless the Contractor requests such an adjustment at the time of submittal and the adjustment are explicitly agreed to in writing by the Department. Any such request shall include price details and proposed scheduling modifications. Acceptance of a variance is subject to all contract terms, stipulations and covenants, and is without prejudice to any and all rights under the surety bond.
- 5.5.5.2 If the Project Manager returns a submittal to the Contractor that has been rejected, the Contractor, so as not to delay the work, shall promptly make a resubmittal conforming to the requirements of the Contract Documents and indicating in writing on the transmittal and the subject submittal what portions of the resubmittal has been altered in order to meet the acceptance of the Project Manager. Any other differences between the resubmittal and the prior submittal shall also be specifically described in the transmittal.
- 5.5.5.3 No mark or notation made by the Project Manager or Consultant(s) on or accompanying the return of any submittal to the Contractor shall be considered a request or order for a change in work. If the Contractor believes any such mark or notation constitutes a request for a change in the work for which it is entitled to an adjustment in contract price and/or time, the Contractor must follow the same procedures established in Section 4.2, **CHANGES** for oral orders, directions, instructions, interpretations or determinations from the Project Manager or else lose its right to claim for an adjustment.
- 5.6 **COORDINATION OF CONTRACT DOCUMENTS.** It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. The Contract Documents are complementary: any requirement occurring in one document is as binding as though occurring in all. In the event of conflict or discrepancy the priorities stated in the following Subsections shall govern:
- 5.6.1 Addenda shall govern over all other Contract Documents. Subsequent addenda issued shall govern over prior addenda only to the extent specified.
- 5.6.2 Special Conditions and Proposal shall govern over the General Conditions and Specifications.
- 5.6.3 Specifications shall govern over drawings.

- 5.6.4 Specification Error - Should an error or conflict appear within the specification, the Contractor shall immediately notify the Project Manager. The Project Manager shall promptly issue instructions as to procedure. Any requirement occurring in one or more parts of the specification is as binding as though occurring in all applicable parts.
- 5.6.4.1 Should an error or conflict appear within a specification section, between a listed manufacturer / product and the performance requirements of the specification section, the performance requirements shall govern.
- 5.6.4.2: In the event of a conflict between AG-008 103D General Conditions (the “General Conditions”) and these DHHL Construction General Conditions, the requirements of these DHHL Construction General Conditions will apply to the extent provided by and as allowed under law.
- 5.6.5 DRAWINGS
- 5.6.5.1 Schedules shall govern over all other notes and drawings.
- 5.6.5.2 Bottom elevations of footings shown on drawings shall govern over a general note such as: “All footings shall rest on firm, undisturbed soil and extend a minimum of a certain number of feet into natural or finish grade, whichever is lower.” In the event the footing must be lowered below the bottom elevation shown, the Contractor shall be entitled to additional payment as provided in Section 4.2, CHANGES. In the event the footing is raised above the bottom elevation shown, the Department shall be entitled to a credit as provided in Section 4.2, CHANGES.
- 5.6.5.3 When a bottom of pile, drilled shaft, piling or cofferdam is shown as an estimated or approximate elevation, the Contractor shall plan and construct to that elevation or to any deeper elevation required by the plans or the direction by the Project Manager. The Project Manager, at the Project Manager’s sole discretion, may order in writing termination of all or part of the work above the estimated or approximate elevation.
- 5.6.5.4 Except for drawing schedules and bottom elevations as noted above, general notes shall govern over all other portions of the drawings:
- 5.6.5.5 Larger scale drawings shall govern over smaller scale drawings.
- 5.6.5.6 Figured or numerical dimensions shall govern over dimensions obtained by scaling. Measurements from the drawings when scaled shall be subject to the approval of the Project Manager.
- 5.6.5.7 In cases of discrepancies in the figures or drawings, the discrepancies shall be immediately referred to the Project Manager without whose decision said discrepancy shall not be corrected by the Contractor save at its own risk and in the settlement of any complications arising from such adjustment without the knowledge and consent of the Project Manager, the Contractor shall bear all extra expense involved.
- 5.6.5.8 Items shown on the drawings that are completely void in terms of description, details, quality and / or performance standards in both the Drawings and Specifications to make a price determination shall be considered an omission and the Contractor shall immediately refer same to the Project Manager for a decision.

- 5.6.5.9 Where there is a conflict between the architectural sheets and the civil or landscaping or electrical sheets, etc., the conflict shall be considered a discrepancy and the Contractor shall immediately refer same to the Project Manager for a decision.
- 5.6.5.10 Any requirement occurring in one or more of the sheets is as binding as though occurring in all applicable sheets.
- 5.7 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS. The Contractor shall carefully study and compare the Contract Documents with each other, with field conditions and with the information furnished by the Department and shall at once report to the Project Manager errors, conflicts, ambiguities, inconsistencies or omissions discovered. Should an item not be sufficiently detailed or explained in the Contract Documents, Contractor shall report and request the Project Manager's clarification and interpretation. The Project Manager will issue a final clarification or final interpretation.
- 5.8 EXAMINATION OF DRAWINGS, SPECIFICATIONS, PROJECT SITE
- 5.8.1 The Contractor shall examine carefully the Project Site to become familiar with the conditions to be encountered in performing the work and the requirements of the Contract Documents.
- 5.8.1.1 No extra compensation will be given by reason of the Contractor's misunderstanding or lack of knowledge of the requirements of the work to be accomplished or the conditions to be encountered in performing the project.
- 5.8.1.2 No extra compensation will be given by reason of the Contractor's misunderstanding or lack of knowledge when the existence of differing site, subsurface or physical conditions could have been reasonably discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the bidding requirements or contract documents to be conducted by or for the Contractor.
- 5.8.2 When the contract drawings include a log of test borings showing a record of the data obtained by the Department's investigation of subsurface conditions, said log represents only the opinion of the Department as to the character of material encountered in its test borings and at only the location of each boring. The Contractor acknowledges that underground site conditions in Hawaii vary widely. There is no warranty, either expressed or implied, that the conditions indicated are representative of those existing throughout the work or any part of it, or that other conditions may not occur.
- 5.8.3 Reference is made to the Special Conditions for identification of subsurface investigations, reports, explorations and tests utilized by the Department in preparation the Contract Documents. Such reports, drawings, boring logs etc., if any, are not part of the Contract Documents.
- 5.9 COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT
- 5.9.1 FURNISHING DRAWINGS AND SPECIFICATIONS. Contractor will be supplied copies of the Contract Drawings and Specifications as specified in the Special Conditions. Contractor shall have and maintain at least one unmarked copy of the Contract Drawings and Specifications on the work site, at all times. Contractor shall cooperate with the Project Manager, the Inspector(s), and other contractors in every possible way.
- 5.9.2 SUPERINTENDENT. The Contractor shall have a competent superintendent on the work site as its designated agent. The superintendent shall be able to read and understand the project plans and

specifications and shall be experienced in the type of project being undertaken and the work being performed. The superintendent shall receive instructions from the Project Manager or its authorized representative. The Contractor shall authorize the superintendent to (a) execute the orders and directions of the Project Manager or its authorized representative without delay and (b) promptly supply such materials, equipment, tools, labor and incidentals as may be required to complete the project within the prescribed contract time. The Contractor shall furnish a superintendent regardless of the amount of project work sublet.

- 5.9.2.1 If the superintendent or agent is not present at the work site, the Project Manager shall have the right to suspend the work as described under Section 7.24, SUSPENSION OF WORK.
- 5.9.2.2 The Contractor shall file with the Project Manager a written statement giving the name of the superintendent or agent assigned to the project. The Contractor shall be responsible for notifying the Project Manager in writing of any change in the superintendent or agent.
- 5.9.2.3 The requirements of this Subsection 5.9.2, SUPERINTENDENT may be waived by the Project Manager.
- 5.9.3 **ENGINEERING WORK.** The Contractor shall properly and accurately lay out the work, perform all engineering work, and furnish all engineering materials and equipment required to establish and maintain all lines, grades, dimensions and elevations called for in the drawings or required in the progress of construction, unless otherwise noted in the contract documents. The Contractor will be held definitely and absolutely responsible for any errors in lines, grades, dimensions and elevations and shall at once, on instruction from the Project Manager, correct and make good such errors or any errors, or faults in the work resulting from errors in engineering performed under the requirements of its contract to the entire satisfaction of the Project Manager. Full compensation for the work shall be included in the prices paid for contract items of work. No additional allowance will be made for the correction of incorrect engineering work.
 - 5.9.3.1 The Project Manager shall furnish the requisite bench elevations.
 - 5.9.3.2 The Contractor shall locate and verify all lines, grades, dimensions and elevations indicated on the drawings before any excavation, or construction begins. Any discrepancy shall be immediately brought to the attention of the Project Manager; any change shall be made in accordance with the Project Manager's instruction.
 - 5.9.3.3 The Contractor shall verify all street survey monuments (horizontal and vertical alignment) prior to final acceptance by the Project Manager in accordance with any governmental requirements.
 - 5.9.3.4 The Contractor shall provide a surveyor or Civil Engineer licensed in the State of Hawaii to verify and establish all lines, grades, dimensions and elevations.
- 5.9.4 **USE OF STRUCTURE OR IMPROVEMENT.** The Department shall have the right, at any time during construction of the structure or improvements, to enter same for the purpose of installing by government labor or by any other Contractor or utility any necessary work in connection with the installation of facilities, it being mutually understood and agreed, however, that the Contractors, utilities and the Department will, so far as possible work to the mutual advantage of all, where their several works in the above mentioned or in unforeseen instances touch upon or interfere with each other. As a convenience to those involved, the Project Manager shall allocate the work and designate the sequence of construction in case of controversy between Contractors on separate projects under Department jurisdiction.

- 5.9.4.1 The Department shall also have the right to use the structure, equipment, improvement or any part thereof, at any time after it is considered by the Project Manager as available. In the event that the structure, equipment or any part thereof is so used, the Department shall be responsible for all expenses incidental to such use and any damages resulting from the Department's use.
- 5.9.4.2 Equipment warranty will commence to run before the work is complete when and if the Department begins actual use of the equipment for the purpose for which the equipment was designed and installed.
- 5.9.4.3 If the Department enters the structure for construction and/or occupancy and the Contractor is delayed because of interference by the Department or by extra work resulting from damage which the Contractor is not responsible for, or by extraordinary measures the Contractor must take to accommodate the Department, the Contractor shall be granted an extension of time in accordance with Section 7.21, CONTRACT TIME. However, if such use increases the cost or delays the completion of the remaining portions of work, the Contractor shall be entitled to such extra compensation or extension of time or both, as the Department may determine to be proper. Any additional work necessary will be paid in accordance with Section 8.3, PAYMENT FOR ADDITIONAL WORK.
- 5.10 INSPECTION. The Project Manager, the Department's consultants, inspectors employed by the Department and other representatives duly authorized by the Department shall at all times have access to the work during its construction and shall be furnished with every reasonable facility for ascertaining at any time that the materials and the workmanship are in accordance with the requirements and intentions of the contract. All work done and all materials furnished shall be subject to inspection and acceptance.
- 5.10.1 Such inspection and approval may extend to all or part of the work, and to the preparation, fabrication or manufacture of the materials to be used. By entering into a contract for the supply of materials, equipment or performance of labor in connection with the work, such material and equipment supplier or labor contractor consents to and is subject to the terms of Section 5.9, COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT to the same extent as the Contractor.
- 5.10.2 AUTHORITY TO SUSPEND OPERATIONS. The Project Manager shall have the authority to suspend operations of any work being improperly performed by issuing a written order giving the reason for shutting down the work. Should the Contractor disregard such written order, the work done thereafter will not be accepted nor paid for.
- 5.10.3 The inspection of the work shall not relieve the Contractor of any of its obligations to fulfill the contract as prescribed. Notwithstanding prior payment and acceptance by the Project Manager, any defective and nonconforming work shall be corrected to comply with the contract requirements. Unsuitable, unspecified or unapproved materials may be rejected.
- 5.10.4 FEDERAL AGENCY INSPECTION. Projects financed in whole or in part with Federal funds shall be subject to inspection and corrective requirements at all times by the Federal Agency involved at no cost to the Department.
- 5.11 REMOVAL OF DEFECTIVE, NON-CONFORMING AND UNAUTHORIZED WORK
- 5.11.1 All work which has been rejected as not conforming to the requirements of the Contract shall be remedied or removed and replaced by the Contractor in an acceptable manner and no compensation

will be allowed for such removal or replacement. Any work done beyond the work limits shown on the drawings and specifications or established by the Project Manager or any additional work done without written authority will be considered as unauthorized and will not be paid for. work so done may be ordered removed at the Contractor's expense.

- 5.11.2 SCHEDULING CORRECTIVE WORK. The Contractor shall perform its corrective or remedial work at the convenience of the Department and shall obtain the Project Manager's approval of its schedule.
- 5.11.3 FAILURE TO CORRECT WORK. Upon failure on the part of the Contractor to comply promptly with any order of the Project Manager made under the provisions of Section 5.10, the Project Manager shall have authority to cause defective work to be remedied or removed and replaced, and unauthorized work to be removed, at the Contractor's expense, and to deduct the costs from any monies due or to become due the Contractor.
- 5.12 VALUE ENGINEERING INCENTIVE (§3-132 HAR amended by Act 149 SLH 1999). On projects with contract amounts in excess of \$250,000 (two hundred fifty thousand dollars), the following Value Engineering Incentive Clause shall apply to allow the Contractor to share in cost savings that ensue from cost reduction proposals it submits.
 - 5.12.1 The Value Engineering Incentive Clause applies to all Value Engineering Change Proposals (cost reduction proposals, hereinafter referred to as (VECP) initiated and developed by the Contractor for changing the drawings, designs, specifications or other requirements of this contract. This clause does not however, apply to any VECP unless it is identified as such by the Contractor at the time of its submission to the Project Manager.
 - 5.12.2 VALUE ENGINEERING CHANGE PROPOSAL (VECP). All VECP must:
 - 5.12.2.1 Result in a savings to the Department of at least \$4000 (four thousand dollars) by providing less costly items and without impairing any essential functions and characteristics such as service life, reliability, economy of operation, ease of maintenance and all necessary features of the completed work;
 - 5.12.2.2 Require, in order to be applied to this Contract, a change order to this Contract; and
 - 5.12.2.3 Not adversely impact on the schedule of performance or the Contract completion date.
 - 5.12.3 VECP REQUIRED INFORMATION. The VECP will be processed expeditiously and in the same manner as prescribed for any other change order proposal. As a minimum, the following information will be submitted by the Contractor with each proposal:
 - 5.12.3.1 A description of the difference between the existing contract requirements and the VECP, and the comparative advantages and disadvantages of each including durability, service life, reliability, economy of operation, ease of maintenance, design safety standards, desired appearance, impacts due to construction and other essential or desirable functions and characteristics as appropriate;
 - 5.12.3.2 An itemization of the requirements of the contract which must be changed if the VECP is adopted and a recommendation as to how to make each such change;

- 5.12.3.3 An estimate of the reduction in performance costs that will result from adoption of the VECP taking into account the costs of implementation by the Contractor, including any amounts attributable to subcontracts, and the basis for the estimate;
- 5.12.3.4 A prediction of any effects the VECP would have on other costs to the Department, such as Department furnished property costs, costs of related items, and costs of maintenance and operation over the anticipated life of the material, equipment, or facilities as appropriate; the construction schedule, sequence and time; and bid item totals used for evaluation and payment purposes;
- 5.12.3.5 A statement of the time by which a change order adopting the VECP must be issued so as to obtain the maximum cost reduction during the remainder of this contract noting any effect on the contract time; and 5.12.3.6 The dates of any previous submissions of the VECP, the numbers of any Government contracts under which submitted and the previous actions by the Government, if known.
- 5.12.4 **REQUIRED USE OF LICENSED ARCHITECT OR ENGINEER.** When, in the judgment of the Project Manager, a VECP alters the design prepared by a registered professional architect or engineer, the Contractor shall ensure the changes to be prepared are by or under the supervision of a licensed professional architect or engineer, and stamped and so certified.
- 5.12.5 Unless and until a change order applies a VECP to a contract, the Contractor shall remain obligated to perform in accordance with the terms of the contract and the Department shall not be liable for delays incurred by the Contractor resulting from the time required for the Department's determination of the acceptability of the VECP.
- 5.12.5.1 The determination of the Project Manager as to the acceptance of any VECP under a contract shall be final.
- 5.12.6 **ACCEPTANCE OF VECP.** The Project Manager may accept in whole or in part any VECP submitted pursuant to this section by issuing a change order to the Contract. Prior to issuance of the change order, the Contractor shall submit complete final contract documents similar to those of the original Contract showing the accepted changes and the new design and features as well as the following:
- 5.12.6.1 Design calculations;
- 5.12.6.2 The design criteria used; and
- 5.12.6.3 A detailed breakdown of costs and expenses to construct or implement such revisions.
- 5.12.6.4 The change order will identify the final VECP on which it is based.
- 5.12.7 **VECP PRICE ADJUSTMENTS.** When a VECP is accepted under a contract, an adjustment in the contract price shall be made in accordance with Section 4.4, PRICE ADJUSTMENT. The adjustment shall first be established by determining the effect on the Contractor's cost of implementing the change, including any amount attributable to subcontractors and to the Department's charges to the Contractor for architectural, engineering, or other consultant services, and the staff time required to examine and review the proposal. The contract price shall then be reduced by fifty percent (50%) of the net estimated decrease in the cost of performance.

- 5.12.8 The Contractor may restrict the Department's right to use the data or information or both, on any sheet of a VECP or of the supporting data, submitted pursuant to this Subsection, if it is stated on that sheet as follows:
- 5.12.8.1 "This data or information or both shall not be disclosed outside the Department or be duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate this VECP. This restriction shall not limit the Department's right to use this data or information or both if obtained from another source, or is otherwise available, without limitations. If this VECP is accepted by the Department by issuance of a change order after the use of this data or information or both in such an evaluation, the Department shall have the right to duplicate, use and disclose any data or information or both pertinent to the proposal as accepted in any manner and for any purpose whatsoever and have others so do."
- 5.12.9 In the event of acceptance of a VECP, the Department shall have all rights to use, duplicate or disclose in whole or in part in any manner and for any purpose whatsoever, and to have or permit others to do so, any data or information or both reasonably necessary to fully utilize such proposal.
- 5.12.10 The Contractor shall submit with each VECP all required information and provide all additional information as may be required by the Project Manager to evaluate and implement the VECP. The cost for preparing the VECP shall be the Contractor's responsibility, and any part of the Contractor's cost for implementing the change shall be due only when the proposal is accepted and a change order is issued.
- 5.12.11 If the service of the Department's architect, Project Manager or consultant is necessary to review and evaluate a VECP, the cost therefor shall be paid for by the Contractor.
- 5.12.12 Each VECP shall be evaluated as applicable to this contract, and past acceptance on another Department project for a similar item shall not be automatic grounds for approval.
- 5.12.13 The method by which the Contractor will share a portion of the cost savings from an accepted VECP shall be for this contract only, and no consideration shall be made for future acquisition, royalty type payment or collateral savings.
- 5.12.13.1 The Department may accept the proposed VECP in whole or in part. The Chairman shall issue a contract change order to identify and describe the accepted VECP.
- 5.13 SUBCONTRACTS. Nothing contained in the contract documents shall create a contractual relationship between the Department and any subcontractor.
- 5.13.1 SUBSTITUTING SUBCONTRACTORS. Contractors may enter into subcontracts only with subcontractors listed in the proposal. No subcontractor may be added or deleted and substitutions will be allowed only if the subcontractor:
- 5.13.1.1 Fails, refuses or is unable to enter into a subcontract; or
- 5.13.1.2 Becomes insolvent; or
- 5.13.1.3 Has its subcontractor's license suspended or revoked; or
- 5.13.1.4 Has defaulted or has otherwise breached the subcontract in connection with the subcontracted work; or

- 5.13.1.5 Is unable to comply with other requirements of law applicable to contractors, subcontractors and public works projects.
- 5.13.2 Requesting Approval to Substitute a Subcontractor. Requests to substitute a subcontractor shall be submitted to the Project Manager for approval. Contractor agrees to hold the Department harmless and indemnify the Department for all claims, liabilities, or damages whatsoever, including attorney's fees arising out of or related to the approval or disapproval of the substitution.
- 5.13.3 The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and the other contract documents insofar as applicable to the work of the subcontractor and to give the Contractor the same rights regarding the termination of a subcontractor as the Department may exercise over the Contractor.
- 5.13.4 The Contractor shall not sponsor any unliquidated subcontractor's claim against the Department and shall defend, indemnify and hold the Department harmless against any direct claims by its subcontractors. Any claim for additional compensation by a subcontractor in connection with the work shall be made only against the Contractor. The Contractor may not assert any such claim against the Department until the liability of the Contractor has been unconditionally established by negotiation, arbitration or litigation, and the amount due the subcontractor has been determined, save for interest due.
- 5.13.5 Once a subcontractor's claim is established, should the Contractor intend to make the claim against the Department, it shall follow the procedure set forth under Section 7.25, DISPUTES AND CLAIMS.
- 5.13.6 SUBCONTRACTING. Contractor shall perform with its own organization, work amounting to not less than twenty percent (20%) of the total contract cost, exclusive of costs for materials and equipment the Contractor purchases for installation by its subcontractors, except that any items designated by the Department in the contract as "specialty items" may be performed by a subcontractor and the cost of any such specialty items so performed by the subcontractor may be deducted from the total contract cost before computing the amount of work required to be performed by the Contractor with its own organization. For the purposes of this section, the Contractor's work is defined as: direct cost labor for contractor's forces; direct cost materials installed by the contractor's direct cost labor force; direct cost equipment, either owned or leased, used by the contractor's direct cost labor force; and field overhead cost to include: field supervision, field office trailer (if any), field office equipment and supplies, etc.

~END OF ARTICLE 5~

ARTICLE 6: CONTROL OF MATERIALS AND EQUIPMENT

- 6.1 MATERIALS AND EQUIPMENT. Contractor shall furnish, pay for and install all material and equipment as called for in the drawings and specifications. Materials and equipment shall be new and the most suitable for the purpose intended unless otherwise specified. The Department does not guarantee that the specified or pre-qualified product listed in the drawings and specifications are available at the time of bid or during the contract period.
- 6.2 SOURCE OF SUPPLY AND QUALITY OF MATERIALS
- 6.2.1 Only materials conforming to the drawings and specifications and, when required by the contract have been accepted by the Project Manager, shall be used. In order to expedite the inspection and testing of materials, at the request of the Project Manager, the Contractor shall identify its proposed sources of materials within ten (10) days after notification by the Project Manager.
- 6.2.2 At the option of the Project Manager, the materials may be accepted by the Project Manager at the source of supply before delivery is started. Representative preliminary samples of the character and quantity prescribed shall be submitted by the Contractor or producer for examination and tested in accordance with the methods referred to under samples and tests.
- 6.2.3 PROJECT MANAGER'S AUTHORIZATION TO TEST MATERIALS. Materials proposed to be used may be inspected and tested whenever the Project Manager deems necessary to determine conformance to the specified requirements. The cost of testing shall be borne by the Contractor. However, should test results show that the material(s) is in compliance with the specified requirements; the cost of the testing will be borne by the Department.
- 6.2.4 UNACCEPTABLE MATERIALS. In the event material(s) are found to be unacceptable, the Contractor shall cease their use, remove the unacceptable material(s) that have already been installed or applied, and furnish acceptable materials all at no additional cost to the Department. No material which is in any way unfit for use shall be used.
- 6.3 SUBSTITUTION OF MATERIALS AND EQUIPMENT
- 6.3.1 SUBSTITUTION OF MATERIALS AND EQUIPMENT BEFORE BID OPENING For materials and equipment submitted in compliance with Instructions to Bidders, if after installing the substituted product, an unlisted variance is discovered the Contractor shall immediately replace the product with a specified product at no cost to the Department.
- 6.3.2 SUBSTITUTION AFTER CONTRACT AWARD. Subject to the Project Manager's determination if the material or equipment is equal to the one specified or prequalified, substitution of material or equipment may be allowed after the Letter of Award is issued only:
- 6.3.2.1 If the specified or prequalified item is delayed by unforeseeable contingencies beyond the control of the Contractor which would cause a delay in the project completion; or
- 6.3.2.2 If any specified or prequalified item is found to be unusable or unavailable due to a change by the manufacturer or other circumstances; or
- 6.3.2.3 If the Contractor desires to provide a more recently developed material, equipment, or manufactured model from the same named manufacturer than the one specified or prequalified; or
- 6.3.2.4 If the specified material and / or equipment inadvertently lists only a single manufacturer.

- 6.3.3 A substitution request after the Contract is awarded shall be fully explained in writing. Contractor shall provide brochures showing that the substitute material and / or equipment is equal or better in essential features and also provide a matrix showing comparison of the essential features. Contractor shall justify its request and include quantities and unit prices involved, respective supplier's price quotations and such other documents necessary to fully support the request. Any savings in cost will be credited to the Department. Contractor shall absorb any additional cost for the substitute item(s) or for its installation. Submitting a substitution request, does not imply that substitutions, for brand name specified materials and equipment will be allowed. The Project Manager may reject and deny any request deemed irregular or not in the best interest of the Department. A request for substitution shall not in any way be grounds for an extension of contract time. At the discretion of the Project Manager, a time extension may be granted for an approved substitution.
- 6.4 ASBESTOS CONTAINING MATERIALS. The use of materials or equipment containing asbestos is prohibited under this contract. Contractor warrants that all materials and equipment incorporated in the project are asbestos-free.
- 6.5 TEST SAMPLES
- 6.5.1 The Project Manager may require any or all materials to be tested by means of samples or otherwise. Contractor shall collect and forward samples requested by the Project Manager. Contractor shall not use or incorporate any material represented by the samples until all required tests have been made and the material has been accepted. In all cases, the Contractor shall furnish the required samples without charge. Where samples are required from the completed work, the Contractor shall cut and furnish samples from the completed work. Samples so removed shall be replaced with identical material and refinished. No additional compensation will be allowed for furnishing test samples and their replacement with new materials.
- 6.5.2 Tests of the material samples will be made in accordance with the latest standards of the American Society for Testing and Materials (ASTM), as amended prior to the contract date unless otherwise provided. In cases where a particular test method is necessary or specifications and serial numbers are stipulated, the test shall be made by the method stated in the above-mentioned publication. Where the test reference is the American Association of State Highway and Transportation Officials (AASHTO), it means the specifications and serial numbers of the latest edition and amendments prior to the bid date.
- 6.5.3 The Project Manager may, at no extra cost to the Department retest any materials which have been tested and accepted at the source of supply after the same has been delivered to the work site. The Project Manager shall reject all materials which, when retested, do not meet the requirements of the Contract.
- 6.6 MATERIAL SAMPLES
- 6.6.1 The Contractor shall furnish all samples required by the drawings and specifications or that may be requested by the Project Manager of any and all materials or equipment it proposes to use. Unless specifically required, samples are not to be submitted with the bid.
- 6.6.2 No materials or equipment of which samples are required shall be used on the work until the Project Manager has received and accepted the samples. If the Contractor proceeds to use such materials before the Project Manager accepts the samples, the Contractor shall bear the risk.

- 6.6.3 Contractor shall furnish two (2) copies of a transmittal letter with each shipment of samples. The letter shall provide a list of the samples, the name of the building or work for which the materials are intended and the brands of the materials and names of the manufacturers. Also, each sample submitted shall have a label indicating the material represented, its place of origin, the names of the producer, the Contractor and the building or work for which the material is intended. Samples of finished materials shall be marked to indicate where the materials represented are required by the drawings or specifications.
- 6.6.4 Acceptance of any sample(s) shall be only for the characteristics or for the uses named in such acceptance and for no other purpose. Acceptance of samples shall not change or modify any contract requirement. All samples will be provided by the Contractor at no extra cost to the Department. See also Section 5.5, SHOP DRAWINGS AND OTHER SUBMITTALS.
- 6.7 NON-CONFORMING MATERIALS. All materials not conforming to the requirements of this contract documents, whether in place or not, shall be rejected and removed immediately from the site of work unless otherwise permitted by the Project Manager in writing. No rejected material which has subsequently been made to conform shall be used unless and until written acceptance has been given by the Project Manager. If the Contractor fails to comply forthwith with any order of the Project Manager made under the provisions of this Section 6.7, NON-CONFORMING MATERIALS the Project Manager shall have the authority to remove and replace non-conforming materials and charge the cost of removal and replacement to the Contractor.
- 6.8 HANDLING MATERIALS. Contractor shall handle all materials to preserve their quality and fitness for work. Transport aggregates from the source or storage site to the work in tight vehicles to prevent loss or segregation of materials after loading and measuring.
- 6.9 STORAGE OF MATERIALS. Contractor shall store all materials to preserve their quality and fitness for the work. Unless otherwise provided, any portion of the project site within the Project Contract Limit not required for public travel may be used for storage purposes and for the Contractor's plant and equipment. Any additional space required shall be provided by the Contractor at its expense subject to the Project Manager's acceptance. Contractor shall store materials on wooden platforms or other hard, clean surfaces and covered to protect it from the weather and damage. Stored materials shall be located to allow prompt inspection.
- 6.10 PROPERTY RIGHTS IN MATERIALS. Nothing in the contract shall be construed to vest in the Contractor any right to any materials and equipment after such materials and equipment have been attached, affixed to, or placed in the work.
- 6.11 ANTITRUST CLAIMS. The STATE and the CONTRACTOR recognized that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the purchaser. Therefore, the CONTRACTOR hereby assigns to STATE any and all claims for overcharges as to goods and material purchased in connection with this Contract, except as to overcharges which result from violations commencing after the price is established under this Contract and which are not passed on to the STATE under an escalation clause.

~END OF SECTION 6~

ARTICLE 7: PROSECUTION AND PROGRESS (Including Legal Relations and Responsibility)

7.1 PROSECUTION OF THE WORK

- 7.1.1 After approval of the Contract by the Chairman, a Notice to Proceed will be given to the Contractor as described in Section 3.10, NOTICE TO PROCEED. The Notice to Proceed will indicate the date the Contractor is expected to begin the construction and from which date contract time will be charged.
- 7.1.2 The Contractor shall begin work no later than ten (10) working days from the date in the Notice to Proceed and shall diligently prosecute the same to completion within the contract time allowed. The Contractor shall notify the Project Manager at least three (3) working days before beginning work.
- 7.1.3 If any subsequent suspension and resumption of work occurs, the Contractor shall notify the Project Manager at least twenty-four (24) hours before stopping or restarting actual field operations.
- 7.1.4 **WORKING PRIOR TO NOTICE TO PROCEED.** The Contractor shall not begin work before the date in the Notice to Proceed. Should the Contractor begin work before receiving the Notice to Proceed, any work performed in advance of the specified date will be considered as having been done at the Contractor's risk and as a volunteer and subject to the following conditions:
 - 7.1.4.1 Under no circumstances shall the Contractor commence work on site until it has notified the Project Manager of its intentions and has been advised by the Project Manager in writing that the project site is available to the Contractor. The project site will not be made available until the Contractor has complied with commencement requirements under Section 7.2, COMMENCEMENT REQUIREMENTS.
 - 7.1.4.2 In the event the contract is not executed, the Contractor shall, at its own expense, do such work as is necessary to leave the site in a neat condition to the satisfaction of the Project Manager. The Contractor shall not be reimbursed for any work performed.
 - 7.1.4.3 All work done prior to the Notice to Proceed shall be performed in accordance with the Contract Documents, but will only be considered authorized work and be paid for as provided in the Contract after the Notice to Proceed is issued.
- 7.1.5 For repairs and/or renovations of existing buildings, unless otherwise permitted by the Project Manager, the Contractor shall not commence with the physical construction unless all or sufficient amount of materials are available for either continuous construction or completion of a specified portion of the work. When construction is started, the Contractor shall work expeditiously and pursue the work diligently until it is complete. If only a portion of the work is to be done in stages, the Contractor shall leave the area safe and usable for the user agency at the end of each stage.
- 7.2 **COMMENCEMENT REQUIREMENTS.** Prior to beginning work on site, the Contractor shall submit the following to the Project Manager:
 - 7.2.1 Identification of the Superintendent or authorized representative on the job site. Refer to Section 5.9, COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT;
 - 7.2.1.1 Identification of the surveyor who shall be licensed in the State of Hawaii and will work for it throughout the course of the project. Refer to Section 5.9.3.4.

- 7.2.2 Proposed Working Hours on the job. Refer to Section 7.5, NORMAL WORKING HOURS;
- 7.2.3 Permits and Licenses. Refer to Section 7.4, PERMITS AND LICENSES;
- 7.2.4 Schedule of Prices to be accepted for the agreed Monthly Payment Application. Unless the proposal provides unit price bids on all items in this project, the successful Bidder will be required, after the award of contract, to submit a schedule of prices for the various items of construction included in the contract. For projects involving more than a single building and / or facility, the breakdown cost shall reflect a separate schedule of prices for the various items of work for each building and/or facility. The sum of the prices submitted for the various items must equal the lump sum bid in the Bidder's proposal. This schedule will be subject to acceptance by the Project Manager who may reject same and require the Bidder to submit another or several other schedules if in the Project Manager's opinion the prices are unbalanced or not sufficiently detailed. This schedule of prices shall be used for the purpose of determining the value of monthly payments due the Contractor for work installed complete in place; and may be used as the basis for determining cost and credit of added or deleted items of work, respectively;
- 7.2.4.1 The Contractor shall estimate at the close of each month the percentage of work completed under each of the various construction items during such month and submit the Monthly Payment Application to the Project Manager for review and approval. The Contractor shall be paid the approved percentage of the price established for each item less the retention provided in Section 8.4, PROGRESS AND/OR PARTIAL PAYMENTS; and
- 7.2.5 PROOF OF INSURANCE COVERAGE. Certificate of Insurance or other documentary evidence satisfactory to the Project Manager that the Contractor has in place all insurance coverage required by the contract. Refer to Section 7.3, INSURANCE REQUIREMENTS.
- 7.2.6 Until such time as the above items are processed and approved, the Contractor shall not be allowed to commence on any operations unless authorized by the Project Manager.
- 7.3 INSURANCE REQUIREMENTS
- 7.3.1 OBLIGATION OF CONTRACTOR. Contractor shall not commence any work until it obtains, at its own expense, all required herein insurance. Such insurance shall be provided by an insurance company authorized by the laws of the State to issue such insurance in the State of Hawaii. Coverage by a "Non-Admitted" carrier is permissible provided the carrier has a Best's Rating of "A-VII" or better.
- 7.3.2 All insurance described herein will be maintained by the Contractor for the full period of the contract and in no event will be terminated or otherwise allowed to lapse prior to written certification of final acceptance of the work by the Department.
- 7.3.3 Certificate(s) of Insurance acceptable to the Department shall be filed with the Project Manager prior to commencement of the work. Certificates shall identify if the insurance company is a "captive" insurance company or a "Non-Admitted" carrier to the State of Hawaii. The Best's rating must be stated for the "Non-Admitted" carrier. Certificates shall contain a provision that coverage(s) being certified will not be cancelled or materially changed without giving the Project Manager at least thirty (30) days prior written notice. The Department is to be named as Additional Insured on any of the required insurance and it shall be so noted on the certificate. Should any policy be cancelled before final acceptance of the work by the Department, and the Contractor fails to immediately procure replacement insurance as specified, the Department, in addition to all other remedies it may have for

such breach, reserves the right to procure such insurance and deduct the cost thereof from any money due to the Contractor.

- 7.3.4 Nothing contained in these insurance requirements is to be construed as limiting the extent of Contractor's responsibility for payment of damages resulting from its operations under this Contract, including the Contractor's obligation to pay liquidated damages, nor shall it affect the Contractor's separate and independent duty to defend, indemnify and hold the Department harmless pursuant to other provisions of this Contract. In no instance will the Department's exercise of an option to occupy and use completed portions of the work relieve the Contractor of its obligation to maintain the required insurance until the date of final acceptance of the work.
- 7.3.5 All insurance described herein shall be primary and cover the insured for all work to be performed under the Contract, all work performed incidental thereto or directly or indirectly connected therewith, including traffic detour work or other work performed outside the work area and all change order work.
- 7.3.6 The Contractor shall, from time to time, furnish the Project Manager, when requested, satisfactory proof of coverage of each type of insurance required covering the work. Failure to comply with the Project Manager's request may result in suspension of the work, and shall be sufficient grounds to withhold future payments due the Contractor and to terminate the contract for Contractor's default.
- 7.3.7 TYPES OF INSURANCE. Contractor shall purchase and maintain insurance described below which shall provide coverage against claims arising out of the Contractor's operations under the Contract, whether such operations be by the Contractor itself or by any subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.
- 7.3.7.1 WORKER'S COMPENSATION. The Contractor shall obtain worker's compensation insurance for all persons whom they employ in carrying out the work under this contract. This insurance shall be in strict conformity with the requirements of the most current and applicable State of Hawaii Worker's Compensation Insurance laws in effect on the date of the execution of this contract and as modified during the duration of the contract.
- 7.3.7.2 COMMERCIAL GENERAL LIABILITY INSURANCE AND AUTOMOBILE INSURANCE. Contractor's commercial general liability insurance and automobile liability insurance shall both be obtained in a combined, single limit of not less than \$1,000,000 (one million dollars) unless otherwise indicated in the Special Conditions per occurrence that shall include coverage for bodily injury, sickness, disease or death of any person, arising directly or indirectly out of, in connection with, the performance of work under this contract.
- 7.3.7.3 "General Liability and Automobile Insurance. CONTRACTOR shall maintain, at its own expense, the minimum insurance coverage specified below, or as amended in the Special Conditions, throughout the term of this Contract.
- a. General Liability insurance providing coverage of no less than ONE MILLION DOLLARS (\$1,000,000.00) per occurrence and TWO MILLION DOLLARS (\$2,000,000.00) in the aggregate.
 - b. Automobile insurance providing coverage of no less than ONE MILLION DOLLARS (\$1,000,000.00) per accident."
- 7.3.7.4 The Contractor shall either (a) Require each of its subcontractors to procure and to maintain during the life of its subcontract, subcontractor's comprehensive general liability, automobile liability and

property damage liability insurance of the type and in the same amounts specified herein; or (b) Insure the activities of its subcontractors in its own policy.

- 7.3.7.5 **BUILDERS RISK INSURANCE.** Unless excluded by the Special Conditions of this contract, the Contractor shall provide builder's risk insurance during the progress of the work and until final acceptance by the Department upon completion of the contract. It shall be "All Risk" (including but not limited to earthquake, windstorm and flood damage) completed value insurance coverage on all completed work and work in progress to the full replacement value thereof. Such insurance shall include the Department as an additional named insured. The Contractor shall submit to the Project Manager for its approval all items deemed to be uninsurable. The policy may provide for a deductible in an amount of up to twenty five percent (25%) of the amount insured by the policy. With respect to all losses up to any deductible amount, the relationship between the Contractor and the Department shall be that of insurer and the additional insured respectively as if no deductible existed. The Contractor is responsible for theft, if any item of the contract is stolen prior to, or after installation, until the work is accepted by the Department. Progress payment does not constitute acceptance.

7.4 PERMITS AND LICENSES

- 7.4.1 The Department or its representative may process Federal (e.g. Army Corps of Engineers), State and county permit applications. The Contractor shall pick up the preprocessed Permits at the appropriate governmental agency and pay the required fees. Other permits necessary for the proper execution of the work such as utility connection permits, elevator installation permits etc., unless processed by the Department and paid for by the Contractor, shall be obtained and paid for by the Contractor.

- 7.4.2 Until such time as the above permits are approved, the Contractor shall not be allowed to commence any operations without written approval of the Project Manager.

- 7.4.3 The Project Manager reserves the right to waive application and processing of the building permit.

- 7.5 **NORMAL WORKING HOURS.** Prior to beginning operations, unless otherwise established by the Department, the Contractor shall notify the Project Manager in writing of the time in hours and minutes, A.M. and P.M. respectively, at which it desires to begin and end the day's work. If the Contractor desires to change the working hours, it shall request the Project Manager's approval three (3) consecutive working days prior to the date of the change.

7.6 HOURS OF LABOR (§104-2 HRS)

- 7.6.1 No laborer or mechanic employed on the job site of any public work of the Department or any political sub-division thereof shall be permitted or required to work on Saturday, Sunday or a legal holiday of the State or in excess of eight (8) hours on any other day unless the laborer or mechanic receives overtime compensation for all hours worked on Saturday, Sunday and a legal holiday of the State or in excess of eight (8) hours on any other day. For the purposes of determining overtime compensation under this Section 7.6, HOURS OF LABOR (§104-2 HRS) the basic hourly rate of any laborer or mechanic shall not be less than the basic hourly rate determined by the Department of Labor and Industrial Relations to be the prevailing basic hourly rate for corresponding classes of laborers and mechanics on projects of similar character in the Department.

- 7.6.2 Overtime compensation means compensation based on one and one-half times the laborers or mechanics basic hourly rate of pay plus the cost to an employer of furnishing a laborer or mechanic with fringe benefits.

7.7 PREVAILING WAGES (State §104-2 HRS & Federal Davis-Bacon)

7.7.1 The Contractor shall at all time observe and comply with all provisions of Chapter 104, HRS, the significant requirements of which are emphasized in the Department of Labor and Industrial Relations Publication No. H104-3 entitled "Requirements of Chapter 104, Hawaii Revised Statutes, Wages and Hours of Employees on Public Works Law". The Contractor must also comply with all provisions of Federal Davis-Bacon Act (40 U.S.C. 276-276a-5 and Code of Federal Regulation (CFR) Title 29 and related Acts.

7.7.2 WAGE RATE SCHEDULE. The wage rate schedule may not be physically enclosed in the bid documents. However, the wage rate schedule is incorporated herein by reference and made a part of the Bid and Contract Documents. The bidder must obtain and use the latest minimum rates ten (10) days prior to the date set for the bid opening of bids. The wage rate schedule may be obtained from the DHHL, Labor Compliance Specialist, Hale Kalanianaʻole, 91-5420 Kapolei Parkway, Kapolei, Hawaii, 96707 or, State Department of Labor and Industrial Relations web site:

<http://labor.hawaii.gov/rs/home/wages/72-2/>

or the Federal Department of Labor (Davis- Bacon) wage rate schedule web site:

<http://www.wdol.gov>.

7.7.3 The Contractor or its subcontractor(s) shall pay all laborers and mechanics employed on the job site, unconditionally and not less often than once a week, and without deduction or rebate on any account except as allowed by law, the full amounts of their wages including overtime, accrued to not more than five (5) working days prior to the time of payment, at wage rates not less than those stated in the contract, regardless of any contractual relationship which may be alleged to exist between the Contractor and subcontractor and such laborers and mechanics. The wages stated in the contract shall not be less than the minimum prevailing wages (basic hourly rate plus fringe benefits), as determined by the of Labor and Industrial Relations and published in wage rate schedules. Any increase in wage rates, as determined by the of Labor and Industrial Relations and issued in the wage rate schedule, shall be applicable during the performance of the contract, in accordance with Section 104-2(a) and (b), Hawaii Revised Statutes. Notwithstanding the provisions of the original contract, if the of Labor and Industrial Relations determines that prevailing wages have increased during the performance of the contract, the rate of pay of laborers and mechanics shall be raised accordingly.

7.7.4 The applicable wage rate schedule shall be physically included in the Contract Documents executed by the successful Bidder.

7.7.5 POSTING WAGE RATE SCHEDULE. The rates of wages to be paid shall be posted by the Contractor in a prominent and easily accessible place at the job site and a copy of such wages required to be posted shall be given to each laborer and mechanic employed under the contract by the Contractor at the time the person is employed thereunder, provided that where there is a collective bargaining agreement, the Contractor does not have to provide its employees the wage rate schedules. Any revisions to the schedule of wages issued by the Department of Labor and Industrial Relations during the course of the Contract shall also be posted by the Contractor and a copy provided to each laborer and mechanic employed under the Contract as required above.

7.7.6 The Chairman may withhold from the Contractor so much of the accrued payments as the Chairman may consider necessary to pay to laborers and mechanics employed by the Contractor or any

subcontractor on the job site. The accrued payments withheld shall be the difference between the wages required by this Contract and the wages actually received by such laborers or mechanics.

7.8 FAILURE TO PAY REQUIRED WAGES (§104-4, HRS or Federal Davis-Bacon). If the Department finds that any laborer or mechanic employed on the job site by the Contractor or any subcontractor has been or is being paid wages at a rate less than the required rate by the Contract, or has not received their full overtime compensation, the Department may, by written notice to the Contractor, terminate its right, or the right of any subcontractor, to proceed with the work or with the part of the work on which the required wages or overtime compensation have not been paid and may complete such work or part by contract or otherwise, and the Contractor and its sureties shall be liable to the Department for any excess costs occasioned thereby.

7.9 PAYROLLS AND PAYROLL RECORDS (§104-3 HRS)

7.9.1 A certified copy of each weekly payroll shall be submitted to the Chairman within seven (7) calendar days after the end of each weekly payroll period. Failure to do so on a timely basis shall be cause for withholding of payments, termination of the contract, and/or debarment. The Contractor shall be responsible for the timely submission of certified copies of payrolls of all subcontractors. The certification shall affirm that payrolls are correct and complete, that the wage rates contained therein are not less than the applicable rates contained in the wage determination decision, any amendments thereto during the period of the contract, and that the classifications set forth for each laborer and mechanic conform with the work they performed.

7.9.2 Payroll records for all laborers and mechanics working at the site of the work shall be maintained by the General Contractor and its subcontractors, if any, during the course of the work and preserved for a period of four (4) years thereafter. Such records shall contain the name of each employee, their address, their correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid. Such records shall be made available for inspection at a place designated by the Chairman, the U.S. Department of Labor and any authorized persons who may also interview employees during working hours on the job site.

7.9.3 Note that the falsification of certifications noted in this Section 7.9, PAYROLLS AND PAYROLL RECORDS (§104-3 HRS) may subject the Contractor or subcontractor to penalties and debarment under the laws referenced in Section 7.14, LAWS TO BE OBSERVED and / or criminal prosecution.

7.10 OVERTIME AND NIGHT WORK

7.10.1 Overtime work shall be considered as work performed in excess of eight (8) hours in any one (1) day or work performed on Saturday, Sunday or legal holiday of the State. Overtime and night work are permissible when approved by the Project Manager in writing, or as called for elsewhere within these Contract Documents.

7.10.2 OVERTIME NOTIFICATION. Contractor shall inform the Project Manager in writing at least two (2) working days in advance as to exactly what specific work is to be done during any overtime and night period to ensure that proper inspection will be available.

7.10.3 In the event that work other than that contained in the above notification is performed and for which the Project Manager determines Department inspection services were necessary but not available because of the lack of notification, the Contractor may be required to remove all such work and perform the work over again in the presence of Department inspection personnel.

- 7.10.4 Any hours worked in excess of the normal eight (8) working hours per day or on Saturdays, Sundays or legal State holidays will not be considered a working day.
- 7.10.5 The Department hereby reserves the right to cancel the overtime, night, Saturday, Sunday or legal State holiday work when it is found that work during these periods is detrimental to the public welfare or the user agency.
- 7.11 OVERTIME AND NIGHT PAYMENT FOR DEPARTMENT INSPECTION SERVICE
- 7.11.1 Whenever the Contractor's operations require the Department's inspection and staff personnel to work overtime or at night, the Contractor shall reimburse the Department for the cost of such services unless otherwise instructed in the Contract. The Project Manager will notify the Contractor of the minimum number of required Department employees and other personnel engaged by the Department prior to the start of any such work. The costs chargeable to the Contractor shall include but not be limited to the following:
- 7.11.1.1 The cost of salaries which are determined by the Department and includes overtime and night time differential for the Department's staff and inspection personnel. In addition to the cost of the salaries, the Contractor shall reimburse the Department's share of contributions to the employee's retirement, medical plan, social security, vacation, sick leave, worker's compensation funds, per diem, and other applicable fringe benefits and overhead expenses;
- 7.11.1.2 The transportation cost incurred by the Department's staff and inspection personnel which are based on established rental rates or mileage allowance in use by the Department for the particular equipment or vehicle; and/or
- 7.11.1.3 Fees and other costs billed the Department by Consultants engaged on the project for overtime and/or night time work.
- 7.11.2 PAYMENT FOR INSPECTION SERVICES. The monies due the Department for staff and inspection work and use of vehicles and equipment as determined in Subsection 7.11.1, OVERTIME AND NIGHT PAYMENT FOR DEPARTMENT INSPECTION SERVICE shall be deducted from the monies due or to become due the Contractor. In any and all events, the Contractor shall not pay the Department's employees directly.
- 7.12 LIMITATIONS OF OPERATIONS
- 7.12.1 Contractor shall at all times conduct the work in such manner and in such sequence as will ensure the least practicable interference with pedestrian and motor traffic passageways. The Contractor shall furnish convenient detours and provide and plan other appropriate signs, flashers, personnel, warnings, barricades and other devices for handling pedestrian and motor traffic.
- 7.12.2 In the event that other contractors are also employed on the job site, the Contractor shall arrange its work and dispose of materials so as not to interfere with the operations of the other contractors engaged upon adjacent work. The Contractor shall join its work to that of others and existing buildings in a proper manner, and in accordance with the drawings and specifications, and perform its work in the proper sequence in relation to that of others, all as may be directed by the Project Manager.

- 7.12.3 Each Contractor shall be responsible for any damage done by it to work performed by another contractor. Each Contractor shall conduct its operations and maintain the work in such condition that no fugitive dust shall be created and adequate drainage shall be in effect at all times.
- 7.12.4 In the event that the Contractor fails to prosecute its work as provided in this Section 7.12, LIMITATIONS OF OPERATIONS or disregards the directions of the Project Manager, the Project Manager may suspend the work until such time as the Contractor provides for the prosecution of the work with minimum interference to traffic and passageways or other contractors, dust control, adequate drainage, the repair of damage and complies with the direction of the Project Manager. No payment will be made to the Contractor for the costs of such suspension.
- 7.13 ASSIGNMENT OR CHANGE OF NAME (§3-125-14 HAR)
- 7.13.1 SUBCONTRACTS AND ASSIGNMENT. The CONTRACTOR shall not assign or subcontract any of the CONTRACTOR's duties, obligations, or interests under this Contract and no such assignment or subcontract shall be effective unless (i) the CONTRACTOR obtains the prior written consent of the STATE and (ii) the CONTRACTOR's assignee or subcontractor submits to the STATE a tax clearance certificate from the Department of Taxation, State of Hawaii, showing that all delinquent taxes, if any, levied or accrued under state law against the CONTRACTOR's assignee or subcontractor have been paid. Additionally, no assignment by the CONTRACTOR of the CONTRACTOR's right to compensation under this Contract shall be effective unless and until the assignment is approved by the Comptroller of the State of Hawaii, as provided in Section 40-58, HRS.
- 7.13.2 RECOGNITION OF A SUCCESSOR IN INTEREST. When in the best interest of the State, a successor in interest may be recognized in an assignment Contract in which the STATE, the CONTRACTOR and the assignee or transferee (hereinafter referred to as the "Assignee") agree that:
- 7.13.2.1 The Assignee assumes all of the CONTRACTOR's obligations;
- 7.13.2.2 The CONTRACTOR remains liable for all obligations under this Contract but waives all rights under this Contract as against the STATE; and
- 7.13.2.3 The CONTRACTOR shall continue to furnish, and the Assignee shall also furnish, all required bonds.
- 7.13.3 CHANGE OF NAME. When the CONTRACTOR asks to change the name in which it holds this Contract with the STATE, the procurement officer of the purchasing agency (hereinafter referred to as the "Agency procurement officer") shall, upon receipt of a document acceptable or satisfactory to the Agency procurement officer indicating change of name (for example, an amendment to the CONTRACTOR's articles of incorporation), enter into an amendment to this Contract with the CONTRACTOR to effect such a change of name. The amendment to this Contract changing the CONTRACTOR's name shall specifically indicate that no other terms and conditions of this Contract are thereby changed.
- 7.13.4 REPORTS. All assignment Contracts and amendments to this Contract effecting changes of the CONTRACTOR's name or novations hereunder shall be reported to the CPO within thirty days of the date that the assignment Contract or amendment becomes effective.
- 7.13.5 ACTIONS AFFECTING MORE THAN ONE PURCHASING AGENCY. Notwithstanding the provisions of Subsections 7.13.2 through 7.13.4 herein, when the CONTRACTOR holds Contracts

with more than one purchasing agency of the State, the assignment Contracts and the novation and change of name amendments herein authorized shall be processed only through the CPO's office.

- 7.14 LAWS TO BE OBSERVED. The CONTRACTOR shall comply with all federal, state, and county laws, ordinances, codes, rules, and regulations, as the same may be amended from time to time, that in any way affect the CONTRACTOR's performance of this Contract.
- 7.14.1 The Contractor at all times shall observe and comply with all Federal, State and local laws or ordinances, rules and regulations which in any manner affect those engaged or employed in the work, the materials used in the work, and the conduct of the work. The Contractor shall also comply with all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the work. Any reference to such laws, ordinances, rules and regulations shall include any amendments thereto before and after the date of this Contract.
- 7.14.2 The Contractor shall defend, protect, hold harmless and indemnify the State and its departments and agencies and all their officers, representatives, employees or agents against any claim or liability arising from or based on the violation of any such laws, ordinances, rules and regulations, orders or decrees, whether such violation is committed by the Contractor or its Subcontractor(s) or any employee of either or both. If any discrepancy or inconsistency is discovered in the contract for the work in relation to any such laws, ordinances, rules and regulations, orders or decrees, the Contractor shall forthwith report the same to the Project Manager in writing.
- 7.14.3 While the Contractor must comply with all applicable laws, attention is directed to: Wage and Hours of Employees on Public Works, Chapter 104, Hawaii Revised Statutes (HRS); Hawaii Public Procurement Code, Authority to debar or suspend, Section 103D-702, HRS; Hawaii Employment Relations Act, Chapter 377, HRS; Hawaii Employment Security Law, Chapter 383, HRS; Worker's Compensation Law, Chapter 386, HRS; Wage and Hour Law, Chapter 387, HRS; Occupational Safety and Health, Chapter 396, HRS; and Authority to Debar or Suspend, Chapter 126, subchapter 2, Hawaii Administrative Rules (HAR).
- 7.14.4 CONFLICT BETWEEN GENERAL CONDITIONS AND PROCUREMENT RULES. In the event of a conflict between the General Conditions and the Procurement Rules, the Procurement Rules in effect on the date this Contract became effective shall control and are hereby incorporated by reference.
- 7.15 PATENTED DEVICES, MATERIALS AND PROCESSES. If the Contractor desires to use any design, device, material, or process covered by letters of patent or copyright, the right for such use shall be procured by the Contractor from the patentee or owner. The Contractor shall defend, protect, indemnify and hold harmless the State of Hawaii, the contracting agency, and their officers, employees, and agents from and against all liability, loss, damage, cost, and expense, including attorney' fees, and all claims, suits, and demands arising out of or resulting from any claims, demands, or actions by the patent holder for infringement or other improper or unauthorized use of any patented article, patented design, patented device, patented process, patented appliance or patented material in connection with this Contract. The Contractor shall be solely responsible for correcting or curing to the satisfaction of the DHHL any such infringement or improper or unauthorized use, including, without limitation: (a) furnishing at no cost to the DHHL a substitute article, design, device, process, appliance or material acceptable to the DHHL; (b) paying royalties or other required payments to the patent holder; (c) obtaining proper authorizations or releases from the patent holder; and (d) furnishing such security to or making such arrangement with the patent holder as may be necessary to correct or cure any such infringement or improper or unauthorized use. This

section shall not apply to any article, design, device, material, appliance or process covered by letters of patent or copyright, which the Contractor is required to use by the Drawings or Specifications.

7.16 SANITARY, HEALTH AND SAFETY PROVISIONS

7.16.1 The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of its employees as may be necessary to comply with the requirements of the State and local boards of health, or other bodies or tribunals having jurisdiction. Unless otherwise stated in the drawings or specifications, the Contractor shall install toilet facilities conveniently located at the job site and maintain same in a neat and sanitary condition for the use of the employees on the job site for the duration of the Contract. The toilet facilities shall conform to the requirements of the State Department of Health. The cost of installing, maintaining and removing the toilet facilities shall be considered incidental to and paid for under various contract pay items for work or under the lump sum bids as the case may be, and no additional compensation will be made therefor. These requirements shall not modify or abrogate in any way the requirements or regulations of the State Department of Health.

7.16.2 Attention is directed to Federal, State and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to their health or safety.

7.17 PROTECTION OF PERSONS AND PROPERTY

7.17.1 SAFETY PRECAUTIONS AND PROGRAMS. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

7.17.1.1 All persons on the work site or who may be affected by the work;

7.17.1.2 All the work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor and its subcontractors; and

7.17.1.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavement, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

7.17.2 Contractor shall give notices and comply with applicable laws, ordinances, regulations, rules, and lawful orders of any public body having jurisdiction for the safety of persons or property or their protection from damage, injury or loss; and the Contractor shall erect and maintain reasonable safeguards for safety and protection, including posting danger signs, or other warnings against hazards.

7.17.3 The Contractor shall notify owners of adjacent properties and of underground (or overhead) utilities when performing work which may affect the owners; and shall cooperate with the owners in the protection, removal and replacement of their property.

7.17.4 All damage, injury or loss to any property referred to in Subsections 7.17.1.2 and 7.17.1.3 caused by the fault or negligence or damage or loss attributable to acts or omissions directly or indirectly in whole or part by the Contractor a subcontractor or any one directly or indirectly employed by them, or by anyone for whose acts they might be liable, shall be remedied promptly by the Contractor.

- 7.17.5 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the protection of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor.
- 7.17.6 The Contractor shall not load or permit any part of the construction to be loaded so as to endanger its safety. The Contractor shall not injure or destroy trees or shrubs nor remove or cut them without permission of the Project Manager. Contractor shall protect all land monuments and property marks until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed.
- 7.17.7 In the event the Contractor encounters on the site, material reasonably believed to be asbestos or other hazard material that has not been rendered harmless, the Contractor shall stop work in the area and notify the Project Manager promptly. The work in the affected area shall be resumed in the absence of hazard materials or when the hazard has been rendered harmless.
- 7.17.8 EMERGENCIES. In an emergency affecting the safety and protection of persons or the work or property at the site or adjacent thereto, Contractor without special instructions or authorization from the Project Manager, shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Contractor shall give the Project Manager prompt written notice of the emergency and actions taken. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined under the provisions of Section 7.25, DISPUTES AND CLAIMS.
- 7.18 ARCHAEOLOGICAL SITES
- 7.18.1 Should historic sites such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentration of charcoal or shells be encountered during construction, work shall cease in the immediate vicinity of the find and the find shall be protected from further damage. The Contractor shall immediately notify the Project Manager and contact the State Historic Preservation Division which will assess the significance of the find and recommend the appropriate mitigation measures, if necessary.
- 7.18.2 When required, the Contractor shall provide and install any temporary fencing to protect archaeological sites within the project. The fencing shall be installed prior to any construction activity and shall be maintained by the Contractor for the duration of the project. Fence installation and maintenance shall be to the satisfaction of the Project Manager. The Contractor shall remove the fencing upon completion of construction, or as directed by the Project Manager.
- 7.18.3 No work shall be done within the temporary fencing area. If any construction work is done within the temporary fencing, the Contractor shall notify the Project Manager immediately; and if the Contractor entered the archaeological site area without permission, it shall stop work in this area immediately. The Project Manager shall notify the archaeologist to assess any damage to the area. The Contractor shall allow the archaeologist sufficient time to perform the field investigation.
- 7.18.4 Any site requiring data recovery within the project shall not be disturbed until data recovery is completed.
- 7.19 RESPONSIBILITY FOR DAMAGE CLAIMS; INDEMNITY
- 7.19.1 The CONTRACTOR shall defend, indemnify, and hold harmless the State of Hawaii, the contracting agency, and their officers, employees, and agents from and against all liability, loss, damage, cost,

and expense, including all attorneys' fees, and all claims, suits, and demands therefor, arising out of or resulting from the acts or omissions of the CONTRACTOR or the CONTRACTOR's employees, officers, agents, or subcontractors under this Contract. The provisions of this Subsection shall remain in full force and effect notwithstanding the expiration or early termination of this Contract.

- 7.19.2 The Contractor agrees that it will not attempt to hold the State and the Department, their officers, representatives, employees or agents, liable or responsible for any losses or damages to third parties from the action of the elements, the nature of the work to be done under these Contract Documents or from any unforeseen obstructions, acts of God, vandalism, fires or encumbrances which may be encountered in the prosecution of the work.
- 7.19.3 The Contractor shall pay all just claims for materials, supplies, tools, labor and other just claims against the Contractor or any subcontractor in connection with this contract and the surety bond will not be released by final acceptance and payment by the Department unless all such claims are paid or released. The Department may, but is not obligated to, withhold or retain as much of the monies due or to become due the Contractor under this contract considered necessary by the Project Manager to cover such just claims until satisfactory proof of payment or the establishment of a payment plan is presented.
- 7.19.4 The Contractor shall defend, indemnify and hold harmless the State and the Department, their officers, representatives, employees or agents from all suits, actions or claims of any character brought on account of any claims or amounts arising out of or recovered under the Workers' Compensation Laws or violation of any other law, by-law, ordinance, order or decree.
- 7.19.5 COST OF LITIGATION. In case the STATE shall, without any fault on its part, be made a party to any litigation commenced by or against the CONTRACTOR in connection with this Contract, the CONTRACTOR shall pay all costs and expenses incurred by or imposed on the STATE, including attorneys' fees.
- 7.20 CHARACTER OF WORKERS OR EQUIPMENT
 - 7.20.1 The Contractor shall at all times provide adequate supervision and sufficient labor and equipment for prosecuting the work to full completion in the manner and within the time required by the contract.
 - 7.20.2 Character and Proficiency of Workers - All workers shall possess the proper license and/or certification, job classification, skill and experience necessary to properly perform the work assigned to them. All workmen engaged in special work or skilled work, such as bituminous courses or mixtures, concrete pavement or structures, electrical installation, plumbing installation, or in any trade shall have sufficient experience in such work and in the operation of the equipment required to properly and satisfactorily perform all work. All workers shall make due and proper effort to execute the work in the manner prescribed in these Contract Documents, otherwise, the Project Manager may take action as prescribed herein.
 - 7.20.2.1 Any worker employed on the project by the Contractor or by any subcontractor who, in the opinion of the Project Manager, is not careful and competent, does not perform its work in a proper and skillful manner or is disrespectful, intemperate, disorderly or neglects or refuses to comply with directions given, or is otherwise objectionable shall at the written request of the Project Manager, be removed forthwith by the Contractor or subcontractor employing such worker and shall not be employed again in any portion of the work without the written consent of the Project Manager. Should the Contractor or subcontractor continue to employ, or again employ such person or persons on the project, the

Project Manager may withhold all payments which are or may become due, or the Project Manager may suspend the work until the Project Manager's orders are followed, or both.

- 7.20.3 **INSUFFICIENT WORKERS.** A sufficient number of workers shall be present to ensure the work is accomplished at an acceptable rate. In addition, the proper ratio of apprentice to journey worker shall be maintained to ensure the work is properly supervised and performed. In the event that the Project Manager finds insufficient workers are present to accomplish the work at an acceptable rate of progress or if a adequate number of journey workers are not present and no corrective action is taken by the Contractor after being informed in writing, the Chairman may terminate the Contract as provided for under Section 7.27, **TERMINATION OF CONTRACT FOR CAUSE.**
- 7.20.4 **EQUIPMENT REQUIREMENTS.** All equipment furnished by the Contractor and used on the work shall be of such size and of such mechanical condition that the work can be performed in an acceptable manner at a satisfactory rate of progress and the quality of work produced will be satisfactory.
- 7.20.4.1 Equipment used on any portion of the project shall be such that no injury to the work, persons at or near the site, adjacent property or other objects will result from its use.
- 7.20.4.2 If the Contractor fails to provide adequate equipment for the work, the contract may be terminated as provided under Section 7.27, **TERMINATION OF CONTRACT FOR CAUSE.**
- 7.20.4.3 In the event that the Contractor furnishes and operates equipment on a force account basis, it shall be operated to obtain maximum production under the prevailing conditions.
- 7.21 **CONTRACT TIME**
- 7.21.1 Time is of the essence for this Contract.
- 7.21.2 **CALCULATION OF CONTRACT TIME.** When the contract time is on a working day basis, the total contract time allowed for the performance of the work shall be the number of working days shown in the contract plus any additional working days authorized in writing as provided hereinafter. Refer to **ARTICLE 1, DEFINITIONS** for the definition of Working Day. The count of elapsed working days to be charged against contract time shall begin from the date of the Notice to Proceed and shall continue consecutively to the date of Project Acceptance determined by the Project Manager. When the contract completion time is a fixed calendar date, it shall be the date on which all work on the project shall be completed. Maintenance periods are not included within the contract time unless specifically noted in the Contract Documents. Failure to complete the work by contract completion date shall not terminate the Contract.
- 7.21.3 **MODIFICATIONS OF CONTRACT TIME (§3-125-4 HAR)**
- 7.21.3.1 **EXTENSIONS.** For increases in the scope for work caused by alterations and additional work made under Section 4.2, **CHANGES**, the Contractor will be granted a time extension only if the changes increase the time of performance for the Contract. If the Contractor believes an extension of time is justified and is not adequately provided for in a Field Order, it must request the additional time sought in writing when the detailed cost breakdown required by Section 4.2, **CHANGES**, is submitted. The Contractor must show how the time of performance for the critical path will be affected and must also support the time extension request with schedules and statements from its subcontractors, suppliers, and/or manufacturers. Compensation for any altered or additional work will be paid as provided in Section 4.2, **CHANGES.**

- 7.21.3.2 The Department may direct changes to the work at any time until the work is finally accepted. The issuance of a Field Order at any time may alter or modify the contract duration only by the days specified therein; or if not specified therein, for the days the critical path must be extended for the change. Additional time to perform the extra work will be added to the time allowed in the contract without regard to the date the change directive was issued, even if the contract completion date has passed. A change requiring time will not constitute a waiver of pre-existing Contractor delay.
- 7.21.4 DELAY FOR PERMITS. For delays beyond the control of the Contractor in obtaining necessary permits, one day extension for each day delay may be granted by the Project Manager, provided the Contractor notifies the Project Manager that the permits are not available, as soon as the delay occurs. Time extensions shall be the exclusive relief granted on account of such delays. No additional compensation will be paid for these time extensions.
- 7.21.5 DELAYS BEYOND CONTRACTOR'S CONTROL. For delays affecting the critical path caused by acts of God, or the public enemy, fire, unusually severe weather, earthquakes, floods, epidemics, quarantine restrictions, labor disputes, freight embargoes and other reasons beyond the Contractor's control, the Contractor may be granted an extension of time provided that:
- 7.21.5.1 The Contractor notifies the Project Manager in writing within five (5) work days after the occurrence of the circumstances described above and states the possible effects on the completion date of the contract.
- 7.21.5.2 No time extension will be granted for weather conditions other than unusually severe weather occurrences, and floods.
- 7.21.5.3 The Contractor, if requested, submits to the Project Manager within ten (10) work days after the request, a written statement describing the delay to the project. The extent of delay must be substantiated as follows:
- (a) State specifically the reason or reasons for the delay and fully explain in a detailed chronology the effect of this delay to the work and/or the completion date;
 - (b) Submit copies of purchase order, delivery tag, and any other pertinent documentation to support the time extension request;
 - (c) Cite the period of delay and the time extension requested; and
 - (d) A statement either that the above circumstances have been cleared and normal working conditions restored as of a certain day or that the above circumstances will continue to prevent completion of the project.
- 7.21.5.4 Time extensions shall be the exclusive relief granted and no additional compensation will be paid the Contractor for such delays.
- 7.21.6 DELAYS IN DELIVERY OF MATERIALS. For delays in delivery of materials and/or equipment which occur as a result of unforeseeable causes beyond the control and without fault or negligence of the Contractor, its subcontractor(s) or supplier(s), the Contractor may be granted an extension of time provided it complies with the following procedures:
- 7.21.6.1 The Contractor must notify the Project Manager in writing within five (5) consecutive working days after it first has any knowledge of delays or anticipated delays and state the effects such delays may have on the completion date of the Contract.

- 7.21.6.2 The Contractor, if requested, must submit to the Project Manager within ten (10) working days after a firm delivery date for the material and equipment is established, a written statement as to the delay to the progress of the project. The delay must be substantiated as follows:
- (a) State specifically the reason or reasons for the delay. Explain in a detailed chronology the effect of this delay to the other work and / or the completion date;
 - (b) Submit copies of purchase order(s), factory invoice(s), bill(s) of lading, shipping manifest(s), delivery tag(s) and any other pertinent correspondence to support the time extension request; and
 - (c) Cite the start and end date of the delay and the days requested therefore. The delay shall not exceed the difference between the originally scheduled delivery date versus the actual delivery date.
- 7.21.6.3 Time extensions shall be the exclusive relief granted and no additional compensation will be paid the Contractor on account of such delay.
- 7.21.7 DELAYS FOR SUSPENSION OF WORK. Delay during periods of suspension of the work by the Project Manager shall be computed as follows:
- 7.21.7.1 When the performance of the work is totally suspended for one (1) or more days (calendar or working days, as appropriate) by order of the Project Manager in accordance with Subsections 7.24.1.1, 7.24.1.2, 7.24.1.4 or 7.24.1.6 the number of days from the effective date of the Project Manager's order to suspend operations to the effective date of the Project Manager's order to resume operations shall not be counted as contract time and the contract completion date will be adjusted. Should the Contractor claim for additional days in excess of the suspension period, Contractor shall provide evidence justifying the additional time. During periods of partial suspensions of the work, the Contractor will be granted a time extension only if the partial suspension affects the critical path. If the Contractor believes that an extension of time is justified for a partial suspension of work, it must request the extension in writing at least five (5) working days before the partial suspension will affect the critical operation(s) in progress. The Contractor must show how the critical path was increased based on the status of the work and must also support its claim, if requested, with statements from its subcontractors. A suspension of work will not constitute a waiver of pre-existing Contractor delay.
- 7.21.8 CONTRACTOR CAUSED DELAYS - No time extension will be considered for the following:
- 7.21.8.1 Delays in performing the work caused by the Contractor, subcontractor and/or supplier;
 - 7.21.8.2 Delays in arrival of materials and equipment caused by the Contractor, subcontractor and / or supplier in ordering, fabricating, delivery, etc.;
 - 7.21.8.3 Delays requested for changes which the Project Manager determines unjustifiable due to the lack of supporting evidence or because the change is not on the critical path;
 - 7.21.8.4 Delays caused by the failure of the Contractor to submit for review and acceptance by the Project Manager, on a timely basis, pricing proposals, shop drawings, descriptive sheets, material samples, color samples, etc. except as covered in Subsection 7.21.5 and 7.21.6;
 - 7.21.8.5 Failure to follow the procedure within the time allowed to qualify for a time extension; and
 - 7.21.8.6 Days the Contractor is unable to work due to normal rainfall or other normal bad weather day conditions.

- 7.21.9 REDUCTION IN TIME - If the Department deletes any portion of the work, an appropriate reduction of contract time may be made in accordance with Section 4.2, CHANGES.
- 7.22 CONSTRUCTION SCHEDULE
- 7.22.1 The Contractor shall submit its detailed construction schedule to the Project Manager prior to the start of the work. The purpose of the schedule is to allow the Project Manager to monitor the Contractor's progress on the work. The schedule shall account for normal inclement weather, unusual soil or other conditions that may influence the progress of the work, schedules and coordination required by any utility, off or on site fabrications, and all other pertinent factors that relate to progress.
- 7.22.2 Submittal of and the Project Manager's receipt of the construction schedule shall not imply the Department's approval of the schedule's breakdown, its individual elements, and any critical path that may be shown. Any acceptance or approval of the schedule: (1) shall be for general format only and not for sequences or durations thereon; and (2) shall not be deemed an agreement by the Department that the construction means, methods and resources shown on the schedule will result in work that conforms to the contract requirements. The Contractor has the risk of all elements (whether or not shown) of the schedule and its execution.
- 7.22.3 In the event the Contractor submits and the Department receives an accelerated schedule (shorter than the contract time), such will not constitute an agreement to modify the contract time or completion date, nor will the receipt, acceptance or approval of such a schedule incur any obligation by the Department. The Contractor shall be solely responsible for and shall accept all risks and any delays that may materialize during the construction work until the contract completion date is reached. The contract time or completion date is established for the benefit of the Department and cannot be changed without an appropriate change order issued by the Department. All float on an accelerated schedule belongs exclusively to the Department. The Department will not be responsible for or obligated to accept the work before the completion date established by the Contract.
- 7.23 STATEMENT OF WORKING DAYS - For all contracts on a working day basis, the Contractor will submit a statement of the number of working days for each month together with the Monthly Payment Application. The Monthly Payment Application will not be processed without the statement of working days.
- 7.24 SUSPENSION OF WORK (§3-125-7 HAR)
- 7.24.1 PROCEDURE TO BE FOLLOWED. The Chairman may, by written order to the Contractor, at any time and without notice to any surety, suspend the performance of the work either in whole or in part for any cause, including but not limited to:
- 7.24.1.1 Weather or excess bad weather days, considered unsuitable by the Project Manager for prosecution of the work; or
- 7.24.1.2 Soil Conditions considered unsuitable by the Project Manager for prosecution of the work; or 7.24.1.3 Failure of the Contractor to:
- (a) Correct conditions unsafe for the general public or for the workers;
 - (b) Carry out orders given by the Project Manager;
 - (c) Perform the work in strict compliance with the provisions of the contract; or
 - (d) Provide a qualified Superintendent on the jobsite as described under Subsection 5.9.2, SUPERINTENDENT.

- 7.24.1.4 When any redesign is deemed necessary by the Project Manager; or
- 7.24.1.5 Disturbance due to noise, odors or dust arising from the construction even if such disturbance does not violate the section on Environmental Protection contained in the Contract Documents; or
- 7.24.1.6 The convenience of the Department.
- 7.24.2 PARTIAL OR TOTAL SUSPENSION OF WORK. Suspension of work on some but not all items of work shall be considered a partial suspension. Suspension of work on the entire work at the job site shall be considered total suspension. The period of suspension shall be computed as set forth in Subsection 7.21.7, Delays for Suspension of Work.
- 7.24.3 PAYMENT
- 7.24.3.1 In the event that the Contractor is ordered by the Chairman in writing as provided herein to suspend all work under the contract in accordance with Subsections 7.24.1.4 or 7.24.1.6, the Contractor may be reimbursed for actual direct costs incurred on work at the jobsite, as authorized in writing by the Chairman, including costs expended for the protection of the work. Payment for equipment which must standby during such suspension of work shall be made as described in clause 8.3.4.5.(e). No payment will be made for profit on any suspension costs. An allowance of five percent (5%) will be paid on any reimbursed actual costs for indirect categories of delay costs, including extended branch and home-office overhead and delay impact costs.
- 7.24.3.2 However, no adjustment to the contract amount or time shall be made under this Section 7.24, SUSPENSION OF WORK (§3-125-7 HAR) for any suspension, delay, or interruption:
- (a) To the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor; or
 - (b) For which an adjustment is provided for or excluded under any other provision of this Contract.
- 7.24.3.3 Any adjustment in contract price made pursuant to this subsection shall be determined in accordance with this Section 7.24, SUSPENSION OF WORK (§3-125-7 HAR) and Section 4.2, CHANGES.
- 7.24.3.4 Claims for such compensation shall be filed with the Project Manager within ten (10) calendar days after the date of the order to resume work or such claims will be waived by the Contractor. Together with the claim, the Contractor shall submit substantiating documents supporting the entire amount shown on the claim. The Chairman may make such investigations as are deemed necessary and shall be the sole judge of the claim and the Chairman's decision shall be final.
- 7.24.4 CLAIMS NOT ALLOWED. No claim under this Section 7.24, SUSPENSION OF WORK (§3-125-7 HAR) shall be allowed:
- 7.24.4.1 For any direct costs incurred more than twenty (20) days before the Contractor shall have notified the Project Manager in writing of any suspension that the Contractor considers compensable. This requirement shall not apply as to a claim resulting from a suspension order under Subsections 7.24.1.4 or 7.24.1.6; and 7.24.4.2 Unless the claim is asserted in writing within ten (10) calendar days after the termination of such suspension, delay, or interruption, but in no case not later than the date of final payment under the contract.
- 7.24.4.2 No provision of this Section 7.24, SUSPENSION OF WORK (§3-125-7 HAR) shall be construed as entitling the Contractor to compensation for delays due to failure of surety, for suspensions made at

the request of the Contractor, for any delay required under the Contract, for partial suspension of work or for suspensions made by the Project Manager under the provisions of Subsections 7.24.1.1, 7.24.1.2, 7.24.1.3 and 7.24.1.5.

- 7.25 DISPUTES AND CLAIMS (§3-126-31 HAR). Disputes shall be resolved in accordance with Section 103D-703, HRS, and chapter 126, Procurement Rules, as the same may be amended from time to time.
- 7.25.1 REQUIRED NOTIFICATION. As a condition precedent for any claim, the Contractor must give notice in writing to the Project Manager in the manner and within the time periods stated in Section 4.2, CHANGES for claims for extra compensation, damages, or an extension of time due for one or more of the following reasons:
 - 7.25.1.1 Requirements not clearly covered in the Contract, or not ordered by the Project Manager as an extra;
 - 7.25.1.2 Failure by the Department and Contractor to agree to an Oral Order or an adjustment in price or contract time for a Field Order or a Change Order (which was not previously agreed on by a Field Order), issued by the Department;
 - 7.25.1.3 An action or omission by the Project Manager requiring performance changes beyond the scope of the Contract; and/or
 - 7.25.1.4 Failure of the Department to issue a Field Order for controversies within the scope of Section 4.2, CHANGES.
 - 7.25.1.5 For any other type of claim, the Contractor shall give notice within the time periods set forth in contract provisions pertaining to that event. If no specific contract provisions pertain to the claim, then the written notice of claim must be submitted within fifteen (15) days of the event giving rise to the claim.
- 7.25.2 CONTINUED PERFORMANCE OF WORK. The Contractor shall at all times continue with performance of the contract in full compliance with the directions of the Project Manager. Continued performance by the Contractor shall not be deemed a waiver of any claim for additional compensation, damages, or an extension of time for completion, provided that the written notice of claim is submitted in accordance with Subsection 7.25.1, REQUIRED NOTIFICATION.
- 7.25.3 The requirement for timely written notice shall be a condition precedent to the assertion of a claim.
- 7.25.4 REQUIREMENTS FOR NOTICE OF CLAIM. The notice of claim shall clearly state the Contractor's intention to make claim and the reasons why the Contractor believes that additional compensation, changes or an extension of time may be remedies to which it is entitled. At a minimum, it shall provide the following:
 - 7.25.4.1 Date of the protested order, decision or action;
 - 7.25.4.2 The nature and circumstances which caused the claim;
 - 7.25.4.3 The contract provision(s) that support the claim;
 - 7.25.4.4 The estimated dollar cost, if any, of the protested work and how that estimate was determined; and

- 7.25.4.5 An analysis of the progress schedule showing the schedule change or disruption if the Contractor is asserting a schedule change or disruption.
- 7.25.5 If the protest or claim is continuing, the information required in Subsection 7.25.4 REQUIREMENTS FOR NOTICE OF CLAIMS above shall be supplemented as requested by the Project Manager.
- 7.25.6 FINAL STATEMENT FOR CLAIM. The Contractor shall provide a final written statement of the actual adjustment in contract price and/or contract time requested for each notice of claim. Such statement shall clearly set forth that it is the final statement for that notice of claim. All such final statements shall be submitted within thirty (30) days after completion of the work that is the subject of the claim, but in no event no later than thirty (30) days after the Project Acceptance Date or the date of termination of the Contractor, whichever comes first.
- 7.25.7 All claims of any nature are barred if asserted after final payment under this Contract has been made.
- 7.25.8 Contractor may protest the assessment or determination by the Project Manager of amounts due the Department from the Contractor by providing a written notice to the Chairman within thirty (30) days of the date of the written assessment or determination. Said notice shall comply with all requirements of Subsections 7.25.4, REQUIREMENTS FOR NOTICE OF CLAIM and 7.25.6, FINAL STATEMENT FOR CLAIM above. The requirement of such notice cannot be waived and it is a condition precedent to any claim by the Contractor. Failure to comply with these notice provisions constitutes a waiver of any claim.
- 7.25.9 In addition to the requirements of Subsections 7.25.4, 7.25.6, and 7.25.8, all final written statements of claim shall be certified. This certification requirement applies to the Contractor without exception, including, but not limited to, situations involving claims of subcontractors or suppliers which meet the requirements of Subsection 5.13.4. The certification must be executed by a person duly authorized to bind the Contractor with respect to the claim. The certification shall state as follows:
- “I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Department is liable; and that I am duly authorized to certify the claim on behalf of the Contractor.”
- 7.25.10 DECISION ON CLAIM/APPEAL. The decision of the Chairman on the claim shall be final and conclusive, unless fraudulent, or unless the Contractor delivers to the Chairman a written appeal of the Chairman’s decision. Said appeal shall be delivered to the Chairman no later than thirty (30) days after the date of the Chairman’s decision.
- 7.25.10.1 In that event, the decision of the Chairman shall be final and conclusive, unless fraudulent or unless the Contractor brings an action seeking judicial review of the Chairman’s decision in an appropriate circuit court of this State within six (6) months from the date of the Chairman’s decision.
- 7.25.11 PAYMENT AND INTEREST. The amount determined payable pursuant to the decision, less any portion already paid, normally should be paid without awaiting Contractor action concerning appeal. Such payments shall be without prejudice to the rights of either party. Interest on amounts ultimately determined to be due to a Contractor shall be payable at the Statutory rate applicable to judgments against the State under Chapter 662, HRS from the date of receipt of a properly certified final written statement of actual adjustment required until the date of decision; except, however, that if an action is initiated in circuit court, interest under this Section 7.25, DISPUTES AND CLAIMS (§3-126-31 HAR) shall only be calculated until the time such action is initiated. Interest on amounts due the

Department from the Contractor shall be payable at the same rate from the date of issuance of the Project Manager's notice to the Contractor. Where such payments are required to be returned by a subsequent decision, interest on such payments shall be paid at the statutory rate from the date of payment.

7.25.12 Contractor shall comply with any decision of the Chairman and proceed diligently with performance of this contract pending final resolution by a circuit court of this State of any controversy arising under, or by virtue of, this Contract, except where there has been a material breach of contract by the Department; provided that in any event the Contractor shall proceed diligently with the performance of the Contract where the Project Manager has made a written determination that continuation of work under the Contract is essential to the public health and safety.

7.25.13 **WAIVER OF ATTORNEY'S FEES.** In the event of any litigation arising under, or by virtue of, this Contract, the Contractor and the Department agree to waive all claims against each other for attorney's fees and agree to refrain from seeking attorney's fees as part of any award or relief from any court.

7.26 **FAILURE TO COMPLETE THE WORK ON TIME**

7.26.1 Completion of the work within the required time is important because delay in the prosecution of the work will inconvenience the public and interfere with the Department's business. In addition, the Department will be damaged by the inability to obtain full use of the completed work and by increased engineering, inspection, superintendence, and administrative services in connection with the work. Furthermore, delay may detrimentally impact the financing, planning, or completion of other Department projects because of the need to devote Department resources to the project after the required completion date. The monetary amount of such public inconvenience, interference with Department business, and damages, is difficult, if not impossible, to accurately determine and precisely prove. Therefore, it is hereby agreed that the amount of such damages shall be the appropriate sum of liquidated damages.

7.26.1.1 When the Contractor fails to complete the work or any portion of the work within the time or times fixed in the contract or any extension thereof, it is agreed the Contractor shall pay liquidated damages to the Department in the amount of \$1,000 (one thousand dollars) per calendar day, unless otherwise indicated in the Special Conditions.

7.26.1.2 If the Contractor fails to correct Punchlist deficiencies as required by Section 7.32, **PROJECT ACCEPTANCE DATE**, the Department will be inconvenienced and damaged, therefore, it is agreed that the Contractor shall pay liquidated damages to the Department based upon the amount stated in Section 7.26.1.1. Liquidated damages shall accrue for all days after the Contract Completion Date or any extension thereof, until the date the Punchlist items are corrected and accepted by the Project Manager.

7.26.1.3 If the Contractor fails to submit final documents as required by Section 7.33, **FINAL SETTLEMENT OF CONTRACT**, the Department will be inconvenienced and damaged, therefore, it is agreed that the Contractor shall pay liquidated damages to the Department in the amount stated in the Section 7.26.1.1. Liquidated damages shall accrue for all days after the Contract Completion Date or any extension thereof, until the date the final documents are received by the Project Manager.

7.26.1.4 The Project Manager shall assess the total amount of liquidated damages in accordance with the amount of \$1,000 (one thousand dollars) per day, unless otherwise indicated in the Special Conditions, and provide written notice of such assessment to the Contractor.

- 7.26.2 ACCEPTANCE OF LIQUIDATED DAMAGES. The assessment of liquidated damages by the Project Manager shall be accepted by the parties hereto as final, unless the Contractor delivers a written appeal of the Project Manager's decision in accordance with Subsection 7.25.10, DECISION ON CLAIM/APPEAL REQUIREMENTS. Any allowance of time or remission of charges or liquidated damages shall in no other manner affect the rights or obligations of the parties under this contract nor be construed to prevent action under Section 7.27, TERMINATION OF CONTRACT FOR CAUSE. If the Department terminates the Contractor's right to proceed, the resulting damage will include such liquidated damages for such time as may be required for final completion of the work after the required contract completion date.
- 7.26.3 PAYMENTS FOR LIQUIDATED DAMAGES. Liquidated damages shall be deducted from monies due or that may become due to the Contractor under the contract or from other monies that may be due or become due to the Contractor from the Department.
- 7.26.4 If the Contractor contests the per diem liquidated charge, the Department may elect to recover the actual damages caused by the Contractor's delay. Should the Department claim liquidated damages for delay and if such liquidated damages are disallowed for any reason, the Department shall recover the actual damages to which it is legally entitled as a result of the Contractor's delay or other breach.
- 7.27 TERMINATION OF CONTRACT FOR CAUSE (§3-125-18 HAR)
- 7.27.1 DEFAULT. If the Contractor refuses or fails to perform the work, or any separable part thereof, with such diligence as will assure its completion within the time specified in this contract, or any extension thereof, fails to complete the work within such time, or commits any other material breach of this contract, and further fails within seven (7) days after receipt of written notice from the Project Manager to commence and continue correction of the refusal or failure with diligence and promptness, the Chairman may, by written notice to the Contractor, declare the Contractor in breach and terminate the Contractor's right to proceed with the work or the part of the work as to which there has been delay or other breach of contract. In such event, the Department may take over the work and perform the same to completion, by contract or otherwise, and may take possession of, and utilize in completing the work, the materials, appliances, and plant as may be on the site of the work and necessary therefor. Whether or not the Contractor's right to proceed with the work is terminated, the Contractor and the Contractor's sureties shall be liable for any damage to the Department resulting from the Contractor's refusal or failure to complete the work within the specified time.
- 7.27.2 ADDITIONAL RIGHTS AND REMEDIES. The rights and remedies of the Department provided in this contract are in addition to any other rights and remedies provided by law.
- 7.27.3 COSTS AND CHARGES
- 7.27.3.1 All costs and charges incurred by the Department, together with the cost of completing the work under contract, will be deducted from any monies due or which would or might have become due to the Contractor had it been allowed to complete the work under the contract. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay the Department the amount of the excess.
- 7.27.3.2 In case of termination, the Chairman shall limit any payment to the Contractor to the part of the contract satisfactorily completed at the time of termination. Payment will not be made until the work has satisfactorily been completed and the tax clearance required by Section 8.8, FINAL PAYMENT

is submitted by the Contractor. Termination shall not relieve the Contractor or Surety from liability for liquidated damages.

- 7.27.4 **ERRONEOUS TERMINATION FOR CAUSE.** If, after notice of termination of the Contractor's right to proceed under this Section 7.27, **TERMINATION OF CONTRACT FOR CAUSE** (§3-125-18 HAR) it is determined for any reason that good cause did not exist to allow the Department to terminate as provided herein, the rights and obligations of the parties shall be the same as, and the relief afforded the Contractor shall be limited to, the provisions contained in Section 7.28, **TERMINATION FOR CONVENIENCE**.
- 7.28 **TERMINATION FOR CONVENIENCE** (§3-125-22 HAR)
- 7.28.1 **TERMINATION.** The Chairman may, when the interests of the Department so require, terminate this contract in whole or in part, for the convenience of the Department. The Chairman shall give written notice of the termination to the Contractor specifying the part of the contract terminated and when termination becomes effective.
- 7.28.2 **CONTRACTOR'S OBLIGATIONS.** The Contractor shall incur no further obligations in connection with the terminated work and on the date set in the notice of termination the Contractor will stop work to the extent specified. The Contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated work. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work subject to the Department's approval. The Chairman may direct the Contractor to assign the Contractor's right, title, and interest under terminated orders or subcontracts to the Department. The Contractor must still complete the work not terminated by the notice of termination and may incur obligations as necessary to do so.
- 7.28.3 **RIGHT TO CONSTRUCTION AND GOODS.** The Chairman may require the Contractor to transfer title and delivery to the Department in the manner and to the extent directed by the Chairman, the following:
- 7.28.3.1 Any completed work; and
- 7.28.3.2 Any partially completed construction, goods, materials, parts, tools, dies, jigs, fixtures, drawings, information, and contract rights (hereinafter called "construction material") that the Contractor has specifically produced or specially acquired for the performance of the terminated part of this contract.
- 7.28.3.3 The Contractor shall protect and preserve all property in the possession of the Contractor in which the Department has an interest. If the Chairman does not elect to retain any such property, the Contractor shall use its best efforts to sell such property and construction material for the Department's account in accordance with the standards of Section 490:2-706, HRS.
- 7.28.4 **COMPENSATION**
- 7.28.4.1 Contractor shall submit a termination claim specifying the amounts due because of the termination for convenience together with cost or pricing data, submitted to the extent required by subchapter 15, chapter 3-122, HAR. If the Contractor fails to file a termination claim within one (1) year from the effective date of termination, the Chairman may pay the Contractor, if at all, an amount set in accordance with Subsection 7.28.4.3.

- 7.28.4.2 The Chairman and the Contractor may agree to a settlement provided the Contractor has filed a termination claim supported by cost or pricing data submitted as required and that the settlement does not exceed the total contract price plus settlement costs reduced by payments previously made by the Department, the proceeds of any sales of construction, supplies, and construction materials under Subsection 7.28.3.3 of this Section, and the contract price of the work not terminated.
- 7.28.4.3 Absent complete agreement, the Chairman shall pay the Contractor the following amounts, less any payments previously made under the Contract.
- (a) The cost of all contract work performed prior to the effective date of the notice of termination work plus a five percent (5%) markup on the actual direct costs, including amounts paid to subcontractor(s), less amounts previously paid or to be paid for completed portions of such work; provided, however, that if it appears that the Contractor would have sustained a loss if the entire contract would have been completed, no markup shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss. No anticipated profit or consequential damage will be due or paid.
 - (b) Subcontractors shall be paid a markup of ten percent (10%) on their direct job costs incurred to the date of termination. No anticipated profit or consequential damage will be due or paid to any subcontractor. These costs must not include payments made to the Contractor for subcontract work during the contract period.
 - (c) In any case, the total sum to be paid the Contractor shall not exceed the total contract price reduced by the amount of any sales of construction supplies, and construction materials.
- 7.28.4.4 Costs claimed, agreed to, or established by the Department shall be in accordance with chapter 3-123, HAR.
- 7.29 **CORRECTING DEFECTS.** If the Contractor fails to commence to correct any defects of any nature, within ten (10) working days after the correction thereof has been requested in writing by the Department, and thereafter to expeditiously complete the correction of said defects, the Project Manager may without further notice to the Contractor or surety and without termination of contract, correct the defects and deduct the cost thereof from the contract price.
- 7.30 **FINAL CLEANING.** Before final inspection of the work, the Contractor shall clean all ground occupied by the Contractor in connection with the work of all rubbish, excess materials, temporary structures and equipment, and all parts of the work must be left in a neat and presentable condition to the satisfaction of the Project Manager. However, the Contractor shall not remove any warning and directional signs prior to the formal acceptance by the Project Manager. Full compensation for final cleaning will be included in the prices paid for the various items of work or lump sum bid, as the case may be, and no separate payment will be made therefor.
- 7.31 **SUBSTANTIAL COMPLETION AND FINAL INSPECTION.** Before the Department accepts the project as being completed, unless otherwise stipulated by the Project Manager the following procedure shall be followed:
- 7.31.1 **SUBSTANTIAL COMPLETION**
- 7.31.1.1 The Contractor and its subcontractors shall inspect the project to confirm whether the Project is Substantially Complete. This inspection effort shall include the testing of all equipment and providing a Punchlist that identifies deficiencies which must be corrected. Contractor shall make the corrections and if required repeat the procedure. Also, the Contractor shall schedule final Building, Plumbing, Electrical, Elevator, Fire and other required inspections and obtain final approvals.

- (a) When in compliance with the above requirements, the Contractor shall notify the Project Manager in writing that project is Substantially Complete and ready for a Final Inspection. Along with the Substantial Completion notification, the Contractor shall provide its Punchlist(s) with the status of the deficiencies and dates when the deficiencies were corrected. The Project Inspector and / or the Project Manager shall make a preliminary determination whether project is Substantially Complete.
- (b) If the Project is not Substantially Complete, the Project Manager shall inform the Contractor. The Contractor shall identify deficiencies which must be corrected, update its Punchlist, make the necessary corrections and repeat the previous step. After completing the necessary work, the Contractor shall notify the Project Manager in writing that Punchlist deficiencies have been corrected and the project is ready for a Final Inspection.
- (c) If the Project is Substantially Complete, the Project Manager shall schedule a Final Inspection within fifteen (15) days of the Contractor's notification letter or as otherwise determined by the Project Manager.

7.31.1.2 In addition, and to facilitate closing of the project, the Contractor shall also proceed to obtain the following closing documents (where applicable) prior to the Final Inspection:

- (a) Field-Posted As-Built Drawings;
- (b) Maintenance Service Contract and two (2) copies of a list of all equipment;
- (c) Five (5) sets of operating and maintenance manuals;
- (d) Air conditioning test and balance reports; and
- (e) Any other final submittal required by the Contract.

7.31.2 **FINAL INSPECTION.** If at the Final Inspection the Project Manager determines that all work is completed, the Project Manager shall notify the Contractor in accordance with Section 7.32, **PROJECT ACCEPTANCE DATE**. Should there be remaining deficiencies which must be corrected the Contractor shall provide an updated Punchlist to the Project Manager, within five (5) days from the Final Inspection Date. The Contractor shall make the necessary corrections.

7.31.2.1 The Project Manager shall confirm the list of deficiencies noted by the Contractor's punchlist(s) and will notify the Contractor of any other deficiencies that must be corrected before final settlement.

7.31.3 The Project Manager may add to or otherwise modify the Punchlist from time to time. The Contractor shall take immediate action to correct the deficiencies.

7.31.4 **REVOKING SUBSTANTIAL COMPLETION.** At any time before final Project Acceptance is issued the Project Manager may revoke the determination of Substantial Completion if the Project Manager finds it was not warranted. The Project Manager shall notify the Contractor in writing with the reasons and outstanding deficiencies negating the declaration. Once notified, the Contractor shall make the necessary corrections and repeat the required steps noted in Subsections 7.31.1 and 7.31.2.

7.32 **PROJECT ACCEPTANCE DATE**

7.32.1 If upon Final Inspection, the Project Manager finds that the project has been satisfactorily completed in compliance with the contract, the Project Manager shall declare the project completed and accepted and will notify the Contractor in writing of the acceptance by way of the Project Acceptance Notice.

7.32.2 **PROTECTION AND MAINTENANCE.** After the Project Acceptance Date, the Contractor shall be relieved of maintaining and protecting the work except that this does not hold true for those portions of the work which have not been accepted, including Punchlist deficiencies. The Department shall be responsible for the protection and maintenance of the accepted facility.

- 7.32.3 The date of Project Acceptance shall determine:
- 7.32.3.1 End of Contract Time;
- 7.32.3.2 Commencement of all guaranty periods except as noted in Section 7.34, CONTRACTOR'S RESPONSIBILITY FOR WORK: RISK OF LOSS; and
- 7.32.3.3 Commencement of all maintenance services except as noted in Section 7.34, CONTRACTOR'S RESPONSIBILITY FOR WORK: RISK OF LOSS.
- 7.32.4 PUNCHLIST REQUIREMENTS. If a Punchlist is required under Section 7.31, SUBSTANTIAL COMPLETION AND FINAL INSPECTION, the Project Acceptance Notice will include the Project Manager's Punchlist and the date when correction of the deficiencies must be completed.
- 7.32.5 Upon receiving the Punchlist, the Contractor shall promptly devote the required time, labor, equipment, materials and incidentals necessary to correct the deficiencies expeditiously.
- 7.32.6 For those items of work that cannot be completed by the established date, the Contractor shall submit a schedule in writing to the Project Manager for approval along with documentation to justify the time required, no later than five (5) working days before the date stipulated for completion of the Punchlist work. A Proposed schedule submitted after the five (5) day period will not be considered.
- 7.32.7 FAILURE TO CORRECT DEFICIENCIES. After the Contract Completion Date, or any extension thereof, if the Contractor fails to correct the deficiencies within the established date or agreed to Punchlist completion date, the Project Manager shall assess liquidated damages as required by Section 7.26, FAILURE TO COMPLETE THE WORK ON TIME.
- 7.32.8 If the Contractor fails to correct the deficiencies and complete the work by the established or agreed to date, the Department also reserves the right to correct the deficiencies by whatever method it deems necessary and deduct the cost from the final payment due the Contractor.
- 7.32.9 The Contractor may further be prohibited from bidding in accordance with Section 2.12, DISQUALIFICATION OF BIDDERS. In addition, assessment of damages shall not prevent action under Section 7.27, TERMINATION OF CONTRACT FOR CAUSE.
- 7.33 FINAL SETTLEMENT OF CONTRACT
- 7.33.1 The contract will be considered settled after the project acceptance date and when the following items have been satisfactorily submitted, where applicable:
- 7.33.1.1 Necessary Submissions in addition to the items noted under Subsection 7.31.1.2.
- 7.33.1.2 All written guarantees required by the contract.
- 7.33.1.3 Complete and certified weekly payrolls for the Contractor and its Subcontractor(s).
- 7.33.1.4 Certificate of Plumbing and Electrical Inspection.
- 7.33.1.5 Certificate of Building Occupancy.

- 7.33.1.6 Certificate for Soil Treatment and Wood Treatment.
- 7.33.1.7 Certificate of Water System Chlorination.
- 7.33.1.8 Certificate of Elevator Inspection, Boiler and Pressure Pipe installation.
- 7.33.1.9 Certification of compliance with §103B-3 HRS, Employment of State Residents.
- 7.33.1.10 All other documents required by the Contract.
- 7.33.2 FAILURE TO SUBMIT CLOSING DOCUMENTS. The Contractor shall submit the final Payment Application and the above applicable closing documents within sixty (60) days from the date of Project Acceptance or the agreed to Punchlist completion date. Should the Contractor fail to comply with these requirements, the Chairman may terminate the Contract for cause. The pertinent provisions of Section 7.27, TERMINATION OF CONTRACT FOR CAUSE shall be applicable.
- 7.33.3 In addition, should the Contractor fail to furnish final closing documents within the required time period, the Project Manager shall assess liquidated damages as required by Section 7.26, FAILURE TO COMPLETE THE WORK ON TIME.
- 7.34 CONTRACTOR'S RESPONSIBILITY FOR WORK; RISK OF LOSS
 - 7.34.1 Until the establishment of the Project Acceptance Date or Beneficial Occupancy, whichever is sooner, the Contractor shall take every necessary precaution against injury or damage to any part of the work caused by the perils insured by an All Risk policy, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore and make good all injuries or damage to any portion of the work occasioned by the perils insured by an All Risk policy before the date of final acceptance and shall bear the risk and expense thereof.
 - 7.34.2 After the Project Acceptance Date or Beneficial Occupancy, whichever is sooner, the Contractor shall be relieved of maintaining and protecting the work except for those portions of the work which have not been accepted including Punchlist deficiencies.
 - 7.34.3 The risk of damage to the work from any hazard or occurrence that may be covered by a required Property Insurance policy is that of the Contractor, unless such risk of loss is placed elsewhere by express language in the Contract Documents. No claims for any loss or damage shall be recognized by the Department, nor will any such loss or damage excuse the complete and satisfactory performance of the Contract by the Contractor.
- 7.35 GUARANTEE OF WORK
 - 7.35.1 In addition to any required manufacturers warranties, all work and equipment shall be guaranteed by the Contractor against defects in materials, equipment or workmanship for one year from the Project Acceptance Date or as otherwise specified in the Contract Documents.
 - 7.35.2 REPAIR OF WORK. If, within any guarantee period, repairs or changes are required in connection with the guaranteed work, which in the opinion of the Project Manager is necessary due to materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the Contract, the Contractor shall within five (5) working days and without expense to the Department commence to:

- 7.35.2.1 Place in satisfactory condition in every instance all such guaranteed work and correct all defects therein; and
- 7.35.2.2 Make good and repair or replace to new or pre-existing condition all damages to the building, facility, work or equipment or contents thereof, resulting from such defective materials, equipment or installation thereof.
- 7.35.3 MANUFACTURER'S AND INSTALLER'S GUARANTEE. Whenever a manufacturer's or installer's guarantee on any product specified in the respective Specification sections, exceeds one year, this guarantee shall become part of this contract in addition to the Contractor's guarantee. Contractor shall complete the guarantee forms in the name of the Department and submit such forms to the manufacturer within such time required to validate the guarantee. Contractor shall submit to the Department a photocopy of the completed guarantee form for the Department's record as evidence that such guarantee form was executed by the manufacturer.
- 7.35.4 If a defect is discovered during a guarantee period, all repairs and corrections to the defective items when corrected shall again be guaranteed for the original full guarantee period. The guarantee period shall be tolled and suspended for all work affected by the defect. The guarantee period for work affected by the defect shall restart for its remaining duration upon confirmation by the Project Manager that the deficiencies have been repaired or remedied.
- 7.36 WORK OF AND CHARGES BY UTILITIES
- 7.36.1 The Contractor shall be responsible for scheduling and coordinating the work with the utility companies and applicable governmental agencies for permanent service installation and connections or modifications to existing utilities. The Contractor shall make available all portions of the work necessary for the utility companies to do their work. The Department shall not bear the risk of any damage to the contract work caused by any utility company, and work of repairing such damage and delay costs must be resolved between the Contractor, the utility company, and their insurers.
- 7.36.2 Unless stated as an allowance item to be paid by the Contractor, the Department will pay the utility companies and applicable governmental agencies directly for necessary modifications and connections. Contractor charges for overhead, supervision, coordination, profit, insurance and any other incidental expenses shall be included in the Contractor's Bid whether the utility is paid directly by the Department or by an allowance item in the Contract.
- 7.37 RIGHT TO AUDIT RECORDS
- 7.37.1 The STATE may, at reasonable times and places, audit the books and records of the CONTRACTOR, prospective contractor, subcontractor or prospective subcontractor which are related to the cost or pricing data, and a State contract, including subcontracts, other than a firm fixed-price contract. The Contractor and subcontractor(s) shall maintain the books and records for a period of four (4) years from the date of final payment under the Contract.
- 7.37.2 The Contractor shall ensure that its subcontractors comply with this requirement and shall bear all costs (including attorney's fees) of enforcement in the event of its subcontractor's failure or refusal to fully cooperate.
- 7.37.3 Additionally, Sections 231-7, 235-108, 237-39 and other HRS chapters through reference, authorize the Department of Taxation to audit all taxpayers conducting business within the State. Contractors

must make available to the Department of Taxation all books and records necessary to verify compliance with the tax laws.

7.38 RECORDS MAINTENANCE, RETENTION AND ACCESS

7.38.1 The Contractor and any subcontractor whose contract for services is valued at \$25,000 (twenty five thousand) or more shall, in accordance with generally acceptable accounting practices, maintain fiscal records and supporting documents and related files, papers, and reports that adequately reflect all direct and indirect expenditures and management and fiscal practices related to the Contractor and subcontractor's performance of services under this Contract.

7.38.2 The representative of the Department, the Chairman, the Attorney General, (the Federal granting agency, the Comptroller General of the United States, and any of their authorized representatives when federal funds are utilized), and the Legislative Auditor of the State of Hawaii shall have the right of access to any book, document, paper, file, or other record of the Contractor and any subcontractor that is related to the performance of services under this Contract in order to conduct an audit or other examination and /or to make copies, excerpts and transcripts for the purposes of monitoring and evaluating the Contractor and subcontractor's performance of services and the Contractor and subcontractor's program, management, and fiscal practices to assure the proper and effective expenditure of funds and to verify all costs associated with any claims made under this Contract.

7.38.3 The right of access shall not be limited to the required retention period but shall last as long as the records are retained. The Contractor and subcontractor shall maintain and retain all books and records related to the Contractor and subcontractor's performance of services under this Contract, including any cost or pricing data for three (3) years from the date of final payment, except that if any litigation, claim, negotiation, investigation, audit or other action involving the books and records has been started before the expiration of the three (3) year period, the Contractor and subcontractors shall retain the books and records until completion of the action and resolution of all issues that arise from it, or until the end of the three (3) year retention period, whichever occurs later. Furthermore, it shall be the Contractor's responsibility to enforce compliance with this provision by any subcontractor.

7.39 COST OR PRICING DATA. Cost or pricing data must be submitted to the Agency purchasing officer and timely certified as accurate for contracts over \$100,000 unless the contract is for a multiple-term or as otherwise specified by the procurement officer. Unless otherwise required by the Agency procurement officer, cost or pricing data submission is not required for Contracts awarded pursuant to competitive sealed bid procedures. If certified cost or pricing data are subsequently found to have been inaccurate, incomplete, or noncurrent as of the date stated in the certificate, the STATE is entitled to an adjustment of the contract price, including profit or fee, to exclude any significant sum by which the price, including profit or fee, was increased because of the defective data. It is presumed that overstated cost or pricing data increased the contract price in the amount of the defect plus related overhead and profit or fee. Therefore, unless there is a clear indication that the defective data was not used or relied upon, the price will be reduced in such amount.

7.39.1 AUDIT OF COST OR PRICING DATA. When cost or pricing principles are applicable, the STATE may require an audit of cost or pricing data.

7.40 CONFIDENTIALITY OF MATERIAL

7.40.1 All material given to or made available to the CONTRACTOR by virtue of this Contract, which is identified as proprietary or confidential information, will be safeguarded by the CONTRACTOR and

shall not be disclosed to any individual or organization without the prior written approval of the STATE.

- 7.40.2 All information, data, or other material provided by the CONTRACTOR to the STATE shall be subject to the Uniform Information Practices Act, chapter 92F, HRS.
- 7.41 **PUBLICITY.** The CONTRACTOR shall not refer to the STATE, or any office, agency, or officer thereof, or any State employee, including the head of the purchasing agency, the Chief Procurement Officer, the Director, the Agency procurement officer, or to the services or goods, or both, provided under this Contract, in any of the CONTRACTOR's brochures, advertisements, or other publicity of the CONTRACTOR. All media contacts with the CONTRACTOR about the subject matter of this Contract shall be referred to the Agency procurement officer.
- 7.42 **OWNERSHIP RIGHTS AND COPYRIGHT.** The STATE shall have complete ownership of all material, both finished and unfinished which is developed, prepared, assembled, or conceived by the CONTRACTOR pursuant to this Contract, and all such material shall be considered "works made for hire." All such material shall be delivered to the STATE upon expiration or termination of this Contract. The STATE, in its sole discretion, shall have the exclusive right to copyright any product, concept, or material developed, prepared, assembled, or conceived by the CONTRACTOR pursuant to this Contract.
- 7.43 **GOVERNING LAW.** The validity of this Contract and any of its terms or provisions, as well as the rights and duties of the parties to this Contract, shall be governed by the laws of the State of Hawaii. Any action at law or in equity to enforce or interpret the provisions of this Contract shall be brought in a state court of competent jurisdiction in Honolulu, Hawaii.
- 7.44 **SEVERABILITY.** In the event that a court declares any provision of this Contract invalid or unenforceable, such invalidity or unenforceability shall not affect the validity or enforceability of the remaining terms of this Contract.
- 7.45 **WAIVER.** The failure of the STATE to insist upon the strict compliance with any term, provision, or condition of this Contract, shall not constitute or be deemed to constitute a waiver or relinquishment of the STATE's right to enforce the same in accordance with this Contract. The fact that the STATE specifically refers to one provision of the Procurement Rules or one section of the Hawaii Revised Statutes, and does not include other provisions or statutory sections in this Contract shall not constitute a waiver or relinquishment of the STATE's rights or the CONTRACTOR's obligations under the Procurement Rules or statutes.
- 7.46 **UTILITIES AND SERVICES**
- 7.46.1 Where its operations are next to or near properties of utility companies or other property, the CONTRACTOR shall not start work until the CONTRACTOR makes arrangements necessary for the protection of said property.
- 7.46.2 The CONTRACTOR shall cooperate, coordinate and schedule its work to suit the owners of underground or overhead utility lines or other property in removing or altering such lines or providing new services in order for the work to progress according to the contract. Cooperation includes rearranging the CONTRACTOR's operations and normal work schedules and realignment of work as approved by the Department in order to accommodate the operations and work of the utilities and/or other property in and around the work site at no additional cost to the Department.

- 7.46.3 The CONTRACTOR shall contact all the various utility companies before the start of the work to ascertain any existing utilities and to develop a full understanding of the utility requirements with respect to this project. The CONTRACTOR shall furnish the Project Manager with evidence that the CONTRACTOR has contacted the utility companies.
- 7.46.4 If the CONTRACTOR discovers that the existence and location of utilities in the contract plans are not correct, the CONTRACTOR shall not disturb the utilities and immediately notify the Project Manager. The Project Manager will advise the CONTRACTOR regarding actions to take.
- 7.46.5 The CONTRACTOR shall ascertain the exact location and depth of utilities within the project area. The CONTRACTOR shall mark such locations to warn workers or equipment operators of their existence and location. The CONTRACTOR shall be responsible to acquaint personnel working near utilities with the type, size, location and depth of the utilities and the consequences that might result from disturbances. The CONTRACTOR shall not start trenching or start similar operations until the CONTRACTOR has taken reasonable and appropriate precautions to protect the utilities.
- 7.46.6 Any utilities or other property that the CONTRACTOR encounters during the progress of the work, such as telephone ducts, electric ducts, water lines, sewer lines, electric lines and drainage pipes, whether shown or not on the contract plans, shall not be disturbed or damaged unless otherwise instructed in the plans and specifications.
- 7.46.7 In the event the utilities or other property are damaged or disturbed by the CONTRACTOR, the CONTRACTOR shall be liable for all such damage where the utilities or other property are:
- (a) Shown on the plan in its actual or approximate location; or
 - (b) Exposed on the job as it progresses; or
 - (c) Pointed out to the CONTRACTOR in the field.
- 7.46.8 Such utilities or other property as described above shall be "known utilities or other property." If the CONTRACTOR encounters an unknown utility or other property, it shall not proceed until it has notified the Project Manager and receives instructions. If the Project Manager directs additional work, it shall be paid for under Section 4.2, CHANGES.
- 7.46.9 The CONTRACTOR shall repair and restore to pre-damaged condition any utilities or any other property it may damage, and it shall be liable for any and all resulting damage at no cost to the Department, the work or utility owner or property owner. Any damage claim due to the disruption of service caused by the utilities being damaged shall be paid by the CONTRACTOR who shall defend, indemnify and hold harmless the Department from all suits, actions or claims of any character brought on account of such damages, whether or not the Department may have been partially at fault. Public liability and property damage insurance to be obtained by the CONTRACTOR pursuant to Section 7.3 INSURANCE REQUIREMENTS shall cover such risk of damage.
- 7.46.10 In the event the CONTRACTOR simultaneously with the discovery of an unknown utility or other property damages that utility or other property, the CONTRACTOR shall not be held liable beyond the extent of the CONTRACTOR's liability insurance but shall immediately notify the Project Manager. Upon instruction from the Project Manager, the CONTRACTOR shall repair all damages and execute a plan for dealing with the damaged utility or other property. This repair work shall be considered additional work as covered in Section 4.2, CHANGES.

~END OF ARTICLE 7~

ARTICLE 8: MEASUREMENT AND PAYMENT

8.1 MEASUREMENT OF QUANTITIES

8.1.1 All work completed under the Contract shall be measured by the Project Manager according to United States standard measures, or as stated in this Contract. The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract shall conform to good Managing practice. These measurements shall be considered correct and final unless the Contractor has protested same to the Project Manager and has demonstrated the existence of an error by actual physical measurement before the work has progressed in a manner, which would prohibit a proper check.

8.1.2 All measurements of the area of the various surfaces, pavement and base courses will be made in the horizontal projection of the actual surface and no deductions will be made for fixtures or structures having an area of nine (9) square feet or less. All measurements of headers, curbs, fences and any other type of construction which is to be paid for by its length will be made in the horizontal projection of the actual driven length from toe to top of cutoff, and for piles, which will be by actual length. All materials which are specified for measurement by the cubic yard "Loose Measurement" or "Measured in the Vehicle" shall be hauled in approved vehicles and measured therein at the point of delivery. Approved vehicles for this purpose may be of any type or size satisfactory to the Project Manager, provided that the body is of such type that the actual contents may be readily and accurately determined. Unless all approved vehicles on a job are of a uniform capacity each approved vehicle must bear a plainly legible identification mark indicating the specific approved capacity. The Inspector may reject all loads not hauled in such approved vehicles.

8.2 NO WAIVER OF LEGAL RIGHTS. The Project Manager shall not be precluded or estopped by any measurements, estimate or certificate made either before or after the completion and acceptance of the work and payment therefor, from showing the true amount and character of the work performed and materials furnished by the Contractor, or from showing that any such measurement estimate or certificate is untrue or incorrectly made, or rejecting the work or materials that do not conform in fact to the contract. The Project Manager shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor and its sureties such damages as the Department may sustain by reason of the Contractor's failure to comply with the terms of the Contract. Neither the acceptance by the Project Manager or any representative of the Project Manager, nor any payment for or acceptance of the whole or any part of the work, nor any extension of time, or any possession taken by the Project Manager, shall operate as a waiver of any portion of the contract, or of any power herein reserved, or any right to damage herein provided. A waiver of any notice requirement or breach of the contract shall not be held to be a waiver of any other notice requirement or subsequent breach.

8.3 PAYMENT FOR ADDITIONAL WORK

8.3.1 Additional work as defined in Section 4.2, CHANGES, when ordered, shall be paid for as defined in Section 4.4, PRICE ADJUSTMENT by a duly issued change order in accordance with the terms provided therein.

8.3.2 On credit proposals and proposals covering both increases and decreases, the application of overhead and profit shall be on the net change in direct costs for the performance of the work.

8.3.3 When payment is to be made for additional work directed by a Field Order, the total price adjustment as specified in the Field Order or if not specified therein for the work contained in the related change

order shall be considered full compensation for all materials, labor, insurance, taxes, equipment use or rental and overheads, both field and home office including extended home and branch office overhead and other related delay impact costs.

- 8.3.4 **FORCE ACCOUNT METHOD.** When, for the convenience of the Department, payment is to be made by the Force Account method, all work performed or labor and materials and equipment furnished shall be paid for as described below. Payment by the Force Account method will not alter any rights, duties and obligations under the contract.
- 8.3.4.1 **LABOR.** For all hourly workers, the Contractor will receive the rate of wage including fringe benefits when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work, which shall be agreed upon in writing before beginning work for each and every hour that said labor is actually engaged in said work.
- (a) All markups for overhead and profit shall be added subject to limitations established in Section 4.5, **ALLOWANCES FOR OVERHEAD AND PROFIT.**
 - (b) No allowance for overtime compensation will be given without the written approval of the Project Manager prior to performance of such work.
- 8.3.4.2 **INSURANCE AND TAXES.** The Contractor and subcontractor(s) will also receive the actual additional costs paid for property damage, liability, worker's compensation insurance premiums, State unemployment contributions, Federal unemployment taxes, social security and Medicare taxes.
- 8.3.4.3 **MATERIALS.** For materials accepted by the Project Manager and used, the Contractor and subcontractor(s) shall receive the actual cost of such materials delivered and incorporated into work, plus a markup allowed under Section 4.5, **ALLOWANCES FOR OVERHEAD AND PROFIT.**
- 8.3.4.4 **SUBCONTRACTORS.** Subcontractor costs shall be the actual costs of the subcontractor marked up as defined in this Section 8.3, **PAYMENT FOR ADDITIONAL WORK** plus a markup allowed under Section 4.5, **ALLOWANCES FOR OVERHEAD AND PROFIT.**
- 8.3.4.5 **EQUIPMENT**
- (a) For machinery or special equipment (other than small tools as herein defined in Subsection 8.3.4.5.(h) owned or leased by the Contractor or a related entity, the use of which has been authorized by the Project Manager:
 - (1) The Contractor will be paid at the per-hour rental rates based on the monthly rate established for said machinery or equipment in the then-current edition of the Rental Rate Blue Book for Construction Equipment including the estimated operating cost per hour and regional correction provided therein.
 - (2) If no rate is listed for a particular kind, type or size of machinery or equipment, then the monthly, hourly rates shall be as agreed upon in writing by the Contractor and the Project Manager prior to the use of said machinery or equipment. If there is no agreement, the Project Manager will set a rate. The Contractor may contest the rate pursuant to Section 7.25, **DISPUTES AND CLAIMS.**
 - (3) Rental rates which are higher than those specified in the aforesaid Rental Rate Blue Book publication may be allowed where such higher rates can be justified by job conditions such as work in water and work on lava, etc. Request for such higher rates shall be submitted in writing to the Project Manager for approval prior to the use of the machinery or equipment in question.

- (b) For machinery or special equipment [other than small tools as herein defined in clause 8.3.4.5 (h)] rented by the Contractor or a related entity specifically for the Force Account work, the use of which has been authorized by the Project Manager, the Contractor will be paid the actual rental cost for the machinery or equipment, including mobilization and demobilization costs. A receipt from the equipment supplier shall be submitted to the Project Manager.
- (c) For machinery or special equipment [other than small tools as herein defined in clause 8.3.4.5 (h)] rented by the Contractor or a related entity for use in the project, but which will also be used for the Force Account work, the use of which has been authorized by the Project Manager, the Contractor will be paid the actual rental cost for the machinery or equipment. No additional mobilization and demobilization costs will be paid. A receipt from the equipment supplier shall be submitted to the Project Manager.
- (d) The rental rate for trucks not owned by the Contractor shall be those as established under the Hawaii State Public Utilities Commission, which will be paid for as an equipment item pursuant to Subsection 8.3.4.5, EQUIPMENT. Rental rates for Contractor owned trucks not listed in the Rental Rate Blue Book shall be agreed upon in writing by the Contractor and Project Manager prior to the use of said trucks. If there is no agreement, the Project Manager shall set the rate. The Contractor may contest the rate pursuant to Section 7.25, DISPUTES AND CLAIMS.
- (e) The rental period shall begin at the time equipment reaches the site of work, shall include each day that the machinery or equipment is at the site of the work and shall terminate at the end of the day on which the equipment is no longer needed. In the event the equipment must standby due to work being delayed or halted by reason of design, traffic, or other related problems uncontrollable by the Contractor, excluding Saturdays, Sundays and Legal Holidays, unless the equipment is used to perform work on such days, the rental shall be two (2) hours per day until the equipment is no longer needed.
 - (1) The rental time to be paid will be for the time actually used. The Project Manager prior to the performance of such work must approve any hours or operation in excess of eight (8) hours in any one (1) day.
 - (2) Rental time will not be allowed or credited for any day on which machinery or equipment is inoperative due to its breakdown. On such days, the Contractor will be paid only for the actual hours, if any, that the machinery or equipment was in operation.
 - (3) In the event the Force Account work is completed in less than eight (8) hours, equipment rental shall nevertheless be paid for a minimum eight (8) hours.
 - (4) For the purpose of determining the rental period the continuous and consecutive days shall be the normal eight (8) hour shift work day, Monday through Friday excluding legal holidays. Any work day to be paid less than eight (8) hours shall not be considered as continuous, except for equipment removed from rental for fuel and lubrication.
 - (5) No additional premium beyond the normal rates used will be paid for equipment over eight (8) hours per day or forty (40) hours per week.
- (f) All rental rates for machinery and equipment shall include the cost of fuel, oil, lubricants, supplies, small tools, necessary attachments, repairs, maintenance, tire wear, depreciation, storage, and all other incidentals.

- (g) All machinery and equipment shall be in good working condition and suitable for the purpose for which the machinery and equipment is to be used.
- (h) Individual pieces of equipment or tools having a replacement value of \$2,000 (two thousand dollars) or less, whether or not consumed by use, shall be considered to be small tools and included in the allowed markup for overhead and profit and no separate payment will be made therefor.
- (i) The total of all Force Account rental charges accrued over the duration of the contract for a specific item of equipment shall not exceed the replacement cost of that equipment.
 - (1) The Contractor shall provide the cost of replacement to the Project Manager prior to using the equipment. If the Project Manager does not agree with the replacement cost, the Project Manager shall set the replacement cost. The Contractor may contest the replacement cost pursuant to Section 7.25, DISPUTES AND CLAIMS.
- (j) Should the item of equipment be rented from an unrelated entity, the rental cost will be treated as equipment cost under Subsection 8.3.4.5, EQUIPMENT.
- (k) Transportation and/or Mobilization: The following provisions shall govern in determining the compensation to be paid to the Contractor for use of equipment or machinery on the Force Account method:
 - (1) The Project Manager shall approve the location from which the equipment is to be moved or transported.
 - (2) Where the equipment must be transported to the site of the Force Account work, the Department will pay the reasonable cost of mobilizing and transporting the equipment, including its loading and unloading, from its original location to the site of Force Account work. Upon completion of the work the Department will pay the reasonable cost of mobilizing and transporting the equipment back to its original location or to another location, whichever cost is less.
 - (3) The cost of transporting the equipment shall not exceed the rates established by the Hawaii State Public Utilities Commission. If such rates are nonexistent, then the rates will be determined by the Project Manager based upon the prevailing rates charged by established haulers within the locale.
 - (4) Where the equipment is self-propelled, the Department will pay the cost of moving the equipment by its own power from its original location to the site of the Force Account work. Upon completion of the work the Department will pay the reasonable cost of moving of the Equipment back to its original or another location, whichever cost is less.
 - (5) At the discretion of the Project Manager, when the Contractor desires to use such equipment for other than Force Account work, the costs of mobilization and transportation shall be prorated between the Force Account and non- Force Account work.
- (l) Pickup trucks, vans, storage trailers, unless specifically rented for the Force Account work, shall be considered incidental to the Force Account work and the costs therefor are included in the markup allowed under Section 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT.

- 8.3.4.6 **STATE EXCISE (GROSS INCOME) TAX AND BOND.** A sum equal to the current percentage rate for the State excise (Gross Income) tax on the total sum determined in Subsections 8.3.4.1, 8.3.4.2, 8.3.4.3 and 8.3.4.4 above, and the bond premium shall be added as compensation to the Contractor. The actual bond premium not to exceed one percent (1%) shall be added to items covered by Subsections 8.3.4.1, 8.3.4.2, 8.3.4.3 and 8.3.4.4 when applicable.
- (a) The compensation as determined in Subsections 8.3.4.1, 8.3.4.2, 8.3.4.3, 8.3.4.4 and 8.3.4.5 above shall be deemed to be payment in full for work paid on a Force Account basis.
- 8.3.4.7 **RECORDS.** The Contractor and the Project Manager shall compare records of the labor, materials and equipment rentals paid by the Force Account basis at the end of each day. These daily records, if signed by both parties, shall thereafter be the basis for the quantities to be paid for by the Force Account method. The Contractor shall not be entitled to payment for Force Account records not signed by the Project Manager.
- 8.3.4.8 **STATEMENTS.** No payment will be made for work on a Force Account basis until the Contractor has submitted to the Project Manager, duplicate itemized statements of the cost of such Force Account work detailed as follows:
- (a) **Laborers.** Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman and also the amount of fringe benefits payable if any.
- (b) **Equipment.** Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
- (c) **Materials:**
- (1) Quantities of materials, prices and extensions.
- (2) Costs of transporting materials, if such cost is not reflected in the prices of the materials.
- (3) Statements shall be accompanied and supported by receipted invoices for all materials used and transportation charges. However, if materials used on the Force Account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractors shall submit an affidavit certifying that such materials were taken from stock and that the amount claimed represents the actual cost to the Contractor.
- (d) **Insurance.** Cost of property damage, liability and worker's compensation insurance premiums, unemployment insurance contributions, and social security tax.
- 8.4 **PROGRESS AND/OR PARTIAL PAYMENTS**
- 8.4.1 **PROGRESS PAYMENTS.** The Contractor will be allowed progress payments on a monthly basis upon preparing the Monthly Payment Application forms and submitting the originals to the Project Manager. The monthly payment shall be based on the items of work satisfactorily completed and the value thereof at unit prices and/or lump sum prices set forth in the contract as determined by the Project Manager and will be subject to compliance with Section 7.9, PAYROLLS AND PAYROLL RECORDS.
- 8.4.1.1 **ORIGINAL INVOICES REQUIRED.** All payments under this Contract shall be made only upon submission by the CONTRACTOR of original invoices specifying the amount due and certifying that services requested under the Contract have been performed by the CONTRACTOR according to the Contract.
- 8.4.1.2 **SUBJECT TO AVAILABLE FUNDS.** Such payments are subject to availability of funds and allotment by the Director of Finance in accordance with chapter 37, HRS. Further, all payments shall be made in accordance with and subject to chapter 40, HRS.

- 8.4.2 In the event the Contractor or any Subcontractor fails to submit certified copies of payrolls in accordance with the requirements of Section 7.9, PAYROLLS AND PAYROLL RECORDS, the Project Manager may retain the amount due for items of work for which payroll affidavits have not been submitted on a timely basis notwithstanding satisfactory completion of the work until such records have been duly submitted. The Contractor shall not be due any interest payment for any amount thus withheld.
- 8.4.3 PARTIAL PAYMENT FOR MATERIALS. The Contractor will also be allowed partial payments to the extent of ninety percent (90%) of the manufacturer's, supplier's, distributor's or fabricator's invoice cost of accepted materials to be incorporated in the work on the following conditions:
- 8.4.3.1 The materials are delivered and properly stored at the site of the work; or
- 8.4.3.2 For special items of materials accepted by the Project Manager, the materials are delivered to the Contractor or subcontractor(s) and properly stored in an acceptable location within a reasonable distance to the site of the work.
- 8.4.4 Partial payments shall be made only if the Project Manager finds that:
- 8.4.4.1 The Contractor has submitted bills of sale for the materials or otherwise demonstrates clear title to such materials.
- 8.4.4.2 The materials are insured for their full replacement value to the benefit of the Department against theft, fire, damages incurred in transportation to the site, and other hazards.
- 8.4.4.3 The materials are not subject to deterioration.
- 8.4.4.4 In case of materials stored off the project site, the materials are not commingled with other materials not to be incorporated into the project.
- 8.4.5 FEDERAL FUNDS. If this Contract is payable in whole or in part from federal funds, Contractor agrees that, as to the portion of the compensation under this Contract to be payable from federal funds, the Contractor shall be paid only from such funds received from the federal government, and shall not be paid from any other funds.
- 8.4.6 Final Payment Requirements (§3-122-112, HAR). Upon receipt of the Contractor's invoice for final payment, the Department shall verify compliance with Section 103D-328 HRS via Hawaii Compliance Express (HCE).
- 8.5 PROMPT PAYMENT (§3-125-23 HAR)
- 8.5.1 Any money, other than retainage, paid to the CONTRACTOR shall be dispersed to subcontractors within ten days after receipt of the money in accordance with the terms of the subcontract; provided that the subcontractor has met all the terms and conditions of the subcontract and there are no bona fide disputes; and
- 8.5.2 BONA FIDE DISPUTES. The existence of a bona fide dispute with a subcontractor or material supplier shall not release the Contractor of its prompt payment obligations as to all sums due that are not directly affected by such dispute.

- 8.5.3 FILING NON-PAYMENT COMPLAINT. Subcontractors and material suppliers may file in writing a complaint with the Chairman regarding non-payment by the Contractor. Such complaint shall include:
- 8.5.3.1 The amount past due for work performed and already paid for by the Department;
- 8.5.3.2 That all the terms, conditions or requirements of its subcontract have been met; and
- 8.5.3.3 That no bona fide dispute over its performance exists. The Department will investigate the validity of the complaint.
- 8.5.4 The Department may withhold from future progress payments amounts to cover any sums paid to the Contractor for work performed by a subcontractor if the Department finds that the subcontractor complaint regarding non-payment by the Contractor has merit.
- 8.5.5 If the Project Manager determines that the Contractor failed to make prompt payment required to a subcontractor or material supplier with whom it has no bona fide dispute, the Project Manager shall inform the Contractor of the findings and request the Contractor make payment accordingly. If the Contractor does not act promptly, the Project Manager shall take appropriate action as allowed under this Contract and/or refer the matter to the Contractor Licensing Board for appropriate action under Section 444-17, Hawaii Revised Statutes regarding the Revocation, Suspension and Renewal of (Contractor) Licenses and/or initiate a petition for debarment of the Contractor from bidding on other Department jobs.
- 8.6 RETAINAGE
- 8.6.1 The Department will retain five percent (5%) of the total amount of progress and / or partial payments until after completion of the entire Contract in an acceptable manner at which time this balance, less any previous payments, will be certified and paid to the Contractor. After fifty percent (50%) of the work is completed and progress is satisfactory, no additional sum will be withheld. If progress is not satisfactory, the Department may continue to withhold retainage sums not exceeding five percent (5%) of the amount due the Contractor.
- 8.6.1.1 Contractor may withhold from amounts due its subcontractors, only the same percentage of retainage as that of the Contractor, and only if its subcontractors have provided valid performance and payments bonds or other bond or collateral acceptable to the Contractor.
- 8.6.1.2 Contractor or Subcontractor may negotiate with, and retain from its respective subcontractors, a different retainage percentage which cannot exceed ten percent (10%).
- 8.6.2 The retainage shall not include sums deducted as liquidated damages from monies due or that may become due the Contractor under the Contract.
- 8.7 WARRANTY OF CLEAR TITLE. The Contractor warrants and guarantees that all work and materials covered by progress or partial payments made thereon shall be free and clear of all liens, claims, security interests or encumbrances, and shall become the sole property of the Department. This provision shall not, however, be construed as an acceptance of the work nor shall it be construed as relieving the Contractor from the sole responsibility for all materials and work upon which payments have been made or the restoration of any damaged work, or as waiving the right of the Department to require the fulfillment of all the items of the Contract.

- 8.7.1 LIENS AND WARRANTIES. Goods provided under this Contract shall be provided free of all liens and provided together with all applicable warranties, or with the warranties described in the Contract documents, whichever are greater.
- 8.8 FINAL PAYMENT
- 8.8.1 Upon final payment to the CONTRACTOR, full payment to the subcontractor, including retainage, shall be made within ten days after receipt of the money; provided that there are no bona fide disputes over the subcontractor's performance under the subcontract.
- 8.8.2 Sums necessary to meet any claims of any kind by the Department may be retained from the sums due the Contractor until said claims have been fully and completely discharged or otherwise satisfied.
- 8.9 STATE'S RIGHT TO OFFSET. The STATE may offset against any monies or other obligations the STATE owes to the CONTRACTOR under this Contract, any amounts owed to the State of Hawaii by the CONTRACTOR under this Contract or any other Contracts or pursuant to any law or other obligation owed to the State of Hawaii by the CONTRACTOR, including, without limitation, the payment of any taxes or levies of any kind or nature. The STATE will notify the CONTRACTOR in writing of any offset and the nature of such offset. For purposes of this Subsection, amounts owed to the State of Hawaii shall not include debts or obligations which have been liquidated, agreed to by the CONTRACTOR, and are covered by an installment payment or other settlement plan approved by the State of Hawaii, provided, however, that the CONTRACTOR shall be entitled to such exclusion only to the extent that the CONTRACTOR is current with, and not delinquent on, any payments or obligations owed to the State of Hawaii under such payment or other settlement plan.

~END OF ARTICLE 8~

NOTICE OF INTENTION TO BID

Date: _____

Mr. William J. Aila, Jr., Chairman
Hawaiian Homes Commission
DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

Attention: Mr. Mitchell H. Kawamura, Land Development Division
Notice of Intention to Bid due September 1, 2021.

Gentlemen:

In accordance with the provisions of Section 103D-310, Hawaii Revised Statutes and Hawaii Administrative Rules 3-122-111, it is the intention of the undersigned to bid on IFB No. IFB-22-HHL-007, Papakolea Kapahu St. Slope Improvements, Honolulu, Oahu, State of Hawaii, for which bids will be opened on **September 22, 2021 at 2:00 p.m.**

| | |
|-----------------------------------|--|
| _____ Name of Firm | _____ Contractor's License No. |
| _____ Address | _____ Hawaii General Excise Tax No. |
| _____ City, State and Zip Code | _____ Telephone No. / Facsimile No. |
| | _____ e-mail address |
| Respectfully submitted, | |
| | _____ Signature |
| | _____ Print Name and Title |

Date: _____

Gentlemen:

The Department of Hawaiian Home Lands acknowledges on this date above, your Notice of Intention to Bid on IFB-22-HHL-007.

Mitchell H. Kawamura, Project Manager, for
William J. Aila, Jr., Chairman
Hawaiian Homes Commission

SAMPLE

STATE OF HAWAII
STANDARD
QUALIFICATION QUESTIONNAIRE
FOR
OFFERORS

issued by the
PROCUREMENT POLICY BOARD
STATE OF HAWAII

June 16, 2003

To be filed with the procurement officer calling for offers
in accordance with Section 103D-310, HRS, as amended.

Submitted By _____

Address _____

Date _____

STANDARD QUALIFICATION QUESTIONNAIRE

COVERING EXPERIENCE, EQUIPMENT AND FINANCIAL STATEMENT OF OFFERORS. THE OFFICER CALLING FOR OFFERS MAY REQUIRE THE OFFEROR TO FURNISH ADDITIONAL INFORMATION NOT SPECIFICALLY COVERED HEREIN. ALL ITEMS MUST BE ANSWERED AND OMISSIONS MAY BE CONSIDERED GOOD CAUSE FOR UNFAVORABLE CONSIDERATION.

GENERAL INFORMATION

1. The statements contained in this Questionnaire are being furnished for consideration in submitting an offer for the following project:

(a) Project Title _____

(b) Location _____

(c) Bid Opening Date _____

2. The Questionnaire is being submitted in behalf of:

(a) Name of Offeror _____

- ☐ A Corporation
☐ A Partnership
☐ An Individual
☐ A Joint-Venture

(b) Address _____

(c) Telephone No. _____

(d) Date Submitted _____

3. If the bid is submitted by a joint venture, composed of two or more individual firms, then each member firm comprising the joint venture must submit all information listed on pages 3 through 16, inclusive, of the Questionnaire and, in addition, answer the following:

(a) Members of joint Venture _____

(b) Date of Joint Venture Agreement _____

(c) Is agreement between members comprising the joint venture joint and several liability? _____

If not, state the terms of agreement in this respect: _____

EXPERIENCE QUESTIONNAIRE

Submitted by _____

☐ A Corporation

☐ A Partnership

☐ An Individual

Principal Office _____

The signatory of this questionnaire guarantees the truth and accuracy of all statements and of all answers to interrogatories hereinafter made

1. How many years has your organization been in business as a [General Contractor] under your present business name? _____
2. How many years experience in [construction] _____ has your organization had: (A) as a [General Contractor] _____; (B) as a [Sub-Contractor] _____
3. Show what [construction] projects your organization has completed in the past five (5) years in the following tabulation:

| Contract Amt. | Class of Work | When Completed | Name and Address of Owner |
|---------------|---------------|----------------|---------------------------|
| | | | |
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4. Have you ever failed to complete any work awarded to you? _____ If so, state when, where and why? _____

5. Has any officer or partner of your organization in the past five (5) years been an officer or partner of some other organization that failed to complete a contract? If so, state name of individual, other organization and reason therefore _____

6. Has any officer or partner of your organization in the past five (5) years failed to complete a contract handled in his own name? _____ If so, state name of individual, name of Owner and reason therefore.

7. In what other lines of business are you financially interested? _____

8. For what corporations or individuals in the past five (5) years have you performed work, and to whom do you refer? _____

9. For what counties within the State of Hawaii have you performed work and to whom do you refer?

10. For what Bureaus or Departments of the State government have you performed work and to whom do you refer?

11. Have you performed work for the U. S. Government? _____ If so, when and to whom do you refer?

12. Have you ever performed any work for any other governmental agencies outside the State of Hawaii? _____ If so, when and to whom do you refer? _____

13. What is the [construction] experience of the principal individuals of your organization?

| Individual's Name | Present Position or Office | Years of Work Experience | Magnitude and Type of Work | In What Capacity? |
|-------------------|-------------------------------|--------------------------------|----------------------------|----------------------|
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EQUIPMENT QUESTIONNAIRE

Submitted by _____

Principal Office _____

- ☐ A Corporation
☐ A Partnership
☐ An Individual

The signatory of this questionnaire guarantees the truth and accuracy of all statements and of all answers to interrogatories hereinafter made

1. In what manner have you inspected this proposed work? Explain in detail. _____
2. Explain your plan or layout for performing the proposed work. _____
3. The work, if awarded to you, will have the personal supervision of whom?
4. Do you intend to do the hauling on the proposed work with your own force? _____ If so, give amount and type of equipment to be used.
5. If you intend to sublet the hauling or perform it through an agent, state amount of sub-contract or agent's contract, and, if known, the name and address of sub-contractor or agent, amount and type of his equipment and financial responsibility _____
6. Do you intend to do grading on the proposed work with your own forces? _____ If so, give type of equipment to be used _____

7. If you intend to sublet the grading or perform it through an agent, state amount of sub-contract or agent's contract, and, if known, the name and address of sub-contractor or agent, amount and type of his equipment and financial responsibility _____

8. Do you intend to sublet any other portions of the work? _____ If so, state -amount of sub-contract, and, if known, the name and address of the sub-contractor, amount and type of his equipment and financial responsibility _____

9. From which sub-contractors or agents do you expect to require a bond? _____

10. What equipment do you own that is available for the proposed work?

| Quantity | Item | Description, Size, Capacity, Etc. | Condition | Years of Service | Present Location |
|----------|------|--------------------------------------|-----------|---------------------|------------------|
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11. What equipment do you intend to purchase for use on the proposed work, should the contract be awarded to you?

| Quantity | Item | Description, Size, Capacity, Etc. | Approximate Cost |
|----------|------|-----------------------------------|------------------|
| | | | |
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12. How and when will you pay for the equipment to be purchased? _____

13. Do you propose to rent any equipment for this work? _____ If so, state type, quantity
 and reasons for renting _____

FINANCIAL STATEMENT

Submitted by _____

Principal Office _____

- ☐ A Corporation
☐ A Partnership
☐ An Individual

The signatory of this questionnaire guarantees the truth and accuracy of all statements and of all answers to interrogatories hereinafter made

BALANCE SHEET

As of _____, 20____

Assets

Current assets:

| | |
|--|----------|
| Cash and cash equivalents (1) | \$ _____ |
| Short-term investments (2) | _____ |
| Accounts receivable, net (3) | _____ |
| Inventories (4) | _____ |
| Costs and estimated earnings in excess of billings on uncompleted contracts (5) | _____ |
| Prepaid expenses and other (6) | _____ |
| Sub-Total Current Assets | _____ |

Property and equipment:

| | |
|---------------------------------------|-----------|
| Land (7) | _____ |
| Buildings (8) | _____ |
| Vehicles, machinery and equipment (9) | _____ |
| Furniture and fixtures (10) | _____ |
| Less accumulated depreciation | (_____) |
| Sub-Total Net Property and Equipment | _____ |

Other assets:

| | |
|--|-------|
| Cash surrender value of life insurance policies (11) | _____ |
| Deposits and other (12) | _____ |
| Sub-Total Other Assets | _____ |

Total Assets: \$ _____

BALANCE SHEET (Continued)

Liabilities and Stockholder's Equity

Current liabilities:

| | |
|--|----------|
| Current portion of long-term debt (1) | \$ _____ |
| Accounts payable (2) | _____ |
| Billings in excess of costs and estimated earnings on uncompleted contracts (3) | _____ |
| Accrued liabilities and other (4) | _____ |
| Sub-Total Current Liabilities | _____ |

| | |
|--|-------|
| Long-term debt, net of current portion (5) | _____ |
|--|-------|

| | |
|---|----------|
| Sub-Total Liabilities & Long-term Debt: | \$ _____ |
|---|----------|

Stockholder's equity:

| | |
|--------------------------------|-----------|
| Capital stock (6) | _____ |
| Additional paid-in capital (7) | _____ |
| Retained earnings | _____ |
| Treasury stock (8) | (_____) |
| Sub-Total Stockholder's Equity | \$ _____ |

| | |
|--|----------|
| Total Liabilities and Stockholder's Equity | \$ _____ |
|--|----------|

DETAILS RELATIVE TO ASSETS

(1) Cash and cash equivalents:

| <u>Financial Institution</u> | <u>Type of Account</u> | <u>Amount</u> |
|------------------------------|------------------------|---------------|
| | | \$ _____ |
| | | _____ |
| | | _____ |
| | | \$ _____ |

(2) Short-term investments:

| <u>Type of Security</u> | <u>Cost</u> | <u>Unrealized Gains</u> | <u>Unrealized Losses</u> | <u>Estimated Fair Value</u> |
|-------------------------|-------------|-------------------------|--------------------------|-----------------------------|
| | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | \$ _____ | \$ _____ | \$ _____ | \$ _____ |

(3) Accounts receivable (list major debtors):

Completed contracts

| <u>Name</u> | <u>Description</u> | <u>Completion Date</u> | <u>Contract Amount</u> | <u>Amount Receivable</u> |
|-------------|--------------------|------------------------|------------------------|--------------------------|
| | | \$ _____ | \$ _____ | \$ _____ |
| | | _____ | _____ | _____ |
| | | _____ | _____ | _____ |
| | | \$ _____ | \$ _____ | \$ _____ |

Other than completed contracts

| <u>Name</u> | <u>Description</u> | <u>Due Date</u> | <u>Amount Receivable</u> |
|--------------------------------------|--------------------|-----------------|--------------------------|
| | | | |
| | | | |
| | | | |
| Less allowance for doubtful accounts | | | (_____) |
| | | | \$ _____ |

(4) Inventories

| <u>Description</u> | <u>Cost</u> | <u>Market Value</u> | <u>Lower of Cost or Market Value</u> |
|--------------------|-------------|---------------------|--------------------------------------|
| | \$ _____ | \$ _____ | \$ _____ |
| | _____ | _____ | _____ |
| | _____ | _____ | _____ |
| | \$ _____ | \$ _____ | \$ _____ |

DETAILS RELATIVE TO ASSETS (Continued)

(5) Costs and estimated earnings in excess of billings on uncompleted contracts

| <u>Name</u> | <u>Description</u> | <u>Completion Date</u> | <u>Contract Amount</u> | <u>Costs and Estimated Earnings to Date</u> | <u>Billings to Date</u> | <u>Costs and Estimated Earnings in Excess of Billings</u> |
|-------------|--------------------|----------------------------|----------------------------|---|-----------------------------|---|
| | | \$ | \$ | \$ | \$ | |
| | | | | | | |
| | | | | | | |
| | | | \$ | \$ | \$ | \$ |

(6) Prepaid expenses and other

| <u>Description</u> | <u>Amount</u> |
|--------------------|---------------|
| | \$ |
| | |
| | |
| | \$ |

(7) Land

| <u>Description</u> | <u>Location</u> | <u>Amount</u> |
|--------------------|-----------------|---------------|
| | | \$ |
| | | |
| | | |
| | | \$ |

(8) Buildings

| <u>Description</u> | <u>Location</u> | <u>Amount</u> |
|--------------------|-----------------|---------------|
| | | \$ |
| | | |
| | | |
| | | \$ |

(9) Vehicles, machinery and equipment

| <u>Description</u> | <u>Amount</u> |
|--------------------|---------------|
| | \$ |
| | |
| | |
| | \$ |

(10) Furniture and fixtures

| <u>Description</u> | <u>Amount</u> |
|--------------------|---------------|
| | \$ |
| | |
| | |
| | \$ |

DETAILS RELATIVE TO ASSETS (Continued)

(11) Cash surrender value of life insurance policies

| <u>Key Employee</u> | <u>Insurance Company</u> | <u>Policy Amount</u> | <u>Paid-Up Additional Insurance</u> | <u>CSV Amount</u> |
|---------------------|--------------------------|--------------------------|---|-----------------------|
| _____ | _____ | \$ _____ | \$ _____ | \$ _____ |
| _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ |
| Less loans payable | | _____ | _____ | (_____) |
| | | \$ _____ | \$ _____ | \$ _____ |

(12) Deposits and other

| <u>Description</u> | <u>Amount</u> |
|--------------------|---------------|
| _____ | \$ _____ |
| _____ | _____ |
| _____ | _____ |
| | \$ _____ |

DETAILS RELATIVE TO LIABILITIES AND STOCKHOLDER'S EQUITY

(1) Current portion of long-term debt (maturing within 12 months)

| <u>Lender</u> | <u>Description</u> | <u>Security Pledged</u> | <u>Due Date</u> | <u>Amount</u> |
|---------------|--------------------|-------------------------|-----------------|---------------|
| | | | | \$ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | \$ |

(2) Accounts payable (list major creditors)

| <u>Name</u> | <u>Past Due Amount</u> | <u>Amount</u> |
|-------------|------------------------|---------------|
| | \$ | \$ |
| | | |
| | | |
| | | |
| | \$ | \$ |

(3) Billings in excess of costs and estimated earnings on uncompleted contracts

| <u>Name</u> | <u>Description</u> | <u>Completion Date</u> | <u>Contract Amount</u> | <u>Costs and Estimated Earnings to Date</u> | <u>Billings to Date</u> | <u>Billings in excess of costs and Estimated Earnings</u> |
|-------------|--------------------|------------------------|------------------------|---|-------------------------|---|
| | | | \$ | \$ | \$ | \$ |
| | | | | | | |
| | | | | | | |
| | | | \$ | \$ | \$ | \$ |

(4) Accrued liabilities and other

| <u>Description</u> | <u>Amount</u> |
|--------------------|---------------|
| | \$ |
| | |
| | |
| | \$ |

(5) Long-term debt, net of current portion

| <u>Lender</u> | <u>Description</u> | <u>Security Pledged</u> | <u>Due Date</u> | <u>Amount</u> |
|---------------|--------------------|-------------------------|-----------------|---------------|
| | | | | \$ |
| | | | | |
| | | | | |
| | | | | \$ |

DETAILS RELATIVE TO LIABILITIES AND STOCKHOLDER'S EQUITY (Continued)

(6) Capital stock

| <u>Type of Stock</u> | <u>Class</u> | <u>No. of Shares Authorized</u> | <u>No. of Shares Issued and Outstanding</u> | <u>Par Value</u> | <u>Amount</u> |
|----------------------|--------------|-------------------------------------|---|------------------|---------------|
| | | | | \$ | \$ |
| | | | | | |
| | | | | | \$ |

(7) Additional paid-in capital

| <u>Description</u> | <u>Amount</u> |
|--------------------|---------------|
| | \$ |
| | |
| | \$ |

(8) Treasury stock

| <u>Type of Stock</u> | <u>Class</u> | <u>No. of Shares</u> | <u>Cost</u> |
|----------------------|--------------|--------------------------|-------------|
| | | | \$ |
| | | | |
| | | | \$ |

STATEMENTS OF INCOME AND RETAINED EARNINGS

For the Years Ended _____, 20____ and 20____

| | 20____ | 20____ |
|--|----------|----------|
| | _____ | _____ |
| Contract revenues | \$ _____ | \$ _____ |
| Costs of contracts | _____ | _____ |
| Gross income from contracts | | |
| General and administrative expenses | _____ | _____ |
| Income from operations | | |
| Other income (expense) | _____ | _____ |
| Income before income taxes | | |
| Income taxes | _____ | _____ |
| Net income | | |
| Retained earnings, beginning of the year | _____ | _____ |
| Retained earnings, end of the year | \$ _____ | \$ _____ |

| If a corporation, answer this: Capital paid in cash, \$ _____ When Incorporated _____ In what State _____ Date registered in Hawaii _____ President's name _____ Vice-President's name _____ Secretary's name _____ Treasurer's name _____ | If a partnership, answer this: Date of organization _____ Date registered in Hawaii _____ State whether partnership is general or limited _____ <div style="border-top: 1px solid black; height: 10px; margin-top: 5px;"></div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <th style="width: 80%;">Name and address of partners:</th> <th style="width: 20%;">Age</th> </tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> </table> | Name and address of partners: | Age | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
|--|---|-------------------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| Name and address of partners: | Age | | | | | | | | | | |
| _____ | _____ | | | | | | | | | | |
| _____ | _____ | | | | | | | | | | |
| _____ | _____ | | | | | | | | | | |
| _____ | _____ | | | | | | | | | | |

The undersigned hereby declares: that the foregoing is a true statement of the financial condition of the individual, partnership or corporation herein first named, as of the date herein first given; that this statement is for the express purpose of inducing the party to whom it is submitted to award the offeror a contract; and that any depository, vendor or other agency herein named is hereby authorized to supply such party with any information necessary to verify this statement.

NOTE: A partnership must give firm name and signatures of all partners. A corporation must give full corporate name, signature of official, and affix corporate seal.

Affidavit for Individual

STATE OF HAWAII

COUNTY OF _____

_____ being duly sworn, deposes and says that the foregoing financial statement, taken from his books, is a true and accurate statement of his financial condition as of the date thereof and that the answers to the foregoing interrogatories are true.

Sworn to before me this _____ day of _____ 20____

 (Applicant must also sign here)

 Notary Public

Affidavit for Partnership

STATE OF HAWAII

COUNTY OF _____

_____ being duly sworn, deposes and says that he is a member of the firm of _____; and that he is familiar with the books of the said firm showing its financial condition; that the foregoing financial statement, taken from the books of the said firm, is a true and accurate statement of the financial condition of the said firm as of the date thereof and that the answers to the foregoing interrogatories are true.

Sworn to before me this _____ day of _____ 20____

 (Members of firm must also sign here)

 Notary Public

Affidavit for Corporation

STATE OF HAWAII

COUNTY OF _____

_____ being duly sworn, deposes and says that he is _____ of the _____, the corporation described in and which executed the foregoing statement; that he is familiar with the books of the said corporation showing its financial condition; that the foregoing financial statement, taken from the books of the said corporation, is a true and accurate statement of the financial condition of said corporation as of the date thereof and that the answers to the foregoing interrogatories are true.

Sworn to before me this _____ day of _____ 20____

 (Officer must also sign here)

 Notary Public

Corporate Resolution Form

CORPORATE RESOLUTION
(Name of Corporation - Use Letterhead)

I, _____, Secretary of _____
Corporation, a _____ corporation, do hereby certify that the following is a full,
true and correct copy of a resolution duly adopted by the Board of Directors of said Corporation,
at its meeting duly called and held at the office of the Corporation located at
_____,
(address)

on the _____ day of _____, 20____, at which a quorum was present
and acting throughout; and that said resolution has not been modified, amended or rescinded and
continues in full force and effect:

"RESOLVED that any individual at the time holding the position of
President or Vice President, be, and each of them hereby is, authorized to
execute on behalf of the Corporation any bid, proposal or contract for the
sale or rental of the products of the Corporation or for services to be
performed by the Corporation and to execute any bond required by any
such bid proposal or contract with the United States Government or the
State of Hawaii or the City and County of Honolulu, or any County or
Municipal Government of said State, or any department or subdivision of
any of them."

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of
said _____ Corporation this _____ day of
_____, 20_____.

Secretary

(Names and Addresses of)
President
Vice President
Secretary

EXHIBIT A

SURETY [BID] [PROPOSAL] BOND
(11/17/98)

Bond No. _____

KNOW TO ALL BY THESE PRESENTS:

That we, _____,
(Full Name or Legal Title of Offeror)

as Offeror, hereinafter called Principal, and _____,
(Name of Bonding Company)

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

(Required Amount of Bid Security)

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

WHEREAS:

The Principal has submitted an offer for _____

(Project by Number and Brief Description)

NOW, THEREFORE:

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

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Offeror)

Signature

Title

(Seal)

Name of Surety

Signature

Title

EXHIBIT B

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

KNOW TO ALL BY THESE PRESENTS:

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

as Contractor, hereinafter called Principal, and _____

(Name and Street Address of Bonding Company)

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

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

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

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

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

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

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

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

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

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

EXHIBIT C

PERFORMANCE BOND
(11/17/98)

KNOW TO ALL BY THESE PRESENTS:

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

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

_____, its successors and assigns, as Oblige, hereinafter called
(State/County Entity)
Oblige, in the amount of _____

(Dollar Amount of Contract)

DOLLARS (\$_____), lawful money of the United States of America, for the payment of which to the said Oblige, well and truly to be made, Contractor binds itself, its heirs, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

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

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

WHEREAS:

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

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

NOW, THEREFORE,

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

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

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

Signed this _____ day of _____, _____.

(Seal)

Name of Contractor

* _____
Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

EXHIBIT D

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

KNOW TO ALL BY THESE PRESENTS:

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

as Contractor, hereinafter called Principal, and _____

_____,
(Name and Street Address of Bonding Company)

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

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

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

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

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

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

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

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

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

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

EXHIBIT E

LABOR AND MATERIAL PAYMENT BOND
(11/17/98)

KNOW TO ALL BY THESE PRESENTS:

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

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

_____, its successors and assigns, as Obligee, hereinafter called
(State/County Entity)

Obligee, in the amount of _____

(Dollar Amount of Contract)

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

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

a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
_____;

☐ Treasurer's Check No. _____, dated _____, issued by _____,
drawn on _____,
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
_____;

☐ Official Check No. _____, dated _____, issued by _____,
drawn on _____,
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
_____;

☐ Certified Check No. _____, dated _____, accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
_____;

WHEREAS:

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

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

NOW, THEREFORE,

The condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every

nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, and shall promptly pay all persons supplying labor and materials for the performance of the Contract, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

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

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

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

Signed this _____ day of _____, _____.

(Seal)

Name of Contractor

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

EXHIBIT G

**PERFORMANCE BOND (SURETY)
FOR SUPPLEMENTAL AGREEMENT
FOR GOODS AND SERVICES
(11/17/98)**

KNOW TO ALL BY THESE PRESENTS:

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

as Contractor, hereinafter called Principal, and _____

(Name and Street Address of Bonding Company)

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

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

WHEREAS, the above-bound Principal has entered into a Contract with Obligee dated
_____ for _____

and entered into Supplemental Agreement No. _____, dated _____ for the period

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

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

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

Surety to this Bond hereby stipulates and agrees that no changes, extensions of time,
alterations, or additions to the terms of the Contract, including the work to be performed
thereunder, and the specifications or drawings accompanying same, shall in any way affect its

obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

In the event of Default by the Principal, of the obligations under the Contract, then after written Notice of Default from the Obligee to the Surety and the Principal, Surety shall either remedy the Default, or take over the work to be performed under the Contract and complete such work, subject, however, to the limitation of the penal sum of this bond.

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

EXHIBIT H

**PERFORMANCE BOND
FOR SUPPLEMENTAL AGREEMENT
FOR GOODS AND SERVICES**

(11/17/98)

KNOW TO ALL BY THESE PRESENTS:

That we, _____,
(Full Legal Name and Street Address of Contractor)
as Contractor, hereinafter called Contractor, is held and firmly bound unto the

_____, its successors and assigns, as Obligee, hereinafter called Obligee,
(State/County Entity)
in the amount of _____

(Dollar Amount of Contract)

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

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

- ☐ Treasurer's Check No. _____, dated _____, drawn on _____, a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Official Check No. _____, dated _____, drawn on _____, a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Certified Check No. _____, dated _____, accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

WHEREAS:

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

and entered into Supplemental Agreement No. _____, dated _____ for the period _____; hereinafter collectively called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW, THEREFORE,

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

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

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

Signed this _____ day of _____, _____.

(Seal)

Name of Contractor

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

FORM 1

CERTIFICATION OF BIDDER'S PARTICIPATION IN APPROVED APPRENTICESHIP PROGRAM UNDER ACT 17

| | | | |
|--|-----------------------------------|---|--|
| I. Bidder's Identifying Information | | | |
| A. Legal Business Name: _____ | | | |
| B. Project Bid Title & Reference No.: _____ | | | |
| C. Contact Person's Name: _____ | | | |
| 1. Phone No.: _____ | | 2. E-Mail: _____ | |
| II. Apprenticeable Trades To Be Employed* | B. Apprenticeship Sponsor* | C. No. Enrolled | D. No. Completed |
| A. (List) | (One Sponsor Per Form) | (# of apprentices currently enrolled as of bidder's request date) | (# of apprentices who completed the apprenticeship program in the 12 months prior to request date) |
| 1. _____ | _____ | _____ | _____ |
| 2. _____ | _____ | _____ | _____ |
| 3. _____ | _____ | _____ | _____ |
| 4. _____ | _____ | _____ | _____ |
| 5. _____ | _____ | _____ | _____ |
| 6. _____ | _____ | _____ | _____ |
| III. Bidder's Certification | | | |
| I certify that the above information is accurate to the best of my knowledge. I understand that my willful misstatement of facts may cause forfeiture of the preference under Act 17 and may result in criminal action. I give permission for outside sources to be contacted and for them to disclose any information necessary to verify the bidder's preference. | | | |
| A. Name (Type) _____ | | B. Title _____ | |
| C. Signature (original signature required) _____ | | D. Date _____ | |
| IV. Apprenticeship Sponsor's Contact Information | | | |
| A. Training Coordinator's Name: _____ | | | |
| B. Address: _____ | | | |
| C. Phone No.: _____ | | D. E-Mail: _____ | E. Fax No: _____ |
| V. Apprenticeship Program Sponsor's Certification | | | |
| I certify that the above information is accurate to the best of my knowledge. I understand that my willful misstatement of facts may cause forfeiture of the bidder's preference and may result in criminal action. I give permission for outside sources to be contacted and for them to disclose any information necessary to verify the bidder's preference under Act 17. | | | |
| A. Name of Authorized Official _____ | | B. Title _____ | |
| C. Signature (original signature required) _____ | | D. Date _____ | |

* Name of Apprenticeable Trade and Apprenticeship Sponsor must be the **same** as recorded in the List of Construction Trades in Registered Apprenticeship Programs that is posted on the State Department of Labor and Industrial Relations website.

FORM 2

MONTHLY REPORT OF CONTRACTOR'S PARTICIPATION IN APPROVED APPRENTICESHIP PROGRAM UNDER ACT 17

| | | | |
|--|--|--|------------|
| I. Contractor's Identifying Information | | II. Reporting Period | |
| A. Legal Business Name: | | A. Month: | B. Year: |
| B. Project Contract Title & Reference No.: | | | |
| C. Contact Person's Name: | | | |
| 1. Phone No.: | | 2. E-Mail: | |
| III. Apprenticeship Program (Complete a separate form for <i>each</i> apprenticeship program in which workers are employed on the project.) | | | |
| A. Contractor was a party to an apprenticeship program or programs with the following sponsor: (Give sponsor's name.)* | | B. Was the contractor a party to the program during the <i>entire</i> report month? | |
| | | 1. Yes <input type="checkbox"/> | |
| | | 2. No <input type="checkbox"/> If NO, state applicable period and why (may be subject to sanctions.) | |
| IV. Contractor's Certification | | | |
| I certify that the above information is accurate to the best of my knowledge. I understand that my willful misstatement of facts may cause forfeiture of the preference under Act 17 and may result in criminal action. I give permission for outside sources to be contacted and for them to disclose any information necessary to verify the bidder's preference. | | | |
| A. Name (Type) | | B. Title | |
| C. Signature (original signature required) | | D. Date | |
| V. Apprenticeship Sponsor's Contact Information | | | |
| A. Training Coordinator's Name: | | | |
| B. Address: | | | |
| C. Phone No.: | | D. E-Mail: | E. Fax No: |
| VI. Apprenticeship Program Sponsor's Certification | | | |
| I certify that the above information is accurate to the best of my knowledge. I understand that my willful misstatement of facts may cause forfeiture of the bidder's preference and may result in criminal action. I give permission for outside sources to be contacted and for them to disclose any information necessary to verify the bidder's preference under Act 17. | | | |
| A. Name of Authorized Official | | B. Title | |
| C. Signature (original signature required) | | D. Date | |

* Name of Apprenticeship Sponsor must be the *same* as recorded in the List of Construction Trades in Registered Apprenticeship Programs that is posted on the State Department of Labor and Industrial Relations website.

**CERTIFICATION OF COMPLIANCE
FOR
EMPLOYMENT OF STATE RESIDENTS
HRS CHAPTER 103B, AS AMENDED BY ACT 192, SLH 2011**

Project Title: _____

Agency Project No: _____

Contract No.: _____

As required by Hawai'i Revised Statutes Chapter 103B, as amended by Act 192, Session Laws of Hawaii 2011—Employment of State Residents on Construction Procurement Contracts, I hereby certify under oath, that I am an officer of _____ and
(Name of Contractor or Subcontractor Company)

for the Project Contract indicated above, _____ was in
(Name of Contractor or Subcontractor Company)

compliance with HRS Chapter 103B, as amended by Act 192, SLH 2011, by employing a workforce of which not less than eighty percent are Hawai'i residents, as calculated according to the formula in the solicitation, to perform this Contract.

☐ I am an officer of the **Contractor** for this contract.

☐ I am an officer of a **Subcontractor** for this contract.

CORPORATE SEAL

(Name of Company)

(Signature)

(Print Name)

(Print Title)

Subscribed and sworn to me before this
_____ day of _____, 2011.

Doc. Date: _____ # of Pages _____ 1st Circuit

Notary Name: _____

Doc. Description: _____

Notary Public, 1st Circuit, State of Hawai'i
My commission expires: _____

Notary Signature

Date

NOTARY CERTIFICATION

**Papakolea Kapahu St. Slope Improvements
Specifications Table of Contents**

Civil Specifications

| Division | Description |
|-----------------|--|
| 01570 | Soil Erosion Control |
| 02100 | Site Preparation |
| 02200 | Earthwork |
| 02222 | Excavation, Backfilling & Compacting for Utilities |
| 02227 | Aggregate Materials |
| 02630 | Storm Drainage System |
| 02770 | Concrete Curbs Walkways and Ramps |

Geotechnical Specifications

| Division | Description |
|-----------------|---------------------|
| 212 | Slope Scaling |
| 641 | Hydro-Mulch Seeding |
| 670 | Draped Wire Mesh |
| 672 | Anchored Wire Mesh |
| 716 | Geotextiles |

SECTION 01570 – SOIL EROSION CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this section consists of furnishing all labor, materials and equipment required to complete the approved Erosion and Sediment Control Plan per Federal, State and County Code requirements and as shown in the Drawings, the temporary control measures as required by these Specifications, or as ordered by the Project Manager during the life of the Contract to control dust and water pollution. Control of dust and sediment shall be through the use of silt fences, stabilized construction entrance/exit, filter socks, and/or other erosion control devices or methods.
- B. Temporary erosion and sedimentation control measures as described herein shall be applied to any erodible material within this project, including local material sources, stockpiles and work areas.
- C. The Contractor shall be responsible for removing all silt and debris resulting from his work and deposited in drainage facilities, roadways, neighboring lands, and other areas.
- D. All costs incurred in complying with the provisions of this Section shall be borne by the Contractor.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including general and supplementary conditions and Division 01 specification sections, apply to this section.
- B. Related Work Described Elsewhere:
 - 1. Section 02100 – Site Preparation
 - 2. Section 02200 – Earthwork
 - 3. Specific sections of the County's Standard Specifications for Public Works Construction of the Department of Public Works, dated September 1986, as amended hereafter referred to as the County's Specifications.
 - a. Clearing and Grubbing Section 10

1.03 SUBMITTALS

- A. Best Management Practice (BMP) Plan: The Contractor shall provide a letter indicating conformance to the Erosion and Sediment Control Plan as shown in the Drawings or provide a written, site-specific BMP describing activities to minimize water pollution and soil erosion into City and State waters and/or drainage systems. The BMP shall conform to the requirements of the "Rules Relating to Water Quality of the Administrative Rules, Title 20, Department of Planning and Permitting," for the

City and County of Honolulu, and the "National Pollutant Discharge Elimination System Permit" as part of HAR Chapter 11-55, and inclusive of all references.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. The following are standard traditionally provided approaches that the contractor is to provide at a minimum to comply with the standards and codes. Runoff to adjacent properties shall be strictly prohibited and controlled.

1. Silt fences shall be constructed with an ultraviolet (UV) resistant geotechnical filter fabric, stapled or secured to wood or metal posts embedded into the ground.
2. Filter socks shall be constructed with a UV resistant geotechnical filter fabric, filled with an Environmental Protection Agency (EPA) or State Department of Health (DOH) acceptable compost material.
3. Stabilized construction entrance/exit shall be constructed with 3-inch to 6-inch course aggregate (7" max), 12-inches minimum thickness over a geotechnical filter fabric.
4. Mulches may be bagasse, hay, straw, fiber mats, netting, wood cellulose, bark, wood chips, or other suitable material acceptable to the Project Manager and shall be reasonably clean and free of noxious weed and deleterious materials.

Mulch shall be specially processed fiber containing no growth or germination inhibiting factors. It shall be such that after addition and agitation in the hydraulic equipment with seed, fertilizer, water and other additives not detrimental to plant growth, the fibers will form a homogeneous slurry. When hydraulically sprayed on the soil, the fibers shall form a blotter-like ground cover which readily absorbs water and allows infiltration to the underlying soil. In every application, complete coverage of the soil shall be attained. Mulch shall be applied at the minimum rate of 1,500 pounds per acre.

- B. Slope drains may be constructed of pipe, fiber mats, rubble, Portland cement concrete, bituminous concrete, plastic sheets, or other material acceptable to the Project Manager.
- C. Grass shall be a quick growing species (such as rye grass, Italian rye grass, or cereal grasses) suitable to the area and which provide a temporary cover that does not later compete with the permanent cover.
1. The grass shall be obtained by digging up luxuriant growths from areas that are free of seeds, roots, plants, and grasses that are foreign to the specified grass. The grass will not be acceptable unless it is planted and watered within 24 hours after being dug out from its original growing position.

2. Seed for hydro-mulching, unless otherwise specified, shall be Bermuda (Cynodon Dactylon) except giant varieties, certified, meeting the following requirements:

| | |
|----------------|--------------|
| Pure Seed | 95% minimum |
| Crop Seed | 1% maximum |
| Weed | 0.5% maximum |
| Inert Material | 5% maximum |
| Germination | 85% minimum |

The seeds shall be applied at the rate of 100 pounds per acre (minimum) and within twelve (12) months of the date of the certified germination test.

D. Fertilizer

1. Fertilizer and soil conditioners shall be a standard commercial grade acceptable to the Project Manager.
2. The Contractor shall be responsible to determine the proper fertilizer required in the hydro-mulch mix for the existing soil condition. He shall be responsible to decide the quantity and the analysis and ratio to insure sufficient nutrients for the sustained growth of the grass.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. The Contractor shall install all erosion control measures shown in the Drawings, including stabilized construction entrance/exit, silt fences, before any clearing, grubbing or earth moving work is initiated. The erosion control measures may be modified as necessary to adjust to field conditions that develop as the construction work progresses.
- B. The temporary erosion and sediment control measures outlined in these specifications are minimum requirements and shall not preclude the provision of any additional measures which the Contractor may deem necessary. Except for specified erosion control measures shown in the Drawings, the Contractor shall determine additional erosion control measures to use as the construction work progresses. Such measures may involve scheduling of the construction activities to minimize the erosion potential, the construction of temporary berms, dikes, dams, sediment basins, and slope drains, and the use of temporary mulches, mats, and grassing, or the construction and use of other control devices or methods as necessary to control erosion.
- C. All erosion control measures shall be checked, maintained, cleaned and repaired throughout the duration of the construction period. As a minimum, erosion control measures should be checked weekly in dry periods and within twenty-four hours after any rainfall of 0.5 inches or greater within a 24-hour period. During prolonged rainfall, the erosion control measures should be checked daily. If heavy rains are projected, all erosion control measures should be inspected immediately and reinforced as necessary.

- D. The maximum surface area of earth material exposed by clearing, grubbing, borrow and fill operations at any time is 1.5 acres. The Project Manager has the authority to limit the surface area exposed by clearing and grubbing and to limit the surface area exposed by excavation, borrow and fill operations. The Project Manager may also direct the Contractor to provide immediate, permanent, or temporary pollution control measures to prevent contamination of drainage channels and pipes, roads, neighboring lands, and other areas.
- E. The Contractor shall limit the surface area exposed by grubbing, stripping of topsoil, and grading to that which is necessary for to perform the next operation and which is within his capability and progress in keeping the finish grading, mulching, grassing, and other such pollution control measures current.
- F. The Contractor shall conduct his operations so that excavation, embankment and imported materials shall be dampened with water on a continual basis to prevent dust problems. The Contractor shall limit the amount of water sprayed for dust control to ensure that the water evaporates or infiltrates with no runoff.
- G. The Contractor shall, at the end of each work operation in any one day, shape the earthwork in such a manner as to control and direct the runoff of rainwater to minimize the erosion of soils. He shall construct earth berms along the top edges of embankments or along any critical area within the project, such as along the property line with adjacent properties, streams, and water channels, to intercept any runoff. Temporary slope drains shall be provided to carry runoff from the top of cuts and fills. Temporary facilities for controlled discharges shall be provided for runoff impounded, directed, or controlled by project activities or by any erosion control measure employed.
- H. Cut and fill slopes shall be shaped, topsoiled and planted, if necessary or shown on the Drawings, as the work progresses. Whenever major earthwork is suspended or halted and the slope is bared, the exposed surfaces shall be hydro-mulch seeded or protected as directed by the Project Manager at the Contractor's expense without cost to the Owner.
- I. Construction of berms, cofferdams, or other such construction in or near the vicinity of waterways, or other bodies of water shall be of approved materials.
- J. Damages caused by the erosion of soils and the pollution of downstream areas shall be the responsibility of the Contractor and all costs for repairing, correcting, replacing, and cleaning such damaged or polluted facilities shall be borne by the Contractor.
- K. Grassing for erosion control of erodible areas can be undertaken by sprigging, matting or hydro-mulch seeding.

1. Sprigging or Matting

- a. Ground Preparation: Prior to planting, the areas to be grassed shall be cleared of all unwanted plants (including their root systems), stones over three (3) inches in diameter, papers, trash and debris.

If the existing soil in the areas to be grassed is suitable for use as topsoil, the soil shall be scarified to a depth of six (6) inches from the finished surface and worked until it is of a uniform and loose texture.

Areas unsuitable for planting shall be finished with a 4-inch layer of topsoil, spread and graded to conform to the finish grade shown on the Drawings.

- b. Planting: Planting shall be by sprigging, matting, or other methods at the option of the Contractor. If planting is by sprigging or matting, the surface shall be rolled with a suitable lawn roller after planting has been completed.
- c. Water shall be applied within the same day of planting in such quantities as to moisten the soil to the depth of the planted grass. Additional application shall be made so that the planted areas are continually kept damp to the grass depth and until the commencement of plant establishment work.
- d. Fertilizer shall be applied at not less than the rate of 300 pounds per acre, 23 to 30 days after the grass has been planted.

2. Hydro-Mulch Seeding

- a. The Contractor shall begin hydro-mulch seeding operations after the areas prepared or designated for seeding have been approved by the Project Manager. Approval shall include inspection of slopes to insure provision has been made for the collection and disposal of surface water to protect planted areas from erosion. Approval shall not relieve the Contractor of his responsibility to restore any damage to the slope or planted areas not yet accepted by the State.
- b. The hydro-mulch equipment shall be capable of mixing all the necessary ingredients to a uniform mixture and of applying the slurry to provide uniform coverage. Seed, fertilizer, and mulch mix shall be applied in one operation by approved hydraulic equipment.
- c. Areas inaccessible to hydro-mulching application shall be seeded, fertilized and mulched by hand methods.
- d. Water shall be applied immediately following mulching in such quantities as to moisten the soil and mulch. Watering shall be continued in such manner, quantity, and frequency to ensure proper germination and growth and shall be done in a way that will prevent erosion and will not cause damage to the planted areas.

END OF SECTION

DIVISION 2 – SITE CONSTRUCTION

SECTION 02100 – SITE PREPARATION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work to be performed under this section shall include clearing the premises of all obstacles and obstructions, the removal of which will be necessary for the proper reception, construction, execution and completion of the other work included in this contract.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including general and supplementary conditions and Division 01 specification sections, apply to this section. Furnish all labor, materials and equipment necessary for this work.
- B. Related Work Described Elsewhere:
 - 1. Section 01570 – Soil Erosion Control
 - 2. County's Standard Specifications for Public Works Construction of the Department of Public Works, dated September 1986, as amended hereafter referred to as the County's Specifications.

1.03 QUALITY ASSURANCE

- A. The contractor shall provide and pay for all necessary permits or certificates that may be required in connection with this work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 GENERAL

- A. Maintenance of Traffic: The Contractor shall conduct operations with minimum interference to streets, driveways, sidewalks, passageways, etc. When necessary, the Contractor shall provide and erect barriers, etc., with special attention to protection of personnel.
- B. Protection: Throughout the progress of the work, protection shall be provided for all property and equipment, and temporary barricades shall be provided as necessary. Work shall be done in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, and the State of Hawaii's Occupational Safety and Health Standards, Rules and Regulations.
- C. Fires: No burning of fires of any kind will be allowed.

- D. Reference Points: Benchmarks, etc., shall be carefully maintained, but if disturbed or destroyed, shall be replaced as directed, at the Contractor's expense.
- E. Disposal: All materials resultant from operations under this Section shall become the property of the Contractor and shall be removed from the site. Loads of materials shall be trimmed to prevent droppings. No materials shall be dumped on private or public property without proper authority. All materials resulting from clearing and grubbing shall be disposed off of the site at an approved disposal site.

3.02 DEMOLITION AND REMOVAL

- A. All work shall be executed in an orderly and careful manner, with due consideration for all items to remain, and the Contractor shall be strictly responsible for any damage thereto.
- B. Water facilities shall be made available and kept in operating condition at all times, except as agreed to approved in advance by the Project Manager.
- C. Dust shall be suppressed by accepted method(s)
- D. Maintain all benchmarks, monuments, and other reference points; if disturbed or destroyed, replace as directed at the Contractor's expense.
- E. The Contractor shall document all existing signs, posts, pavement markings, and other improvements that may be disturbed by this project. The Contractor shall repair or replace the disturbed items at his own expense to the satisfaction of Project Manager.
- F. Protect existing asphaltic concrete pavement and other structures which are indicated to remain from damage; if any damage is caused by this work, the contractor shall repair damage at contractor's expense.
- G. Existing utility lines indicated, or locations of which are made known to the contractor prior to the start of work, and that are indicated to be retained, shall be protected from damage during clearing and grubbing work, and if damaged, shall be repaired at the contractor's expense. If utility lines are not indicated, or that the contractor is not aware of, are encountered or damaged, the Project Manager shall be notified immediately.

3.03 EXISTING UTILITY LINES

- A. The existence of active underground utility lines within the construction area is not definitely known other than those indicated in their approximate locations on the Drawings. Should any unknown line be encountered during excavation, the Contractor shall immediately notify the Project Manager of such discovery. The Project Manager shall then investigate and issue instructions for the preservation or disposition of the unknown line. Authorization for extra work shall be issued by the Project Manager only as he deems necessary.

3.04 CLEARING AND GRUBBING

- A. The Contractor shall clear the premises of all obstacles and obstructions, the removal of which will be necessary for the proper reception, construction, execution

and completion of work included in this contract. The area below the natural ground, within the limits of the grading work indicated on the grading plans shall be grubbed of all stumps, roots, buried logs, decayed vegetable matter, and other objectionable materials, as is necessary for the proper reception, construction, execution, and completion of work included in this contract.

- B. The Contractor shall protect from injury and damage all surrounding (including adjacent property lines of the project site) trees, plants, etc., and shall leave all in as good as condition as at present. Any damage to existing improvement shall be repaired or replaced by the Contractor to the satisfaction of the Project Manager.
- C. Debris from clearing and grubbing operations shall not be placed in streams, water courses or at locations that will impede flow of the natural drainage pattern.

3.05 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 surficial soil found in depth of not less than 6". Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones and other objects over 2" 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.

3.06 CLEANUP OF PREMISES

- A. Clean up and remove all debris accumulated from construction operations from time-to-time as directed. Upon completion of the construction work and before final acceptance of the contract work, remove all surplus materials, equipment, scaffoldings, etc., and leave entire job site raked clean and neat to the satisfaction of the Project Manager.

3.07 DUST CONTROL

- A. Dust shall be controlled in accordance with the air pollution control rules of the State Department of Health and avoid creating of a nuisance to the surrounding areas. Use of water will be permitted provided it does not result in, or create, a hazardous condition such as flooding or pollution.

The Contractor shall coordinate the use of water for construction activities with the Project Manager. DHHL will make water available to the Contractor for quantities as approved by the Project Manager. Contractor Monitoring shall be as accepted or directed by the Project Manager

3.08 TRAFFIC CONTROL AND ACCESS

- A. The Contractor shall provide traffic control in accordance with MUTCD requirements and conduct operations with minimum interference to streets, driveways, sidewalks, etc.
- B. When necessary, the Contractor shall provide temporary access, erect and maintain lights, barriers, flagmen, etc. as required by traffic and safety regulations with special attention to protection of life.
- C. The Contractor shall provide continuous access to all private properties.

3.09 LAYING OUT

- A. The laying out of base lines, establishment of grades and staking out the entire work shall be done by a surveyor (licensed in the State of Hawaii) hired by the Contractor.
- B. Should any discrepancies be discovered in the dimensions given in the plans, the contractor shall immediately notify the Construction Manager before proceeding any further with the work, otherwise, he will be held responsible for any costs involved in correction of construction placed due to such discrepancies.

3.10 CONTRACT AREA LIMITS

- A. The contract area limits extending throughout the peripheral boundary indicate only in general the limits of the work involved. The Contractor, however, is required to perform any and all necessary and incidental work which may fall outside of these demarcation lines. The Contractor is also expected to confine all of his construction activities within the contract area limits and repair all disturbed areas.

END OF SECTION

2. Field density tests shall be made by the Soils Engineer for each layer of fill to be compacted. When these readings indicate that the density of any layer of fill or portion thereof is below the required density, the particular layer or portion shall be reworked until the required density has been obtained to the satisfaction of the Soils Engineer.
3. The Soils Engineer shall also observe footing excavations prior to the placement of reinforcing steel to confirm the competency of the bearing materials and embedment depths, as recommended in the Soils Report.

1.04 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 not permitted.
- C. Protect and carefully maintain all benchmarks, monuments, and other controls from damage or dislocation.

1.05 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 Owner or Engineer.
- C. Submit compaction test results.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All materials shall be in accordance with the County's Specifications.

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 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 Department of Planning and Permitting and the 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. Should any discrepancies be discovered in the elevations given in the drawings, the contractor shall immediately notify the engineer before proceeding any further with the work, otherwise, the contractor will be held responsible for any cost involved in the correction of construction placed due to such discrepancies.

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

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

3.03 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 except as noted in drawings with grade breaks. Finish grades shall allow for proper drainage without ponding and in a manner that will minimize erosion potential.
- 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.

3.04 COMPACTION TESTING

- A. Compaction tests for each lift will be performed as follows:
- B. Subgrade – 1 test per 2,000 square feet
Fill – 1 test per 2,000 square feet
Trench Backfill – 1 test per 100 linear feet of trench.
Provide a minimum of 3 tests per lift for areas under structures.

END OF SECTION

SECTION 02222 - EXCAVATION, BACKFILLING AND COMPACTING FOR UTILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Excavation, backfilling, and compaction for utilities and their appurtenances complete.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including general and supplementary conditions and Division 01 specification sections, apply to this section.

- B. Related Work Described Elsewhere

- 1. Section 01570 – Soil Erosion Control
- 2. Section 02200 – Earthwork
- 3. Section 02227 – Aggregate Materials
- 4. Section 02740 – Asphaltic Concrete Paving
- 5. Section 02760 – Pavement Marking and Signage
- 6. City and County of Honolulu, Board of Water Supply's Water System Standards, dated 2002, and Water System External Corrosion Control Standards, Volume 3, dated 1991, and all subsequent amendments and additions hereafter referred to as the Water System Standards.
- 7. City and County of Honolulu Wastewater System Design Standards, Volume 1, July 2017, including any amendments hereafter referred to as the Wastewater System Design Standards.
- 8. Standard Details For Public Works Construction, Department of Public Works, City and County of Honolulu, September 1984, including any amendments.
- 9. Specific sections of the County's Standard Specifications for Public Works Construction of the Department of Public Works, dated September 1986, as amended hereafter referred to as the County's Specifications.
 - a. Trench Excavation and Backfill Section 11
 - b. Rock for Fill Section 14

1.03 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 the Owner's representative.
- 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 Owner's Construction Manager at the time of the preconstruction conference or no later than 90 days prior to the project possession date.

1.04 PROJECT RECORD DOCUMENTS

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

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All materials shall be in accordance with the County's Specifications, Water System Standards, and the Wastewater System Design Standards.

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. 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. The location shown on the Drawings of the various existing utility lines which the new lines are to cross over or under or connect to were determined on the basis of the best information available; however, no assurance can be provided that the actual locations will be precisely as shown on the Drawings.
- C. 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 Department of Planning and Permitting and the State Historic Preservation Division at (808) 692-8015, 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. 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.
- G. Trench width requirements below the top of the pipe shall not be less than 12" nor more than 18" 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.
- H. 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

- A. 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" 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. 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.
- B. Backfilling: After pipe or conduit has been installed, bedded, and tested as specified, backfill trench excavation with specified material placed in 8" 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 RESTORATION OF EXISTING PAVEMENT AND OTHER IMPROVEMENTS

- A. All restoration work shall conform to the requirements of the jurisdictional government agencies and under these specifications. Unless specified otherwise in the proposal, restoration work shall be considered as incidental to the various related items of work.

END OF SECTION

SECTION 02227 – AGGREGATE MATERIALS

PART 1 - GENERAL

1.01 DESCRIPTION

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

1.02 RELATED WORK

- A. Drawings and general provisions of the contract provisions of the contract, including general and supplementary conditions and Division 01 specification sections, apply to this section.

- B. Related Work Described Elsewhere:

- 1. Section 02100 – Site Preparation
- 2. Section 02200 – Earthwork
- 3. Section 02222 - Excavation, Backfilling and Compaction for Utilities
- 4. Section 02770 – Concrete Curbs, Headers, Walkways and Ramps
- 5. Standard Details For Public Works Construction, Department of Public Works, City and County of Honolulu, September 1984, including any amendments.
- 6. Specific sections of the County's Standard Specifications for Public Works Construction of the Department of Public Works, dated September 1986, as amended hereafter referred to as the County's Specifications.
 - a. Crushed Rock Section 15
 - b. Subgrade Section 29
 - c. Select Borrow for Subbase Course Section 30
 - d. Aggregate Base Course Section 31

1.03 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 the Soils engineer.

PART 2 - PRODUCT MATERIALS

2.01 MATERIALS

- A. All materials shall be in accordance with the County's Specifications.

PART 3 - EXECUTION

3.01 PREPARATION

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

3.02 PLACEMENT

- A. Place the base and subbase 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 and subbase course exceeds 6 inches, construct the base and subbase 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 and subbase 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 and subbase shall conform to the required grade and cross-section. The Contractor shall provide shaping as necessary. The finished base and subbase 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 and subbase course for acceptance by the Engineer.

END OF SECTION

SECTION 02630 – STORM DRAINAGE SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This item shall consist of furnishing and construction of storm drainage system, complete.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including general and supplementary conditions and Division 01 specification sections, apply to this section.
- B. Related Work Described Elsewhere:
 - 1. Section 02222 – Excavation, Backfilling, and Compacting for Utilities
 - 2. Uniform Plumbing Code, current Edition, and Revised Ordinance of Honolulu, Chapter 19 “Plumbing Code”.
 - 3. Storm Drainage Standards, Department of Planning and Permitting, City and County of Honolulu, August 2017, including any amendments.
 - 4. Standard Details For Public Works Construction, Department of Public Works, City and County of Honolulu, September 1984, including any amendments.
 - 5. Specific sections of the County’s Standard Specifications for Public Works Construction of the Department of Public Works, dated September 1986, as amended hereafter referred to as the County’s Specifications.
 - a. Drain Pipes Section 24
 - b. Drain Manholes Section 25

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All Materials shall be in accordance with the County’s Specifications.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General: Each pipe shall be carefully inspected before and after it is installed and any cracked, broken or defective pipe shall not be used. Proper equipment and facilities shall be provided for handling and positioning the pipe. Pipe shall be laid with bells or grooved ends pointing up grade. Spigots shall be centered in bells, and tongues in grooves, to permit proper jointing and to keep the interior of the pipes in proper alignment. Open ends of piping shall be kept closed and covered when work is not in progress.

B. Installation of Joints:

1. Joints in tongues-and-groove concrete pipe: Tongue-and-grooved ends of abutting pipe shall be cleaned with a wet brush before placing mortar. Mortar shall be placed in sufficient quantities so that when the pipe is inserted into the line, the joint space will be completely filled and a collar of mortar will be formed on the outside. The interior of each joint shall be cleaned of surplus mortar and finished flush with the interior surfaces of pipe. The outside of each joint shall be kept damp until just prior to backfilling.
2. Joint for pipe using flexible, water-tight, rubber-type gaskets: Installation of joints shall be in accordance with the recommendations of the manufacturer of the joint material, as approved by the Engineer.

3.02 PROTECTION OF PIPING & STRUCTURES

- A. All work shall be protected from damage or improper alignment. Open ends of unfinished work shall be plugged, capped, and covered to prevent the entrance of foreign materials.

3.03 FINAL INSPECTION

- A. Before Final Inspection, ensure storm drain lines and manholes are free from sand, silt or other obstructions.

END OF SECTION

1 Make the following Section a part of the Standard Specifications:

2
3 **SECTION 212 – SLOPE SCALING**
4

5 **212.01 Description.** This section is for slope scaling, which consists of
6 removing loose rock and other materials from the face of the slopes using hand
7 scaling methods in accordance with the Contract Documents. During the scaling
8 process, the Contractor shall provide for the safe conduct of the work, careful
9 removal, securing of, and disposition of material to be removed, protection of
10 property that is to remain undisturbed, and coordination with other work involved.
11

12 **212.02 Contractor's Qualifications and Work Plan.** The Contractor
13 performing the slope scaling work must have performed satisfactory slope
14 scaling for a minimum of five years or employ the services of a specialty
15 subcontractor with a minimum of five years of satisfactory slope scaling
16 experience. The Contractor shall submit a project reference list containing at
17 least five projects in which similar work has been conducted and successfully
18 completed within the past five years. Include a brief description of each project
19 including the typical heights of the slopes scaled or trimmed, duration of the
20 slope scaling, working hours on the slope, methods employed to scale the
21 slopes, and the Owner's name and current telephone number for reference.
22

23 The minimum slope scaling crew shall consist of one scaling supervisor
24 and three slope scalers. The number of slope scalers to be employed on this
25 project shall be determined by the Contractor or specialty subcontractor
26 performing the slope scaling. The slope scaling activity for the project will be
27 limited to two (2) weeks, as specified in the Contract Documents. The slope
28 scaling operations shall be conducted within the times and duration specified in
29 the Contract Documents.
30

31 Prior to the start of the slope scaling work, the Contractor must submit a
32 list identifying the scaling supervisor and slope scalers assigned to this project. In
33 this list, the Contractor shall summarize the individual's experience for the
34 Engineer to determine whether the qualifications of each individual meet the
35 minimum requirements of the scaling supervisor and/or slope scalers as
36 described in the following paragraphs. The Engineer will utilize the following
37 definition of each category to determine the qualifications of each individual
38 proposed by the Contractor.
39

40 **(A) Scaling Supervisor.** The Contractor's designated
41 representative responsible for the prosecution and coordination of slope
42 scaling activities on this project. The scaling supervisor shall be in charge
43 of and responsible for the safety and work performed by the slope scaling
44 crews. The scaling supervisor shall have a minimum of five (5) years of
45 high slope scaling experience with a minimum of 2,000 hours of
46 demonstrated experience supervising slope scaling. The scaling

47 supervisor shall have completed the American Red Cross “basic first aid
48 course”, or equivalent, and shall have experience or training in the use of
49 emergency remote rescue techniques.
50

51 **(B) Slope Scaler.** An individual who is engaged in accessing the
52 slope face and removing loose rock and materials from the slope face
53 using a variety of hand tools at locations that require modified rock-
54 climbing techniques for the safe prosecution of the work. Slope scalers
55 shall have a minimum of two (2) years experience with a minimum of 500
56 hours of demonstrated experience performing similar slope scaling work.
57

58 Approval or denial of the Contractor’s qualifications and personnel will be
59 made within 10 working days after receipt of the submittal. Slope scaling work
60 shall not commence until approval of the Contractor’s qualifications and work
61 plan has been obtained in writing from the Engineer. The Engineer will suspend
62 the work if the Contractor substitutes unqualified personnel for approved
63 personnel during construction.
64

65 The Contractor shall provide a detailed work plan of the slope scaling
66 work, prior to any such activity, which includes the following items, as a
67 minimum, for review by the Engineer. The Engineer shall be provided a minimum
68 of 10 working days after receipt of the submittal to review and provide comments
69 to the submittal. The work plan shall be approved by the Engineer prior to
70 commencement of the slope scaling work.
71

- 72 1. The proposed construction sequence for slope scaling work.
- 73 2. The types of equipment and hand tools to be used for the slope
74 scaling activities.
- 75 3. The number of slope scaling supervisor(s) and slope scalers to be
76 employed on the project.
- 77 4. Provisions to protect the adjacent residential properties, residential
78 property occupants, any adjacent structures, and personnel below
79 the scaling area including the public in or around the project site.
- 80 5. Removal and disposal plan for debris generated from the slope
81 scaling work at the end of each shift.

82 The Contractor shall perform the slope scaling work according to the
83 approved work plan and as directed by the Engineer. Maintain the minimum
84 crew size specified and the number of slope scaling members described in the
85 work plan at all times. Any member of the slope scaling crew who must leave for
86 any reason shall be replaced immediately by a qualified replacement. Do not
87 perform slope scaling when the scaling supervisor is absent, unless an alternate

supervisor meeting all the requirements of the scaling supervisor has been designated for the slope scaling work to continue.

212.03 Construction Requirements.

(A) Cutting and Removal of Vegetation. Cut and remove all vegetation including branches and trees from the slope face and within 5 feet beyond the top of slope. Cut all vegetation to within 6 inches of the ground surface and remove the cut materials from the site. Dispose of all materials in a satisfactory manner off the site. Cutting and removal of vegetation shall be completed before initiating the slope scaling activities.

(B) Slope Scaling Activity. Perform the slope scaling work to the limits specified on the Contract drawings and/or as directed by the Engineer. The Engineer will determine the final locations and the limits of the area to be scaled in the field during construction after a review and/or inspection of the site conditions with the scaling supervisor.

The Contractor shall erect a movable temporary rockfall barrier (minimum 10 feet high) within the active scaling area in an attempt to contain the rocks and debris generated from the slope scaling work from going over the residential structures.

General work hours during slope scaling will be approved by the Engineer.

Slope scalers are defined as persons performing the slope scaling activity directly on the slope face. Slope scaling activity may include slope scalers hanging from ropes attached to the top of the slope face (rappelling), using a man-lift bucket to allow the slope scalers to reach the slope face, or by any other means that can place slope scalers directly on the slope face. Slope scaling is performed by using hand tools, such as small power tools, crowbars, prybars, shovels, etc., and rolling or pushing scaled materials down toward the base of the slope. Each slope scaler shall be equipped with communications equipment to enable direct communication with the scaling supervisor and/or a designated person on the ground. Excavation using heavy equipment to scrape the slope face by the use of a backhoe or etc. is prohibited, except for the areas accepted by the Engineer in writing.

The Contractor shall provide all the necessary equipment and hand tools, which is to be of high quality and in good working condition, for each member of the slope scaling crew. The Contractor shall replace the equipment and hand tools when, in the opinion of the Engineer, the condition is below normal for efficient output and production. The

Contractor shall also be responsible for providing a safe working environment on the project site.

The use of a ground person will be required to enable the Engineer to communicate with the scaling supervisor and slope scalers and for safety considerations. The scaling supervisor may serve as the ground person. No additional payment will be made to the Contractor for the use of a ground person or for the communications equipment required. Use of a ground person for communication and provision of communications equipment for the slope scalers will be considered incidental to the contract unit price for slope scaling.

The Contractor shall be responsible for protecting the adjacent residences and properties from damage resulting from the Contractor's activities. The Contractor shall provide and place a temporary rockfall barrier during slope scaling to reduce the potential for errant boulders from going over to the adjacent residences and properties. The Contractor shall be solely responsible for repairing any damage resulting from the scaling or other construction activities.

Start all slope scaling at the top of the slope and proceed down slope, removing loose rock and other debris as the work progresses. All material on the slope face that is loose, hanging, or creates a safety hazard to the public must be removed or stabilized, to the Engineer's satisfaction, during or on completion of the section of slope and at the end of each work day. Slopes that have been scaled shall be relatively clean of debris after the specified work hours. The Contractor shall exercise extra care in the slope scaling work and shall avoid over-steepening the slope face that may cause instability of the slope face. If during the slope scaling work, the Contractor encounters unstable slope conditions that may constitute a potential slide, immediately notify the Engineer.

Blocks of rock or debris that hang up on the slope during the slope scaling operations shall be removed upon completion of the first pass of slope scaling. The Contractor shall continue scaling of the slopes until the slope scaling has been completed to the satisfaction of the Engineer. The Engineer will inspect the slope faces to determine whether or not scaling of the slope faces has been completed. The Contractor shall assist and provide a 'life line' for the State's personnel or consultants during inspection of the work. Assistance to the Engineer and provision of a "life line" for the State's personnel or consultants to inspect the slopes shall be considered incidental to the contract unit price for slope scaling.

(C) Debris Removal. All debris generated from the slope scaling operations shall be the property of the Contractor and shall be removed from the project site for disposal in a proper manner. The Contractor shall

sweep the area clean of all debris on a daily basis. The Engineer will inspect the "cleaned up" area on a daily basis.

(D) Protection of Existing Facilities. Protection of the adjacent residences and properties from damage resulting from the Contractor's activities shall be the Contractor's responsibility and will be considered incidental to the contract unit price for slope scaling. All costs or other compensation for the mitigation of damage to the adjacent residences and properties shall be the responsibility of the Contractor.

A pre-construction condition survey of the adjacent residential properties and any adjacent structures shall be conducted by the Contractor prior to commencement of the slope scaling activities. As a minimum, the pre-construction condition survey shall include photographs of the adjacent properties and structures and the installation of crack gauges to document the existing cracks and other damages already existing on the structures prior to commencement of the slope scaling and related activities. A copy of the pre-construction condition survey shall be submitted to the Engineer for information only.

Slope scaling work shall begin only after the protection measures (as described in the work plan) are put in place at the beginning of each slope scaling work. The Contractor shall protect the adjacent residential properties, residential property occupants, any adjacent structures, and personnel below the scaling area including the public in or around the project site from any rockfall hazards at all times during the Contractor's activities. The slope scaling work shall be performed and completed before installation of the rockfall protection, such as placement of anchors, draped wire mesh, anchored wire mesh, and erosion control matting may commence.

212.04 Measurement. Cutting and removal of vegetation will be paid under Section 201.0100 Clearing and Grubbing.

The Engineer will measure slope scaling by regular (8-hour work day) man-hours for the slope scaling supervisor and each slope scaler in performing the described work. Work time shall begin at the time each scaler reaches the access point for the work including preparation for start of the work and clean up at the end of the shift, or as directed by the Engineer. Slope scaling man-hours will be measured to the nearest 0.50 hours.

Movable temporary rockfall barrier will be paid on a lump sum basis. Measurement for payment will not apply.

The Engineer will measure additional mechanized equipment, such as backhoes, hoe-rams, etc., used for removal of debris generated from slope

scaling when approved by the Engineer on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation.

The Engineer will measure the removal of debris generated from the slope scaling by the cubic yards removed from the highway and hauled off for disposal from the project site. Removal of debris generated from the slope scaling includes existing debris on the bottom of slope area and debris generated from rock/boulder demolition designated for removal by the Engineer.

212.05 Payment. The Engineer will pay for the accepted slope scaling man-hours at the contract unit price for each man-hour of completed slope scaling. The contract unit price includes full compensation for furnishing labor, materials, hand tools, equipment (including communications equipment) and incidentals necessary for scaling the slope face and completing the work.

The Engineer will pay for accepted movable temporary rockfall barrier for slope scaling (and for erosion control) on a contract lump sum basis. Payment will be full compensation for fabricating a temporary rockfall barrier for use during slope scaling based on approved shop drawings.

The Engineer will pay for the additional items required in the demolition using the expansive stress method, hydraulic rock splitters, or hydraulic jacks on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation.

The Engineer will pay for additional mechanized equipment used for removal of debris generated from slope scaling on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation.

The Engineer will pay for the removal of debris generated from slope scaling by the cubic yards removed from the highway and hauled off for disposal from the project site. The contract unit price includes full compensation for removing debris from the highway for each slope scaling shift, stockpiling the debris (as necessary), loading the materials onto haul trucks, hauling the materials to suitable disposal sites for disposal, and furnishing, labor, materials, tools, equipment and incidentals necessary to complete the work.

The Engineer will make payment under:

| Pay Item | Pay Unit |
|--------------------------|----------|
| Slope Scaling Supervisor | Man-Hour |
| Slope Scaler | Man-Hour |

| | | |
|-----|--|---------------|
| 271 | Additional Mechanized Equipment | Force Account |
| 272 | | |
| 273 | Removal of Debris Generated from Slope Scaling | Cubic Yards |
| 274 | | |
| 275 | | |
| 276 | END OF SECTION 212 | |

SECTION 641 - HYDRO-MULCH SEEDING

641.01 Description. This section describes application of mulch, seed adapted to site, fertilizer, and water using hydraulic equipment in designated areas. This section also provides instructions for continuous care and maintenance.

641.02 Materials.

(A) Seed. Seed adapted to site shall be certified to following properties:

| | |
|----------------|---------------------|
| Pure Seed | 95 percent minimum |
| Crop Seed | 1 percent maximum |
| Weed | 0.5 percent maximum |
| Inert Material | 5 percent maximum |
| Germination | 85 percent minimum |

Seed shall comply with Hawaii Administrative Rules Title 4, Subtitle 6, Chapter 67 Seed Rules; shall be certified for compliance by a Hawaii-licensed seed dealer; and shall be purchased from that dealer.

Seed shall be delivered to the Project in labeled and sealed containers. Seed and labels shall be subject to testing provisions of the Association of Official Seed Analysts. Engineer will not accept for use seed that is more than 12 months old from date of certified germination test. Recommendation of seed producer shall be followed in determining quantity of seed to apply per acre.

(B) Fertilizer. Proper fertilizer shall be used in hydro-mulch mix, depending on condition of soil. Contractor shall provide a Soil Analysis Report, if requested by Engineer, and shall use report to determine quantity and ratio of fertilizer for sustained growth of grass.

(C) Mulch. Mulch shall be specially processed fiber containing no growth or germination inhibiting components. Recycled mulch material, such as processed newspaper, is allowable if its use is acceptable to the Engineer. Fibers shall form homogeneous slurry after addition and agitation in hydro-mulch seeder with seed, fertilizer, water, and other additives non-detrimental to plant growth. When hydraulically sprayed on soil, fibers shall form blotter-like ground cover that readily absorbs water and allows infiltration to underlying soil.

(D) **Soil and Mulch Tackifier.** Tackifier used with mulch shall be hydrocolloidal, organic, or anionic polyacrylamide.

(1) **Hydrocolloidal Tackifier.** Hydrocolloidal tackifier shall be formulated for use with hydraulically planted grass seed or stolons, alone or in combination with fertilizer, wood fiber mulch, and other additives acceptable to Engineer. Tackifier shall consist of at least three different but complementary hydrocolloids, two of which shall be Glactomannan and Plantago Ovata. Latter component shall have muciloid content of at least 85 percent.

Tackifier shall be applied at rate of 80 pounds per acre, shall be pH stable with fertilizer, and shall hydrate and disperse in mixing tank with water and other materials to form homogeneous slurry. Tackifier shall leave loose, chain-like stabilizing film on surface of soil, allow moisture to percolate into soil during seed germination and seedling growth, and break itself down through microbial action. Tackifier shall not inhibit plant germination or growth.

(2) **Organic Tackifier.** Organic tackifier shall be starch-based tackifier formulated for use with conventional mulches. Active ingredient in tackifier shall be 100 percent derived from plant starch.

Dry powder tackifier shall be blended with insolubilizer. After blending and mixing with water, tackifier shall swell, become sticky, and be suitable for use during heavy rain. Tackifier shall be applied at rate of 80 pounds per acre. Emulsion shall cure on surface of soil and become insoluble. Tackifier shall not inhibit plant germination or growth.

(3) **Anionic Polyacrylamide Tackifier.** Anionic Polyacrylamide tackifier shall be specifically formulated for hydroseeding and erosion/sediment control. Anionic Polyacrylamide tackifier shall consist of 90 percent or greater sodium acrylate/acrylamide copolymer. Anionic Polyacrylamide tackifier must be anionic with a charge density of 8 to 35 percent by weight and have a molecular weight of 6 to 24 Mg/mole. Mixture must be non-combustible.

Must be accompanied by MSDS and toxicity information from manufacturer that the Anionic Polyacrylamide tackifier and any required additives are non-toxic to aquatic biota. Cationic Polyacrylamide is strictly not allowed.

Anionic Polyacrylamide tackifier shall be applied at rate of 3 to 5 pounds per acre. Anionic Polyacrylamide tackifier shall be mixed in accordance with all Occupational Safety and Health Administration (OSHA) MSDS requirements and the manufacturer's

recommendations for the specified use conforming to all Federal, State and local laws, ordinances, rules and regulations.

641.03 Construction.

(A) Seeding. Apply seeded mulch within two days after completion of slopes or portion of slope when exposed face attains height of 15 feet. Notify Engineer not less than 24 hours ahead of hydro-mulch seeding operation. Do not hydro-mulch until the Engineer inspects and accepts areas for planting.

Engineer will inspect slopes to ensure that surface and subsurface water are properly collected and disposed of and areas to be planted are protected from erosion. Upon Engineer's acceptance for planting, begin hydro-mulch seeding of slopes. Acceptance for planting does not relieve Contractor of responsibility for repair of slope damage until grassed areas are acceptable to Engineer in accordance with Subsection 641.03 (D) - Acceptance.

Place seeded mulch evenly and completely over ground in one application at minimum rate of 1,500 pounds of mulch per acre. Use Engineer-accepted hydro-mulch seeder with built-in agitation system and operating capacity sufficient for uniform mixing until slurry is pumped out of tank. Equip seeder with distribution and discharge lines large enough to prevent stoppage, and hydraulic discharge spray nozzles that provide uniform distribution of slurry.

In areas that are inaccessible to hydro-mulch seeder, plant by hand methods acceptable to Engineer.

When hydro-mulch seeding is done in conjunction with erosion control matting, install erosion control matting to completion and follow with hydro-mulching within 24 hours.

Water immediately after planting to moisten soil and mulch. Continue watering as necessary to ensure proper germination and growth. Water in a way that will prevent erosion, using equipment that will not damage planted areas. Replace watering equipment that causes erosion or runoff.

If there is slope erosion or movement of silt, remove displaced material immediately. Restore areas that are eroded to depth greater than two inches of original grade or width greater than three inches.

(B) Planting Period. Begin planting period immediately after seeding area is accepted by Engineer. If area has mixture of trees, shrubs, and grass, do not start planting period until all trees, shrubs, and grass have been planted. If only grass is planted, during planting period provide 95 percent

641.03

coverage with 5-inch tall healthy grass within 90 days. Reseed areas after 30 days that do not show satisfactory growth in accordance with Subsection 641.03(A) - Seeding until Engineer determines there is satisfactory growth.

(C) Plant Establishment. Plant establishment period is nine months after completion date of planting period acceptable to Engineer. During plant establishment period, water, fertilize, weed, and mow grass when grass reaches average height of three inches. Replace grass Engineer considers unsuitable or sick. Remove and dispose of trash and debris. Provide insect and disease protection and control.

In addition to fertilizer that is applied during initial hydro-mulch seeding, fertilize plantings at least four times during plant establishment period. Fertilize at rate of not less than 300 pounds per acre per application. Interval between fertilizations shall not be closer than 2-1/2 months. Notify Engineer 24 hours before applying fertilizer.

Engineer will credit Contractor with plant establishment days when work is done in accordance with contract documents and when Engineer determines that no work is required, regardless of whether Contractor actually performs plant establishment work. Engineer will not credit Contractor with plant establishment days when Engineer determines that work is necessary but Contractor fails to adequately perform plant establishment work.

(D) Acceptance. Engineer will base acceptance of planted areas on 98 percent coverage with healthy, well-established grass, at least three inches tall, at end of plant establishment period. No 100 square foot area shall show more than two square feet of bare earth. Mow grass before requesting acceptance.

641.04 Measurement. Hydro-mulch seeding will be paid on a lump sum basis. Measurement for payment will not apply.

641.05 Payment. Engineer will pay for the accepted hydro-mulch seeding on a contract lump sum basis. Payment will be full compensation for work prescribed in this section and contract documents.

Engineer will pay for the following pay item when included in proposal schedule:

| Pay Item | Pay Unit |
|---------------------|----------|
| Hydro-mulch Seeding | Lump Sum |

The Engineer will allow partial payment of hydro-mulch seeding as follows:

189 (1) 30 percent of the contract unit price upon completion of hydro-mulch
190 seeding.

191
192 (2) 15 percent of the contract unit price in three equal monthly payments
193 for satisfactory performance during the planting period.

194
195 (3) 48 percent of the contract unit price in eight equal monthly payments
196 for satisfactory performance during the plant establishment period.

197
198 (4) 7 percent of the contract price upon final acceptance at the end of
199 the plant establishment period.

200

201

202

END OF SECTION 641

1 Make the following Section a part of the Standard Specifications:
2

3 **SECTION 670 – DRAPED WIRE MESH** 4

5 **670.01 Description.** This section is for constructing a draped wire mesh on
6 the slope according to the contract.
7

8 **670.02 Materials.** Materials for the draped wire mesh shall be of non-
9 raveling construction and shall consist of a uniform triple twisted hexagonal mesh
10 of zinc-coated steel wire. The zinc-coated wire core shall have a diameter of
11 approximately U.S. Gage 12. The wires used in the fabrication of the netting
12 shall comply with or exceed Federal Specifications QQ-W-461H, possessing soft
13 tempered tensile strength of 70,000 psi as specified in ASTM A 641, Class 3
14 coating and a PVC coating (black color matte finish) extruded onto the wire core
15 with zinc coating before weaving the coated wire into a triple twisted hexagonal
16 mesh having uniform approximate openings of 3¼ inches by 4½ inches or
17 smaller.
18

19 The overall diameter (zinc-coated wire core plus PVC coating) of the
20 rockfall protection netting (draped wire mesh and modified draped wire mesh)
21 shall be 0.1363 inches. Selvedge wire shall be of heavily zinc-coated wire core
22 of 0.1338 inches in diameter (approximately U.S. Gage 10), coated with PVC and
23 having an overall diameter (zinc-coated wire core plus PVC coating) of 0.1368
24 inches. Lacing wire, where required, shall be of heavily zinc-coated wire core of
25 0.0866 inches in diameter (approximately U.S. Gage 13-1/2), coated with PVC
26 and having an overall diameter (zinc-coated wire core plus PVC coating) of
27 0.1166 inches. The above wire diameters are subject to a tolerance limit of
28 0.004 inches according to ASTM A 641.
29

30 Alternately, draped wire mesh of non-raveling construction and consist of
31 a uniform diamond-shaped mesh of zinc/aluminum-coated steel wire may be
32 used. The zinc/aluminum-coated wire core shall have a diameter of
33 approximately 0.079 inch. The wire shall be alloyed high strength carbon steel
34 wire with a minimum tensile strength of 256 ksi. The wire shall be galvanized
35 with a zinc/aluminum coating with a minimum weight of 0.35 oz/ft² and powder
36 coated black in color matte finish.
37

38 **A. PVC (Polyvinyl Chloride) Coating.** The protective PVC plastic
39 coating shall be suitable to resist deleterious effects of natural weather
40 exposure, immersion in salt water, and shall not show material difference
41 in its initial physical properties. The initial properties are as follows:
42

- 43 (1) Specific Gravity of 1.30 to 1.35 kg/dm³ according to ASTM D
44 792.
45

- (2) Durometer Hardness shall be 50 to 60, Shore D according to ASTM D 2240.
- (3) Volatile Loss (ASTM D 1203) ISO 176-1976 at 105°C for 24 hours shall be a maximum of 2% and at 105°C for 240 hours shall be a maximum of 6%.
- (4) Tensile Strength shall not be less than 210 kg/cm² according to ASTM D 412.
- (5) Elongation shall not be less than 200% and not be higher than 280% according to ASTM D 412.
- (6) Modulus of Elasticity at 100% elongation shall not be less than 190 kg/cm² according to ASTM D 412.
- (7) Abrasion weight loss shall not be more than 0.19 grams according to ASTM D 1242.
- (8) Cold Bend Temperature shall not be higher than -30° according to BS 2782-104A (1970).
- (9) Cold Flex Temperature shall not be higher than +15°C according to BS 2782-150B (1976).
- (10) Creeping corrosion penetration of corrosion of the wire core from a square cut end shall be 25 mm when the specimen has been immersed for 2,000 hours in a 50% solution of HCL (Hydrochloric Acid 12 Be).
- (11) Accelerated aging tests and properties after aging tests.
- (a) Salt spray test according to ASTM B 117 with a test period of 1,500 hours.
- (b) Exposure to ultraviolet light shall be according to ASTM D 1499 and ASTM G 23, Apparatus E, with a test period of 2,000 hours at 63°C.
- (c) Exposure to high temperature according to ASTM D 1203 (ISO 176-1976) and ASTM D 2287 with a test period of 240 hours at 105°C.
- (d) The vinyl coating shall not crack, blister, or split and shall not show remarkable change in color after aging tests.

- 92
- 93 (e) Specific gravity of the PVC coating shall not show
- 94 change higher than 6% of its initial value after aging
- 95 tests.
- 96
- 97 (f) Durometer hardness shall not show change higher
- 98 than 10% of its initial value after aging tests.
- 99
- 100 (g) Tensile strength shall not show a change higher than
- 101 25% of its initial value after aging tests.
- 102
- 103 (h) Elongation shall not show change higher than 25% of
- 104 its initial value after aging tests.
- 105
- 106 (i) Modulus of Elasticity shall not show change higher
- 107 than 25% of its initial value after aging test.
- 108
- 109 (j) Resistance to abrasion shall not show change higher
- 110 than 10% of its initial value.
- 111
- 112 (12) Brittleness Temperature. Cold bend temperature shall not
- 113 be higher than -20°C after aging tests. Cold flex temperature
- 114 shall not be higher than +18°C after aging tests.
- 115
- 116 (13) Durometer Hardness shall be 50 to 60, Shore D according to
- 117 ASTM D 2240.
- 118

119 **(B) Mesh Deformation.** The wire mesh shall have deformability

120 sufficient to permit a minimum mesh elongation equivalent to ten percent

121 (10%) of the unstretched length of the mesh test. Mesh deformation shall

122 not reduce the gauge or tensile strength of the individual wire strands to

123 values less than those for similar wire one gauge smaller in diameter after

124 aging tests.

125

126 **(C) Miscellaneous Steel Hardware.** No. 9 gage tie wire shall conform

127 to ASTM A 112 with Class A coating and shall be PVC coated.

128

129

130 **670.03 Construction Requirements.**

131

132 **(A) General.** Install the rockfall protection netting (draped wire

133 mesh) in accordance with the contract requirements or as specified

134 by the Engineer. The Engineer will determine the final locations

135 and the limits of the rockfall protection netting (draped wire mesh)

136 in the field during construction after a review and/or inspection of

137 the site conditions with the scaling supervisor. The Contractor shall

provide a temporary 0.5-inch wire rope onto two adjacent grouted rock anchors to serve as a 'life line' for the State's personnel during the inspection of the work. Install and move the 'life line' as directed by the Engineer.

The Contractor shall submit to the Engineer shop drawings providing details of the grouted rock anchor (including lateral anchor and bottom anchor) assembly and tagline connection details based on the manufacturer's recommendations for review and approval. The Engineer shall have a minimum of 20 working days after receipt of the submittal to review and provide comments to the submittal.

The Contractor shall submit to the Engineer details of the rockfall protection netting (draped wire mesh) and associated hardware including the pertinent technical data, shop drawings, samples of the materials, and color(s) of the netting matching as closely the color(s) of the slope for selection and approval by the Engineer prior to placing an order for the rockfall protection netting (draped wire mesh). The Engineer shall have a minimum of 20 working days after receipt of the submittal to review and approve the submittal. The Contractor shall not place an order for the rockfall protection netting (draped wire mesh) until written approval of the submittal is received from the Engineer.

(B) Drilled Holes. Drill the holes for the grouted rock anchors (including the lateral anchors and bottom anchors) according to the dimensions (diameter and depths) shown in the Contract Documents. The Contractor shall submit deviations from the dimensions shown on the Contract Documents for acceptance by the Engineer. The Engineer will not permit blasting for installation of the drilled holes.

If during the course of the drilled hole installation, the Contractor encounters unstable slope conditions that may constitute a potential rockfall hazard, immediately stop drilling and notify the Engineer.

(C) Grouted Rock Anchor (including top anchors and bottom anchors). Thread the steel rock anchor for the grouted rock anchors (including the top anchors and bottom anchors) with the standard threads on the exposed end only. The steel rock anchor for the grouted rock anchors shall be ASTM A 615, Grade 75. Furnish each grouted rock anchor (or lateral anchor and bottom anchor) complete with hardware for the tagline connection

or lateral anchor connection as shown on the Contract Documents including all necessary hardware, such as the following:

- (1) Two 8 inch square by 0.375 inch thick steel plates (ASTM A 36) for the grouted rock anchor and bottom anchor or two 8 inch square by 0.375 inch thick steel plates (ASTM A 36) for the lateral anchor;
- (2) Two heavy hex nuts (ASTM A 563, Grade A);
- (3) One washer (ASTM F 436);
- (4) Two heavy duty wire rope thimbles;
- (5) One 6 inch inside diameter, 1.375 inch thick steel ring (ASTM A 572, Grade 42) for the top anchors only;
- (6) All necessary wire rope clips (or cable clamps) (ASTM A 307).

Zinc-coat all metal parts, with the exception of stainless steel parts, according to Subsection 712.10 – Zinc-Coating.

(D) Proof Testing of Grouted Rock Anchors and Lateral Anchors. Perform proof testing of grouted rock anchors and lateral anchors on a minimum of 20 percent of the total number of grouted rock anchors (including lateral anchors). Proof testing of the bottom anchors will not be required. Perform the proof tests on anchors selected by the Engineer. Do not perform the proof testing until the grout for the anchor has cured for at least 72 hours and attained at least the specified 3-day compressive strength. Testing in less than 72 hours will only be allowed if the Contractor submits compressive strength test results, for tests performed by a qualified independent test lab, verifying that the anchor grout mixes being used will provide the specified 3-day compressive strengths in the lesser time.

Testing equipment shall include dial gauges, dial gauge support, jack and pressure gauge, electronic load cell, and a reaction frame. Provide description of test setup and jack, pressure gauge, and load cell calibration curves for review and approval by the Engineer. Measure the anchor head movement with a dial gauge capable of measuring up to 0.001 inches. The dial gauge shall have a travel sufficient to allow the test to be done without having to reset the gauge. Visually align the gauge to be parallel with the axis of the

anchor and support the gauge independently from the jack or reaction frame.

Proof test shall be performed by incrementally loading the anchor to a maximum test load of 133 percent of the pullout capacity indicated on the Contract Documents. The anchor head movement at each load shall be measured and recorded by the Engineer. The test load shall be monitored by a load cell or a jack pressure gauge with a sensitivity range meeting the requirements of pressure gauges used on the project. At load increments other than maximum test load, the load shall be held long enough to obtain a stable reading. Incremental loading for proof tests shall be in accordance with the following load schedule. The anchor head movements shall be recorded at each load increment.

| PROOF TEST LOADING SCHEDULE | |
|------------------------------|--------------|
| LOAD | HOLD TIME |
| AL (0.05-DTL maximum) | Until Stable |
| 0.25 DTL | Until Stable |
| 0.50 DTL | Until Stable |
| 0.75 DTL | Until Stable |
| 1.00 DTL | Until Stable |
| 1.25 DTL | Until Stable |
| 1.33 DTL (Max. Test Load) | 60 minutes |

The alignment load (AL) should be the minimum load required to align the testing apparatus and should not exceed 5 percent of the Design Test Load (DTL). The DTL is the pullout capacity indicated on the Contract Documents. Dial gauges should be set to "zero" after the alignment load has been applied. All load increments shall be maintained within 5 percent of the intended load. The creep period shall start as soon as the maximum test load is applied and the anchor head movement shall be measured and recorded at 1 minute, 2, 3, 5, 6, 10, 20, 30, 50, and 60 minutes.

(E) Wire Rope. Install and connect the top anchor cable (horizontal wire rope) and stability cables (at the bottom and sides of the draped wire mesh) by steel U-bolts and nuts (wire rope clips or cable clamps) as shown in the Contract Documents and as specified by the Engineer. The amount of wire rope to turn back, the number of U-bolts and nuts, and the spacing between adjacent U-bolts and nuts shall be in strict accordance with the wire rope manufacturer's recommendations.

(F) Draped Wire Mesh. Before installing the draped wire mesh, the slope faces designated for slope scaling shown on the Contract Documents shall be scaled and cleaned of loose rocks and other materials. Overlap the draped wire mesh as shown in the Contract Documents at the selvedge edges of the adjacent netting panels and at the top and bottom overlapping. Tie the netting tightly to the top anchor cable (wire rope cable) and stability cables (at the sides and bottom of the draped wire mesh) as shown in the Contract Documents.

Movable temporary rockfall barrier shall be in-place during installation of the draped wire mesh at the specific times indicated on the Contract Documents only. The Contractor shall protect the adjacent residences and properties from any rockfall or other hazards at all times during the Contractor's activities.

Install the wire rope and heavy-duty type wire rope thimbles according to the manufacturer's recommendations. The heavy-duty type thimbles shall be of the size recommended by the manufacturer of the wire rope (minimum 2.5 inch seat diameter). Zinc-coat the heavy-duty thimbles according to Subsection 712.10 – Zinc-Coating.

670.04 Measurement. The Engineer will measure the draped wire mesh per square feet of actual finished surface excluding additional netting required for overlapping.

670.05 Payment. The Engineer will pay for the accepted draped wire mesh at the contract unit price per square feet complete in place. The price includes full compensation for furnishing and installing the materials including the grouted rock anchors (top and bottom anchors) including the steel rock anchor, steel plate, hex nuts and washer, heavy-duty wire rope thimbles, steel rings, stainless steel sleeve (swage), wire rope clips (or cable clamps); zinc-coating the steel rock anchor and all hardware, PVC coating on the draped wire mesh and tie wire, stainless steel ring fasteners, stability cables, and furnishing labor, materials, tools, equipment and incidentals necessary to complete the work. Movable temporary rockfall barrier during installation of the draped wire mesh as specified in the Contract Documents will not be measured nor paid for separately and will be considered incidental to the unit price item.

| Pay Item | Pay Unit |
|------------------|--------------|
| Draped Wire Mesh | Square Feet" |

END OF SECTION 670

1 Make the following Section a part of the Standard Specifications:

2 **SECTION 672 – ANCHORED WIRE MESH SYSTEM**

3 **672.01 Description.** The work contained in this section of the technical
4 specifications consists of furnishing, transporting and constructing a slope
5 stabilization system in accordance with the contract documents and the
6 manufacturer's standards and requirements. The system shall be installed at the
7 location(s) shown on the design drawings approved by the Engineer.

8 The anchored wire mesh system has been designed to withstand the static
9 and dynamic forces generated from rocks or soil moving under the permanently
10 installed system. The manufacturer shall be regularly engaged in the
11 manufacturing of slope stabilization systems, having a documented experience with
12 the manufacturing of slope stabilization systems used in similar application and
13 capacity. The manufacturer shall supply written evidence demonstrating
14 certification of a quality assurance program.

15 **672.02 Materials.** All materials for the anchored wire mesh system shall
16 conform to the following requirements.

17 **(A) High Strength Wire Mesh.** The high strength wire mesh shall be
18 woven construction and shall be diamond shaped. The high strength wire
19 mesh shall be made with 4-mm (0.157-inch) diameter wire, and the ends of
20 each wire shall be formed into a loop and shall be twisted. The loops of the
21 wire mesh shall be fastened together to prevent unraveling of the mesh.
22 The wire shall be alloyed high strength carbon steel wire with a minimum
23 tensile strength 1,770 N/mm² (256,000 psi). The wire shall be galvanized
24 with a Zinc/Aluminum coating with a minimum weight of 125 g/m² (0.410
25 oz/ft²). The coating shall be 95% Zinc and 5% Aluminum.

26 The size of the wire mesh opening shall be 83 mm by 137 mm (± 3.25
27 inches by ± 5.5 inches) ($\pm 5\%$), and the depth of the mesh shall be 15 mm
28 ± 1 mm (0.59 inches).

29 **(B) Compression Claws (Press Claws).** The compression claws
30 (also known as press claws) shall be 6-mm (0.24-inch) diameter carbon
31 steel bar and hot dipped galvanized with a minimum layer thickness of 85
32 microns (μm). Type 1 compression claws (press claws) shall be used to
33 fasten the meshes together, and Type 2 compression claws (press claws)
34 shall be used to fasten the mesh to the boundary ropes.

35 **(C) Spike Plates.** The spike plates shall be made from 10-mm (0.4-
36 inch) thick steel and shall be hot dipped galvanized with a minimum layer
37 thickness of 85 microns (μm). The spike plate shall be diamond shaped
38 with a width of 190 mm (7.5 inches) and a length of 330 mm (13 inches).

39 **(D) Boundary Ropes.** Boundary ropes shall have a diameter of 0.5
40 inches (12 mm) and shall be PVC coated (color shall be black unless
41 directed otherwise by the Engineer). The rope shall be 6 by 19
42 construction (or equivalent), independent wire rope core (IWRC) and
43 galvanized with a minimum breaking strength of 23,940 pounds. The rope
44 shall meet Federal Specification RR-W-410D or equivalent including
45 galvanizing.

46 **(E) Drilled Holes.** Drill the holes for the grouted soil/rock anchors
47 (including the anchors for the boundary ropes) in accordance with the
48 minimum dimensions (diameter and depths) shown in the design
49 drawings. The Contractor shall submit deviations from the dimensions
50 shown on the design drawings for acceptance by the Engineer. The
51 Engineer will not permit blasting for installation of the drilled holes.

52 **(F) Grouted Soil/Rock Anchors.** The grouted soil/rock anchors shall
53 consist of 1.25-inch diameter high strength Grade 75 solid threaded bar
54 installed in a minimum 4-inch diameter drilled hole filled with non-shrink
55 grout. Alternatively, grouted soil and/or rock anchor consisting of hollow
56 threaded bar with outside and inside diameters of 1.5 and 0.75 inches,
57 respectively, and minimum yield load capacity of 90 kips may be used.
58 The length of the grouted soil/rock anchors shall be in accordance with the
59 design drawings.

60 **(G) Supplemental (Short) Anchors.** Where required (not shown on
61 design drawings), supplemental (short) anchors may be installed in
62 between the grouted soil/rock anchors shown on the design drawings.
63 Supplemental (short) anchors are installed to provide a neat appearance
64 for the anchored wire mesh system only and serve no structural function.
65 The supplemental (short) anchors shall be 1.25-inch diameter high
66 strength Grade 75 solid threaded bar. Where installed by the Contractor,
67 the length of the supplemental (short) anchors shall be at least 5 feet in
68 length.

69 **(H) Grout.** The grout shall be non-shrink, non-metallic, non-gaseous
70 and shall have a minimum unconfined compressive strength of 4,000 psi
71 or greater.

72 **(I) Color Coating.** All components of the anchored wire mesh
73 system, such as the high strength steel wire mesh, compression claws
74 (also known as press claws), and spike plates shall have a powder coating
75 of black pigmentation. The pigmented powder shall be applied using an
76 electrostatic spray gun or equivalent process. The other exposed parts of
77 the anchored wire mesh system that has not been powder coated shall
78 have an applied coating of rubberized paint (color shall be black unless
79 otherwise directed by the Engineer) for aesthetic purposes.

(J) **Miscellaneous Materials.** All miscellaneous material associated with the anchored wire mesh slope stabilization system shall be hot-dipped galvanized. The vendor of the anchored wire mesh system shall supply the appropriate components, such as wire rope clips, thimbles, etc., for use with a PVC coated wire rope.

672.03 Pre-Construction Requirements. The Contractor shall submit eight (8) copies of the layout and detailed drawings to the Engineer for review and acceptance. The submittal shall be prepared by the manufacturer of the anchored wire mesh slope stabilization system. The submittal also shall include samples of the materials with the powder coating and color(s) of the high strength wire mesh for selection and acceptance by the Engineer prior to placing an order for the anchored wire mesh system. The Engineer shall have 10 days to review the submittal and provide written comments and acceptance of the submittal. Fabrication of the anchored wire mesh system shall not begin until the submittal has been reviewed and accepted by the Engineer. The cost for the manufacturer's assistance and drawings required in the submittal shall be included in the cost of the anchored wire mesh system.

The Contractor shall submit an affidavit certifying that the high strength wire mesh meets the project specifications. The affidavit shall be signed by an official authorized to certify on behalf of the manufacturer and shall be accompanied by a mill certificate that verifies physical properties were tested during manufacturing and lists the manufacturer's quality control testing. If the affidavit is dated after award of the contract and/or is not specific to the project, the supplier shall attach a statement certifying that the affidavit addressed to the wholesale company is representative of the material supplied.

The Contractor shall have a qualified and experienced representative from the high strength wire mesh manufacturer available on an as-needed basis during the construction. The representative shall visit the site for consultation at least once during construction.

Calibration curves for anchor testing apparatus including jack, pressure gauge, and load cell shall be submitted to the Engineer for review and acceptance.

672.04 Construction Requirements.

(A) **General.** As part of the construction requirements, a technical representative from the manufacturer of the anchored wire mesh system shall be present on the site for a minimum of two (2) days during the initial installation of the anchored wire mesh system at no additional cost to the State. All materials for the anchored wire mesh system shall be properly marked by the manufacturer in order for the Contractor to identify the components easily with the drawings to minimize installation time.

120 The anchored wire mesh system installation shall consist of the following
121 steps. Installation of the anchored wire mesh system also shall follow the
122 manufacturer's recommendations. Where discrepancies exist between the
123 technical specifications of the Special Provisions and the manufacturer's
124 recommendations, the Contractor shall notify the Engineer immediately.
125 The Engineer will provide additional guidance for proceeding with the work
126 upon consultation with the manufacturer's technical representative to resolve
127 the discrepancies.

128 In general, the following steps shall be followed during the installation of the
129 anchored wire mesh system.

130 (1) The Contractor shall locate the grouted soil/rock anchors on
131 the slope as shown on the design drawings. Prior to
132 installation of the grouted soil/rock anchors, form hollows of at
133 least 8 inches deep (generally 8 to 12 inches deep) at each
134 grouted soil/rock anchor.

135 (2) The grouted soil/rock anchors shall be installed in accordance
136 with the design drawings and specifications. The Contractor
137 shall install supplemental (short) anchors in the areas where a
138 smooth slope surface is not achieved in order to push the
139 anchored wire mesh against the ground.

140 (3) Install the required grouted soil/rock anchors for the boundary
141 ropes at the locations shown on the design drawings. The
142 boundary ropes serve no structural purpose because the
143 boundary ropes are used to pull the edge of the anchored wire
144 mesh tight against the slope (for a neat appearance).

145 (4) After complete installing all required grouted soil/rock anchors,
146 tested and accepted by the engineer, plant hydro-mulch
147 seeding on face of the slope prior to placement of the erosion
148 control matting. Hydro-mulch in accordance with Section 641
149 – Hydro-mulch Seeding.

150 (5) Lay the erosion control matting on the slope by unrolling down
151 the slope in accordance with Section 663 - Erosion Control
152 Matting and Manufacturer's recommendations.

153 (6) Lay the high strength wire mesh on the slope by unrolling
154 down the slope. The rolls can be shortened or lengthened as
155 necessary by removing or adding sections, respectively.
156 Overlap the mesh panels by a minimum of one mesh. Fasten
157 the overlapped mesh panels with two (2) Type 1 compression
158 claws (press claws) at each mesh.

159 The compression claws (press claws) are installed with one
160 claw directly above the loop and one directly below the loop.
161 For obstructions, such as trees that are not removed, cut the
162 wire mesh, bend the cut wire mesh pieces back, and secure in
163 place with aluminum clamps (follow manufacturer's
164 recommendations).

165 (7) Install the required boundary ropes and fasten the wire mesh
166 to the boundary ropes with Type 2 compression claws
167 (minimum of one compression claw at each mesh). Tighten
168 the boundary ropes and pull tight against the ground or slope.

169 (8) Place the spike plates onto the anchors. Using a hydraulic
170 wrench supplied by the manufacturer, tighten the nuts and
171 push the spike plates and wire mesh into the hollows in order
172 to tension the anchored wire mesh to at least 36 kips. Torque
173 the nuts to the values in accordance with the manufacturer's
174 recommendations.

175 **(B) Pre-Production and Production Verification Testing of Grouted**
176 **Soil/Rock Anchors.** Pre-production verification testing shall be
177 performed in the presence of the Engineer prior to installation of
178 production anchors to verify the Contractor's installation methods and
179 anchor pullout resistance.

180 Perform a pre-production verification test at the location provided by the
181 Engineer. Pre-production verification test anchor will be sacrificial and not
182 incorporated as production anchors.

183 **(C) Proof Testing of Grouted Soil/Rock Anchors.** Perform proof
184 testing on a minimum of 10 percent of grouted soil/rock anchors. Perform
185 the proof tests at the locations and elevations selected by the engineer after
186 installation to verify anchor pullout resistance. Provided the proof test does
187 not fail at the maximum testing load and meet the acceptance criteria, the
188 proof test anchors may be incorporated as production nails.

189 **672.05 Measurement.** The Engineer will measure the anchored wire mesh
190 system per square feet.

191 **672.06 Payment.** The Engineer will pay for the accepted anchored wire
192 mesh system at the contract unit price per square feet complete in place. The
193 Engineer will not pay for grouted soil/rock anchors separately.

194 The price shall be full compensation for furnishing and installing materials,
195 labor, equipment, tools, and incidentals necessary to complete the anchored wire
196 mesh system including grouted soil/rock anchors at the locations shown on the
197 design drawings.

198

199

Pay Item

Pay Unit

200

Anchored Wire Mesh System

Square Feet"

201

202

END OF SECTION 672

SECTION 716 - GEOTEXTILES

716.01 General Requirements.

(A) Materials. Unless otherwise indicated in the contract documents, geotextiles shall be manufactured from long-chain polymeric fibers or yarns, composed of at least 95 percent, by weight, of polyolefins or polyesters. Fibers or yarns, including selvages, shall be formed into a stable network such that their dimensional stability relative to each other is retained during handling, placement, and design service life. Geotextiles shall be free from defects or tears, and free of treatment or coating that would adversely alter hydraulic or physical properties of geotextiles after installation.

Factory and field seams shall be sewn with thread consisting of high strength polypropylene, polyester, or polyamide, having same or greater durability as geotextile material. Nylon threads will not be allowed. Thread shall be at least as ultraviolet resistant as geotextile material and of contrasting color to geotextile.

Unless otherwise indicated in the contract documents, geotextiles shall be of rot-, mildew-, and chemical-resistant material conforming to requirements of this section.

(B) Geotextile Acceptance. The manufacturer's certificate of compliance and certified test results on the product, tested within six months of the submittal, shall be submitted. The following shall be included:

- (1) Manufacturer's name, current address, and telephone number.
- (2) Full product name by trademark and product number.
- (3) Geotextile polymer type(s).
- (4) Recommended geotextile use.
- (5) Recommended stapling pattern.
- (6) Six square yards of geotextile sample, with machine direction marked clearly on sample. Machine direction (long direction) is defined as direction perpendicular to axis of geotextile roll. Geotextile sample shall conform to requirements of Subsection 716.01(C) - Sampling.

(C) Sampling. Sampling shall be in accordance with ASTM D 4354 and this subsection. Samples shall be cut from geotextile roll with scissors, sharp

knife, or other suitable method that produces a smooth edge and does not rip or tear the material. Samples shall not be taken from outer wrap of geotextile roll, nor inner wrap of the core.

If geotextile seams are to be field sewn, the Contractor shall provide a section of sewn seam that can be sampled by the Engineer before geotextile is installed. Sewn seam for sampling shall be sewn using same equipment and procedures that will be used to sew production seams. If production seams will be sewn in both machine and cross-machine directions, sewn seams for sampling shall be provided that are oriented in both machine and cross-machine directions.

If geotextile seams are to be factory sewn, the Engineer will obtain samples of factory seam at random, from any of the rolls to be used. The Contractor shall submit seam assembly description, and the Engineer will include that description with seam sample obtained for testing. Seam assembly description shall include seam type, sewing thread type(s), and stitch density.

Each sample shall have minimum of 2 yards of seam length, with minimum of 18 inches of material on each side of seam, for each seam orientation (machine or cross-machine direction).

(D) Physical Properties. Physical property values in these specifications, with the exception of apparent opening size (AOS), represent minimum average roll values (MARV). Average test results (weaker principal direction for mechanical tests) for a particular property, for any individual roll tested within a lot sampled, shall meet or exceed specified values. Values for AOS represent maximum average roll values.

(E) Packaging. Geotextiles shall be packaged in rolls of length and width to meet requirements. Geotextiles shall be wound uniformly onto suitable cylindrical forms or cores to aid in handling and unrolling. Each roll of fabric and form or core shall be packaged individually in a sheath, wrapper, or container.

(F) Identification. Unless otherwise indicated in the contract documents, geotextiles shall be identified in accordance with ASTM D 4873 and this subsection. Include the following information:

- (1) Unique roll number, serially designated.
- (2) Manufacturer's lot number or control numbers.
- (3) Name of fabric manufacturer.
- (4) Date of manufacture.

- (5) Product brand name.
- (6) Manufacturer's style or catalog designation of the fabric.
- (7) Roll width, in feet.
- (8) Roll length, in feet.
- (9) Gross weight of entire package, including fabric, core, wrapping, and container.
- (10) Net weight of fabric alone.

(G) Storage and Handling. Geotextiles shall be stored and handled in accordance with ASTM D 4873 and this subsection. Geotextiles shall be kept dry and stored off the ground. During shipment and storage, material shall not be exposed to sunlight or other forms of light that contain ultraviolet rays, for more than five days.

716.02 Geotextiles For Permeable Separator Applications. Material shall conform to Subsection 716.01 - General Requirements and Table 716.02-1 - Material Requirements.

| TABLE 716.02-1 - MATERIAL REQUIREMENTS | | |
|--|----------------|-------------------|
| PHYSICAL PROPERTY | TEST PROCEDURE | REQ'T MARV |
| Grab Strength, (lbs.) (minimum) | ASTM D 4632 | 180 |
| Sewn Seam Strength (lbs.) (minimum) | ASTM D 4884 | 160 |
| Trapezoid Tear Strength (lbs.)(minimum) | ASTM D 4533 | 75 |
| Puncture Resistance (lbs.) (minimum) | ASTM D 4833 | 80 |
| Permittivity (sec ⁻¹)(minimum) | ASTM D 4491 | 0.02 ¹ |
| Apparent Opening Size (U.S. Standard Sieve) ² | ASTM D 4751 | 70-120 |
| Ultraviolet Degradation, 500 hours. (Percent Strength Retained) (minimum) | ASTM D 4355 | 50 |
| ¹ Permittivity of geotextile shall be greater than that of soil. ² Apparent Opening Size (AOS) requirement may be adjusted when less than 50 percent of soil particles, by weight, passes U.S. No. 200 sieve, or when geotextile permeability (ASTM D 4491) is equal to or less than soil permeability. | | |

716.03

716.03 Geotextiles for Underdrain Applications. Material shall conform to Subsection 716.01 - General Requirements and Table 716.03-1 - Material Requirements.

| TABLE 716.03-1 - MATERIAL REQUIREMENTS | | |
|---|----------------|------------|
| PHYSICAL PROPERTY | TEST PROCEDURE | REQ'T MARV |
| Grab Strength (lbs.) (minimum) | ASTM D 4632 | 180 |
| Seam Strength (lbs) (minimum) | ASTM D 4884 | 160 |
| Trapezoid Tear Strength (lbs.)(minimum) | ASTM D 4533 | 75 |
| Puncture Resistance (lbs.) (minimum) | ASTM D 4833 | 80 |
| Apparent Opening Size (U.S. Standard Sieve) ¹ | ASTM D 4751 | 70-120 |
| Ultraviolet Degradation, 500 hrs. (Percent Strength Retained) (minimum) | ASTM D 4355 | 50 |
| ¹ Apparent Opening Size (AOS) requirement may be adjusted when less than 50 percent of soil particles, by weight, passes U.S. No. 200 sieve, or when geotextile permeability (ASTM D 4491) is equal to or less than soil permeability. | | |

716.04 Geotextiles for Paving Applications. Material shall conform to Subsection 716.01 - General Requirements and Table 716.04-1 - Material Requirements; shall be nonwoven, needle-punched, and heat-bonded on one side; and manufactured from polyester, polypropylene, or polypropylene-nylon material.

| TABLE 716.04-1 - MATERIAL REQUIREMENTS | | |
|---|----------------|---------------|
| PHYSICAL PROPERTY | TEST PROCEDURE | REQ'T MARV |
| Grab Strength, either direction (lbs.) (minimum) | ASTM D 4632 | 100 |
| Ultimate Elongation (percent) (minimum) | ASTM D 4632 | 50 |
| Mass Per Unit Area (ounce/square yard) (minimum) | ASTM D 5261 | 4 |
| Asphalt Retention (gallon/square yard) (minimum) | ASTM D 6140 | Notes 1 and 2 |
| Melting Point (degrees F) (minimum) | ASTM D 276 | 325 |
| ¹ Asphalt required to saturate paving fabric only. Asphalt retention shall be provided in manufacturer's certification. ² Product asphalt retention property shall meet MARV value provided by manufacturer's certification. | | |

716.05 Geotextiles for Geocomposite Drain Applications. Material shall conform to Subsection 716.01 - General Requirements and Table 716.05-1 - Material Requirements; and shall be one-side impermeable, able to pass water and to retain soil without clogging.

| TABLE 716.05-1 - MATERIAL REQUIREMENTS | | |
|---|-----------------------|-------------------|
| PHYSICAL PROPERTY | TEST PROCEDURE | REQ'T MARV |
| Fabric Properties: | | |
| Grab Strength, either direction, (lbs) (minimum) | ASTM D 4632 | 110 |
| Elongation, either direction (percent) (maximum) | ASTM D 4632 | 70 |
| Puncture Resistance (lbs) (minimum) | ASTM D 4833 | 70 |
| Apparent Opening Size (U.S. Standard Sieve) ¹ | ASTM D 4751 | 70–120 |
| Core Properties: | | |
| Compressive Strength (psi) (minimum) | ASTM D 1621 | 40 |
| Flow Rate at 14.5 psi, gradient 1.0 (gal/min/ft) (minimum) | ASTM D 4716 | 15 |
| ¹ Apparent Opening Size (AOS) requirement may be adjusted when less than 50 percent of soil particles, by weight, passes U.S. No. 200 Sieve, or when geotextile permeability (ASTM D 4491) is equal to or less than soil permeability. | | |

716.06

135 **716.06 Geotextiles for Stabilization Applications.** Material shall conform to
136 Subsection 716.01 - General Requirements and Table 716.06-1 - Material
137 Requirements.
138

| TABLE 716.06-1 - MATERIAL REQUIREMENTS | | |
|---|----------------|-------------------|
| PHYSICAL PROPERTY | TEST PROCEDURE | REQ'T MARV |
| Grab Strength, (lbs.) (minimum) | ASTM D 4632 | 315 |
| Sewn Seam Strength (lbs.) (minimum) | ASTM D 4884 | 285 |
| Trapezoid Tear Strength (lbs.)(minimum) | ASTM D 4533 | 115 |
| Puncture Resistance (lbs.) (minimum) | ASTM D 4833 | 115 |
| Permittivity (sec^{-1}) (minimum) | ASTM D 4491 | 0.05 ¹ |
| Apparent Opening Size (U.S. Standard Sieve) | ASTM D 4751 | 40 |
| Ultraviolet Degradation, 500 hrs (Percent Strength Retained) (minimum) | ASTM D 4355 | 50 |
| ¹ Permittivity of geotextile shall be greater than that of soil. | | |

139
140

716.07 Geotextiles for Permanent Erosion Control Applications. Material shall conform to Subsection 716.01 - General Requirements and Tables 716.07-1 and 716.07-2- Material Requirements.

(A) Woven Monofilament Geotextiles.

| TABLE 716.07-1 - MATERIAL REQUIREMENTS | | | | |
|---|-----------------------|--|-----------------|---------------|
| PHYSICAL PROPERTY | TEST PROCEDURE | REQ'T MARV | | |
| Grab Strength, (lbs.) (minimum) | ASTM D 4632 | 250 | | |
| Sewn Seam Strength (lbs.) (minimum) | ASTM D 4884 | 225 | | |
| Trapezoid Tear Strength (lbs.)(minimum) | ASTM D 4533 | 60 | | |
| Puncture Resistance (lbs.) (minimum) | ASTM D 4833 | 90 | | |
| Ultraviolet Degradation, 500 hrs (Percent Strength Retained) (minimum) | ASTM D 4355 | 50 | | |
| | | Percent In-Situ Soil Passing 0.075 mm¹ | | |
| PHYSICAL PROPERTY | TEST PROCEDURE | <15 | 15 to 50 | >50 |
| Permittivity (sec ⁻¹) (minimum) | ASTM D 4491 | 0.7 | 0.2 | 0.1 |
| Apparent Opening Size (U.S. Standard Sieve) | ASTM D 4751 | 40 | 60 | 70 |
| ¹ Based on grain size analysis of in-situ soil in accordance with AASHTO T 88. | | | | |

147
148**(B) All Other Geotextiles.**

| TABLE 716.07-2 - MATERIAL REQUIREMENTS | | | | |
|---|-----------------------|--|-----------------|---------------|
| PHYSICAL PROPERTY | TEST PROCEDURE | REQ'T MARV | | |
| Grab Strength, (lbs.) (minimum) | ASTM D 4632 | 315 | | |
| Sewn Seam Strength (lbs.) (minimum) | ASTM D 4884 | 285 | | |
| Trapezoid Tear Strength (lbs.)(minimum) | ASTM D 4533 | 115 | | |
| Puncture Resistance (lbs.) (minimum) | ASTM D 4833 | 115 | | |
| Ultraviolet Degradation, 500 hrs (Percent Strength Retained) (minimum) | ASTM D 4355 | 50 | | |
| | | Percent In-Situ Soil Passing 0.075 mm¹ | | |
| PHYSICAL PROPERTY | TEST PROCEDURE | <15 | 15 to 50 | >50 |
| Permittivity (sec ⁻¹) (minimum) | ASTM D 4491 | 0.7 | 0.2 | 0.1 |
| Apparent Opening Size (U.S. Standard Sieve) | ASTM D 4751 | 40 | 60 | 70 |
| ¹ Based on grain size analysis of in-situ soil in accordance with AASHTO T 88. | | | | |

149
150

716.08 Geotextiles for Temporary Silt Fence Applications. Material shall conform to Subsection 716.01 - General Requirements and Table 716.08-1 - Material Requirements; and shall be installed in combination with support net of polymeric mesh or other material accepted by the Engineer and post supports, as indicated in the contract documents.

| TABLE 716.08-1 - MATERIAL REQUIREMENTS | | |
|---|-----------------------|-------------------|
| PHYSICAL PROPERTY | TEST PROCEDURE | REQ'T MARV |
| Grab Strength, (lbs.) (minimum) | ASTM D 4632 | 100 |
| Puncture Resistance (lbs.) (minimum) | ASTM D 4833 | 55 |
| Trapezoid Tear Strength (lbs.)(minimum) | ASTM D 4533 | 40 |
| Permittivity (sec ⁻¹) (minimum) | ASTM D 4491 | 0.05 |
| Apparent Opening Size (U.S. Standard Sieve) | ASTM D 4751 | |
| Slit film woven geotextiles | | 30 |
| All other geotextile types | | 50 |
| Ultraviolet Degradation, 500 hrs (Percent Strength Retained) (minimum) | ASTM D 4355 | 70 |

END OF SECTION 716

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 THEIR 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. THE GENERAL CONTRACTOR OF THE PROJECT SHALL BE RESPONSIBLE FOR CONFORMANCE WITH APPLICABLE PROVISIONS OF THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 34, "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.
5. THE GENERAL CONTRACTOR OF THE PROJECT SHALL OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE(S) FOR THE FOLLOWING:
 - STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES THAT DISTURB ONE (1) ACRE OR MORE, AND
 - 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.
6. 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.
7. 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.
 2. CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.
 3. ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT).
8. 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 (6932-8015). 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.
9. FOR PROJECTS ABUTTING STATE HIGHWAY'S 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 ON AN ASSESSMENT OF STATE HIGHWAYS PERMIT REQUIREMENTS.
10. FOR BENCH MARK, SEE SHEET C100.

1. ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH CHAPTER 14, ARTICLES 13, 14, 15 AND 16, AS APPLICABLE TO GRADING, SOIL EROSION AND SEDIMENT CONTROL, OF THE REVISED ORDINANCES OF HONOLULU, 1990, AS AMENDED, AND "GEOTECHNICAL ENGINEERING CONSULTANT SERVICES PHASE I - POTENTIAL ROCKFALL HAZARD & SLOPE EVALUATION STUDY ROCKFALL HAZARD MITIGATION AT KAPAHU STREET" DATED JULY 31, 2020 PREPARED BY GEOLABS, INC.
2. NO CONTRACTOR SHALL PERFORM ANY GRADING OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH OCCURRENCES OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.
3. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST HAZARD. 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".
4. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS/HER SEARCH OF AVAILABLE 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 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.
5. 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.
6. 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.
7. FILLS ON SLOPES STEEPER THAN 5:1 SHALL BE KEYED.
8. 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.
9. 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".
10. THE LIMITS OF THE AREA TO BE GRADED SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.
11. THE GENERAL CONTRACTOR OF THE PROJECT SHALL BE RESPONSIBLE FOR 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.

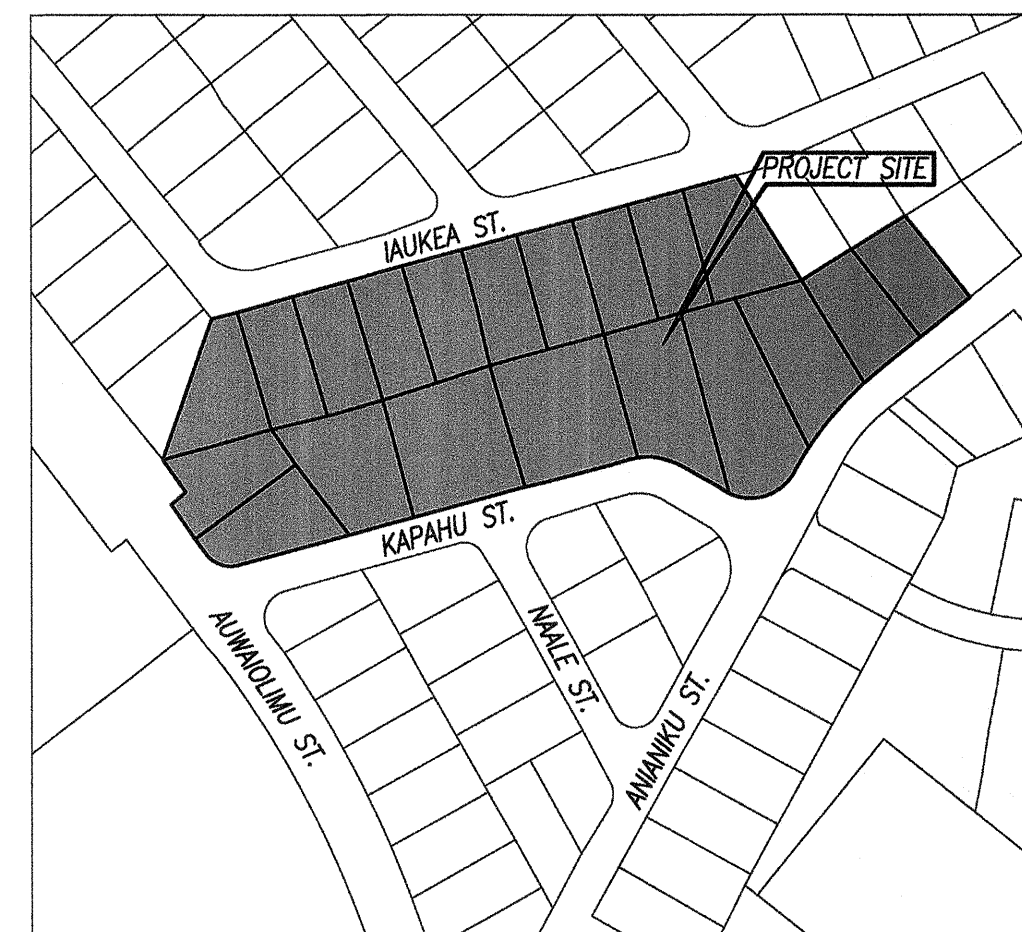
THE GENERAL CONTRACTOR OF THE PROJECT SHALL OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE(S) FOR THE FOLLOWING:

1. STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES THAT DISTURB ONE (1) ACRE OR MORE, AND
2. DISCHARGES OF HYDROTREATING EFFLUENT, DEWATERING EFFLUENT, AND WELL DRILLING EFFLUENT TO STATE WATERS.

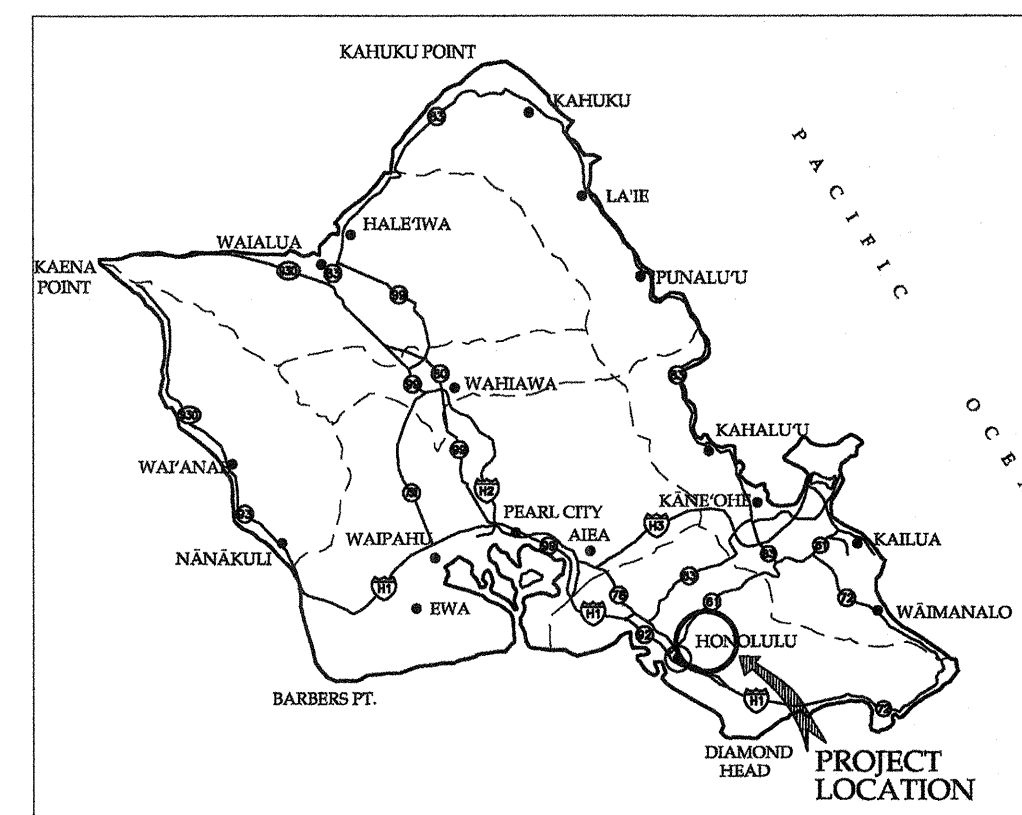
IN ACCORDANCE WITH STATE LAW, ALL DISCHARGES RELATED TO PROJECT CONSTRUCTION OR OPERATIONS ARE REQUIRED TO COMPLY WITH STATE WATER QUALITY STANDARDS (HAWAII ADMINISTRATIVE RULES, CHAPTER 11-54). BEST MANAGEMENT PRACTICES SHALL BE USED TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENT, DEBRIS, AND OTHER POLLUTANTS TO STATE WATERS. PERMIT COVERAGE IS AVAILABLE FROM THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH AT <http://health.hawaii.gov/cwb>. THE 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. 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.
17. 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 (892-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL INFORM THE CIVIL ENGINEERING BRANCH, D.P.P. (768-8084); AND FOR CITY PROJECTS, NOTIFY 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.
21. FOR BENCH MARK, SEE SHEET C100.

**TMK: 2-4-040:040-041, 2-4-041:017-026,
2-4-042:011-017**




VICINITY MAP
NOT TO SCALE



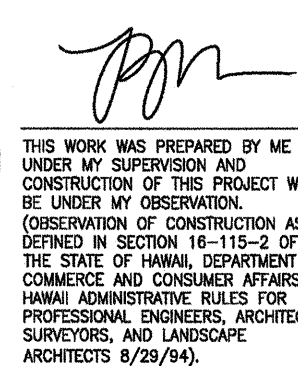
LOCATION MAP
NOT TO SCALE

| <u>DRAWING NO</u> | | <u>DESCRIPTION</u> |
|---------------------|--|--|
| <u>CIVIL</u> | | |
| C001 | | TITLE SHEET, LOCATION AND VICINITY MAP, NOTES, INDEX TO DRAWINGS |
| C002 | | NOTES |
| C100 | | EXISTING CONDITIONS AND DEMOLITION PLAN |
| C200 | | SITE AND ACCESS PLAN |
| C300 | | GRADING PLAN |
| C400 | | EROSION CONTROL PLAN AND DETAILS |
| C500 | | DETAILS |
| <u>GEOTECHNICAL</u> | | |
| G0.1 | | GENERAL ROCKFALL NOTES |
| G0.2 | | GENERAL ROCKFALL NOTES |
| G1.0 | | SITE PLAN |
| G2.0 | | TYPICAL SECTIONS |
| G3.1 | | DRAPED WIRE MESH |
| G3.2 | | DRAPED WIRE MESH |
| G3.3 | | DRAPED WIRE MESH |
| G3.4 | | ANCHORED WIRE MESH DETAILS |
| G3.5 | | GROUTED SOIL ANCHOR DETAILS |
| G3.6 | | BOUNDARY ROPE DETAILS |
| G4.1 | | CROSS SECTIONS |
| G4.2 | | CROSS SECTIONS |
| G4.3 | | CROSS SECTIONS |
| G4.4 | | CROSS SECTIONS |
| G4.5 | | CROSS SECTIONS |
| G4.6 | | CROSS SECTIONS |
| G4.7 | | CROSS SECTIONS |
| G4.8 | | CROSS SECTIONS |
| G4.9 | | CROSS SECTIONS |


CHAIRMAN, HAWAII HOME COMMISSION
STATE OF HAWAII

2/24/21
DATE

111 S. KING STREET, SUITE 170
HONOLULU, HAWAII 96813
808.523.5866
WWW.G70.DESIGN

[illegible]

| | |
|----------------|---------------------|
| ENGINEER: KWNW | CHECKED BY: KWNW |
| DRAWN BY: JK | PROJECT #: 216012-2 |

DPP CONSTR FILE #
TAX MAP KEY: 2-4-042:011-017, 2-4-041:017-026
HONOLULU, OAHU, HAWAII
FEBRUARY 2021

APPROVED BY:

SHEET 1 OF 26 SHEETS

PROJECT NAME:
CAD DWG NO.:
DATE:

NOTES:

1. THE CONTRACTOR SHALL FOLLOW THE GUIDELINES IN THE CITY AND COUNTY OF HONOLULU'S "RULES RELATING TO WATER QUALITY."
2. MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY EARTHWORK IS INITIATED.
3. 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 SLOPE. PROVIDE A 10-FT BUFFER AT THE TOE OF SLOPE. ONLY 5 ACRES MAY BE DISTURBED AT ANYTIME ON SLOPES GREATER THAN 15%.
4. 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.
5. 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.
6. 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 IN AN UPRIGHT POSITION.
7. MINIMIZE SOIL COMPACTION AREAS WHERE FINAL STABILIZATION OR INFILTRATION PRACTICES WILL BE INSTALLED SHALL BE PROTECTED FROM EXCESSIVE COMPACTION. VEHICLE AND EQUIPMENT USE SHALL BE LIMITED TO AREAS 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.
8. PERIMETER CONTROLS ARE REQUIRED DOWNSLOPE OF ALL DISTURBED AREAS. MAINTAIN DOWNSTREAM VEGETATED BUFFER AREA.
9. SEDIMENT BARRIERS AND FENCES SHALL BE USED DOWN SLOPE OF ALL DISTURBED AREAS. UNTIL SLOPES ARE STABILIZED A SEDIMENT FENCE OR BARRIER SHALL BE INSTALLED AT THE TOE OF THE SLOPE AND ON CONTOURS AT THE FOLLOWING SPACING:

SLOPE > 2:1 10 FEET SPACING
SLOPE > 4:1 AND < 2:1 15 FEET SPACING
SLOPE < 4:1 20 FEET SPACING
10. ALL STORM DRAIN INLETS ON-SITE AND THOSE OFF-SITE WHICH MAY RECEIVE RUNOFF FROM THE SITE SHALL USE AN INLET PROTECTION DEVICE UNLESS THEY ARE DIRECTED TO A SEDIMENT TRAP. SEDIMENT LEVELS MAY NOT EXCEED ONE-THIRD OF THE HEIGHT OF AN INLET PROTECTION DEVICE AT ANY POINT ALONG THE LENGTH OF THE 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 PROTECTION DEVICES MUST BE PREPARED OR REPLACED IMMEDIATELY.
12. SEDIMENT BASINS MUST BE KEPT IN EFFECTIVE OPERATING CONDITION AND SEDIMENT SHALL BE REMOVED TO MAINTAIN AT LEAST ONE HALF OF THE DESIGN CAPACITY AT ALL TIMES.
13. MINIMIZE SEDIMENT TRACK-OUT ONTO OFF-SITE STREET, OTHER PAVED AREAS, AND SIDEWALKS FROM VEHICLES EXISTING THE CONSTRUCTION SITE BY RESTRICTING VEHICLE TRAFFIC TO PROPERLY DESIGNATED AREAS AND USING ADDITIONAL CONTROLS TO REMOVE SEDIMENT FROM VEHICLE TIRES PRIOR TO EXITING THE SITE. VEHICLE PARKING AND MOVEMENTS ON PROTECT SITES MUST BE CONFINED TO PAVED SURFACES OR PREDEFINED PARKING AREAS AND VEHICLE PATHS, WHICH SHALL BE MARKED WITH FLAGS OR BOUNDARY FENCING. ALL POLLUTANTS AND MATERIALS THAT ARE DROPPED, WASHED, TRACKED, SPILLED, OR OTHERWISE DISCHARGED FROM A PROJECT SITE TO OFF-SITE STREETS, OTHER PAVED AREAS, SIDEWALKS OR THE MS4 MUST BE CLEANED USING DRY METHODS SUCH AS SWEEPING OR VACUUMING. 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.
15. REFER TO CITY AND COUNTY OF HONOLULU BEST MANAGEMENT PRACTICES MANUAL – CONSTRUCTION, FOR MORE INFORMATION ON BMPs.
16. A COMPREHENSIVE LIST OF BMPs BASED ON THE DPP RULES RELATING TO WATER QUALITY AND CCH CONSTRUCTION BMP MANUAL WERE REVIEWED TO COMPLETE THE ESCP. THE FOLLOWING BMP WERE DETERMINED TO BE NOT APPLICABLE BASED ON THE SITE SPECIFIC CONDITIONS. AS CONSTRUCTION PROGRESSES, REVISIONS MAY BE NECESSARY AND WILL BE PROVIDED TO DPP INSPECTORS.
 - 1) SEDIMENT TRAP
 - 2) BUFFER ZONES ARE NOT APPLICABLE
 - 3) DEWATERING PRACTICES ARE NOT APPLICABLE
17. AN ESCP COORDINATOR FOR THE PROJECT MUST BE DESIGNATED TO DPP AT LEAST TWO WEEKS PRIOR TO STARTING WORK.
18. NOTIFY DPP IN WRITING TWO WEEKS PRIOR TO STARTING WORK.
19. WRITTEN APPROVAL FROM DPP IS REQUIRED BEFORE PROCEEDING TO EACH NEXT PHASE OF DEVELOPMENT SHOWN ON THE SITE PLAN.
20. PRACTICE GOOD HOUSEKEEPING MEASURES THROUGHOUT THE DURATION OF CONSTRUCTION.
21. REGULARLY INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROLS TO ENSURE CONTINUED PERFORMANCE.
22. INSPECTIONS WILL BE PERFORMED WEEKLY.
23. CONTRACTOR SHALL COMPLY WITH THE PROJECT SCHEDULING REQUIREMENTS.

1. 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, THE STATE HISTORIC PRESERVATION DIVISION AT (808) 742-7033, WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND THE APPROPRIATE MITIGATION MEASURES, IF NECESSARY.

- STREET SWEEPING AND VACUUMING: ALL POLLUTANTS DISCHARGED FROM CONSTRUCTION SITE TO OFF-SITE AREAS MUST BE SWEEPED OR VACUUMED EACH DAY BEFORE LEAVING THE JOB SITE.
2. MATERIALS DELIVERY, STORAGE AND USE MANAGEMENT: PREVENT, REDUCE, OR ELIMINATE THE DISCHARGE OF POLLUTANTS FROM MATERIAL DELIVERY, STORAGE, AND USE TO THE STORM WATER SYSTEM OR WATERCOURSES BY MINIMIZING THE STORAGE OF HAZARDOUS MATERIALS ONSITE, STORING MATERIALS IN A DESIGNATED AREA, INSTALLING A 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 COVERS SHALL BE IMPLEMENTED TO THE MEP.
3. 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.
4. HAZARDOUS MATERIALS: PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM HAZARDOUS WASTE THROUGH PROPER MATERIAL USE AND WASTE DISPOSAL. IN THE EVENT THAT HAZARDOUS MATERIAL ARE DISCHARGED TO THE MS4, THE PROPERTY OWNER OR ESCP COORDINATOR SHALL IMMEDIATELY NOTIFY THE DEPARTMENT OF FACILITIES MAINTENANCE, HONOLULU FIRE DEPARTMENT, AND HONOLULU POLICE DEPARTMENT OF THE DISCHARGE BY TELEPHONE. 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.
5. 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.
6. 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.
7. 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 ACTIVE MEASURES USING SPILL RESPONSE KITS.
8. 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.
9. 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 OF ONLY AT AUTHORIZED DISPOSAL AREAS.
10. 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.
11. STOCKPILE MANAGEMENT: STOCKPILES MUST NOT BE LOCATED IN DRAINAGE WAYS, WITHIN 50 FEET FROM AREAS OF CONCENTRATED FLOWS, AND ARE NOT ALLOWED IN THE CITY RIGHT-OF-WAY. SEDIMENT BARRIERS OR SILT FENCES SHALL BE USED AROUND THE BASE OF ALL STOCKPILES. STOCKPILES SHALL NOT EXCEED 15 FEET IN HEIGHT. STOCKPILES GREATER THAN 15 FEET IN HEIGHT SHALL REQUIRE 8 FOOT WIDE BENCHING IN ACCORDANCE WITH ROH CHAPTER 14. ARTICLE 15. STOCKPILES MUST BE COVERED WITH PLASTIC SHEETING OR A COMPARABLE MATERIAL IF THEY WILL NOT BE ACTIVELY USED WITHIN 7 DAYS.
12. 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.
13. 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. CONTAINMENT AREAS OR DEVICES SHOULD NOT BE LOCATED WHERE ACCIDENTAL RELEASE OF THE CONTAINED LIQUID CAN BE DISCHARGE TO WATER BODIES, CHANNELS, OR STORM DRAINS. WASHOUT 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 WASTE.
14. 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.
15. INSPECT BMPs AND SITE WEEKLY: MAINTAIN BMPs AND SITE AS REQUIRED TO ENSURE CONTINUED PERFORMANCE
16. DUST CONTROL: THE PROJECT SITE SHALL NOT BE TRANSPORTED OR DISCHARGED TO OFF-SITE AREAS. WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION STANDARDS CONTAINED IN THE "HAWAII ADMINISTRATIVE RULES" TITLE 11, CHAPTER 60.1 "AIR QUALITY CONTROL."
17. STREET SWEEPING AND VACUUMING: ALL POLLUTANTS DISCHARGED FROM CONSTRUCTION SITE TO OFF-SITE AREAS MUST BE SWEEPED OR VACUUMED EACH DAY BEFORE LEAVING THE JOB SITE.
18. TRACKING CONTROL: MINIMIZE SEDIMENT TRACK-OUT ONTO OFF-SITE STREETS, OTHER PAVED AREAS, AND SIDEWALKS FROM VEHICLES EXITING THE CONSTRUCTION SITE BY RESTRICTING VEHICLE TRAFFIC TO PROPERLY DESIGNATED AREAS AND USING ADDITIONAL CONTROLS TO REMOVE 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. ALL POLLUTANTS AND MATERIALS THAT ARE DROPPED, WASHED, TRACKED, SPILLED, OR OTHERWISE DISCHARGED FROM A PROJECT SITE TO OFF-SITE STREETS, OTHER PAVED AREAS, SIDEWALKS OR THE MS4 MUST BE CLEANED USING DRY METHODS SUCH AS SWEEPING OR VACUUMING. 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.
18. A STABILIZED CONSTRUCTION ENTRANCE AND EXIT SHALL BE PROVIDED BASED ON EROSION AND SEDIMENT CONTROL PLAN DETAILS, AND SHALL BE REGULARLY INSPECTED/MAINTAINED TO ENSURE CONTINUED PERFORMANCE.
19. DEWATERING NON-STORM WATER CANNOT BE DISCHARGED FROM THE SITE WITHOUT PRIOR NOTICE AND APPROVAL FROM THE DPP AND DEPARTMENT OF HEALTH. DEWATERING DISCHARGES SHALL BE KEPT ONSITE USING A SEDIMENT BASIN, SEDIMENT TRAP, WEIR, TANKING, DRAINAGE TANK, FILTRATION SYSTEM OR OTHER MANUFACTURED SYSTEM.

SCHEDULE:

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 BMP.
2. CONSTRUCT DIVERSION DITCH WITH CHECK DAMS UPSLOPE OF THE GRADED AREA TO DIRECT RUNOFF AROUND THE SITE. INSTALL VELOCITY DISSIPATION STRUCTURE AT TEMPORARY OUTLET.
3. INSTALL PERMANENT DRAINAGE SYSTEM WITH TEMPORARY INLET PROTECTION FOR INLETS THAT DO NOT DRAIN TO THE SEDIMENT BASINS. CLEAR AND GRUB AS NEEDED FOR INSTALLATION.
4. CLEAR, GRUB, AND GRADE THE SITE, REFER TO SITE AND ACCESS PLAN, EXISTING CONDITIONS AND DEMOLITION PLAN, AND GRADING PLAN. 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.
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 PERFORMED WEEKLY.

THE FOLLOWING WILL BE PERFORMED WHEN HEAVY RAINS, TROPICAL STORM OR HURRICANE IS IMMINENT OR IS FORECASTED IN THE NEXT 48 HOURS:

1. TEMPORARY SUSPENSION OF ACTIVE GRADING, GRUBBING AND TRENCHING.
2. INSPECT ALL SEDIMENT BASINS, 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 SEVERE STORM IS EXPECTED, REMOVE INLET PROTECTION DEVICES TO PREVENT FLOODING ON SURROUNDING STREETS.
3. COVER OR RELOCATE MATERIAL STOCKPILES AND LIQUID MATERIAL CONTAINERS TO AVOID CONTACT WITH RAINWATER.
4. PLACE SPILL PADS OR OIL-ONLY SPILL PADS UNDER CONSTRUCTION VEHICLES TO PREVENT RUNOFF FROM CONTAMINATING ANY SPILLED PETROLEUM PRODUCTS. PROPERLY DISPOSE OF ANY ACCUMULATED OILY WATER AFTER THE RAIN EVENT.
5. RE-INSPECT AFTER THE APPROACHING HEAVY RAINS, TROPICAL STORM OR HURRICANE AND REPLACE OR MAINTAIN BMPs AS NEEDED.

1. IN ACCORDANCE WITH CHAPTER 11-60.1, AIR POLLUTION CONTROL, TITLE 11, STATE ADMINISTRATIVE RULES, THE PROPERTY OWNER/ DEVELOPER SHALL BE RESPONSIBLE FOR ENSURING THAT EFFECTIVE CONTROL MEASURES ARE PROVIDED TO MINIMIZE OR PREVENT ANY VISIBLE DUST EMISSION CAUSED BY THE CONSTRUCTION WORK FROM IMPACTING THE SURROUNDING AREAS INCLUDING THE OFF-SITE ROADWAYS USED TO ENTER/EXIT THE PROJECT. MEASURES INCLUDE BUT ARE NOT LIMITED TO THE USE OF WATER WAGONS, SPRINKLER SYSTEMS, DUST FENCES, ETC.
2. IN ACCORDANCE WITH CHAPTER 11-55, WATER POLLUTION CONTROL AND CHAPTER 11-54, WATER QUALITY STANDARDS, TITLE 11, STATE ADMINISTRATIVE RULES, THE PROPERTY OWNER/ DEVELOPER SHALL BE RESPONSIBLE FOR ENSURING THAT THE BEST MANAGEMENT PRACTICE (BMP) TO MINIMIZE OR PREVENT THE DISCHARGE SEDIMENTS, DEBRIS, AND OTHER WATER POLLUTANT INTO STATE WATERS IS PROVIDED AT ALL TIMES.
3. IN ACCORDANCE WITH CHAPTER 11-58.1, SOLID WASTE MANAGEMENT CONTROL, TITLE 11, STATE ADMINISTRATIVE RULES, THE PROPERTY OWNER/ DEVELOPER SHALL BE RESPONSIBLE FOR ENSURING THAT CRIB MATERIAL, DEMOLITION WASTES, AND CONSTRUCTION WASTES GENERATED BY THE PROJECT ARE DISPOSED OF IN A MANNER OR AT A SITE APPROVED BY THE STATE DEPARTMENT OF HEALTH. DISPOSAL OF ANY OF THESE WASTES BY BURNING IS PROHIBITED. THE CONTRACTOR SHALL INFORM THE COUNTY ENGINEER AS TO THE LOCATION OF THE DISPOSAL SITE(S). THE DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE SEDIMENT AND EROSION CONTROL ORDINANCE.
4. THE PROPERTY OWNER/ DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS FROM THE DEPARTMENT OF HEALTH INCLUDING BUT NOT LIMITED TO NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS FOR STORM WATER, HYDROSTATIC TEST AND DEWATERING DISCHARGES PRIOR TO COMMENCING CONSTRUCTION.
5. IN ACCORDANCE WITH CHAPTER 11-46, COMMUNITY NOISE CONTROL, STATE ADMINISTRATIVE RULES, THE PROPERTY OWNER/ DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING EFFECTIVE CONTROL MEASURES TO MINIMIZE OR PREVENT CONSTRUCTION RELATED NOISE FROM IMPACTING THE RESIDENTS IN THE IMMEDIATE AREA. IF REQUIRED, NOISE REDUCTION MEASURES SHALL BE IMPLEMENTED BY THE CONTRACTOR DURING THE CONSTRUCTION WORK.

1. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH AND SAFETY AND ENVIRONMENTAL QUALITY.

1. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH AND SAFETY AND ENVIRONMENTAL QUALITY.
2. THE CONTRACTOR AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND ITS SURROUNDING AREAS FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH. THE CITY SHALL REQUIRE SUPPLEMENTARY MEASURES AS REQUIRED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANING AND REMOVAL OF ALL SILT AND DEBRIS GENERATED BY HIS WORK AND DEPOSITED AND ACCUMULATED WHEN DOWNSTREAM WATERWAYS, DITCHES, AND DRAIN PIPES AND ON PUBLIC ROADWAYS.
4. THE CONTRACTOR SHALL PROVIDE, INSTALL, MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES AND OTHER PROTECTIVE FACILITIES AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION AND FOR THE CONVENIENCE AND SAFETY OF THE PUBLIC AND PUBLIC TRAFFIC. ALL SUCH PROTECTIVE FACILITIES, AND PRECAUTIONS TO BE TAKEN SHALL CONFORM WITH "RULES AND REGULATIONS GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS OF THE STATE OF HAWAII" AND OTHER U.S. FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" DATED JANUARY 2003, AND ITS AMENDMENTS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER QUALITY AND WATER POLLUTION CONTROL STANDARDS CONTAINED IN 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 1990, AS AMENDED. BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.
6. THE CONTRACTOR'S ATTENTION IS DIRECTED TO HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 46, "COMMUNITY NOISE CONTROL" IN WHICH MAXIMUM ALLOWABLE NOISE LEVELS HAVE BEEN SET. IF THE CONSTRUCTION ACTIVITIES FOR THIS PROJECT WILL EXCEED THE ALLOWABLE NOISE LEVELS, THE CONTRACTOR WILL BE REQUIRED TO OBTAIN A PERMIT FROM THE DIRECTOR OF THE DEPARTMENT OF HEALTH. THE CONTRACTOR SHALL OBTAIN A COPY OF CHAPTER 46 AND BECOME FAMILIAR WITH THE NOISE LEVEL RESTRICTIONS AND THE PROCEDURES FOR OBTAINING A PERMIT FOR CONSTRUCTION ACTIVITIES. APPLICATION AND INFORMATION ON VARIANCES ARE AVAILABLE AT THE ENVIRONMENTAL HEALTH SERVICES DIVISION, 591 ALA MOANA BOULEVARD, HONOLULU, HAWAII 96813 OR BY TELEPHONE (586-4700).

1. THE STOCKPILE OR PROJECT SITE THAT IS CLEARED OF VEGETATION SHALL BE KEPT DAMP WITH WATER CONTINUOUSLY FOR SEVEN (7) DAYS A WEEK. AT THE END OF EACH DAY, THE SITE SHALL BE SUFFICIENTLY DAMPENED WITH WATER ON A CONTINUAL BASIS SO THAT THE SITE WILL REMAIN MOISTENED DURING THE NIGHT.
2. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO THAT EXCAVATION, EMBANKMENT, AND IMPORTED MATERIAL SHALL BE DAMPENED WITH WATER ON A CONTINUAL BASIS TO PREVENT DUST PROBLEMS.
3. IN APPLYING FOR A STOCKPILE PERMIT, THE CONTRACTOR SHALL SUBMIT PLANS, SCHEDULES AND/OR WRITTEN MEASURES WHICH PROVIDES FOR DUST CONTROL. THE DUST CONTROL MEASURES SHALL CONTAIN POSITIVE STATEMENTS WHICH REQUIRE ACTIONS OR WORK THAT PREVENT DUST PROBLEMS. NO PERMITS WILL BE ISSUED UNLESS THE COUNTY IS ASSURED THAT DUST AND EROSION PROBLEMS WILL BE MINIMIZED.

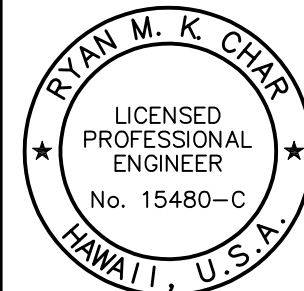
G70

111 S. KING STREET, SUITE 170

HONOLULU, HAWAII 96813

808.523.5866

WWW.G70.DESIGN



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 SECTION 16-115-2 OF THE STATE OF HAWAII, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS, AND LANDSCAPE ARCHITECTS 8/29/94).

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| ENGINEER: KWNW | CHECKED BY: KWNW |
| DRAWN BY: JK | PROJECT #: 216012-21 |

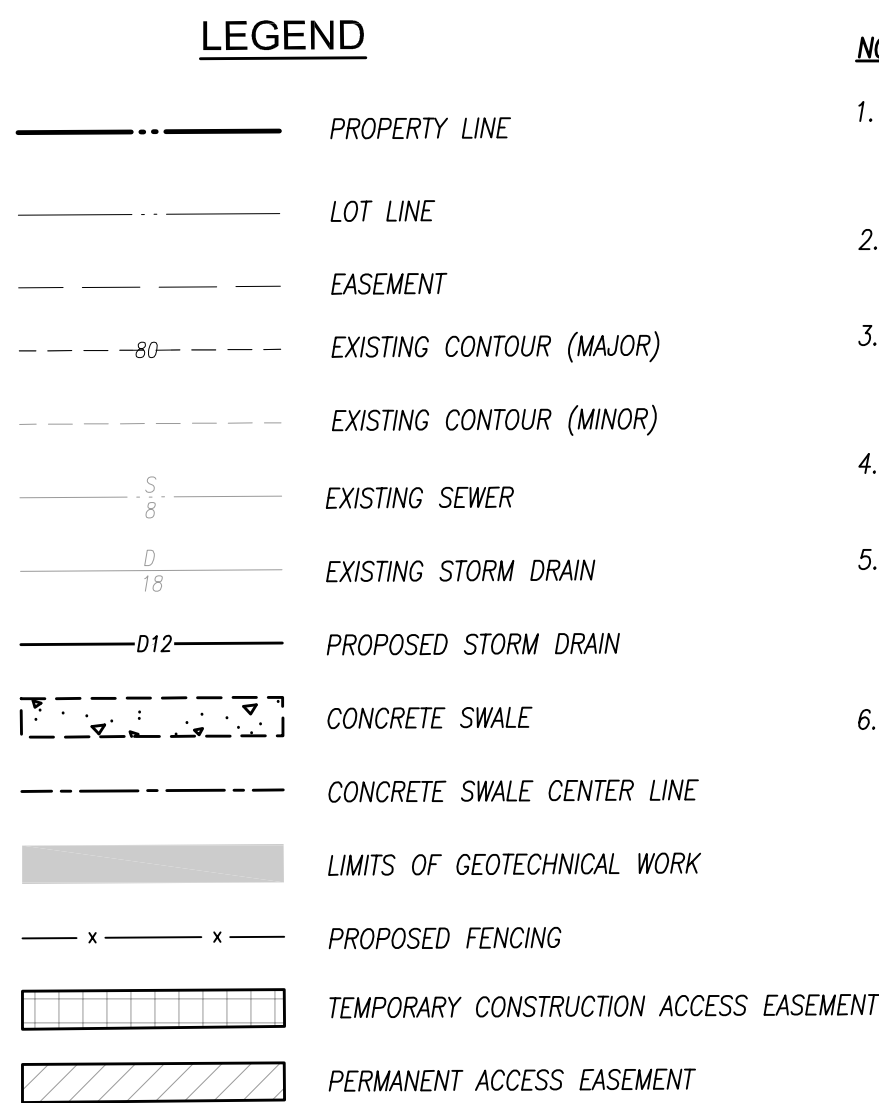
DHHL PAPAOLEA
KAPAHU ST. SLOPE

DPP CONSTR FILE #
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HONOLULU, OAHU, HAWAII

APRIL 2021

NOTES

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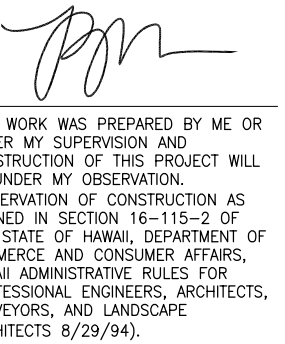


- NOTES:**
1. CONTRACTOR SHALL BE RESPONSIBLE FOR QUANTITY TAKEOFF OF MATERIAL TO BE CLEARED AND REMOVED, AND FENCING TO BE REPAIRED FOR BIDDING PURPOSES.
 2. CONTRACTOR TO INSTALL APPROPRIATE EROSION AND SEDIMENT CONTROL BMPs AROUND THE PROJECT WORK AREA.
 3. CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT LESSEE PROPERTIES, STRUCTURES, IMPROVEMENTS, YARDS, EQUIPMENT, ETC. AND WILL BE RESPONSIBLE TO CORRECT DAMAGE INCURRED AT NO COST TO DHHL.
 4. CONTRACTOR SHALL MANAGE RUNOFF FROM THE PROJECT SITE SO NOT TO DIRECT FLOODING OR SEDIMENT INTO LESSEES AREAS.
 5. CONTRACTOR TO ADEQUATELY INFORM DHHL AND LESSEES OF ANTICIPATED WORK HOURS, AND COORDINATE ANY WORK HOURS OUTSIDE OF THE ALLOWABLE WORK HOUR SCHEDULES IN THE DHHL GENERAL CONDITIONS.
 6. FOR POTENTIAL PROJECT ACCESS TO WORK AREA CONTRACTOR TO COORDINATE WITH DHHL AND LESSEE. CONTRACTOR TO REPAIR ANY DAMAGE TO LESSEE'S PROPERTY TO EQUAL OR BETTER CONDITION.
 7. CONTRACTOR TO REPAIR DEFICIENCIES AT ROCK PROTECTION FENCE, INCLUDING DAMAGED POLES, FENCING, RAILS, FOOTINGS, GATES, TENSIONING, TIES, AND ALL OTHER APPURTENANT FEATURES, AS AGREED UPON BY DHHL MANAGER.
 8. CONTRACTOR TO REPLACE ROCKFALL FENCE IN KIND IF REMOVED TO ACCESS WORK AREA.
 9. IN PROJECT WORK AREA, CUT VEGETATION DOWN TO A HEIGHT OF 4" ABOVE THE GROUND SURFACE, REMOVE LARGE TREES AND STUMPS, AND PROVIDE PERMANENT BMP STABILIZATION (GRASS OR GEOTEXTILE MAT) REMOVE LOOSE ROCK, BOULDERS, AND DEBRIS FROM GROUND (DO NOT DISTURB EXISTING ROCK FACE) AS AGREED UPON BY THE DHHL MANAGER.
 10. ACCESS SHALL BECOME PERMANENT AND SURVEYED BY DHHL FOR LAND NEGOTIATIONS AND MODIFICATIONS. DHHL WILL BE RESPONSIBLE FOR NEGOTIATIONS WITH LESSEES.

SCALE: 1" = 30'



11 S. KING STREET, SUITE 170
HONOLULU, HAWAII 96813
808.523.5866
WWW.G70.DESIGN

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| ENGINEER: KWNW | CHECKED BY: KWNW |
| DRAWN BY: JK | PROJECT #: 216012-21 |

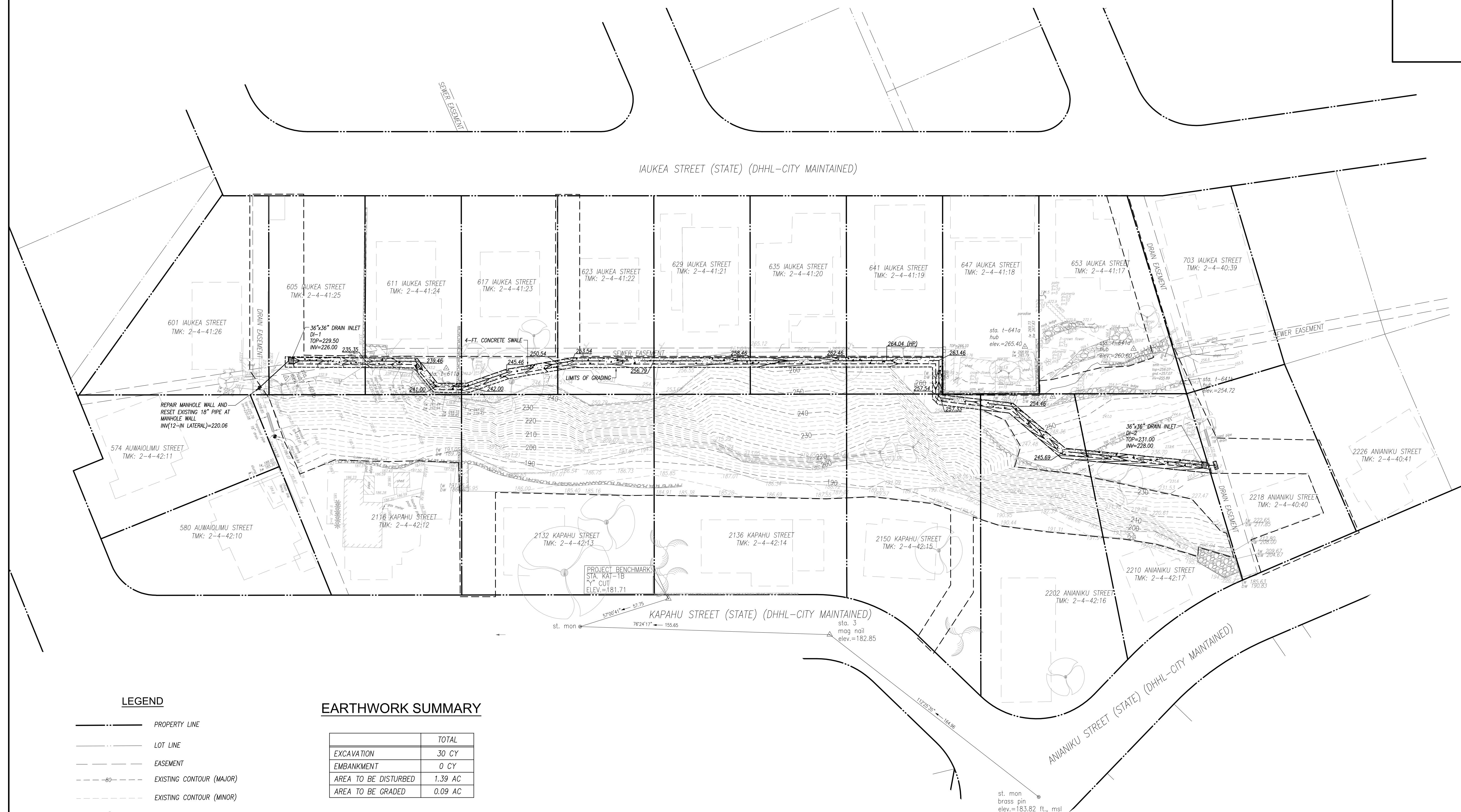
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KAPAHU ST. SLOPE

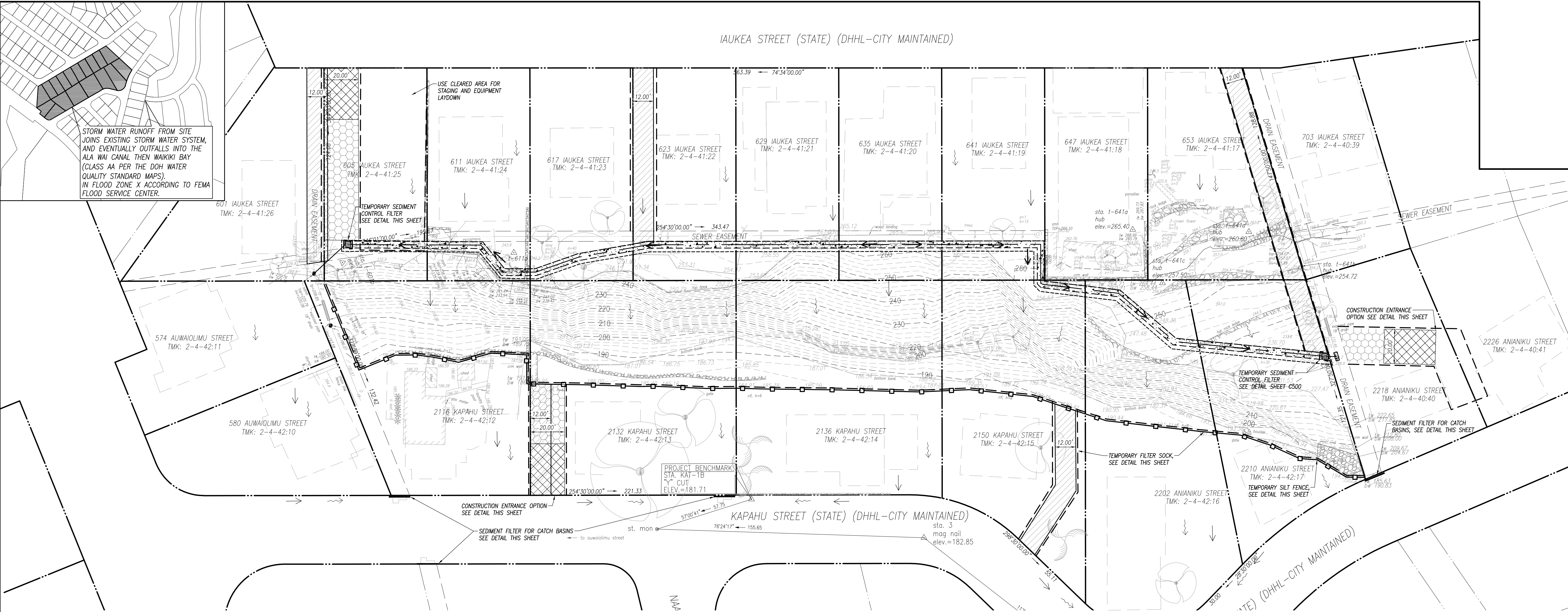
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HONOLULU, OAHU, HAWAII
APRIL 2021

SITE AND ACCESS PLAN

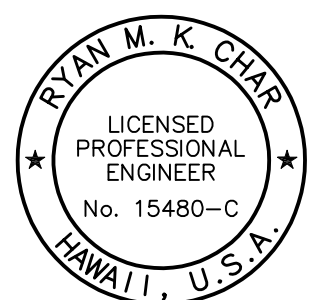
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PROJECT NAME:
CAD DWG NO.:
DATE:





111 S. KING STREET, SUITE 170
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EROSION CONTROL PLAN AND DETAILS

SCALE: 1" = 30'



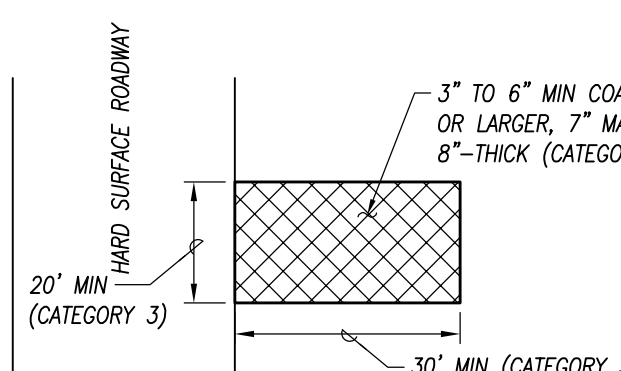
PRE-CONSTRUCTION STRUCTURAL BMP:

- CONSTRUCTION ENTRANCE
- SILT FENCE
- FILTER SOCK
- EXISTING DRAIN INLET PROTECTION

DURING CONSTRUCTION STRUCTURAL CONTROL BMP:

- TEMPORARY PROTECTION FOR PROPOSED INLET
- BMPs FOR STOCKPILES, STAGING AREA, PROJECT TRAILERS, MATERIAL STORAGE, ETC

*CONTRACTOR SHALL INCLUDE THESE BMP IN THE REVISED EROSION CONTROL PLANS TO BE SUBMITTED TO THE CITY INSPECTORS FOR THEIR RECORDS.



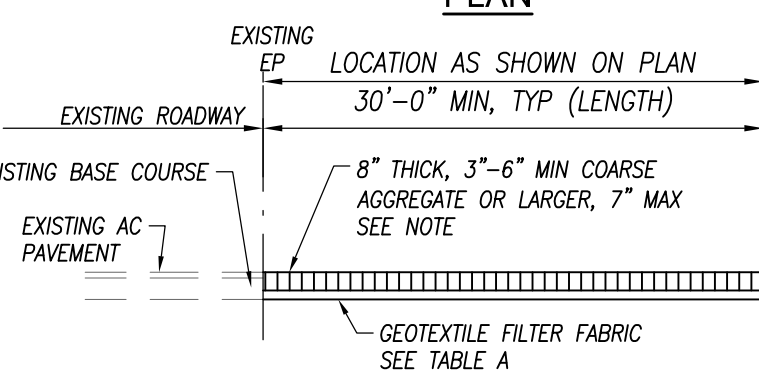
PLAN

NOTE:

8" COARSE AGGREGATE LAYER SHALL BE REMOVED IMMEDIATELY PRIOR TO INSTALLATION OR ROADWAY BASE COURSE.

TABLE A. GEOTEXTILE REQUIREMENTS

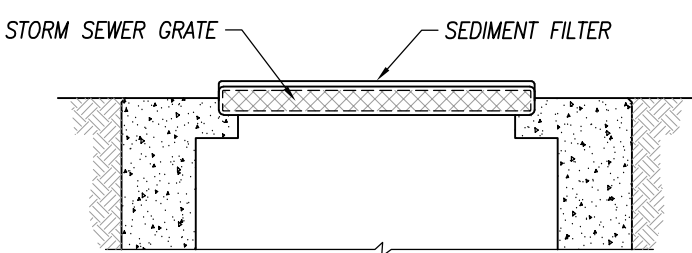
| PHYSICAL PROPERTY | REQUIREMENTS |
|-----------------------|---------------------------------------|
| GRAB TENSILE STRENGTH | 220 LB (ASTM D1682) |
| ELONGATION FAILURE | 60% (ASTM D1682) |
| MULLEN BURST STRENGTH | 430 LB (ASTM D3768) |
| PUNCTURE STRENGTH | 125 LB (ASTM D751, MODIFIED) |
| EQUIVALENT OPENING | SIZE 40-80 (U.S. STD SIEVE, CW-02215) |



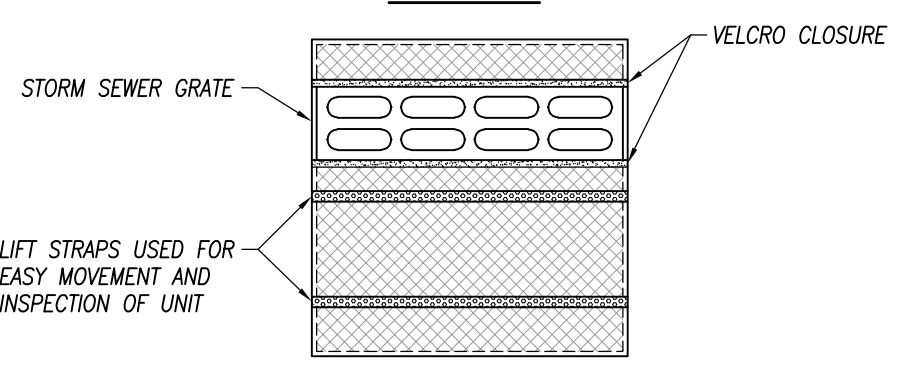
SECTION

CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE



SECTION

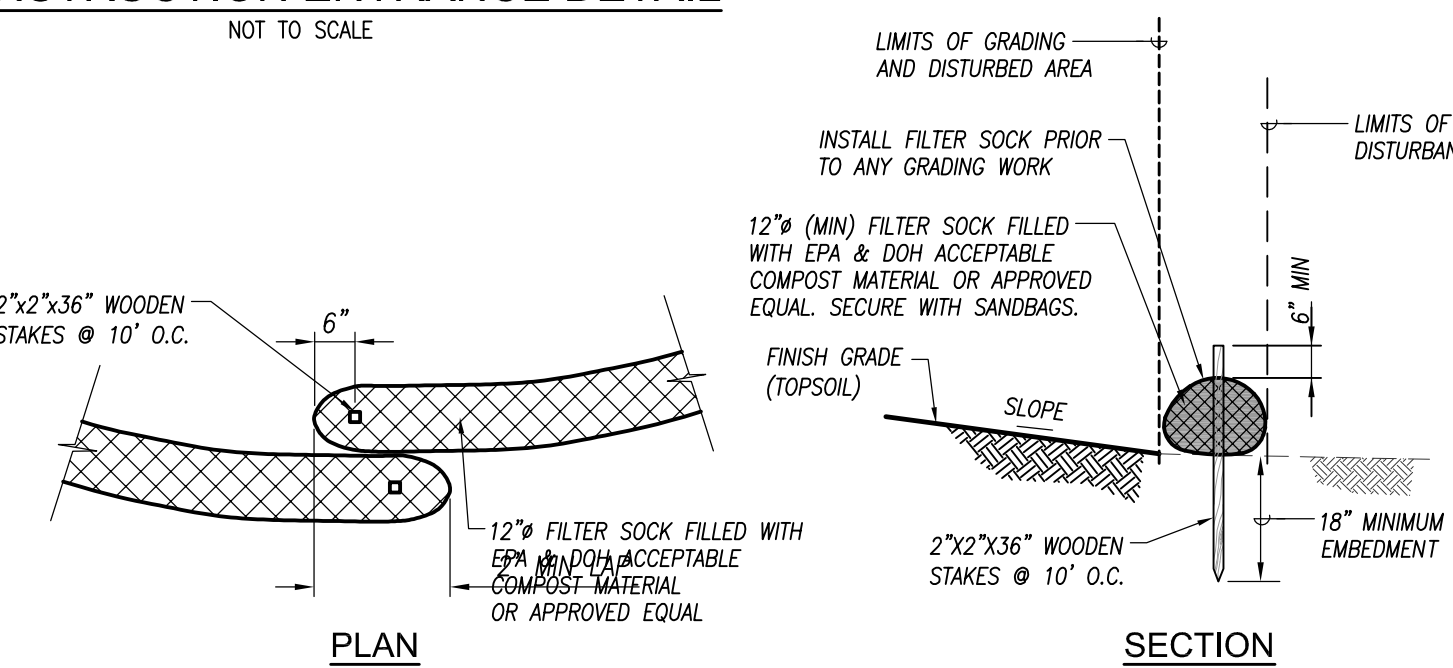


PLAN

| MECHANICAL PROPERTIES | TEST METHOD | UNITS | MARK |
|-------------------------|-------------|--|-------------------------|
| GRAB TENSILE STRENGTH | ASTM D 4632 | kN (lbs) | 1.62 (365) x 0.89 (200) |
| GRAB TENSILE ELONGATION | ASTM D 4632 | % | 24 x 10 |
| PUNCTURE STRENGTH | ASTM D 4833 | kN (lbs) | 0.40 (90) |
| MULLEN BURST STRENGTH | ASTM D 3786 | kPa (psi) | 3097 (450) |
| TRAPEZOID TEAR STRENGTH | ASTM D 4533 | kN (lbs) | 0.51 (115) x 0.33 (75) |
| UV RESISTANCE | ASTM D 4355 | % | 1.62 (365) x 0.89 (200) |
| APPARENT OPENING SIZE | ASTM D 4751 | Mm (US Std Sieve) | 24 x 10 |
| FLOW RATE | ASTM D 4491 | l/min/m ² (gal/min.ft) ² | 0.40 (90) |
| PERMITTIVITY | ASTM D 4491 | Sec ⁻¹ | 3097 (450) |

SEDIMENT CONTROL FILTER AT DRAIN INLET DETAIL

NOT TO SCALE



PLAN

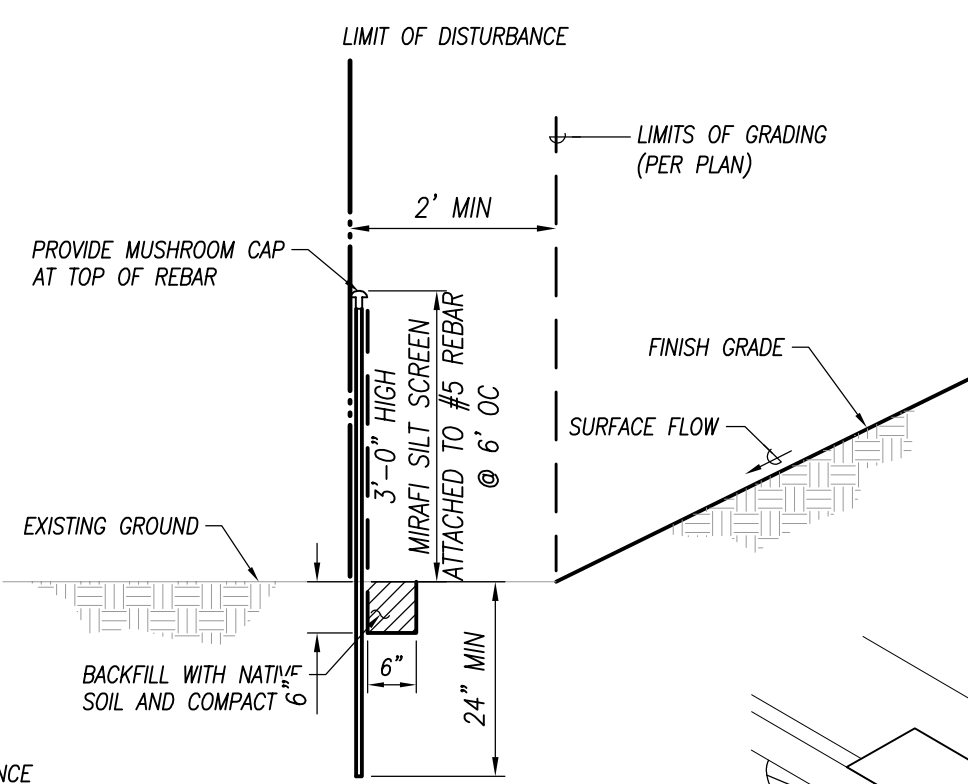
SECTION

NOTES:

- WHEN JOINING TWO SECTIONS OF FILTER SOCK, A MINIMUM OF 2 FEET SHOULD BE MADE SO THAT FILTER SOCK SIT SIDE BY SIDE.
- CONTRACTOR SHALL REMOVE ANY DEBRIS IN PATH OF FILTER SOCK TO ENSURE GOOD GROUND CONTACT.
- COMPOST SHALL NOT CONTAIN BIOSOLIDS AND SHOULD BE CONSISTENT WITH EPA GUIDELINES.
- SHOULD THE FILTER FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE FILTER SOCK STILL BE NECESSARY, THE FILTER SOCK SHALL BE REPLACED PROMPTLY.

FILTER SOCK/FILTRATION TUBE

NOT TO SCALE



TEMPORARY SILT FENCE

NOT TO SCALE

NOTES:

- SEDIMENT CONTROL FILTERS SHALL BE INSTALLED ON ALL NEW CATCH BASINS WITHIN PROJECT SITE AS WELL AS ALL CATCH BASINS FRONTING THE PROJECT SITE AS SHOWN ON THIS SHEET.
- AT THE END OF THE OPERATIONS, ALL THE CATCH BASINS SURROUNDING THE PROJECT SITE SHALL BE INSPECTED FOR ANY ACCUMULATION OF SEDIMENT AND DEBRIS. THE ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED FROM THE CATCH BASINS. FLUSHING INTO THE CATCH BASINS IS PROHIBITED.
- CONTRACTOR SHALL REMOVE SEDIMENT CONTROL FILTERS DURING TIMES OF ABOVE-NORMAL RAINFALL EVENTS AND REPLACE THEM AFTER THE EVENT HAS PASSED.

SEDIMENT FILTER FOR CATCH BASINS

NOT TO SCALE

| | |
|---------------------------------|--|
| PROPERTY LINE | EXISTING SEWER |
| LOT LINE | GRAVEL AREA FOR ACCESS |
| EASEMENT | CONSTRUCTION ENTRANCE |
| GRADE BREAK | TEMPORARY FILTER SOCKS |
| LIMITS OF GRADING | TEMPORARY SILT FENCE |
| EXISTING MAJOR CONTOUR | TEMPORARY SEDIMENT CONTROL FILTER |
| EXISTING MINOR CONTOUR | TEMPORARY SEDIMENT CONTROL FILTER AT DRAIN INLET |
| PROPOSED MAJOR CONTOUR | CONCRETE SWALE |
| PROPOSED MINOR CONTOUR | CONCRETE SWALE CENTER LINE |
| EXISTING DRAINAGE FLOW | PERMANENT ACCESS EASEMENT |
| PROPOSED DRAINAGE FLOW | |
| D18 EXISTING DRAINLINE AND SIZE | |
| D24 NEW DRAINLINE AND INLET | |

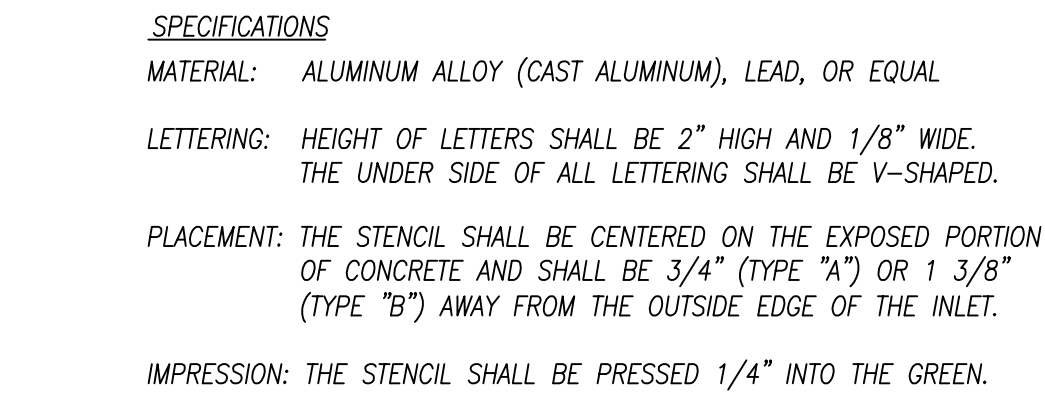
PROJECT NAME:
CAD DWG NO.:
DATE:

DHHL PAKOLEA KAPAHU ST. SLOPE

DPP CONSTR FILE #
TAX MAP KEY: 2-4-042:011-017, 2-4-041:017-026
HONOLULU, OAHU, HAWAII
APRIL 2021

EROSION CONTROL PLAN AND DETAILS

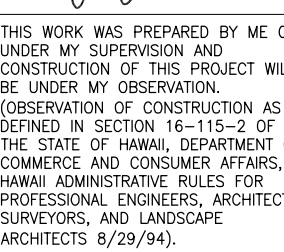
C400



NOT TO SCALE



36" x 36" DRAIN INLET WITH CATCH BASIN FILTER (PRIVATE)
(OR APPROVED EQUAL)



| | |
|----------------|---------------------|
| ENGINEER: KWNW | CHECKED BY: KWNW |
| DRAWN BY: JK | PROJECT #: 216012-2 |

DPP CONSTR FILE #
TAX MAP KEY: 2-4-042:011-017, 2-4-041:017-021
HONOLULU, OAHU, HAWAII
APRIL 2021

DETAILS

C500

GENERAL ROCKFALL NOTES

1. The scope of work for this project consists of tree removals, slope scaling, and draped wire mesh or anchored wire mesh installation.
2. The draped wire mesh system generally includes a uniform triple twisted hexagonal mesh of zinc-coated steel wire with PVC coating or diamond-shaped mesh of zinc/aluminum-coated steel wire along with the necessary hardware to complete the system installation.
3. The Contractor shall take field measurements to verify the field conditions and compare such field measurements and conditions with the design drawings before commencing with the work.
4. The Contractor shall verify dimensions, locations, elevations, etc. indicated for verification and inform the Engineer in writing of any differences prior to installation of the draped wire mesh and/or anchor wire mesh.
5. The Contractor shall use all means necessary to protect adjacent structures and work to remain. In the event of any damage to existing work to remain, the Contractor shall immediately notify the Engineer of the situation. The Contractor shall make repairs or replacement acceptable to the Engineer.
6. The Contractor shall be responsible for providing a safe working environment on the project site meeting all applicable federal, state, and local requirements while executing the work contained in the Contract Documents.
7. All construction lines, grades, and survey monument stakeout, where required, shall be performed by a licensed surveyor. The established survey stakeouts must be protected for location reference during the construction period.
8. The Engineer shall be informed of the disposal site location for the project prior to commencement of work. The disposal site shall be approved by the Engineer.
9. The Contractor shall be responsible for protecting the adjacent residences and properties from damage resulting from the Contractor's activities. The Contractor shall be solely responsible for repairing any damage resulting from the slope scaling or other construction activities.
10. The Contractor shall protect the adjacent residences and properties from any rockfall hazards at all times during the construction period.
11. A pre-construction condition survey of the adjacent residences and properties shall be conducted by the Contractor prior to commencement of the slope scaling activities. A copy of the pre-construction condition survey shall be submitted to the Engineer for information only.
12. The Contractor shall provide the Engineer with a minimum of 48 hours of advance notice to schedule a field review of the slope face after cutting and removal of all vegetation at the project site and before commencing slope scaling activities. Slope scaling activities shall commence only after the field review of the slope face by the Engineer.

SLOPE SCALING NOTES

1. Slope scaling activity for the project including removing debris from the base of the slope will be limited to normal working hours unless a noise permit is obtained.
2. The minimum slope scaling crew shall consist of one scaling supervisor and three (3) slope scalers. Two additional slope scalers may be utilized under the supervision of the same scaling supervisor.
3. The Contractor shall determine the number of slope scalers to be employed on this project based on the extent of the slope scaling to be performed and the maximum duration of 2 weeks specified for slope scaling. The Engineer must approve the number of additional slope scalers proposed for the project in addition to the minimum scaling crew specified.
4. The Contractor shall not commence slope scaling work until acceptance of the Contractor's qualifications and work plan is obtained from the Engineer in writing.
5. Cut and remove all growing and dead vegetation materials (branches, trunks, and stumps) from the slope face and crest of slope (brow) extending back 10 feet from top of slope or top of bank. Removal shall include all overhanging roots including loose entrained soils and rocks along the top of the slope (brow) to develop a clean, uniform and rounded crest of slope free of over hanging material and loose, broken, or unstable soil/rock materials.
6. Cut and remove all draped vegetation materials to provide unimpeded access to the slope face and exposure of the slope face. Draped branches shall be cut back 10 feet from the top of slope or top of bank. Cut and remove all visible surface root growth from slope face including surface root webbing and protruding root materials.
7. Cutting and removal of all vegetation from the slope face and within 10 feet of the top of slope shall be completed before initiating the slope scaling activities.
8. The Contractor shall erect a temporary rockfall barrier within the active scaling to contain the rocks and debris generated from the slope scaling work from going over the existing fence behind the residential lots.
9. Appropriate communication equipment will be required to enable the Engineer to communicate with the scaling supervisor and/or slope scalers for safety considerations.
10. Slope scaling work shall begin only after the highway protection measures, as described in the work plan, are in place at the beginning of the slope scaling work. The Contractor shall protect the public from any rockfall hazards at all times.
11. Start all slope scaling at the top of the slope and proceed down slope in preset lateral distance increments. Removing loose rock and other debris as the work progresses. All material on the slope face that is loose, hanging or creates a safety hazard to the public must be removed or stabilized, to the Engineer's satisfaction, during or on completion of the section of slope.

12. The Contractor shall exercise extra care in the slope scaling and shall avoid over-steepening the slope face that may cause instability of the slope face. If during the slope scaling work, the Contractor encounters unstable slope conditions that may constitute a potential slope stability issue, immediately notify the Engineer.
13. Slope scalers may use climbing ropes and high-angle climbing techniques or a cherry picker basket suspended by crane or man-lift to access the slope.
14. Scaling should be performed by manual labor using tools such as scaling bars and saws to pick, pry, peel, or abrade the loose unstable materials from the slope face.
15. Mechanized equipment such as a backhoe may be used to carefully knock loose or peel back the larger separated slabs of saprolitic materials where clearly slope fracture and slope face separation planes are encountered, when accepted by the Engineer.
16. Backhoe shall not be used to remove brow overhangs and root network from the top of slope brow area. Backhoe shall not be used to excavate the slope face consisting of undisturbed, fracture-free and stable earth materials.
17. Remove existing loose rocks and masses of saprolitic materials from the slope face to produce a clean, uniform, smooth slope face free of major protrusions and overhangs composed of broken fractured and/or loose earth materials.
18. Slabs of saprolitic material separating from the slope face and pierced by invasive levering tree roots shall be completely removed to expose underlying firm stable earth material that is free of tree root penetration.
19. No blasting will be allowed on this project.

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| REVISION | DATE | BRIEF | MADE BY | APPROVED | |
| DEPARTMENT OF HAWAIIAN HOME LANDS | | | | | |
| STATE OF HAWAII | | | | | |
| PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT | | | | | |
| KAPAHU ST. HONOLULU, HI 96813 | | | | | |
| TMK: 2-4-042-011-017, 2-4-041-017-026 | | | | | |
| JOB NO. | | | | | |
| GENERAL ROCKFALL | | | | | |
| NOTES - 1 | | | | | |
| DESIGNED BY: | C70 | CHECKED BY: | KWNW | DRAWN BY: | JK |
| | | | | | |

DWG. NO.
G0.1
SHEET OF 30

GERALD Y. SEKI

LICENSED PROFESSIONAL ENGINEER

No. 5635-C

HAWAII, USA

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 SECTION 16-115-2 OF THE STATE OF HAWAII, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS, AND LANDSCAPE ARCHITECTS 8/29/1941.

Signature

LICENSE EXP. DATE: APRIL 30, 2022

DRAPED WIRE MESH NOTES

1. The draped wire mesh shall be of non-raveling construction and shall consist of a uniform triple twisted hexagonal mesh of zinc-coated steel wire. The zinc-coated wire core shall have a diameter of approximately U.S. gage 12. The wires used in the fabrication of the netting shall comply with or exceed Federal Specifications QQ-W-461H, possessing soft tempered tensile strength of 70,000 psi as specified in ASTM A641, a Class 3 coating. A PVC coating (black color matte finish) shall be extruded onto the wire core with zinc coating before weaving the coated wire into a triple twisted hexagonal mesh having uniform openings.
- Alternately, draped wire mesh of non-raveling construction and consist of a uniform diamond-shaped mesh of zinc/aluminum-coated steel wire may be used. The zinc/aluminum-coated wire core shall have a diameter of approximately 0.079 inch. The wire shall be alloyed high strength carbon steel wire with a minimum tensile strength of 256 ksi. The wire shall be galvanized with a zinc/aluminium coating with a minimum weight of 0.35 oz/ft and powder coated black in color matte finish.
2. During shipping to the project site, the PVC/powder coated wire mesh shall have the outside diameter of the mesh roll completely wrapped with a woven slit film geotextile by the manufacturer for protection against shipping damage to the PVC wire coating. The geotextile shall have a minimum Grab Tensile Strength of 200 by 200 lbs (MARV) in accordance with ASTM D4632.
3. Wire ropes for the top anchor cable (0.75-inch diameter wire rope) and stability cable (0.5-inch diameter wire rope) shall comply with or exceed Federal Specifications RR-W-410D. Galvanized wire rope shall have a black colored PVC coating that is bonded properly to the wire rope such that the PVC coating will not slip off the wire rope.
4. An assembly of the PVC coated wire rope with wire rope clips clamped onto the PVC coated wire rope shall be fabricated and tested. A pullout test shall be conducted to failure of the PVC coated wire rope assembly. The pullout test of the PVC coated wire rope assembly shall meet or exceed the tensile strength of the wire rope. Results of the PVC coated wire rope assembly pullout test shall be submitted to the Engineer for review and acceptance.
5. The steel reinforcing bar for the grouted rock anchor shall be a minimum of 1.25 inches in diameter and shall consist of solid threaded bar (Grade 75).
6. All miscellaneous hardware for the draped wire mesh including the heavy duty wire rope thimbles, wire rope clips (cable clamps), bolts, steel plates, heavy hex nuts, washers, shackles, etc. shall be hot dipped galvanized and shall be supplied by the manufacturer with the system.
7. The saddle of the wire rope clip shall be placed on the live end of the wire rope cable and the U-Bolt shall be placed on the dead end of the wire rope cable.
8. The Contractor shall follow the wire rope manufacturer's recommendation for the number of wire rope clips, spacing of the wire rope clips, and torque for the U-Bolts.

9. The torque on 10% of the wire rope clips shall be checked after loading in the presence of the Engineer.
10. The stainless steel ring fasteners shall be manufactured from 0.120-inch diameter (U.S. Gage 11), Type 302, Class 1 stainless steel wire. The wire shall have a minimum tensile strength of 240,000 psi.
11. Stainless steel ring fasteners shall be staggered and placed at a maximum of 6 inches on center horizontally and vertically at all horizontal and vertical laps or seams. Where the mesh has been horizontally spliced, the horizontal overlap shall not be less than 2 feet and shall be fastened together by six (6) stainless steel ring fasteners per linear foot.
12. The grouted soil/rock anchors shall have a pullout capacity of at least 10 tons (20 kips) with a factor of safety of 1.33. The Contractor shall test a minimum of 20% of the grouted rock anchors for pullout to 133% of the pullout capacity in accordance with the specifications.
13. The draped wire mesh is designed to keep rockfall near the bottom of the slope and is not designed to retain masses of material or an accumulation of materials behind the draped wire mesh.

ANCHORED WIRE MESH NOTES

1. All hardware for the anchored wire mesh system shall be powder coated with a black pigment, and boundary wire rope shall be PVC coated (black in color).
2. Boundary wire rope and grouted soil and/or rock anchors (including the steel reinforcing bar for the grouted anchor, wire rope, heavy duty wire rope thimbles, wire rope clips (cable clamps), steel plates, heavy hex nuts, washers, etc.) shall be hot dipped galvanized. All exposed hardware shall be powder coated black.
3. Heavy-duty wire rope thimble shall not be in contact with the threads of the steel reinforcing bar.
4. The stainless steel sleeve (swage) shall be placed outside of the galvanized steel plate (trap plate) and within on wire rope diameter of the end of the heavy-duty wire rope thimble in accordance with the manufacturer's recommendations.
5. The saddle of the wire rope clip shall be placed on the live end of the wire rope cable and the U-Bolt shall be placed on the dead end of the wire rope cable.
6. The contractor shall follow the wire rope manufacturer's recommendation for the spacing of the wire rope clips and torque for the U-Bolts.
7. The torque on 10% of the wire rope clips shall be checked after loading in the presence of the Engineer.
8. The grouted soil and/or rock anchors shall have a design pullout capacity (design load) of 30 kips. The contractor shall test a minimum of 10% of the grouted soil and/or rock anchors for pullout in accordance with the specifications.
9. The steel wire mesh for the anchored wire mesh system shall be manufactured from 0.157-inch (4-mm) diameter high-tensile steel wire. The high-tensile steel wire shall have a minimum tensile strength of 256,000 psi.

10. The grouted soil and/or rock anchor shall consist of 1.25-inch diameter (32-mm diameter) high-strength grade 75 solid threaded bar installed in a minimum 4-inch diameter drilled hole filled with non-shrink grout. Alternatively, grouted soil and/or rock anchor consisting of hollow threaded bar with outside and inside diameters of 1.5 and 0.75 inches, respectively, and minimum yield load capacity of 90 kips may be used. The non-shrink grout shall be non-shrink, non-metallic, non-gaseous and shall have a minimum unconfined compressive strength of 4,000 psi or greater.

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| REVISION | DATE | BRIEF | MADE BY | APPROVED |

DEPARTMENT OF HAWAIIAN HOME LANDS
STATE OF HAWAII

PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT
KAPAHU ST. HONOLULU, HI 96813
TMK: 2-4-042-011-017, 2-4-041-017-026
JOB NO.

GENERAL ROCKFALL
NOTES - 2

DESIGNED BY: C70 CHECKED BY: KWNW DRAWN BY: JK

NOVEMBER 2020

GERALD Y. SEKI

LICENSED PROFESSIONAL ENGINEER

No. 5635-C

HAWAII, U.S.A.

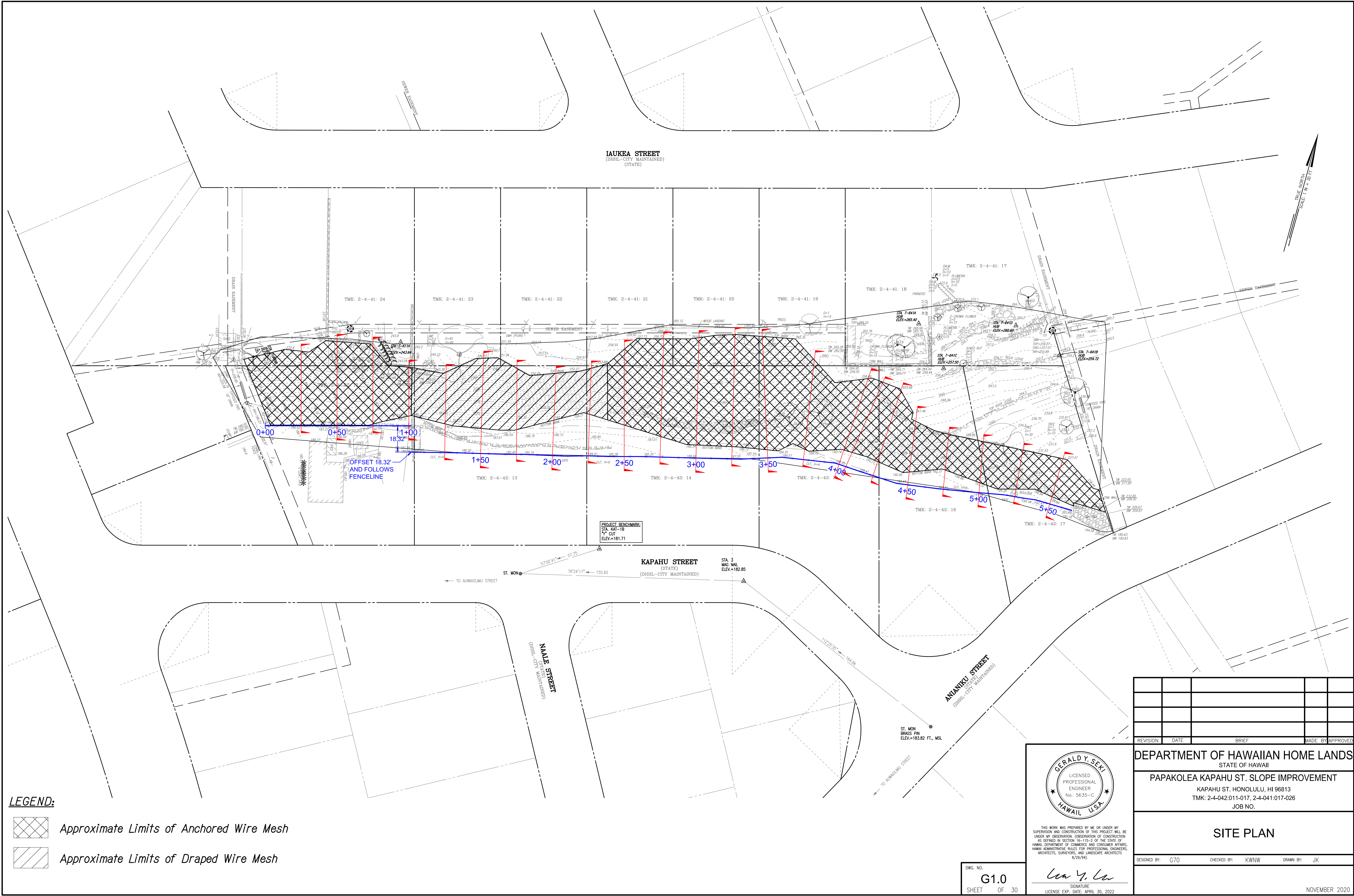
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Signature

DATE: APRIL 30, 2022

DWG. NO.
G0.2

SHEET OF 30



LEGEND:

- Approximate Limits of Anchored Wire Mesh
- Approximate Limits of Draped Wire Mesh

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| REVISION | DATE | BRIEF | MADE BY | APPROVED | |

DEPARTMENT OF HAWAIIAN HOME LANDS
STATE OF HAWAII
PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT
KAPAHU ST. HONOLULU, HI 96813
TMK: 2-4-042:011-017, 2-4-041:017-026
JOB NO.

SITE PLAN

DESIGNED BY: C70 CHECKED BY: KWNW DRAWN BY: JK

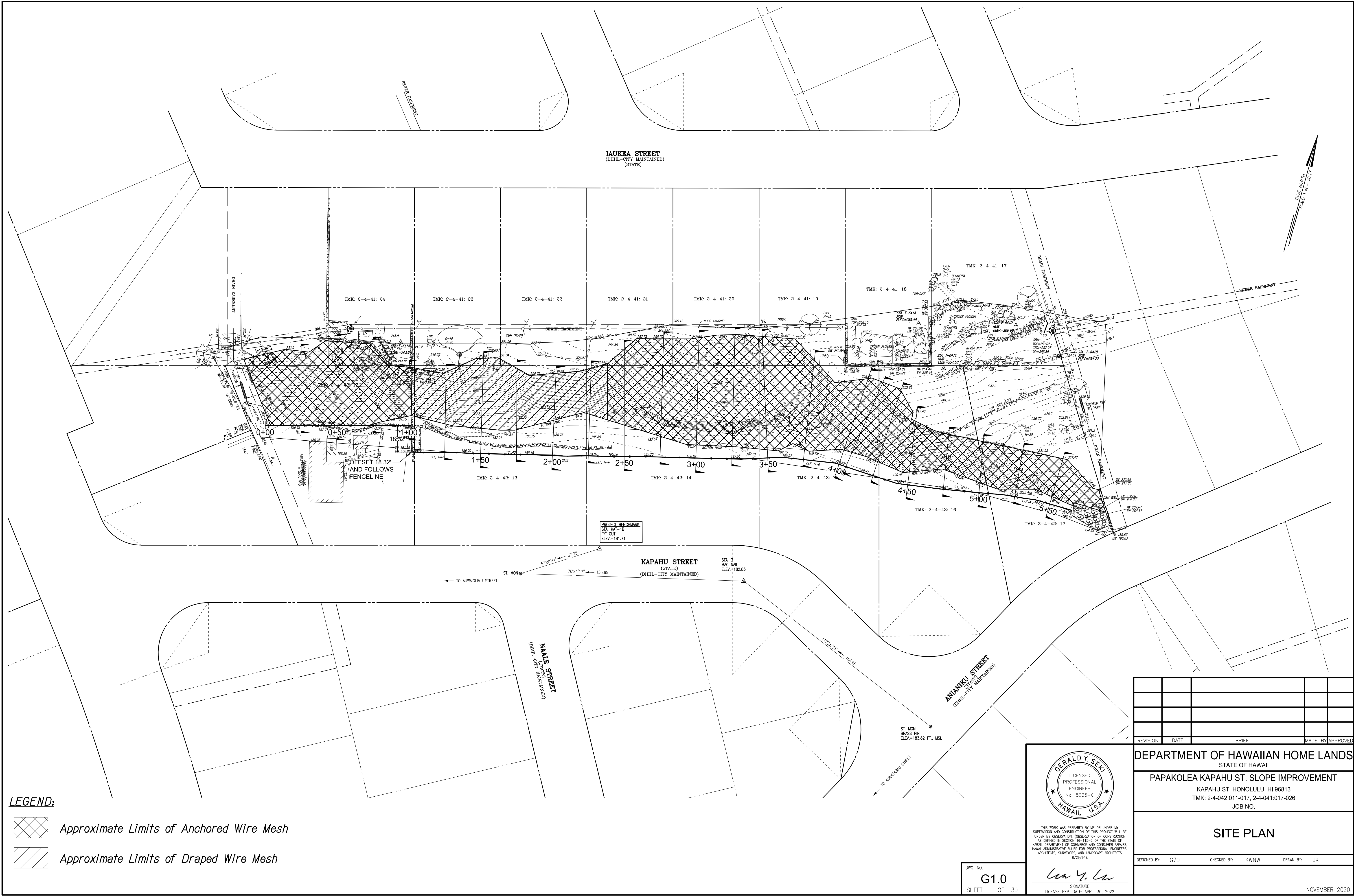


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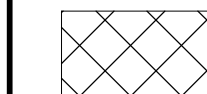
Signature: *Gerald Y. Seki*
SIGNATURE
LICENSE EXP. DATE: APRIL 30, 2022

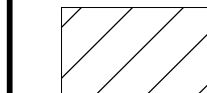
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SHEET OF 30

NOVEMBER 2020




LEGEND:

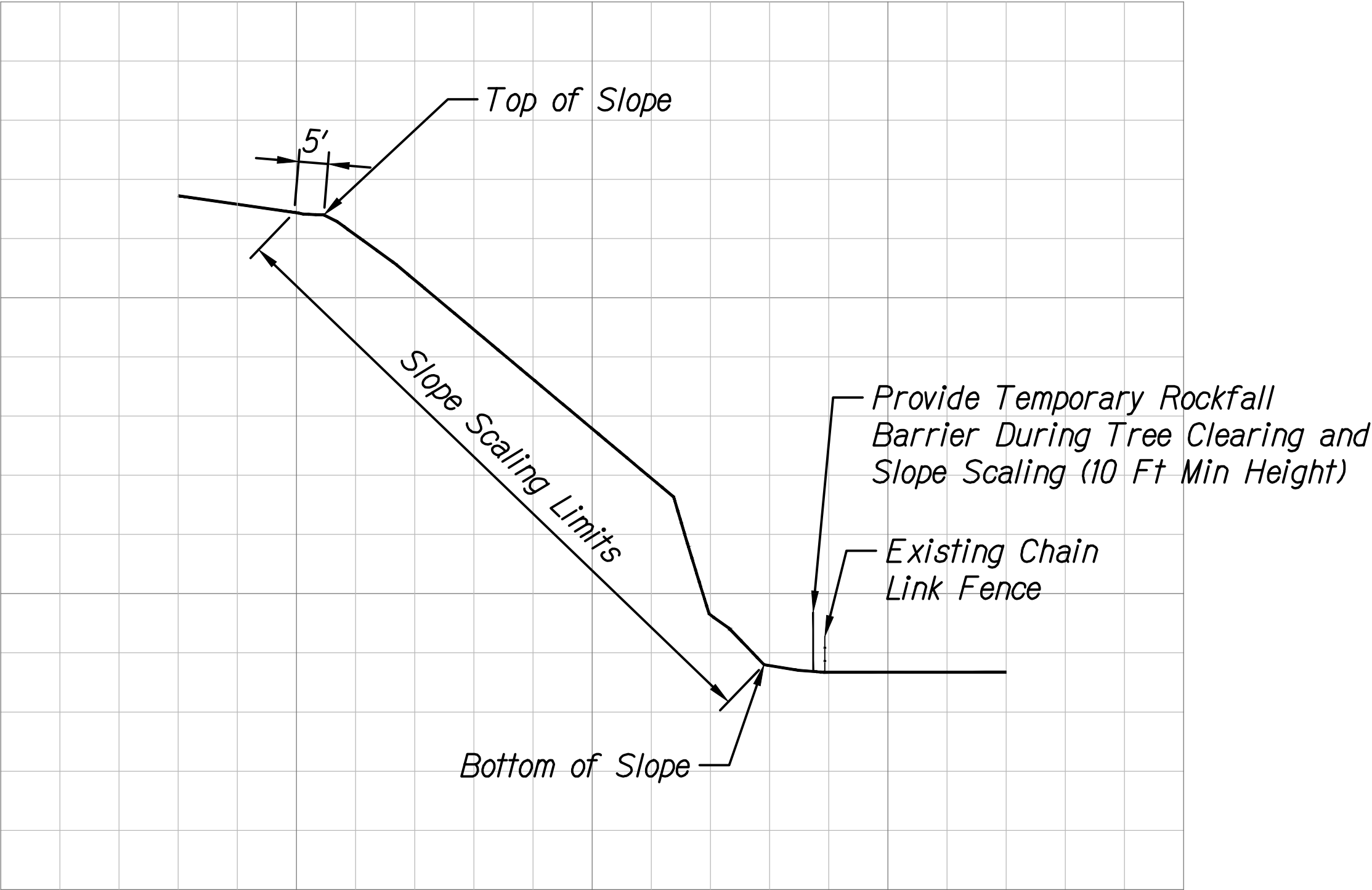
 Approximate Limits of Anchored Wire Mesh

 Approximate Limits of Draped Wire Mesh

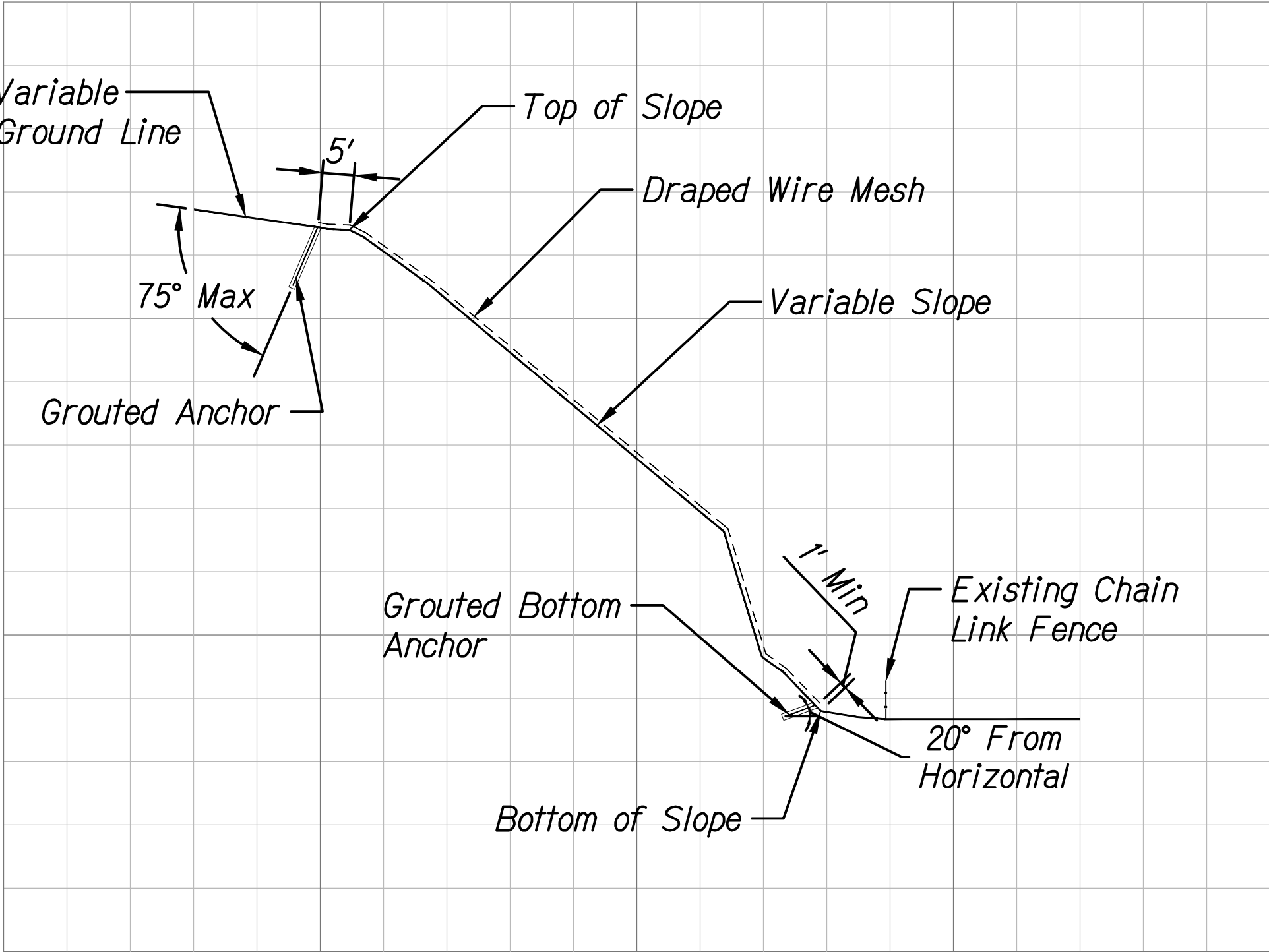
DWG. NO.
G1.0
SHEET OF 30


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Gerald Y. Seki
SIGNATURE
LICENSE EXP. DATE: APRIL 30, 2022

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| REVISION | DATE | BRIEF | MADE BY | APPROVED | |
| DEPARTMENT OF HAWAIIAN HOME LANDS STATE OF HAWAII | | | | | |
| PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT KAPAHU ST. HONOLULU, HI 96813 TMK: 2-4-042:011-017, 2-4-041:017-026 JOB NO. | | | | | |
| SITE PLAN | | | | | |
| DESIGNED BY: | C70 | CHECKED BY: | KWNW | DRAWN BY: | JK |
| | | | | | NOVEMBER 2020 |



Typical Section Slope Scaling
Not To Scale



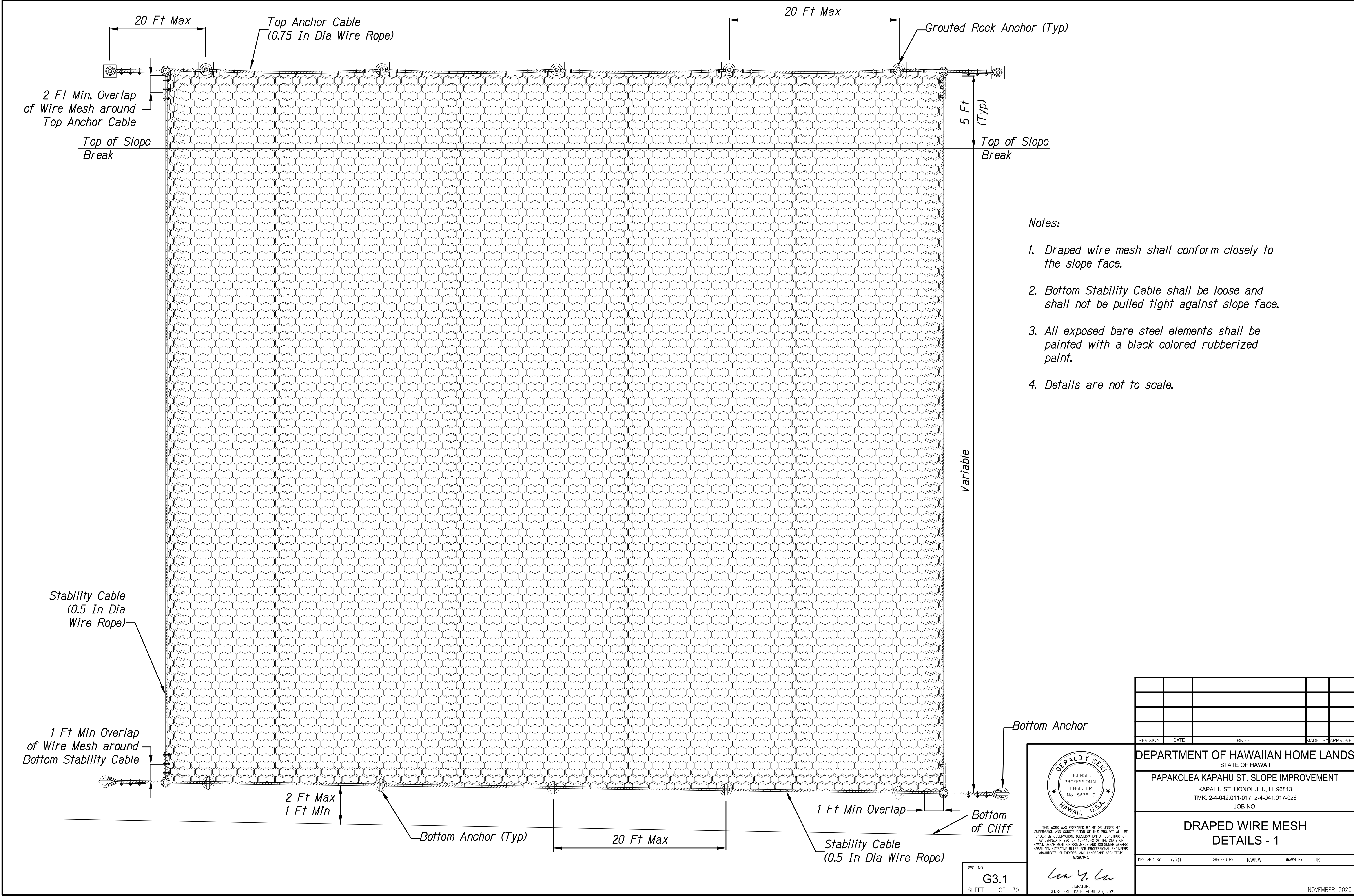
Typical Section Draped Wire Mesh
Not To Scale

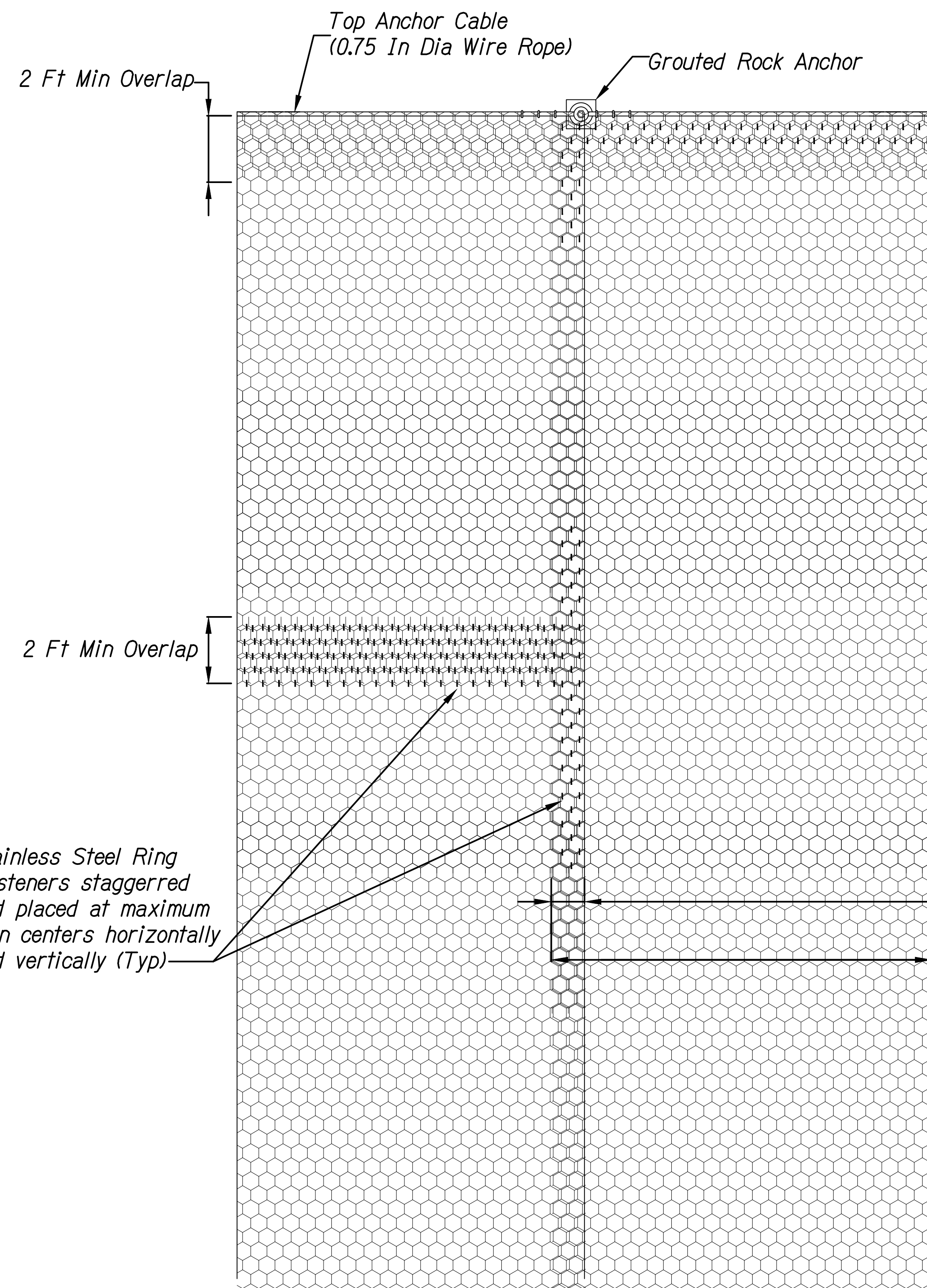
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| DEPARTMENT OF HAWAIIAN HOME LANDS STATE OF HAWAII | | | | | |
| PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT KAPAHU ST. HONOLULU, HI 96813 TMK: 2-4-042:011-017, 2-4-041:017-026 JOB NO. | | | | | |
| TYPICAL SECTIONS | | | | | |
| DESIGNED BY: | G70 | CHECKED BY: | KWNW | DRAWN BY: | JK |
| NOVEMBER 2020 | | | | | |



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Gerald Y. Seki
SIGNATURE
LICENSE EXP. DATE: APRIL 30, 2022

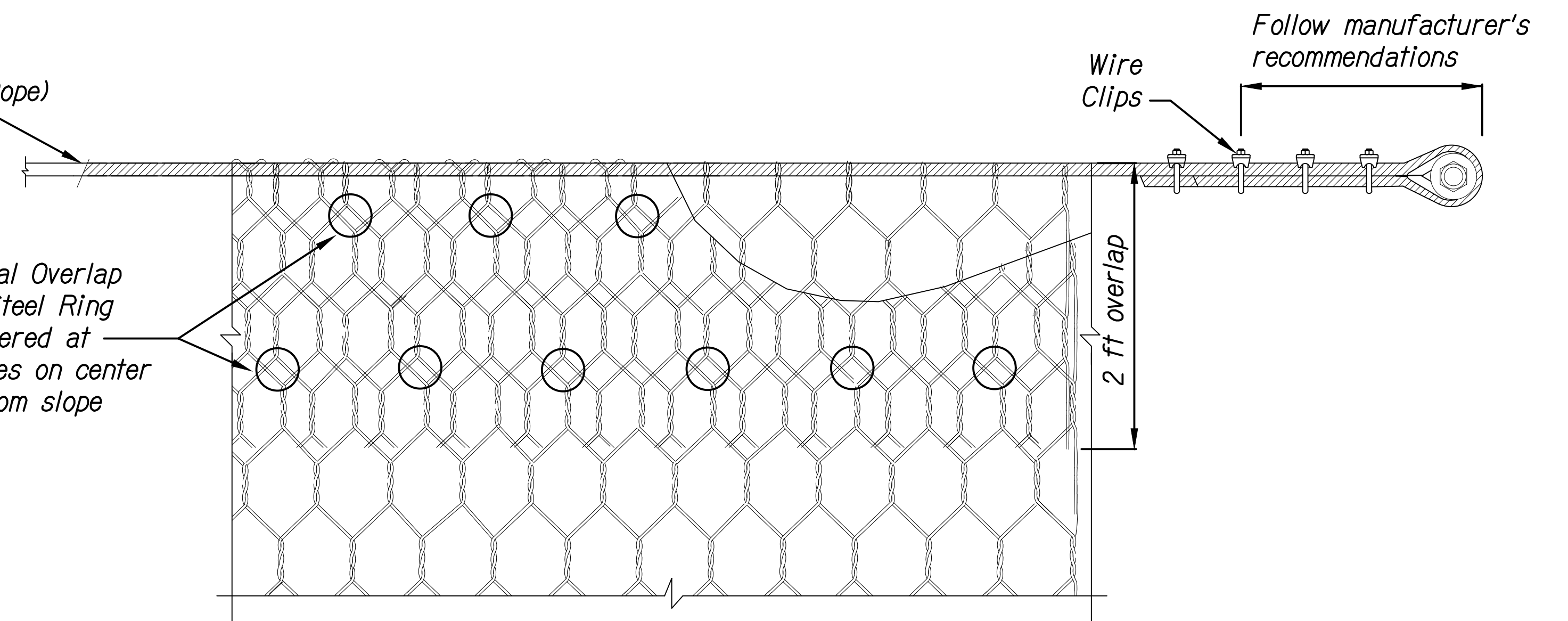




WIRE MESH OVERLAP
Not To Scale

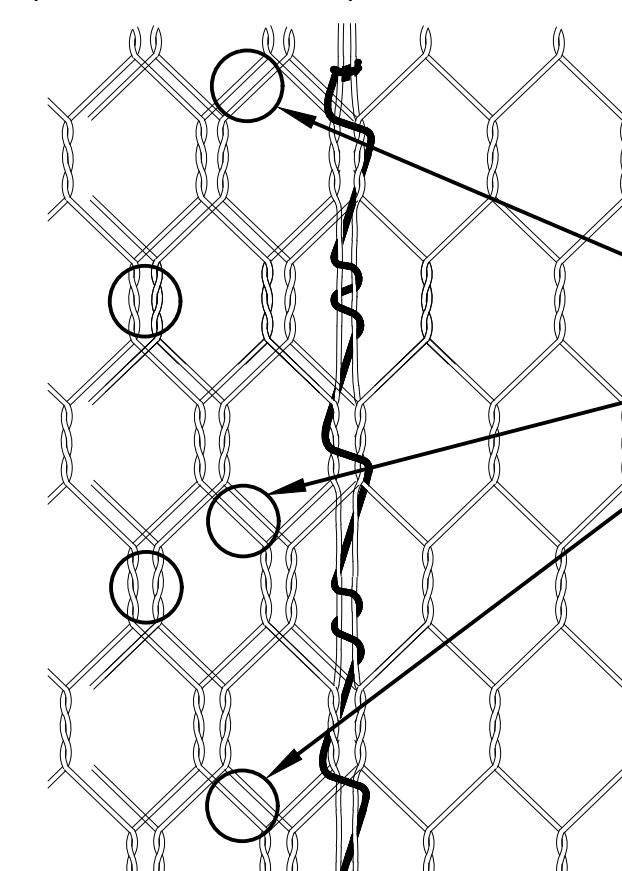
Top Anchor Cable
(0.75 In Dia Wire Rope)

Secure Horizontal Overlap
with Stainless Steel Ring
Fasteners staggered at
maximum 6 inches on center
Overlap away from slope



TOP ANCHOR CABLE DETAIL
AND HORIZONTAL TOP OVERLAP
Not To Scale

1 Ft Min
Overlap



Secure Vertical Overlap
with stainless steel ring
fasteners staggered at
6 in centers maximum

TYPICAL OVERLAP DETAIL
AT VERTICAL SEAMS
Not To Scale

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DEPARTMENT OF HAWAIIAN HOME LANDS
STATE OF HAWAII

PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT
KAPAHU ST. HONOLULU, HI 96813
TMK: 2-4-042:011-017, 2-4-041:017-026
JOB NO.

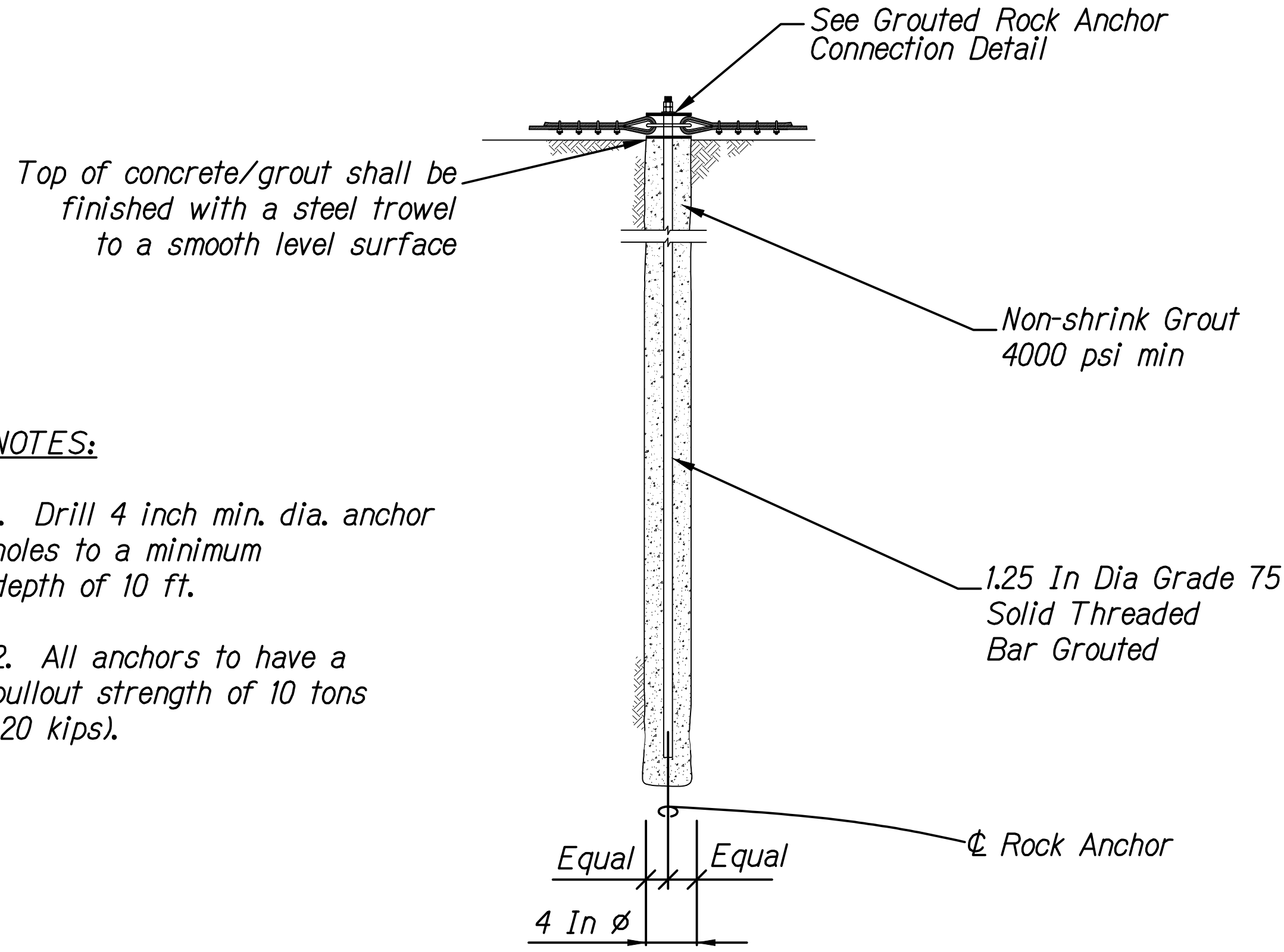
DRAPED WIRE MESH
DETAILS - 2

DESIGNED BY: C70 CHECKED BY: KWNW DRAWN BY: JK

GERALD Y. SEKI
LICENSED
PROFESSIONAL
ENGINEER
No. 5635-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 SECTION 16-115-2 OF THE STATE OF
HAWAII, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS,
HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS,
ARCHITECTS, SURVEYORS, AND LANDSCAPE ARCHITECTS
8/29/1941.

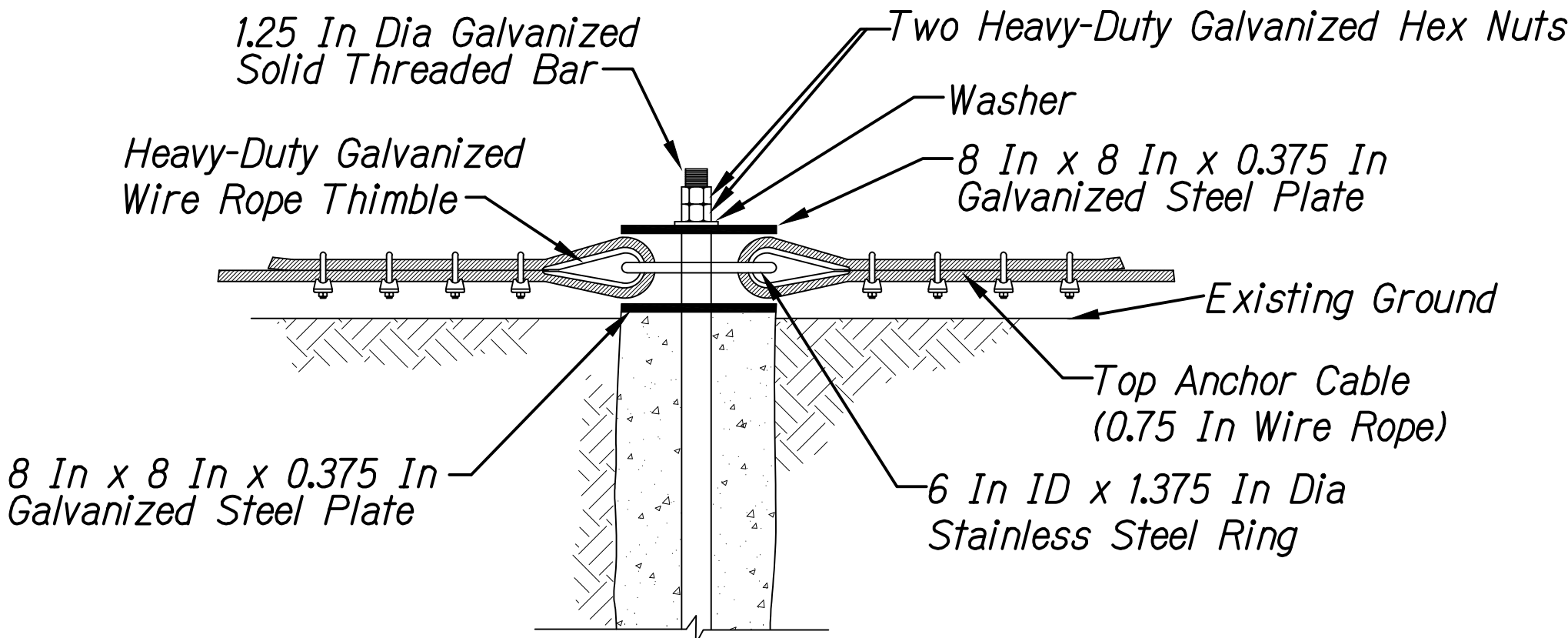
Signature: *Gerald Y. Seki*
SIGNATURE
LICENSE EXP. DATE: APRIL 30, 2022



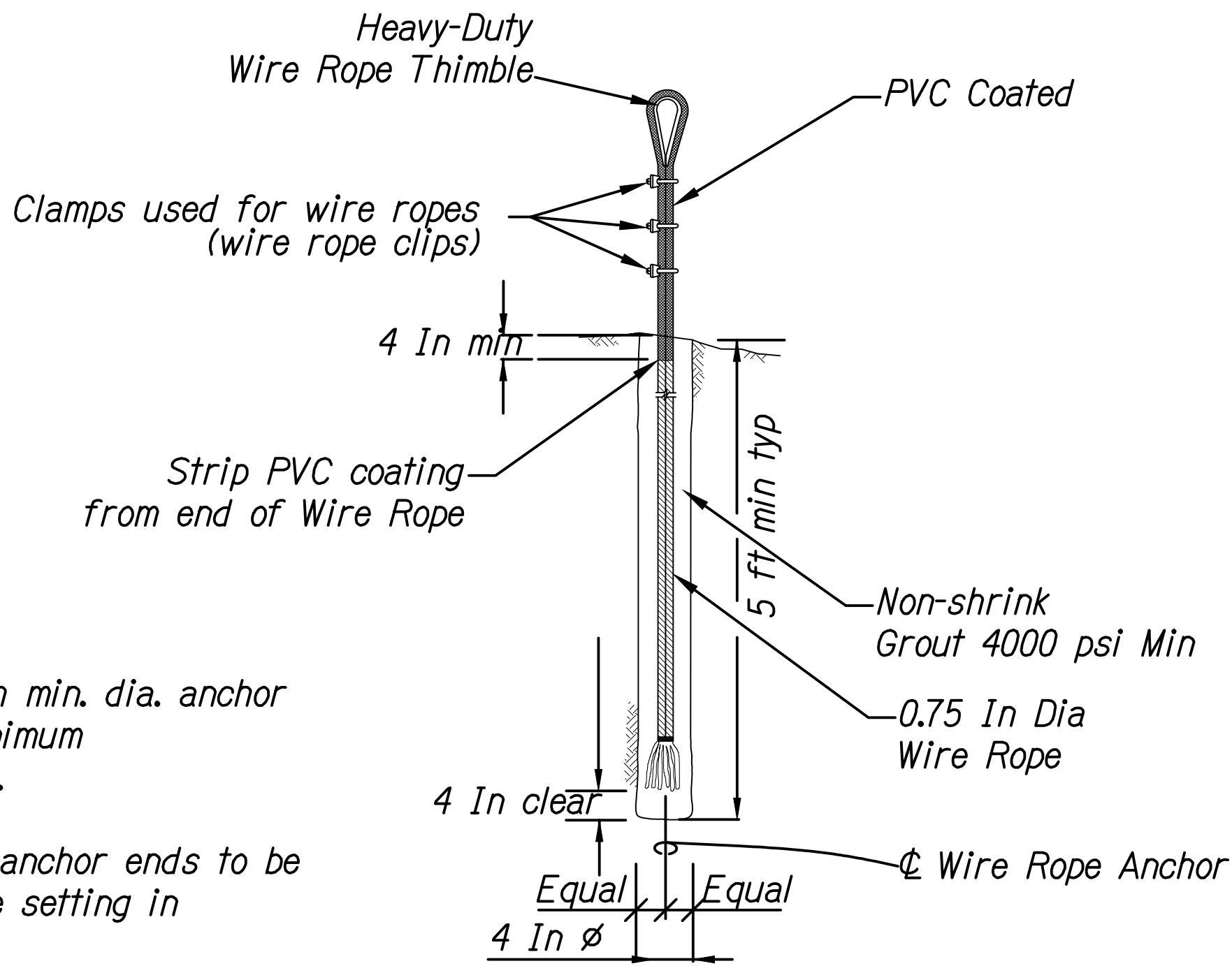
NOTES:

1. Drill 4 inch min. dia. anchor holes to a minimum depth of 10 ft.
2. All anchors to have a pullout strength of 10 tons (20 kips).

TOP ANCHOR
Not To Scale



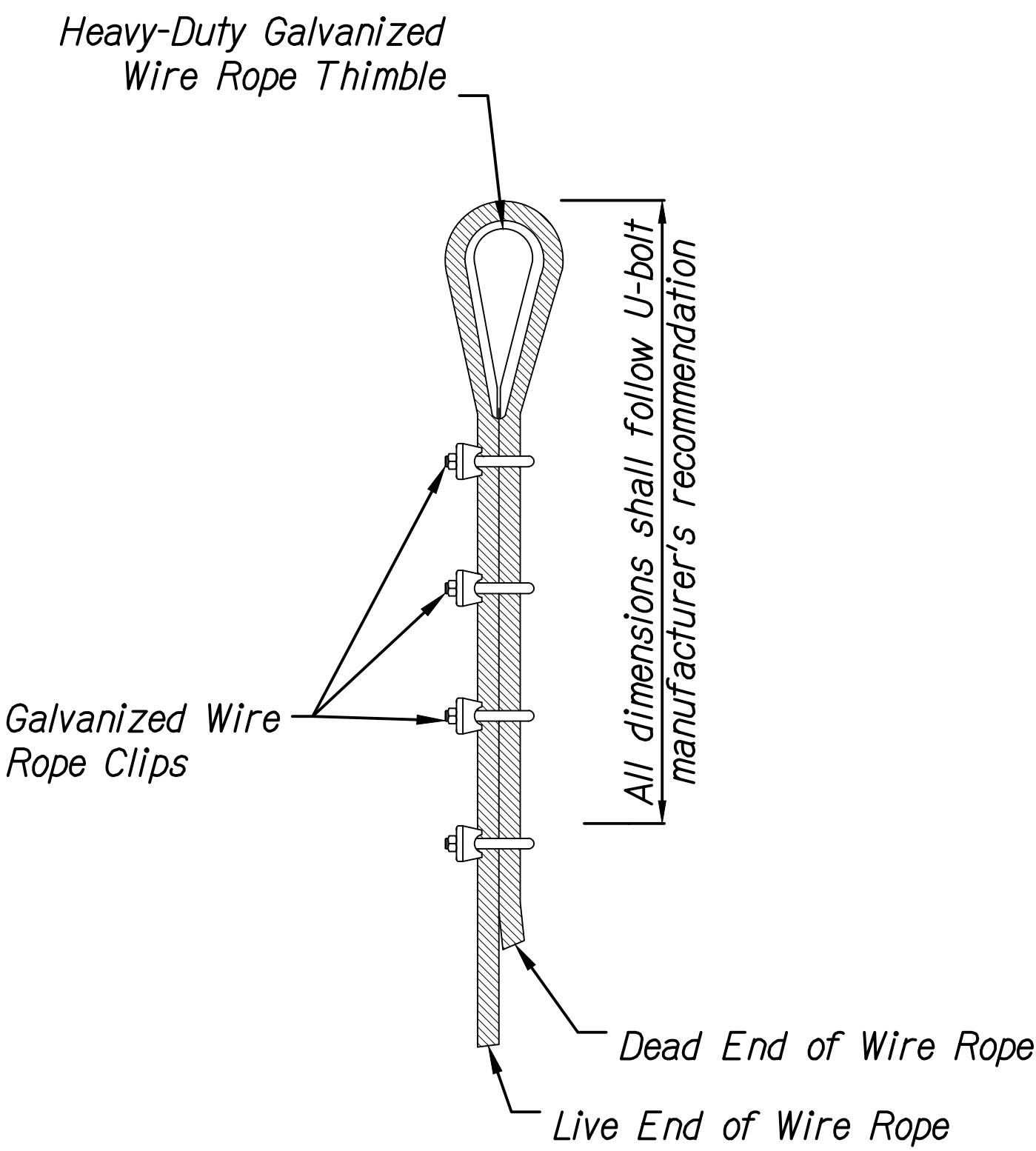
TOP ANCHOR CONNECTION DETAIL
Not To Scale



NOTES:

1. Drill 4 inch min. dia. anchor holes to a minimum depth of 10 ft.
2. Wire rope anchor ends to be splayed before setting in concrete.

BOTTOM ANCHOR
Not To Scale



WIRE ROPE CLIP LOOP
Not To Scale

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| REVISION | DATE | BRIEF | MADE BY | APPROVED | |
| DEPARTMENT OF HAWAIIAN HOME LANDS | | | | | |
| STATE OF HAWAII | | | | | |
| PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT | | | | | |
| KAPAHU ST. HONOLULU, HI 96813 | | | | | |
| TMK: 2-4-042:011-017, 2-4-041:017-026 | | | | | |
| JOB NO. | | | | | |
| DRAPED WIRE MESH | | | | | |
| DETAILS - 3 | | | | | |
| DESIGNED BY: | G70 | CHECKED BY: | KWNW | DRAWN BY: | JK |
| NOVEMBER 2020 | | | | | |

GERALD Y. SEKI

LICENSED PROFESSIONAL ENGINEER

No. 5635-C

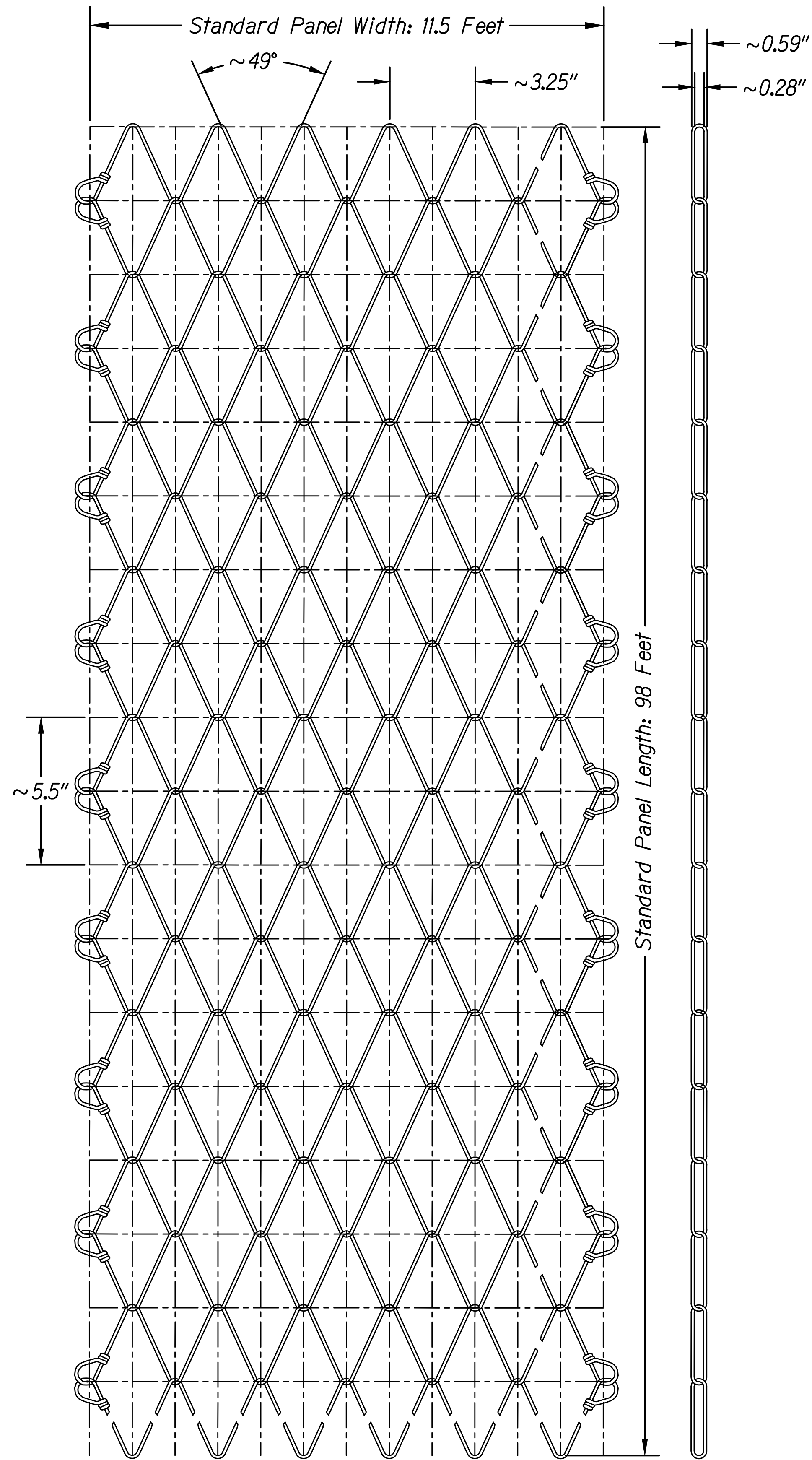
HAWAII, U.S.A.

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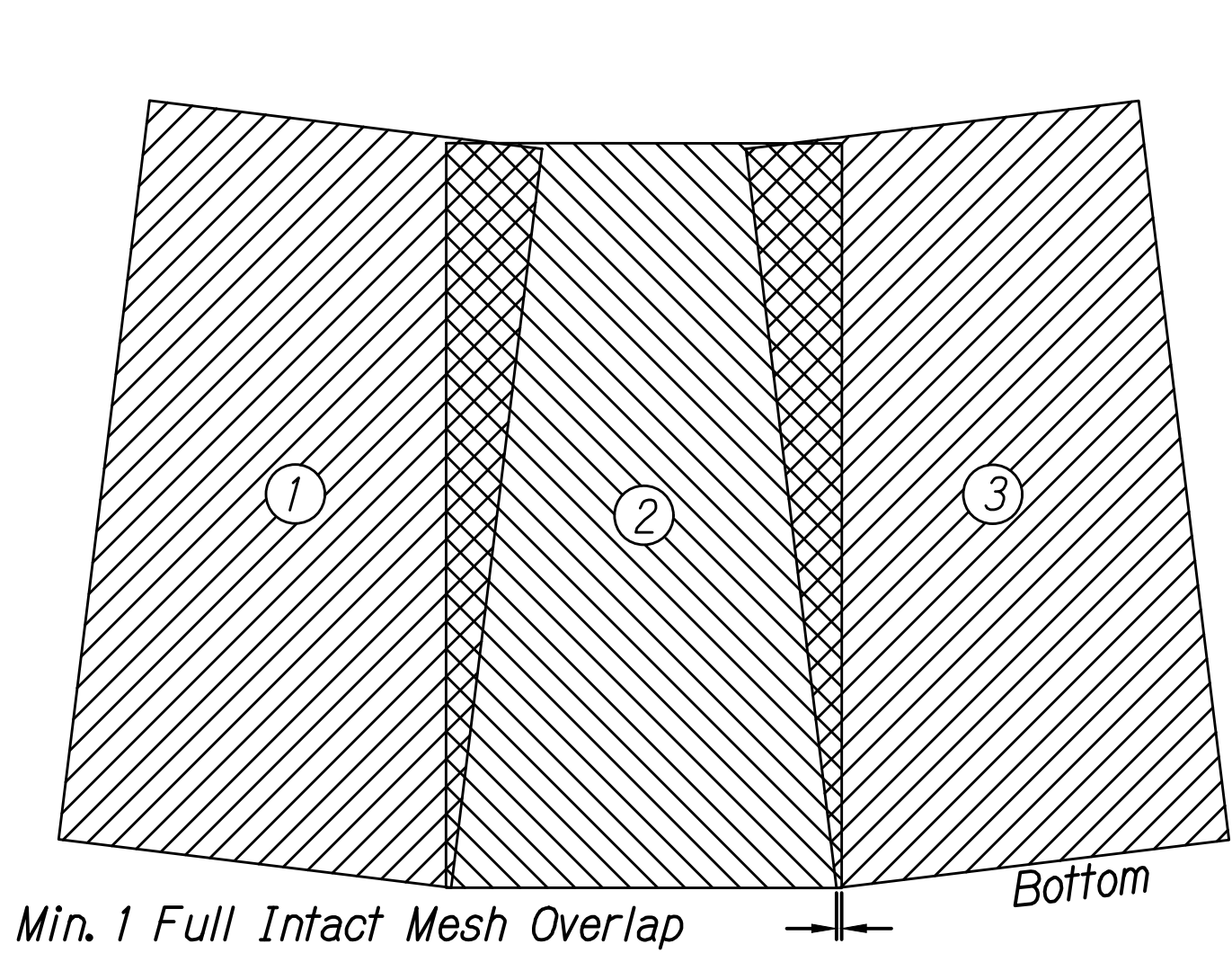
Signature

LICENSE EXP. DATE: APRIL 30, 2022

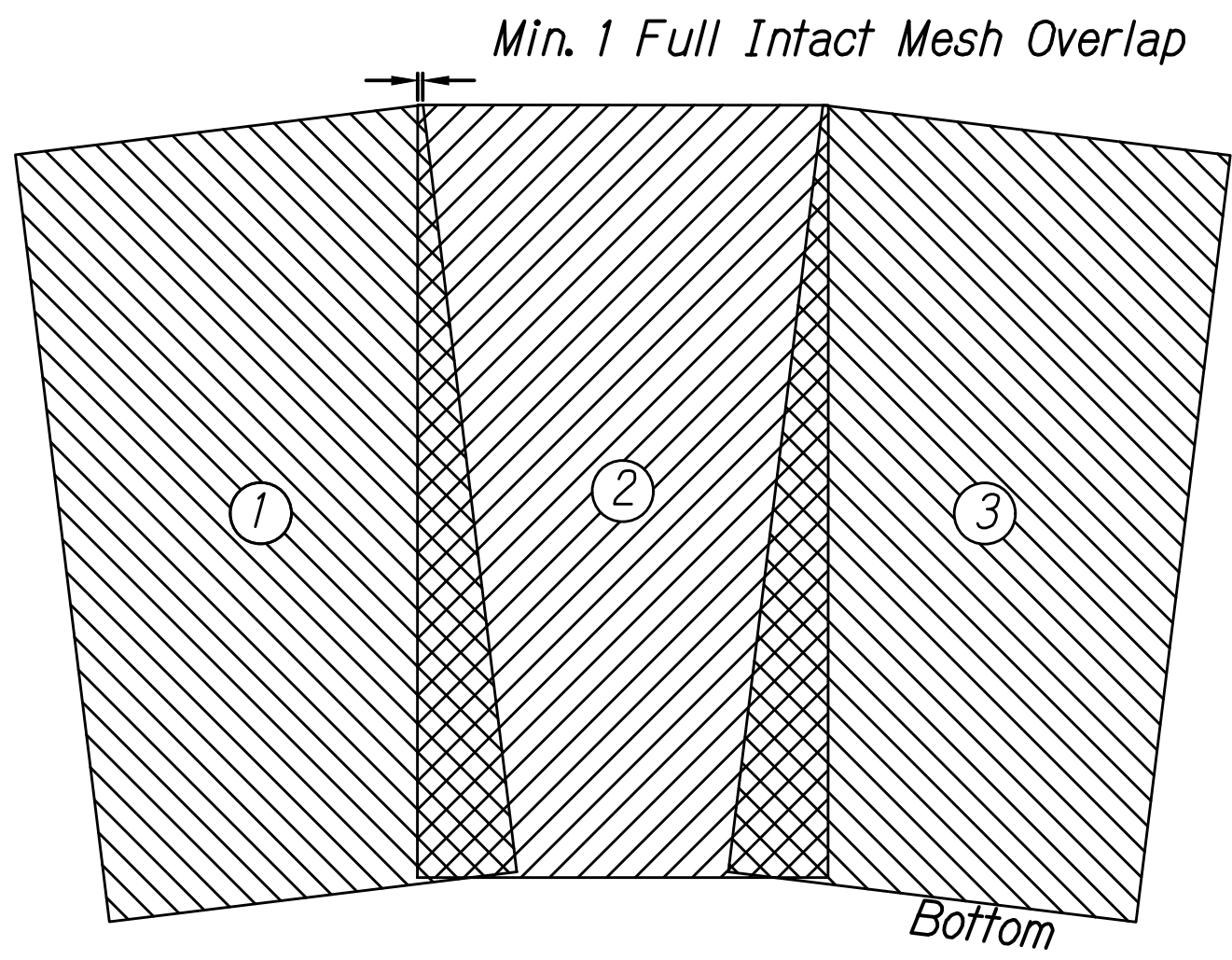
Wire Diameter = 0.157 inches (4 mm)
Tensile Strength = 4.5 kips
of Wire



WIRE MESH PANEL (TYP.)



MESH OVERLAP FOR CONVEX SLOPE



MESH OVERLAP FOR CONCAVE SLOPE

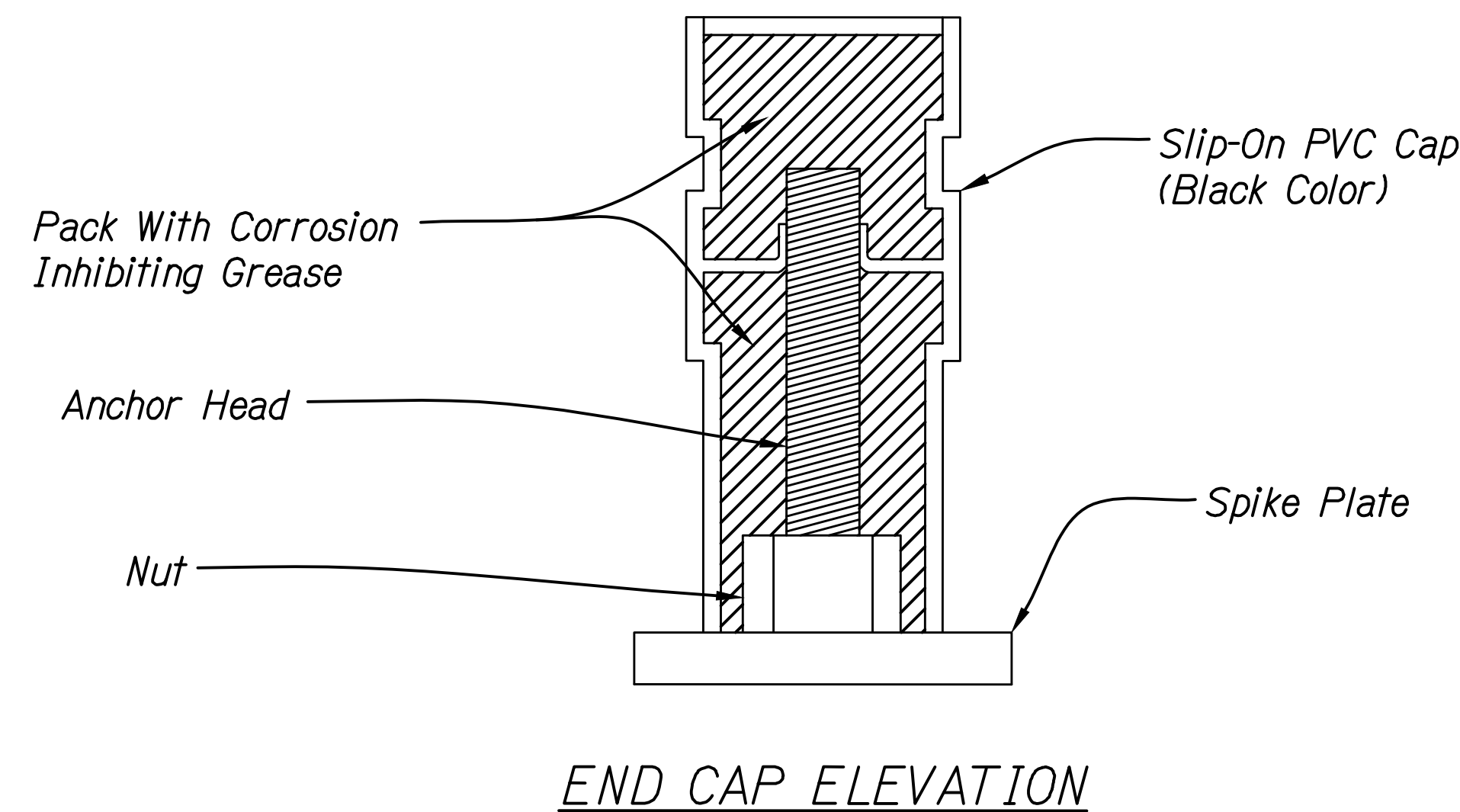
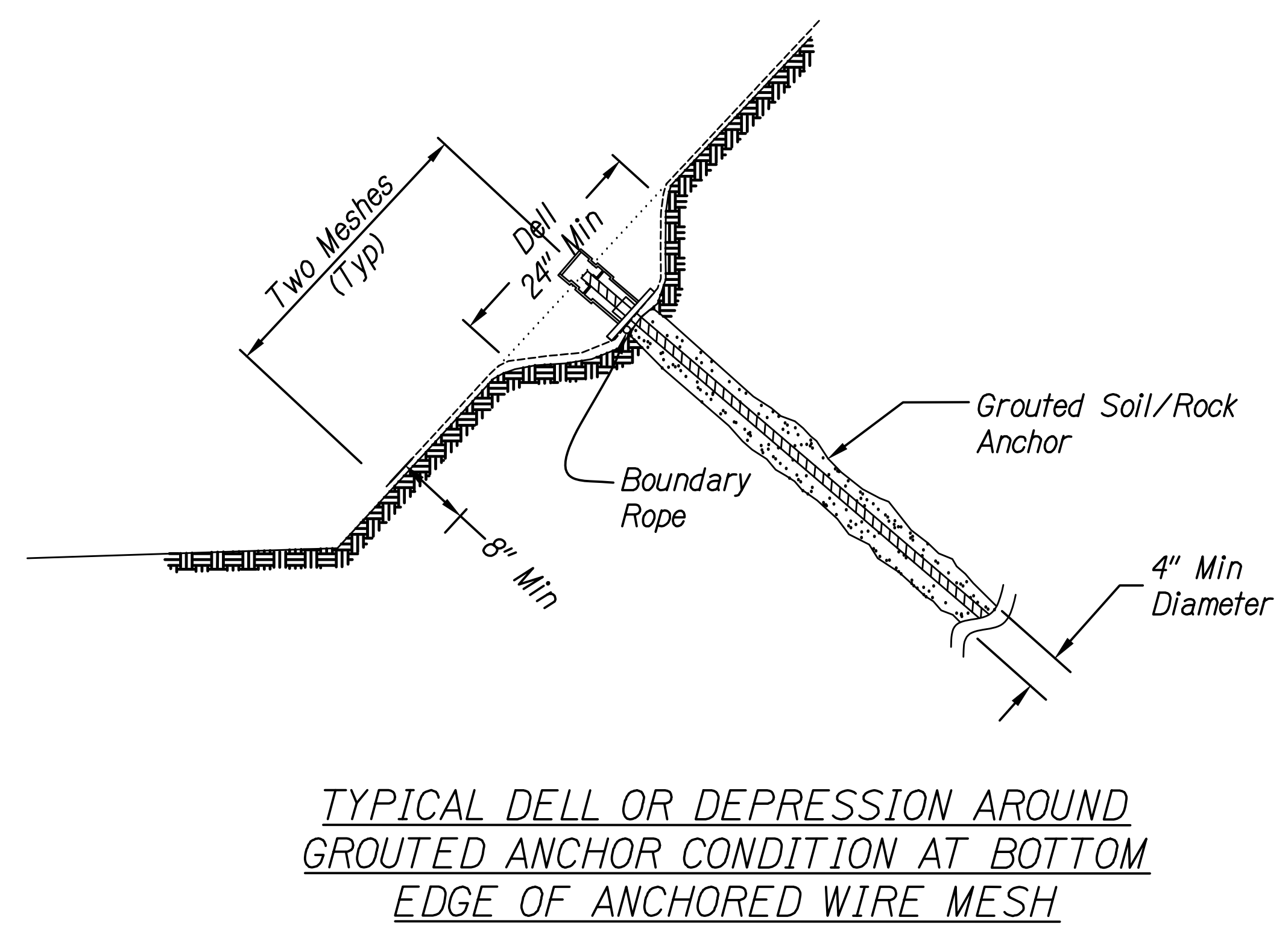
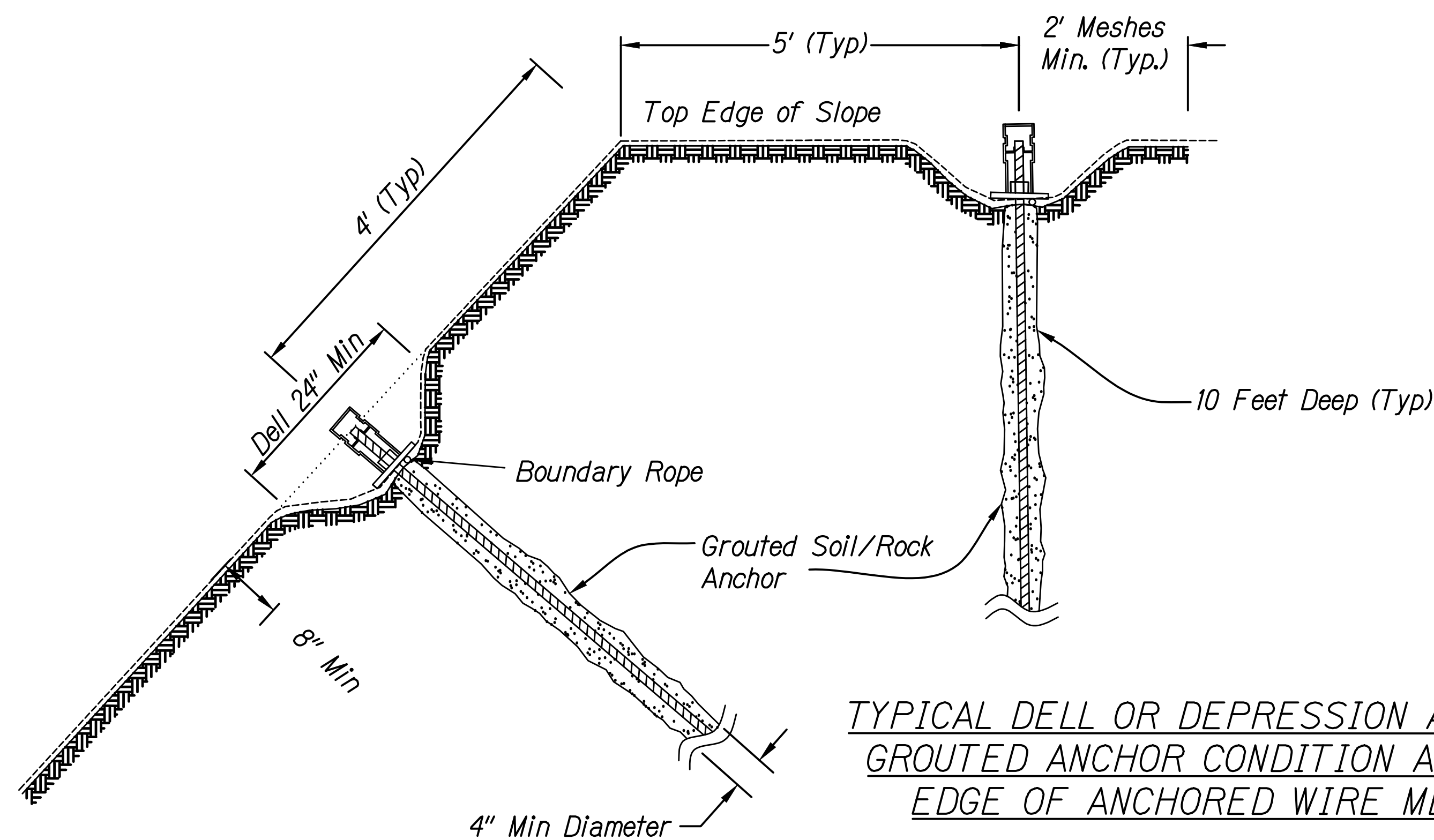
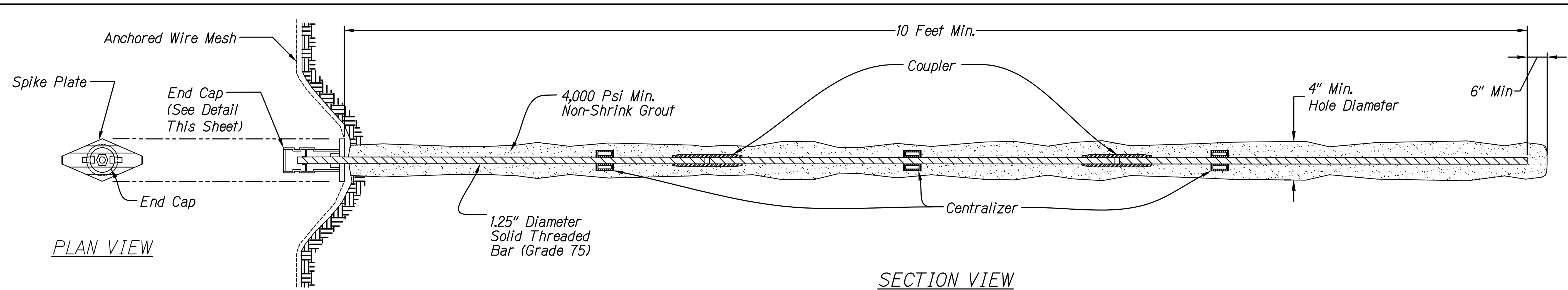
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| REVISION | DATE | BRIEF | MADE BY | APPROVED |



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Gerald Y. Seki
SIGNATURE
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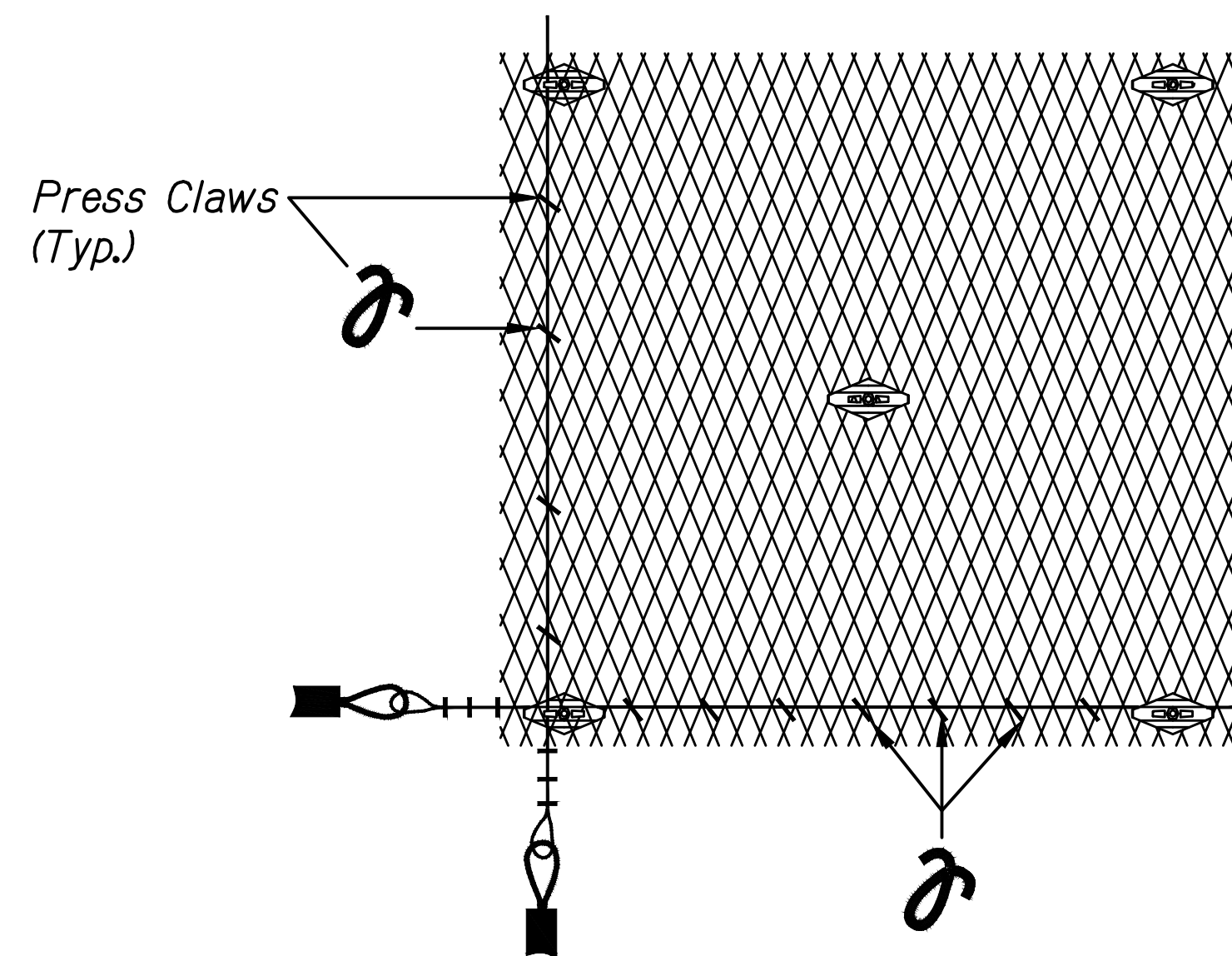
| | | |
|---|------------------|--------------|
| DEPARTMENT OF HAWAIIAN HOME LANDS STATE OF HAWAII | | |
| PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT KAPAHU ST. HONOLULU, HI 96813 TMK: 2-4-042:011-017, 2-4-041:017-026 JOB NO. | | |
| ANCHORED WIRE MESH DETAILS | | |
| DESIGNED BY: G70 | CHECKED BY: KWNW | DRAWN BY: JK |
| NOVEMBER 2020 | | |



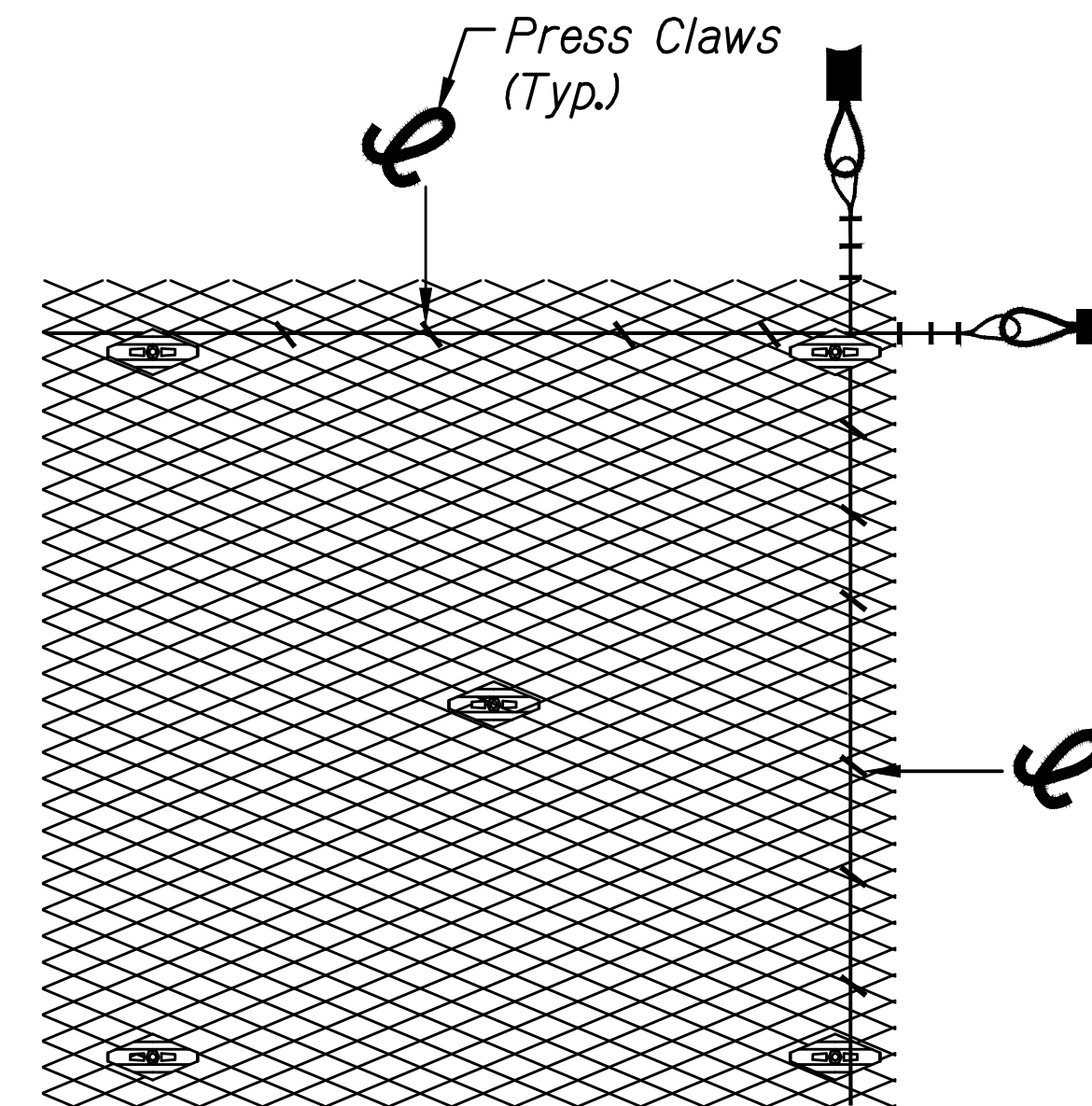
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| REVISION | DATE | BRIEF | MADE BY | APPROVED | |
| DEPARTMENT OF HAWAIIAN HOME LANDS | | | | | |
| STATE OF HAWAII | | | | | |
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| KAPAHU ST. HONOLULU, HI 96813 | | | | | |
| TMK: 2-4-042:011-017, 2-4-041:017-026 | | | | | |
| JOB NO. | | | | | |
| GROUTED SOIL | | | | | |
| ANCHOR DETAILS | | | | | |
| DESIGNED BY: C70 | CHECKED BY: KWNW | | DRAWN BY: JK | | |
| NOVEMBER 2020 | | | | | |

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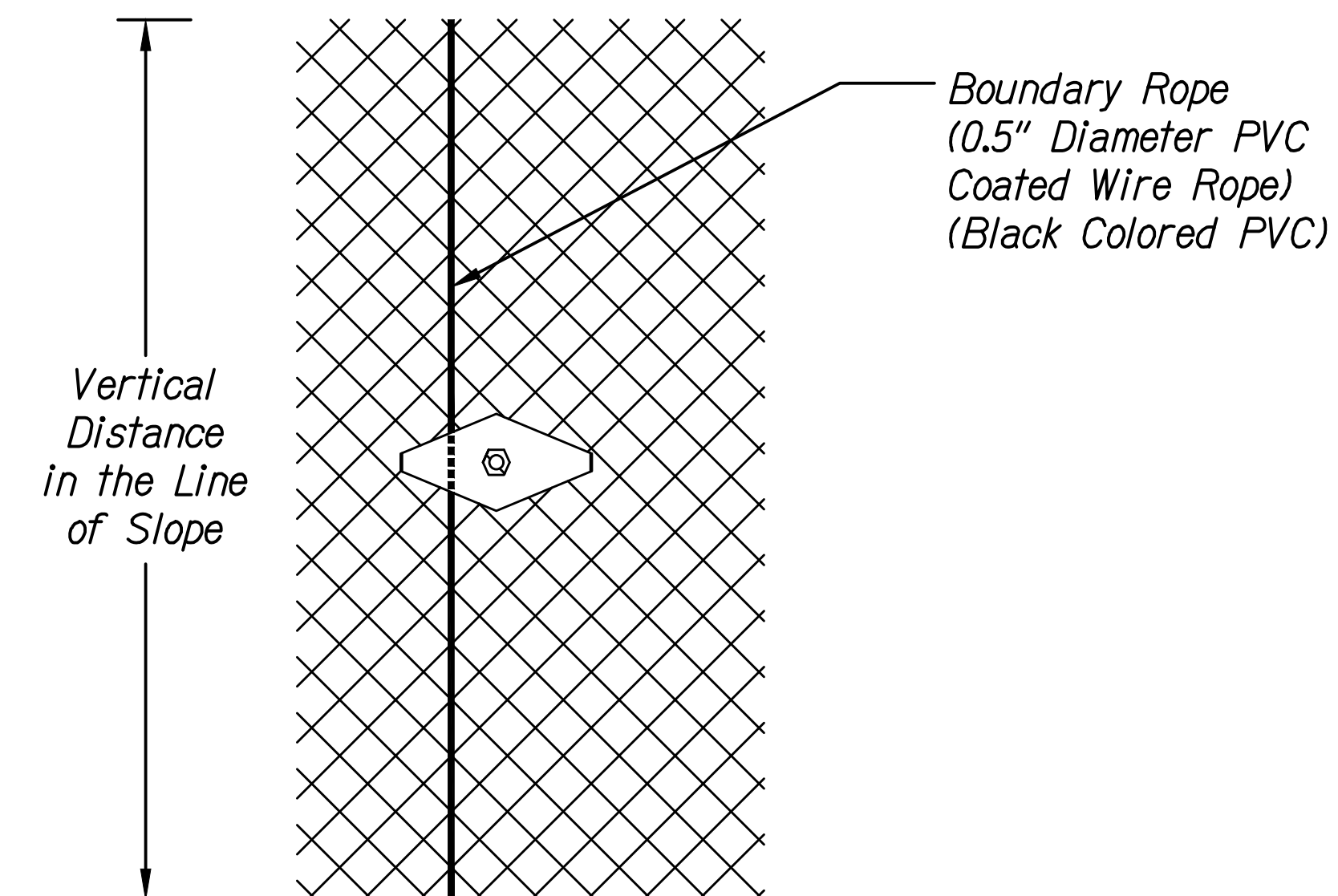
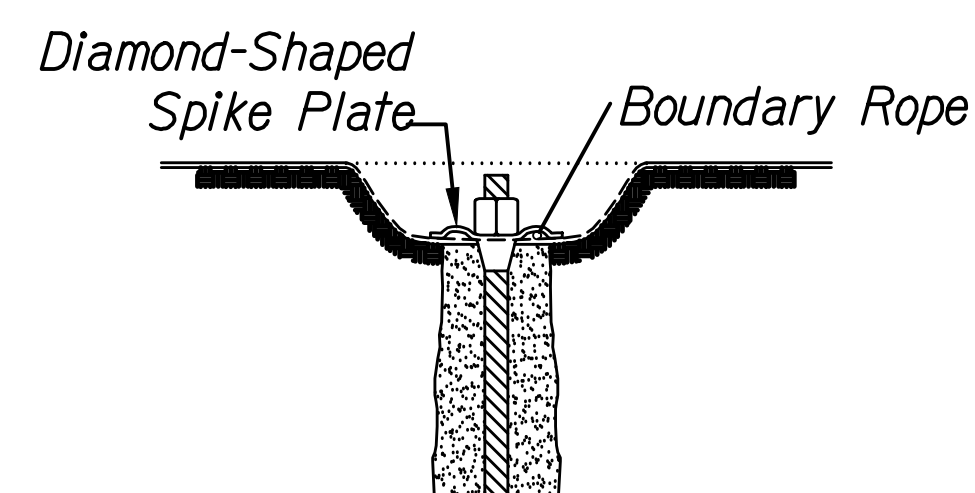
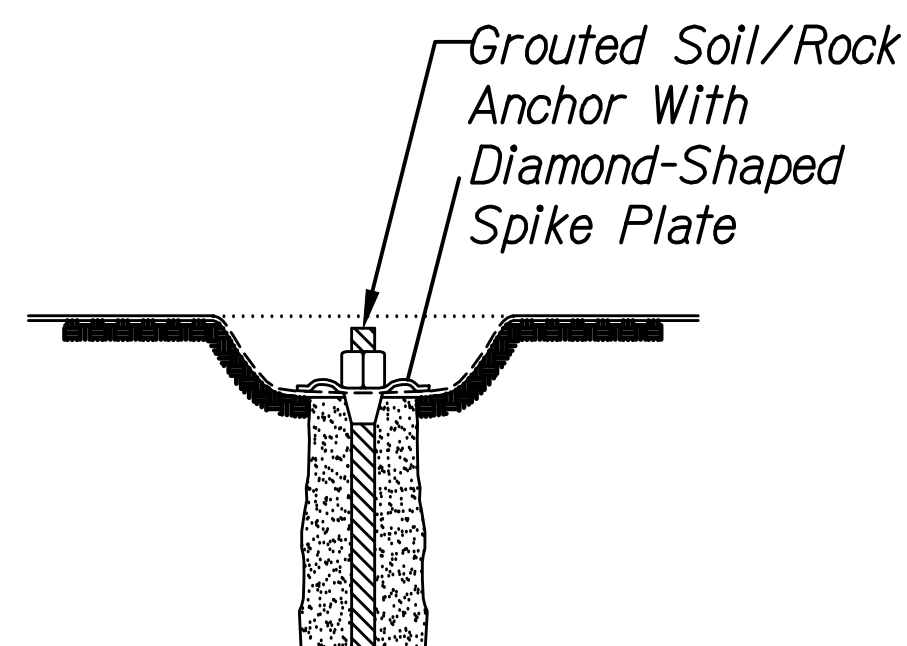
SIGNATURE: *Gerald Y. Seki*
 LICENSE EXP. DATE: APRIL 30, 2022



BOUNDARY ROPE AT THE BOTTOM AND SIDE
OF ANCHORED WIRE MESH SYSTEM



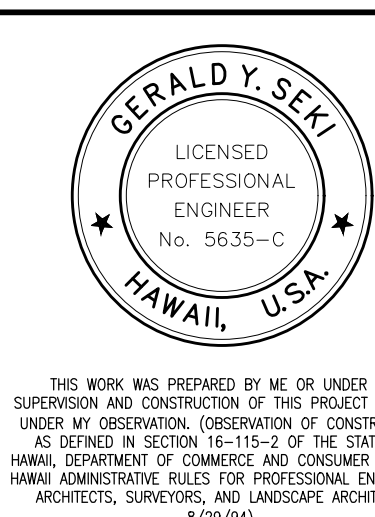
BOUNDARY ROPE AT THE TOP AND SIDE
OF ANCHORED WIRE MESH SYSTEM



GROUTED SOIL/ROCK ANCHOR
AND SPIKE PLATE

GROUTED SOIL/ROCK ANCHOR AND
SPIKE PLATE WITH HORIZONTAL
BOUNDARY ROPE

GROUTED SOIL/ROCK ANCHOR AND
SPIKE PLATE WITH VERTICAL
BOUNDARY ROPE



SIGNATURE
LICENSE EXP. DATE: APRIL 30, 2022

| REVISION | DATE | BRIEF | MADE BY | APPROVED |
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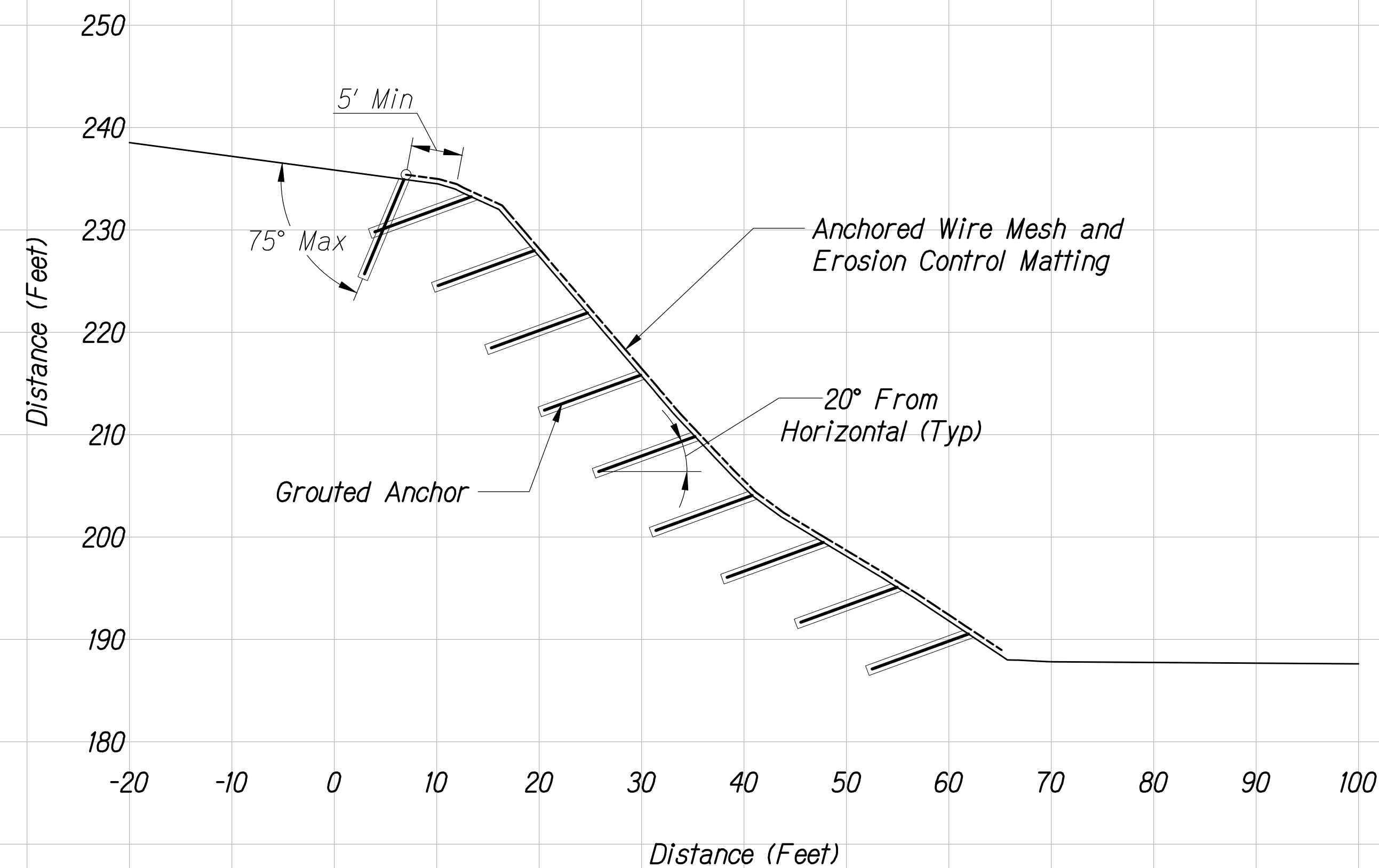
DEPARTMENT OF HAWAIIAN HOME LANDS
STATE OF HAWAII
PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT
KAPAHU ST. HONOLULU, HI 96813
TMK: 2-4-042-011-017, 2-4-041-017-026
JOB NO.

**BOUNDARY ROPE
DETAILS**

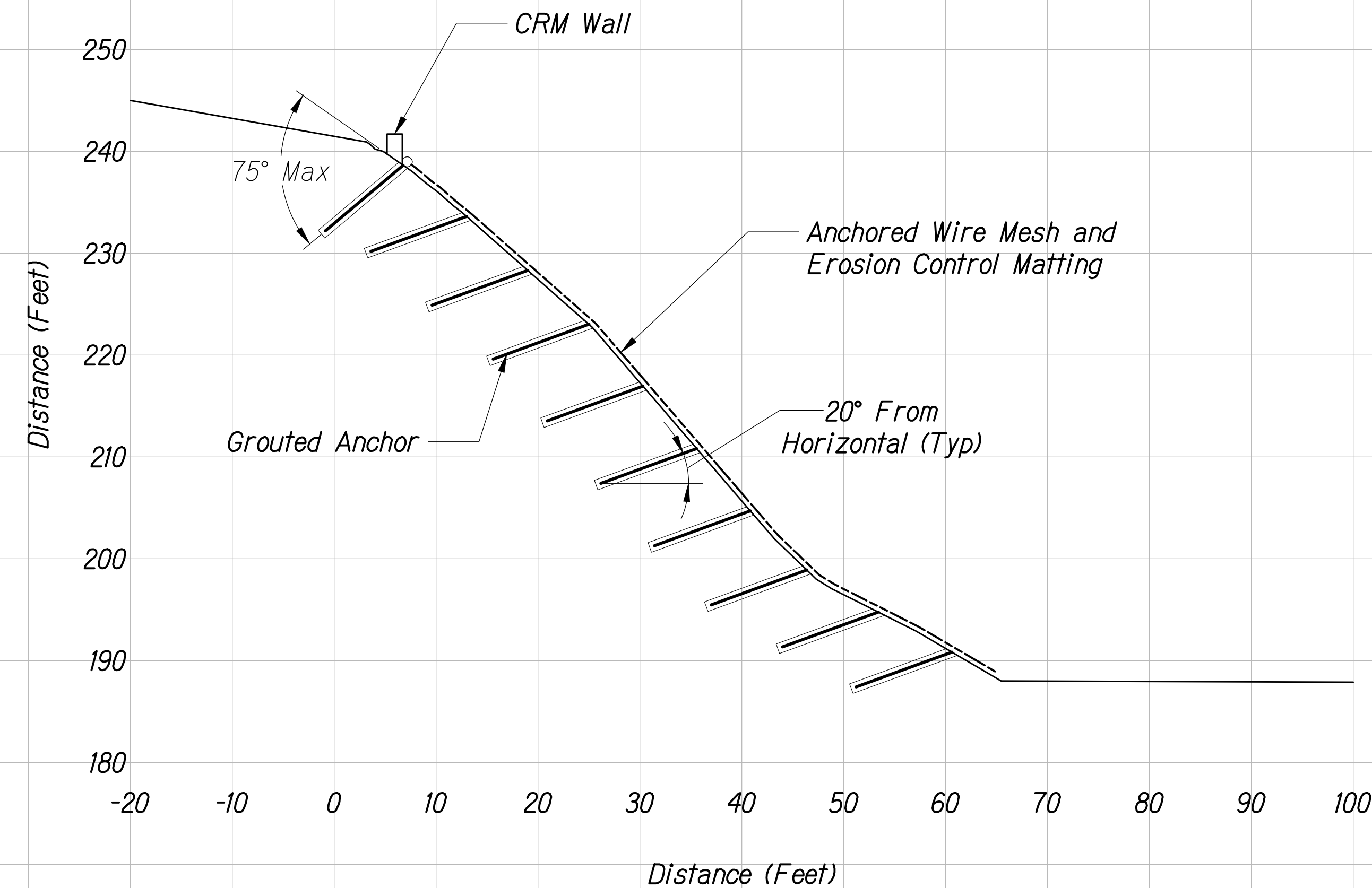
DESIGNED BY: C70 CHECKED BY: KWNW DRAWN BY: JK

SWG. NO.
G3.6
SHEET OF 30

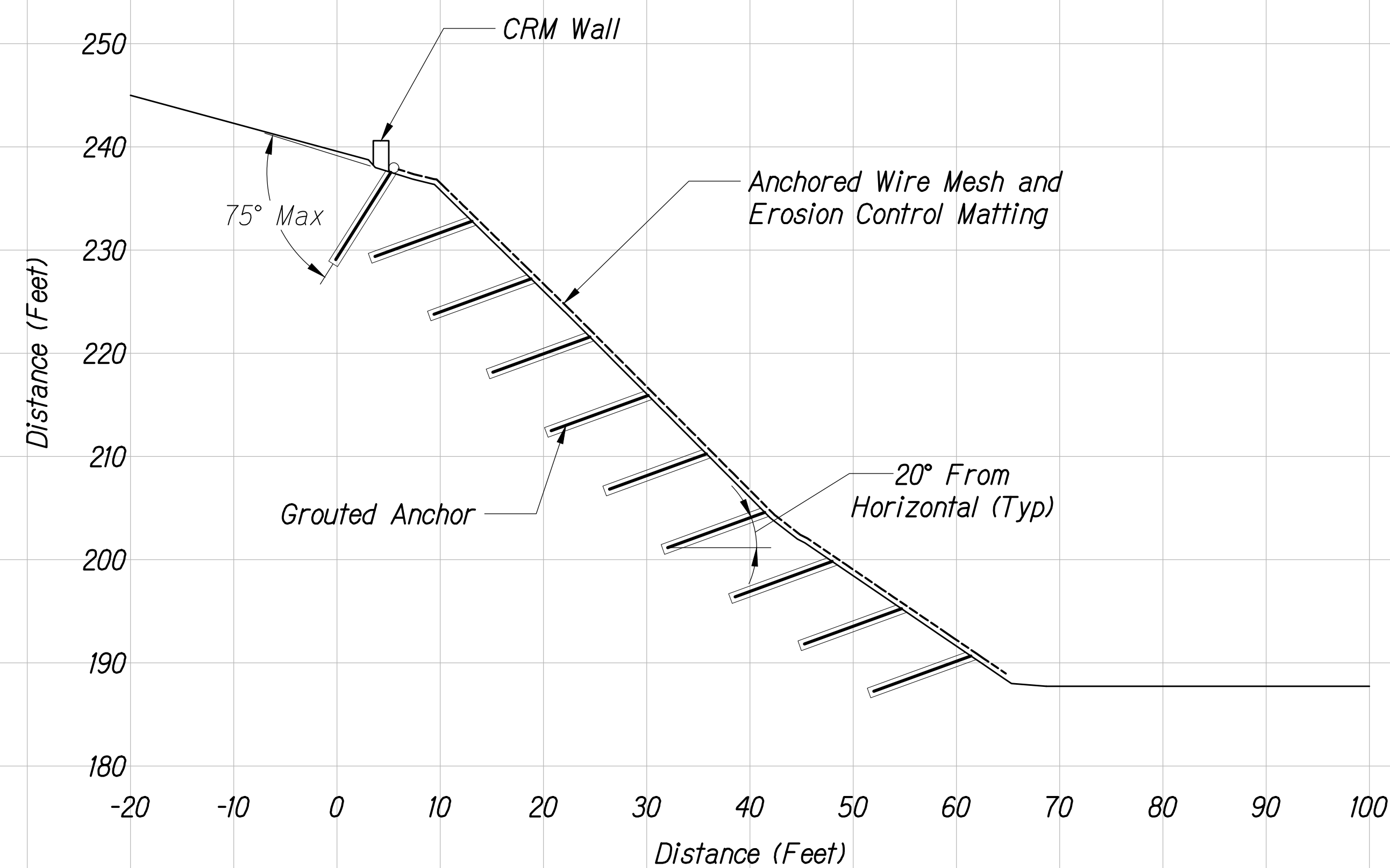
NOVEMBER 2020



ANCHORED WIRE MESH
Scale: 1" = 10'
Sta. 0+25



ANCHORED WIRE MESH
Scale: 1" = 10'
Sta. 0+75



ANCHORED WIRE MESH
Scale: 1" = 10'
Sta. 0+50

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| REVISION | DATE | BRIEF | MADE BY | APPROVED |

GERALD Y. SEKI

LICENSED PROFESSIONAL ENGINEER

No. 5635-C

HAWAII, U.S.A.

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SIGNATURE

LICENSE EXP. DATE: APRIL 30, 2022

DEPARTMENT OF HAWAIIAN HOME LANDS
STATE OF HAWAII

PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT
KAPAHU ST. HONOLULU, HI 96813
TMK: 2-4-042:011-017, 2-4-041:017-026
JOB NO.

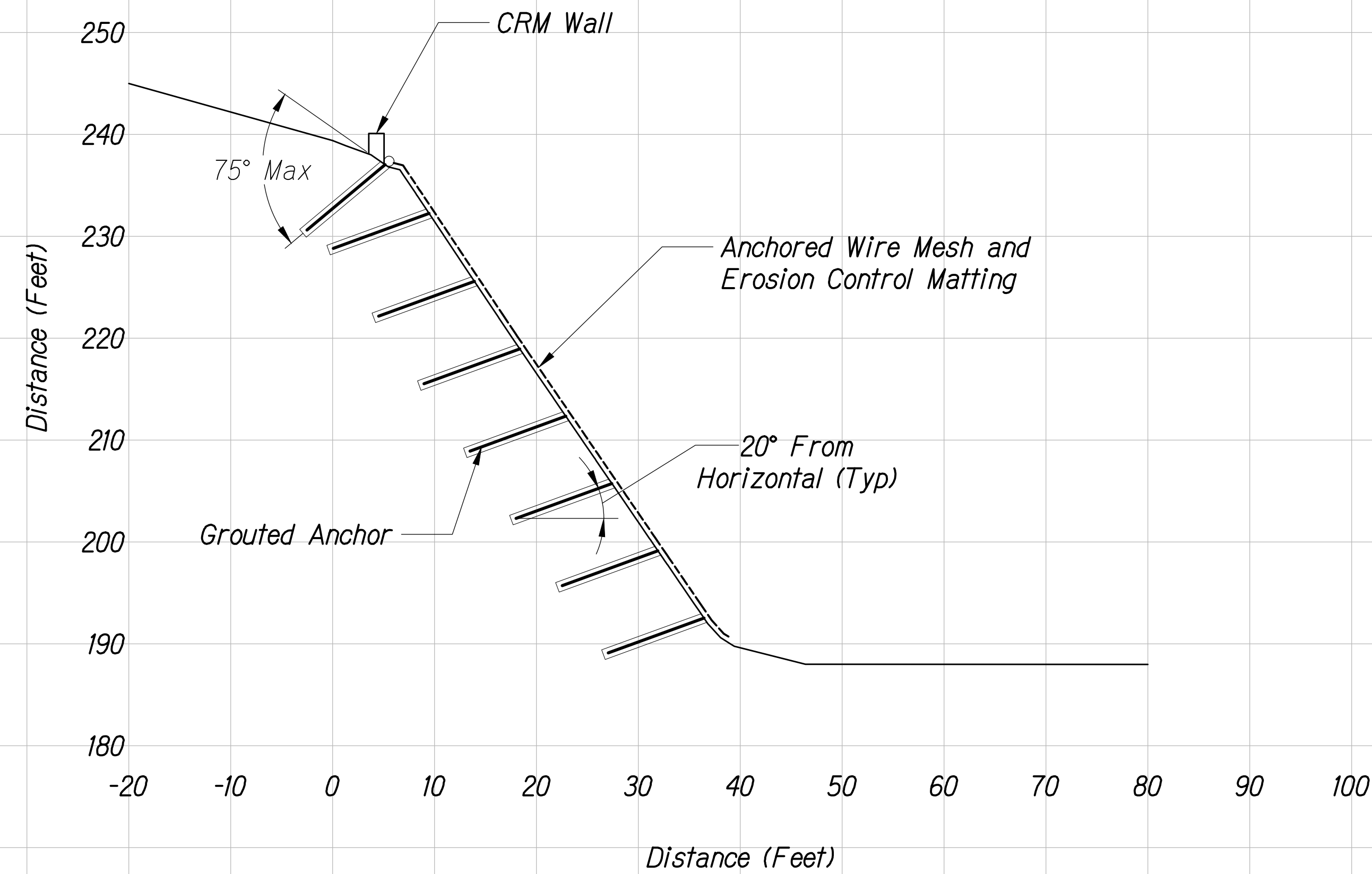
CROSS-SECTIONS

DESIGNED BY: C70 CHECKED BY: KWNW DRAWN BY: JK

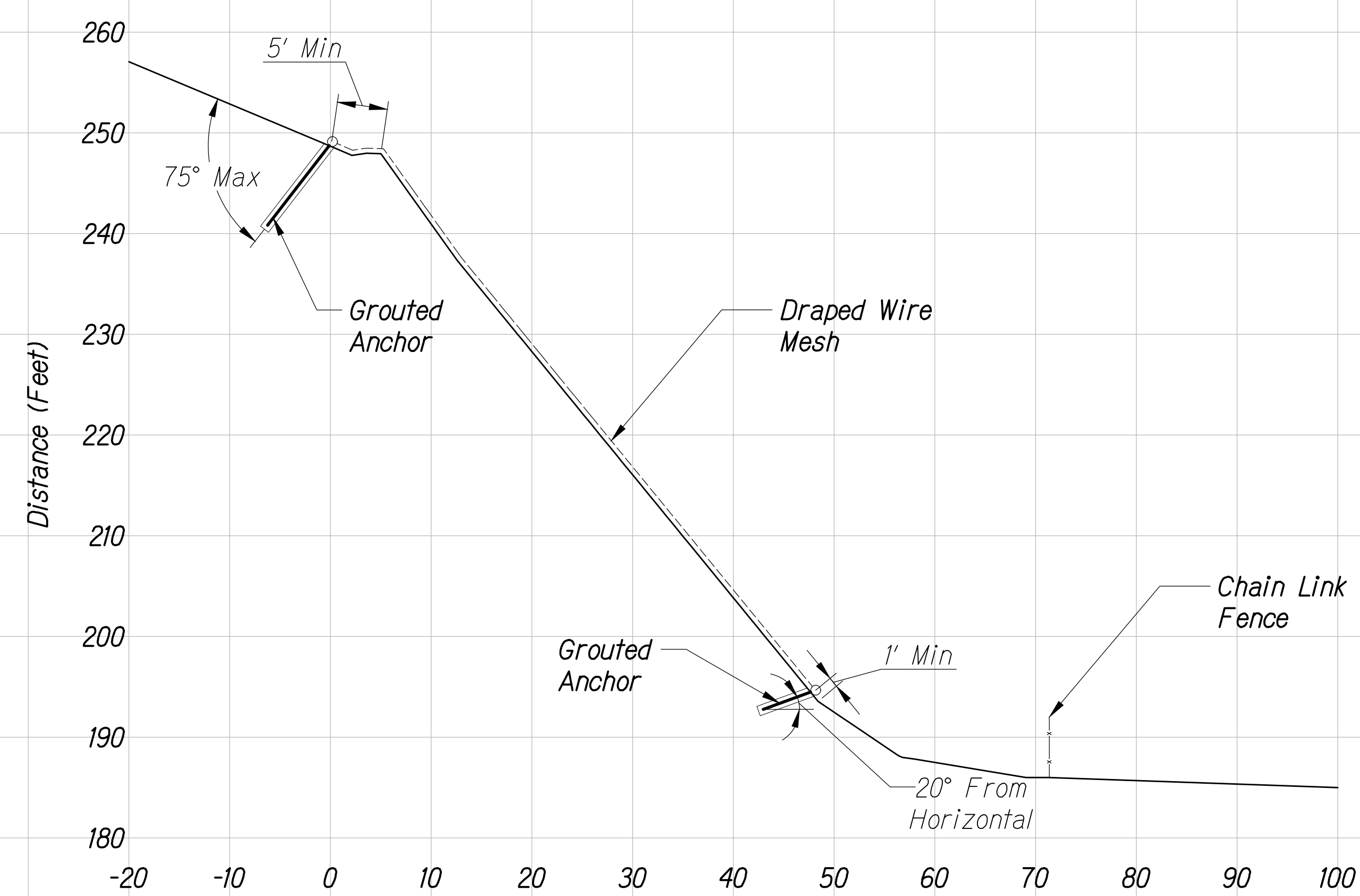
NOVEMBER 2020

DWG. NO.
G4.1
SHEET OF 30

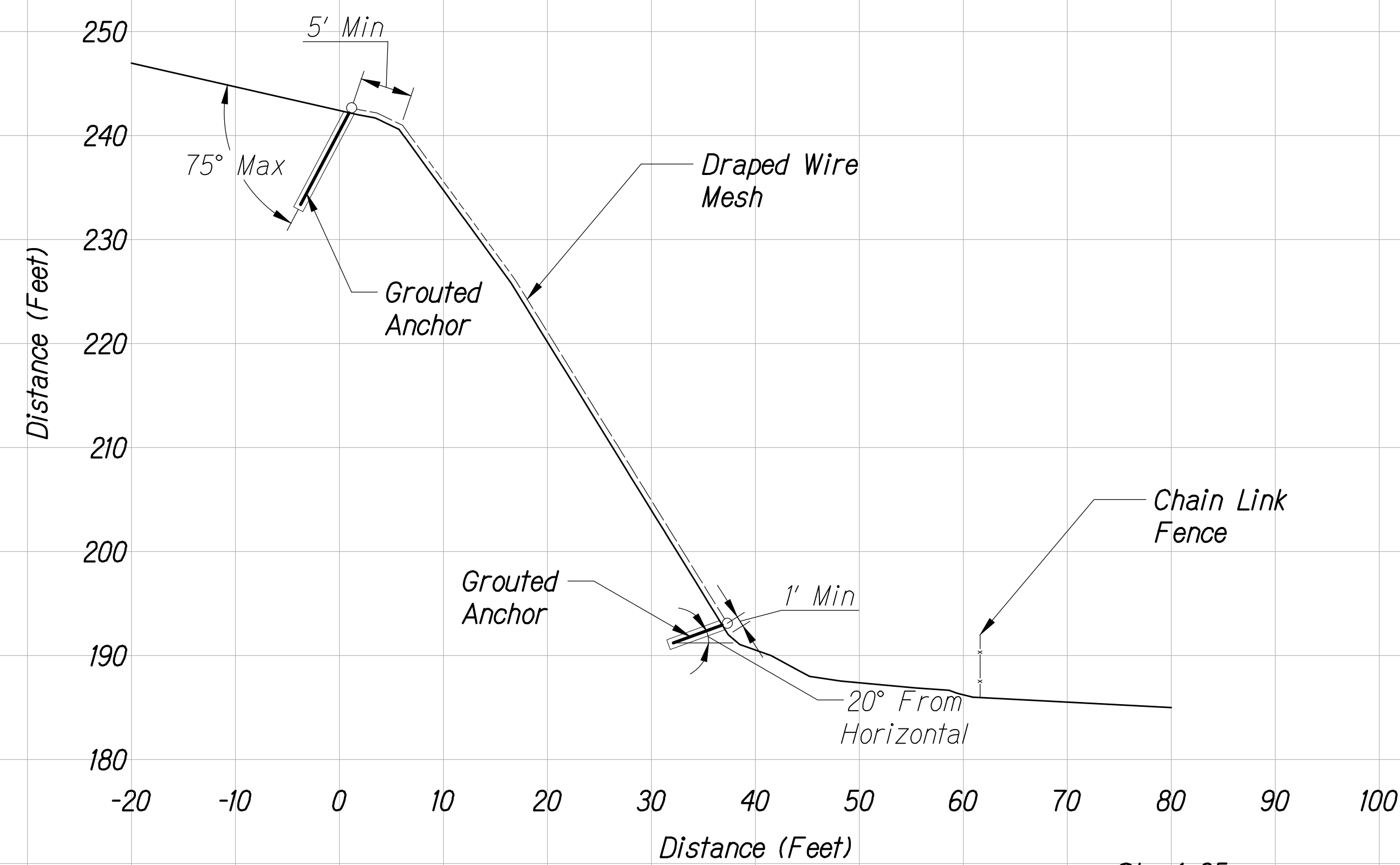
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| FILE | POCKET | FOLDER | NO. |
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ANCHORED WIRE MESH
Scale: 1" = 10'
Sta. 1+00



DRAPED WIRE MESH
Scale: 1" = 10'
Sta. 1+50



DRAPED WIRE MESH
Scale: 1" = 10'

Sta. 1+25

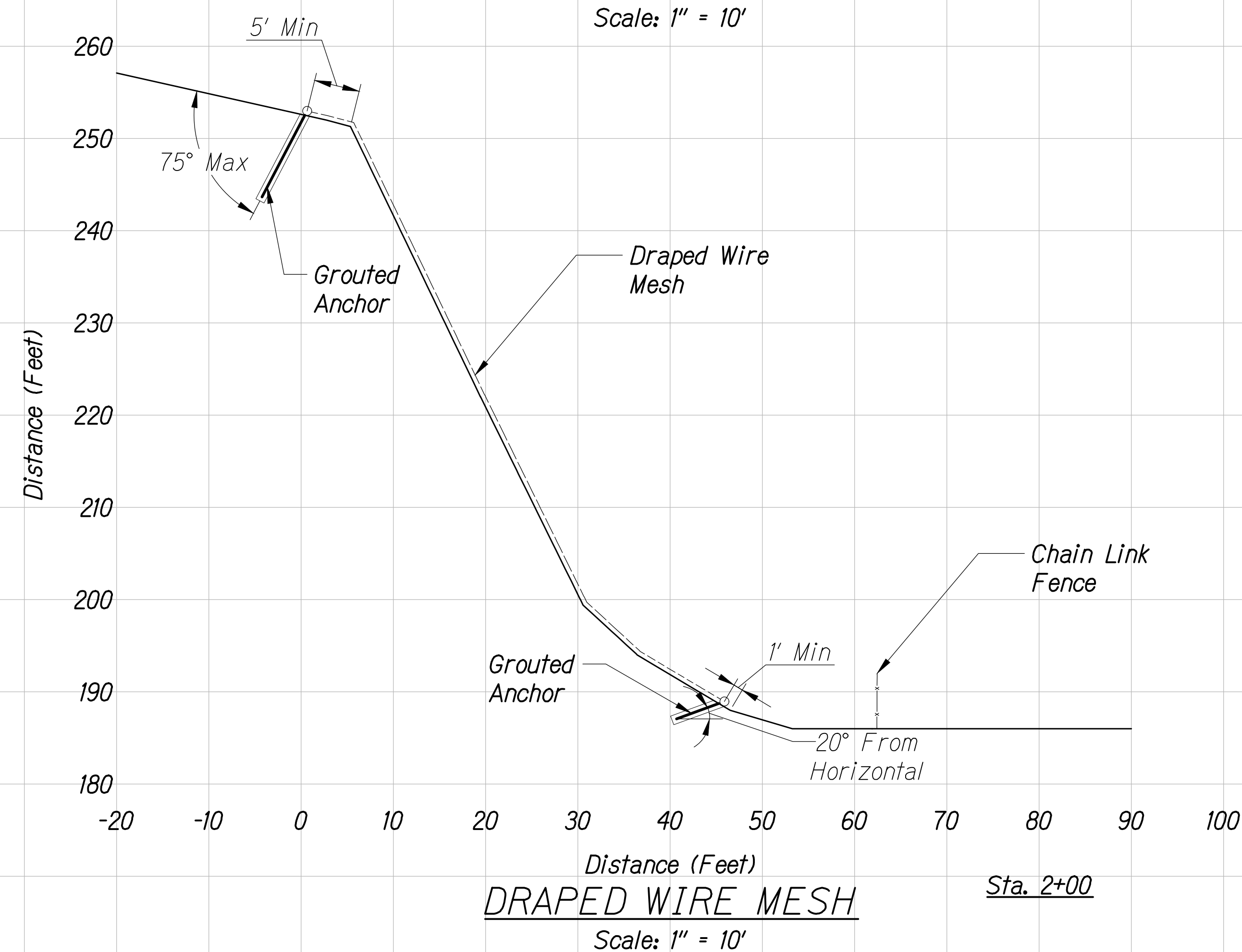
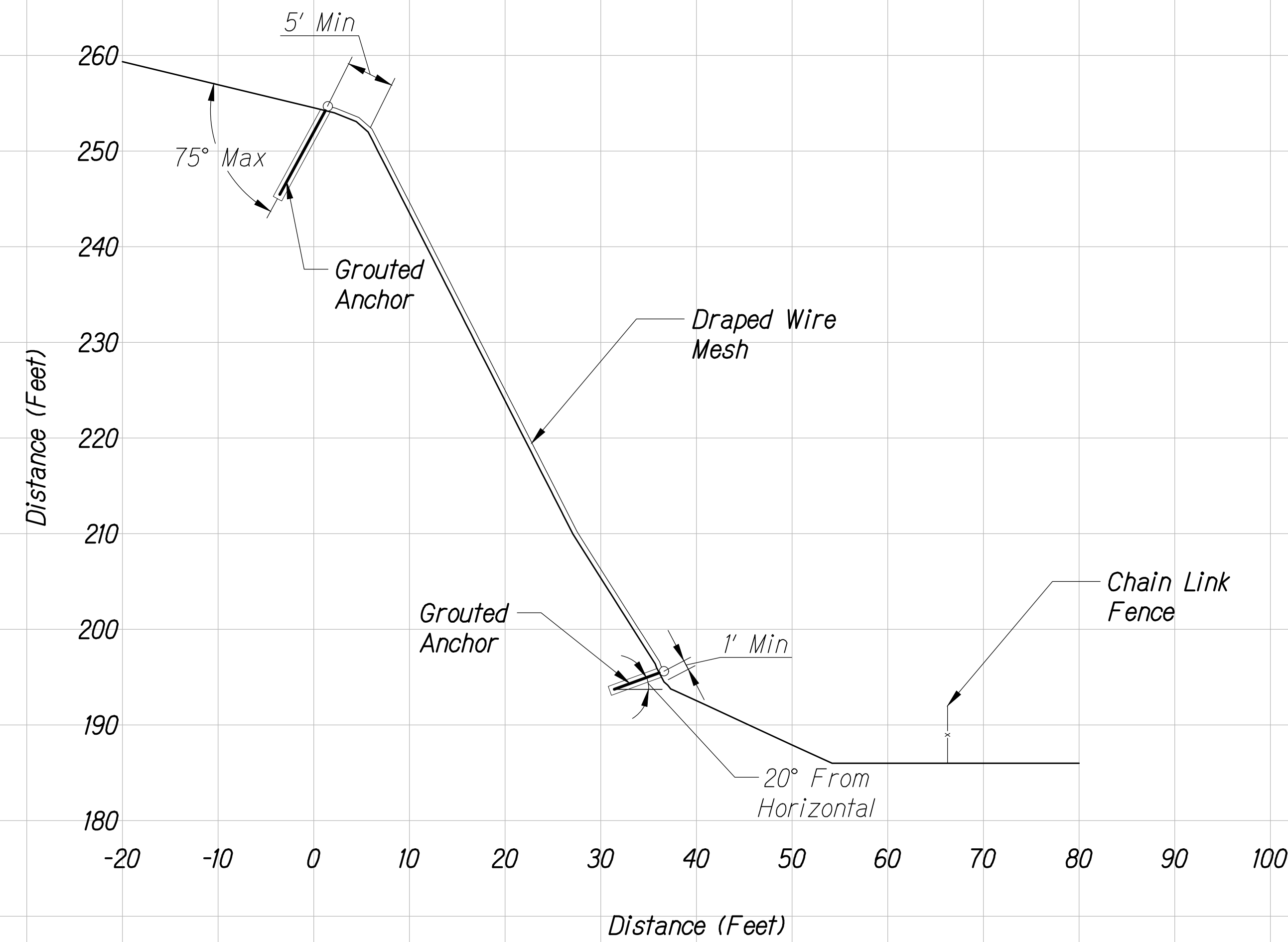
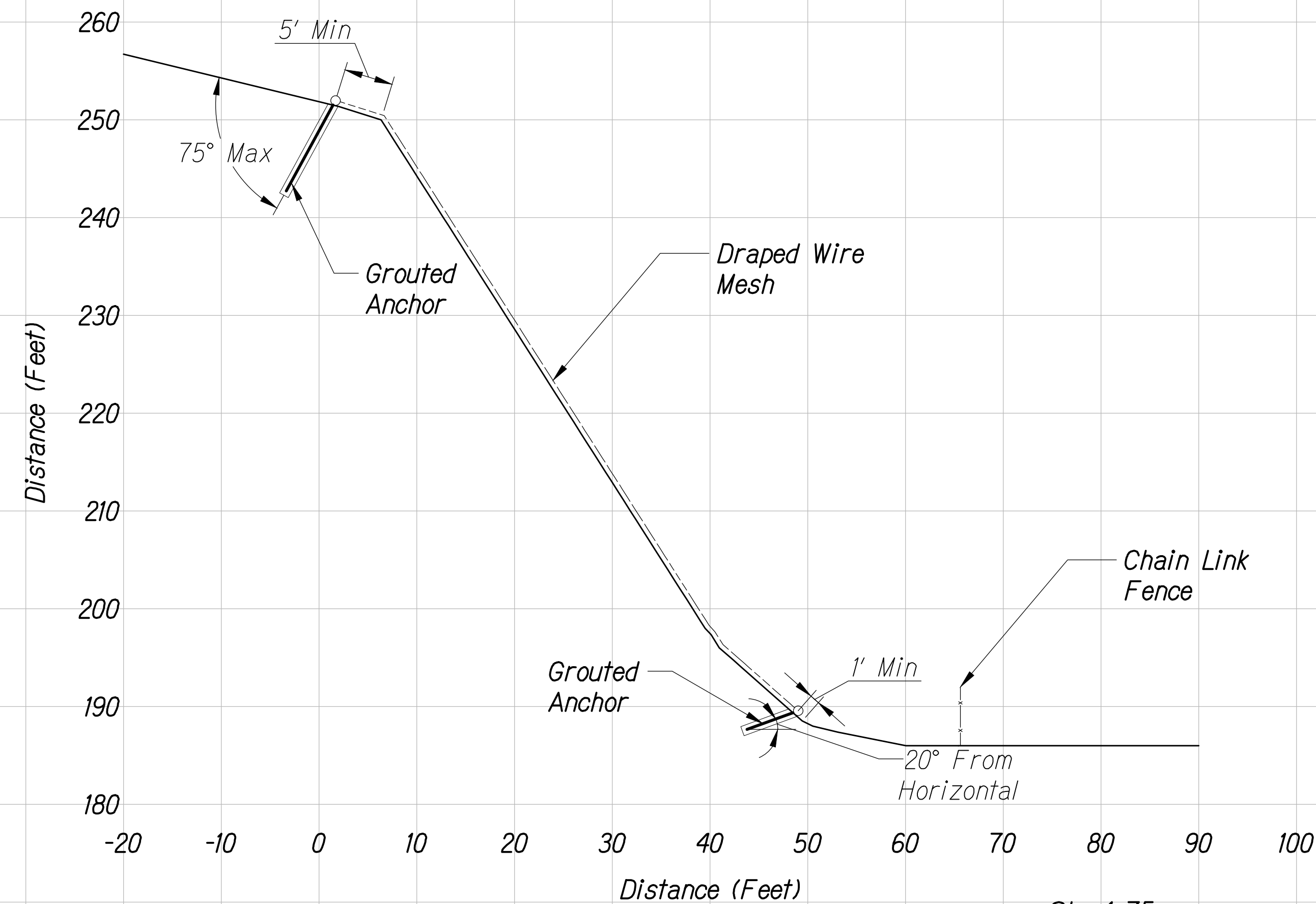
DWG. NO.
G4.2
SHEET OF 30



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Gerald Y. Seki
SIGNATURE
LICENSE EXP. DATE: APRIL 30, 2022

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| REVISION | DATE | BRIEF | MADE BY | APPROVED |
| DEPARTMENT OF HAWAIIAN HOME LANDS | | | | |
| STATE OF HAWAII | | | | |
| PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT | | | | |
| KAPAHU ST. HONOLULU, HI 96813 | | | | |
| TMK: 2-4-042:011-017, 2-4-041:017-026 | | | | |
| JOB NO. | | | | |
| CROSS-SECTIONS | | | | |
| DESIGNED BY: | C70 | CHECKED BY: | KWNW | DRAWN BY: JK |
| NOVEMBER 2020 | | | | |
| FILE POCKET FOLDER NO. | | | | |



Distance (Feet)

DRAPED WIRE MESH

Scale: 1" = 10'

Sta. 2+25

DWG. NO.
G4.3
SHEET OF 30

GERALD Y. SEKI

LICENSED PROFESSIONAL ENGINEER

No. 5635-C

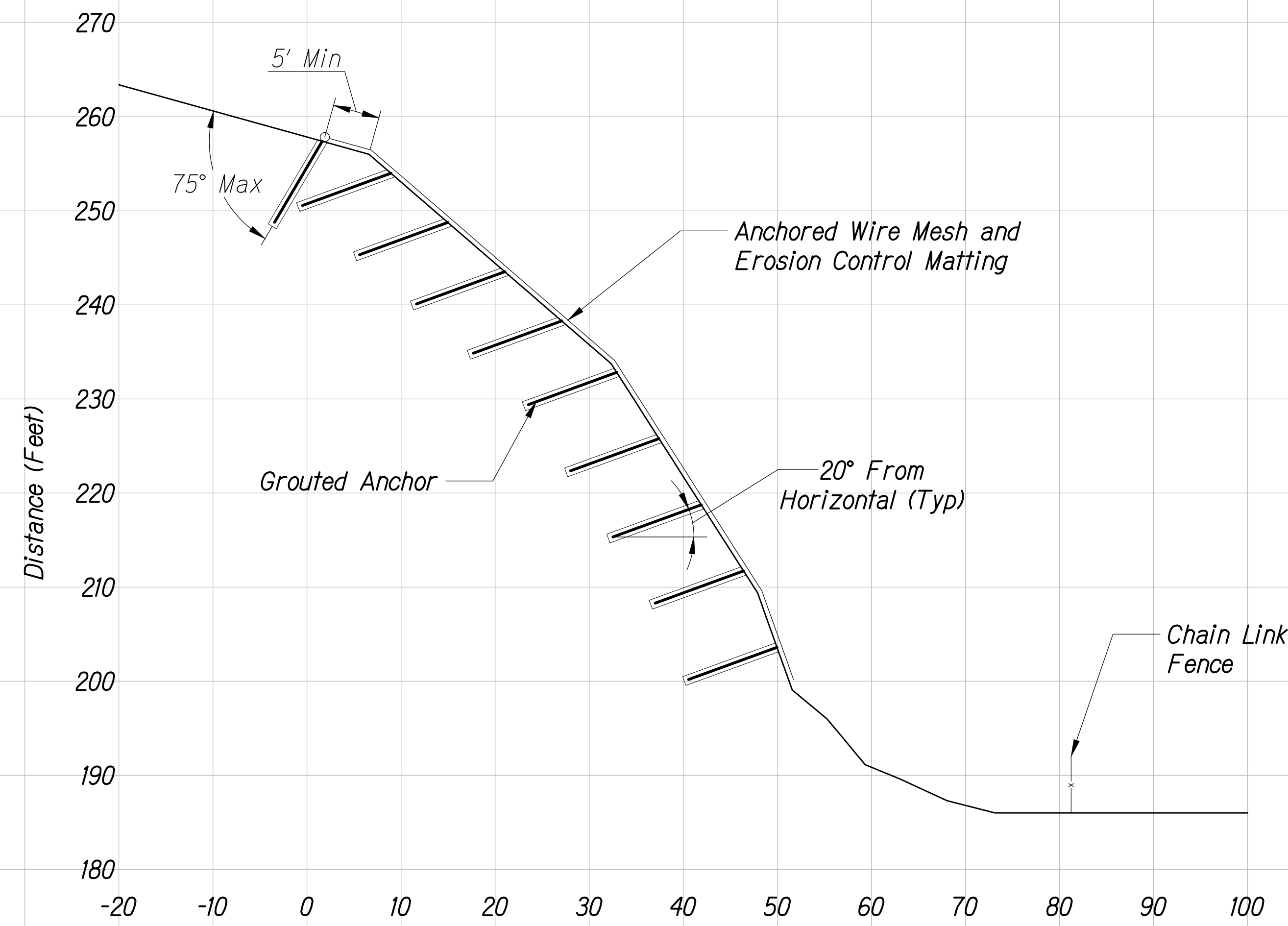
HAWAII, U.S.A.

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SIGNATURE

LICENSE EXP. DATE: APRIL 30, 2022

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| REVISION | DATE | BRIEF | MADE BY | APPROVED |
| DEPARTMENT OF HAWAIIAN HOME LANDS | | | | |
| STATE OF HAWAII | | | | |
| PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT | | | | |
| KAPAHU ST. HONOLULU, HI 96813 | | | | |
| TMK: 2-4-042:011-017, 2-4-041:017-026 | | | | |
| JOB NO. | | | | |
| CROSS-SECTIONS | | | | |
| DESIGNED BY: | C70 | CHECKED BY: | KWNW | DRAWN BY: |
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| NOVEMBER 2020 | | | | |
| FILE | POCKET | FOLDER | NO. | |

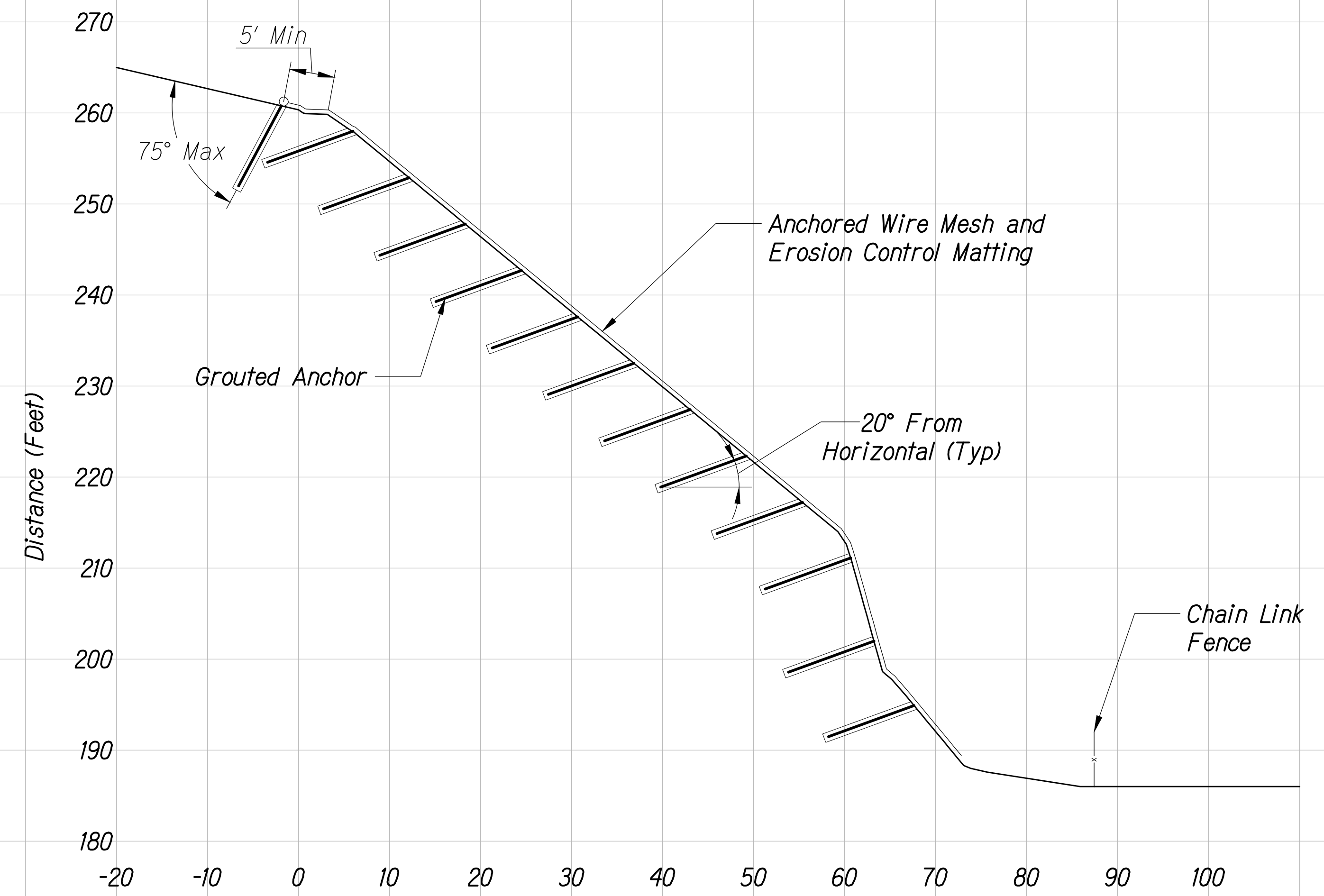


Distance (Feet)

ANCHORED WIRE MESH

Scale: 1" = 10'

Sta. 2+50



Distance (Feet)

ANCHORED WIRE MESH

Scale: 1" = 10'

Sta. 2+75

DWG. NO.
G4.4
SHEET OF 30

GERALD Y. SEKI

LICENSED PROFESSIONAL ENGINEER

No. 5635-C

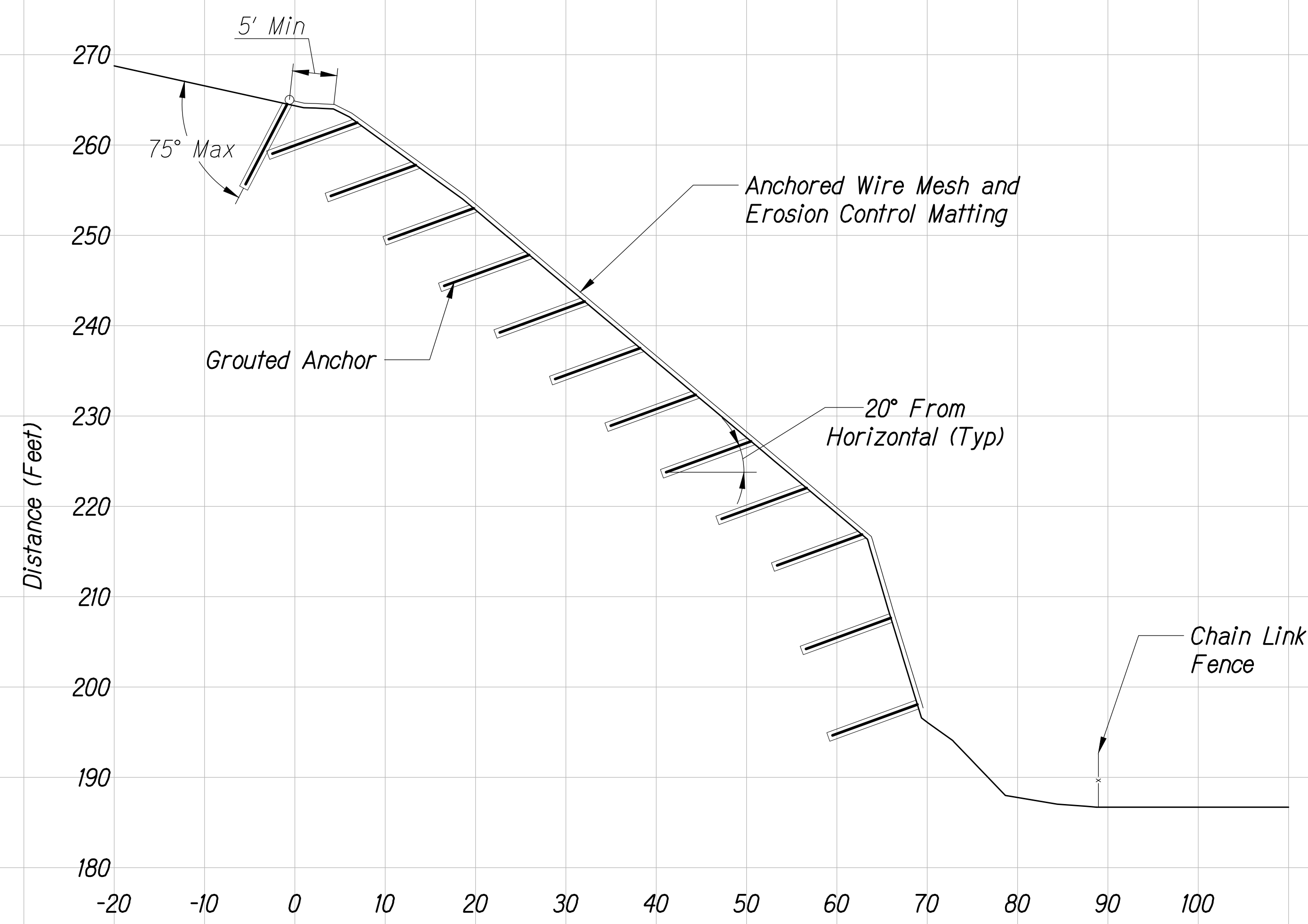
HAWAII, U.S.A.

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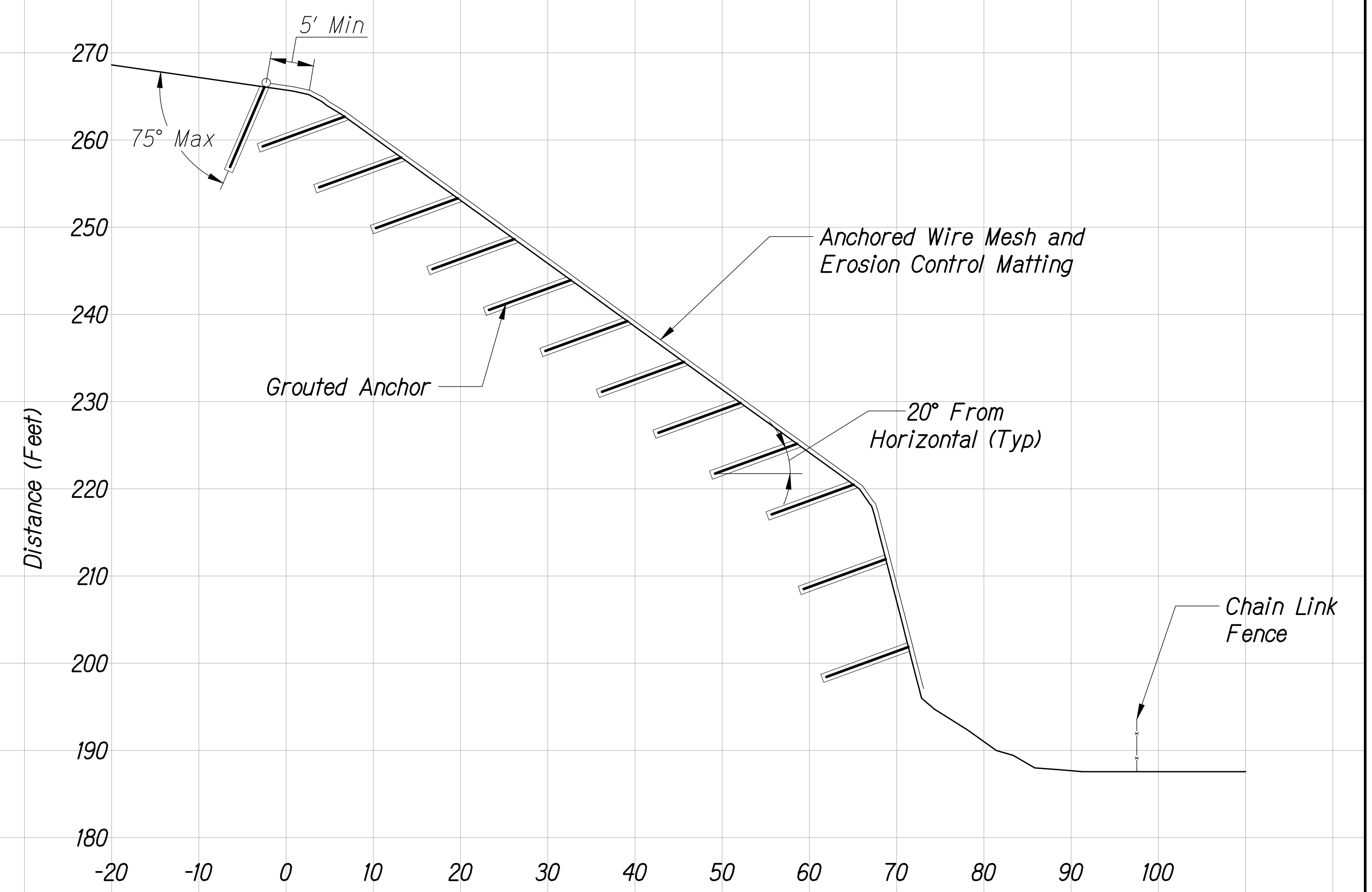
SIGNATURE

LICENSE EXP. DATE: APRIL 30, 2022

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| REVISION | DATE | BRIEF | MADE BY | APPROVED |
| DEPARTMENT OF HAWAIIAN HOME LANDS | | | | |
| STATE OF HAWAII | | | | |
| PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT | | | | |
| KAPAHU ST. HONOLULU, HI 96813 | | | | |
| TMK: 2-4-042:011-017, 2-4-041:017-026 | | | | |
| JOB NO. | | | | |
| CROSS-SECTIONS | | | | |
| DESIGNED BY: | C70 | CHECKED BY: | KWNW | DRAWN BY: JK |
| NOVEMBER 2020 | | | | |
| FILE | POCKET | FOLDER | NO. | |



Distance (Feet)
ANCHORED WIRE MESH
Scale: 1" = 10'
Sta. 3+00



Distance (Feet)
ANCHORED WIRE MESH
Scale: 1" = 10'
Sta. 3+25

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| REVISION | DATE | BRIEF | MADE BY | APPROVED | |
| DEPARTMENT OF HAWAIIAN HOME LANDS STATE OF HAWAII | | | | | |
| PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT KAPAHU ST. HONOLULU, HI 96813 TMK: 2-4-042:011-017, 2-4-041:017-026 JOB NO. | | | | | |
| CROSS-SECTIONS | | | | | |
| DESIGNED BY: | C70 | CHECKED BY: | KWNW | DRAWN BY: | JK |
| NOVEMBER 2020 | | | | | |

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|------|--------|--------|-----|
| FILE | POCKET | FOLDER | NO. |
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GERALD Y. SEK

LICENSED PROFESSIONAL ENGINEER

No. 5635-C

HAWAII, U.S.A.

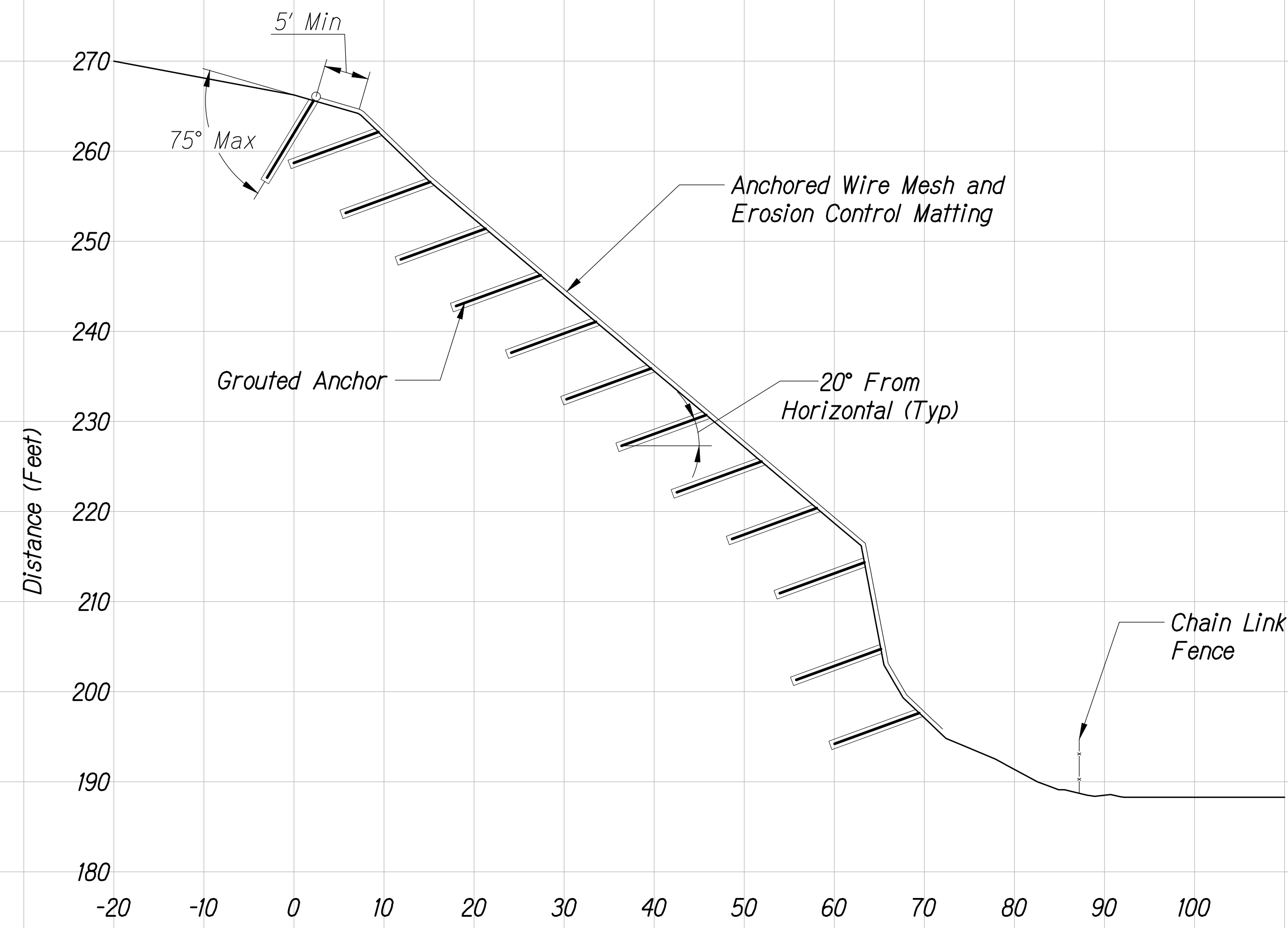
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Gerald Y. Sek

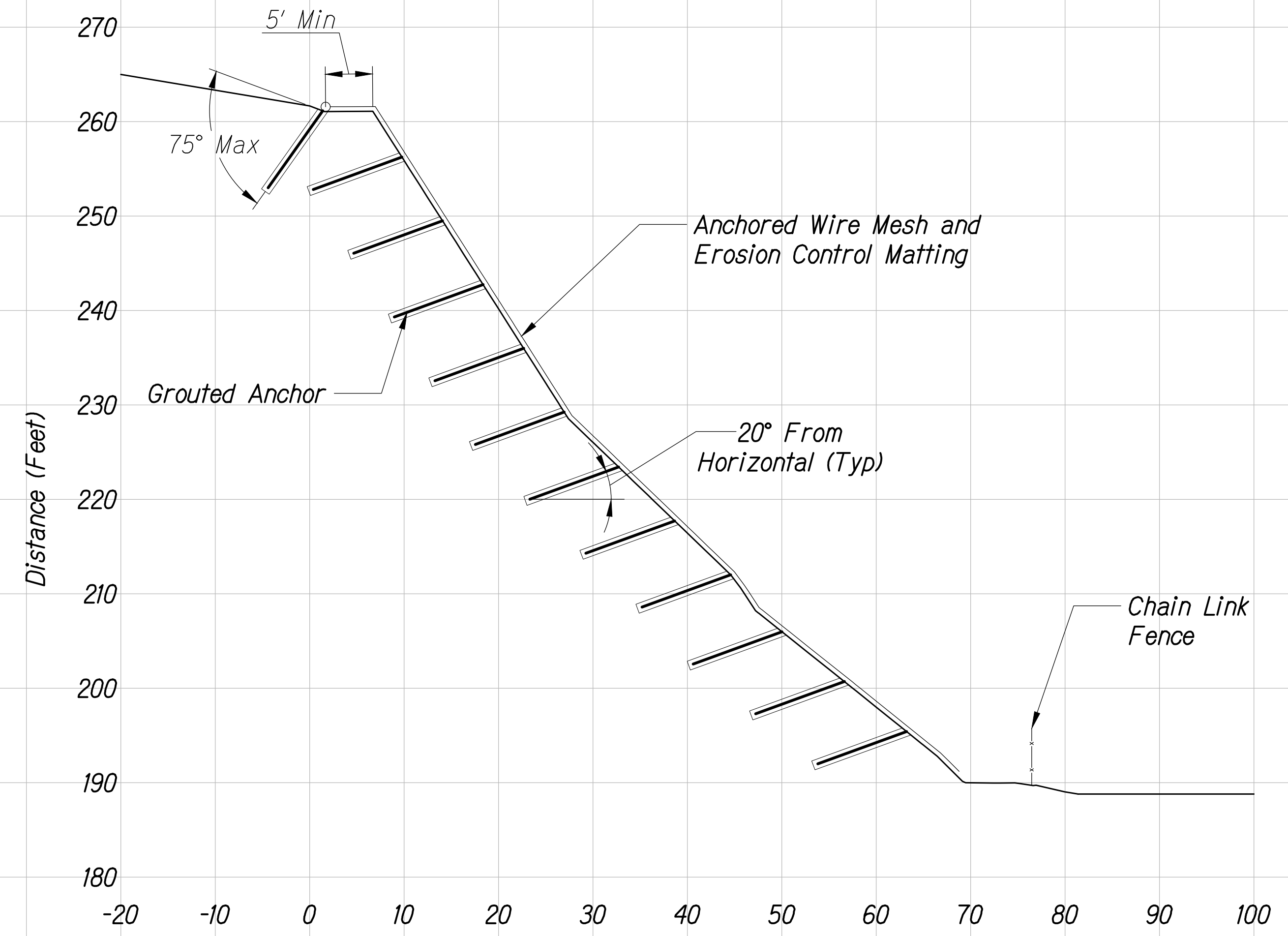
SIGNATURE

LICENSE EXP. DATE: APRIL 30, 2022

DWG. NO.
G4.5
SHEET OF 30



Distance (Feet)
ANCHORED WIRE MESH
Scale: 1" = 10'
Sta. 3+50



Distance (Feet)
ANCHORED WIRE MESH
Scale: 1" = 10'
Sta. 3+75

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| REVISION | DATE | BRIEF | MADE BY | APPROVED |

GERALD Y. SEKI

LICENSED PROFESSIONAL ENGINEER

No. 5635-C

HAWAII, U.S.A.

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SIGNATURE

LICENSE EXP. DATE: APRIL 30, 2022

DEPARTMENT OF HAWAIIAN HOME LANDS
STATE OF HAWAII

PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT
KAPAHU ST. HONOLULU, HI 96813
TMK: 2-4-042:011-017, 2-4-041:017-026
JOB NO.

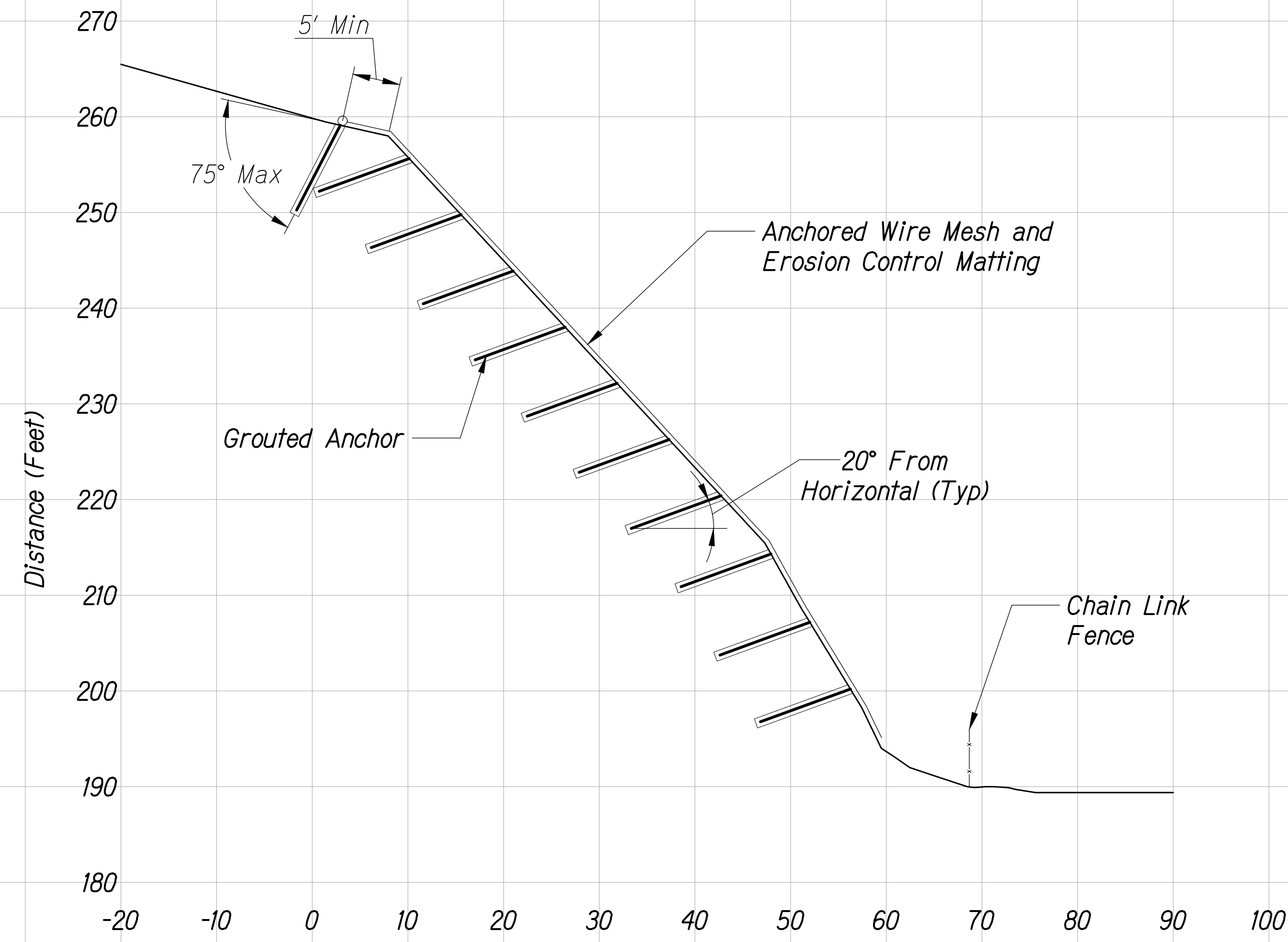
CROSS-SECTIONS

DESIGNED BY: C70 CHECKED BY: KWNW DRAWN BY: JK

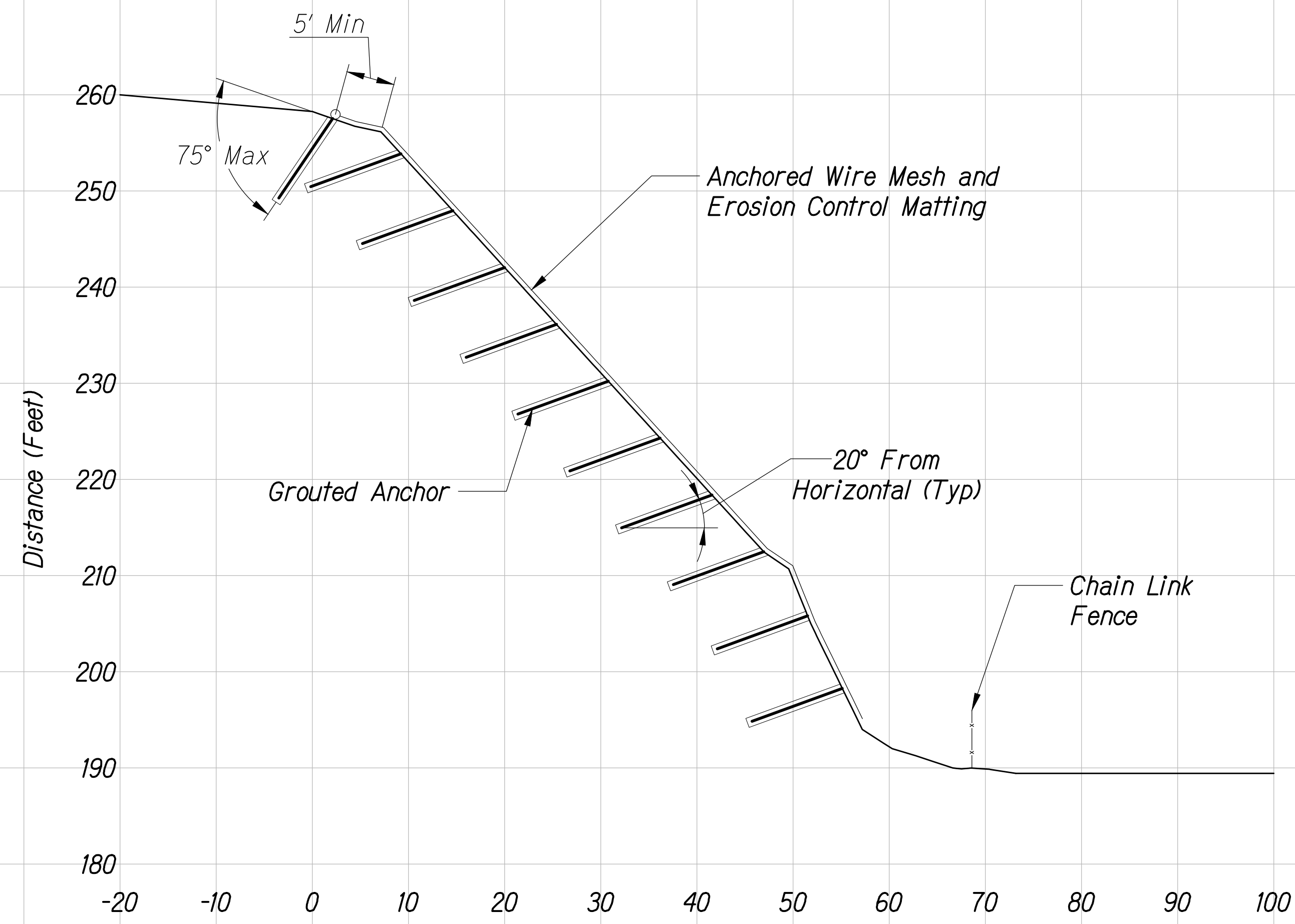
NOVEMBER 2020

DWG. NO.
G4.6
SHEET OF 30

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| FILE | POCKET | FOLDER | NO. |
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Distance (Feet)
ANCHORED WIRE MESH
Scale: 1" = 10'
Sta. 4+00



Distance (Feet)
ANCHORED WIRE MESH
Scale: 1" = 10'
Sta. 4+05

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| | | | | |
| REVISION | DATE | BRIEF | MADE BY | APPROVED |

GERALD Y. SEK

LICENSED PROFESSIONAL ENGINEER

No. 5635-C

HAWAII, U.S.A.

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Signature

SIGNATURE

LICENSE EXP. DATE: APRIL 30, 2022

DEPARTMENT OF HAWAIIAN HOME LANDS
STATE OF HAWAII

PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT
KAPAHU ST. HONOLULU, HI 96813
TMK: 2-4-042:011-017, 2-4-041:017-026
JOB NO.

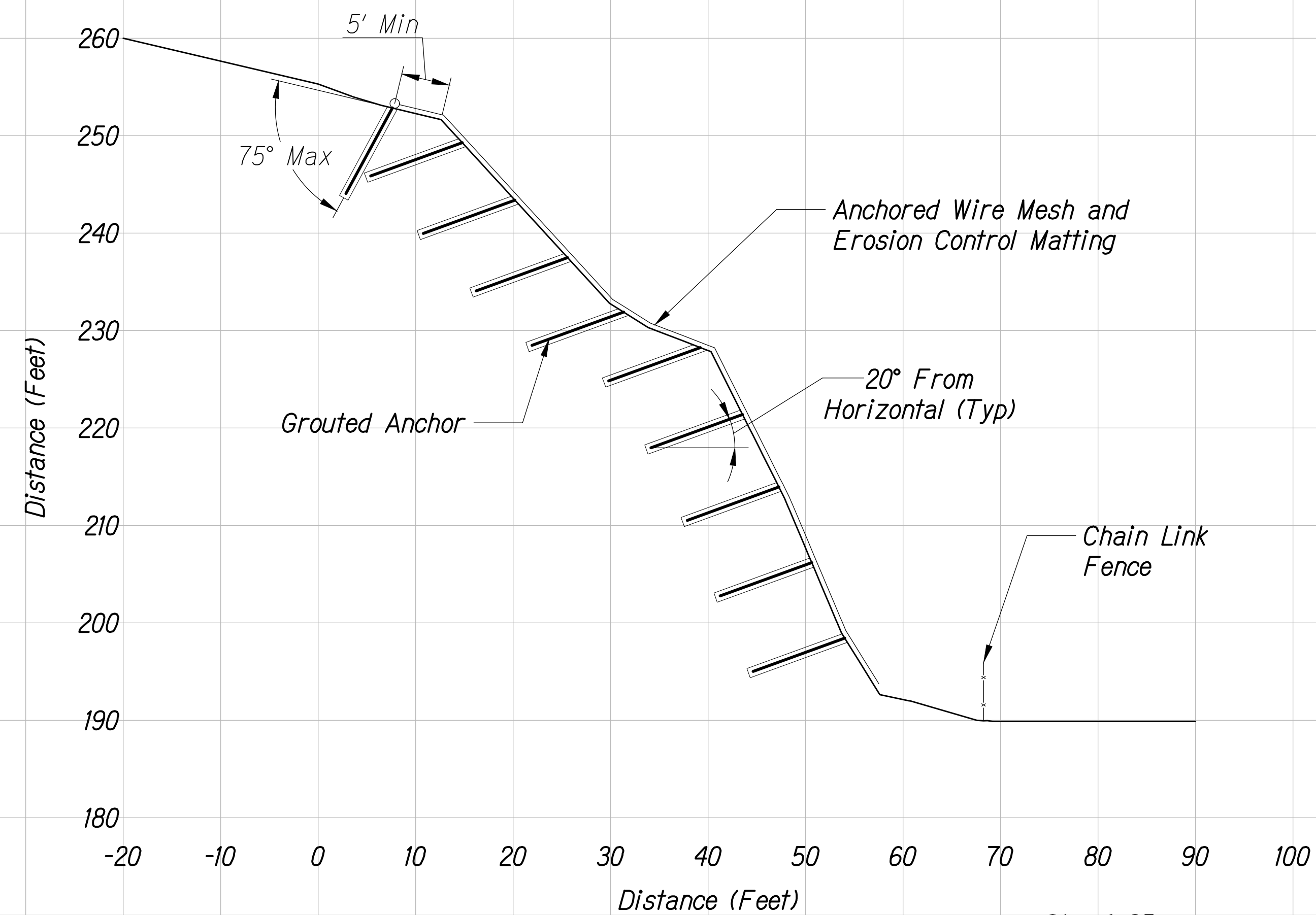
CROSS-SECTIONS

DESIGNED BY: C70 CHECKED BY: KWNW DRAWN BY: JK

NOVEMBER 2020

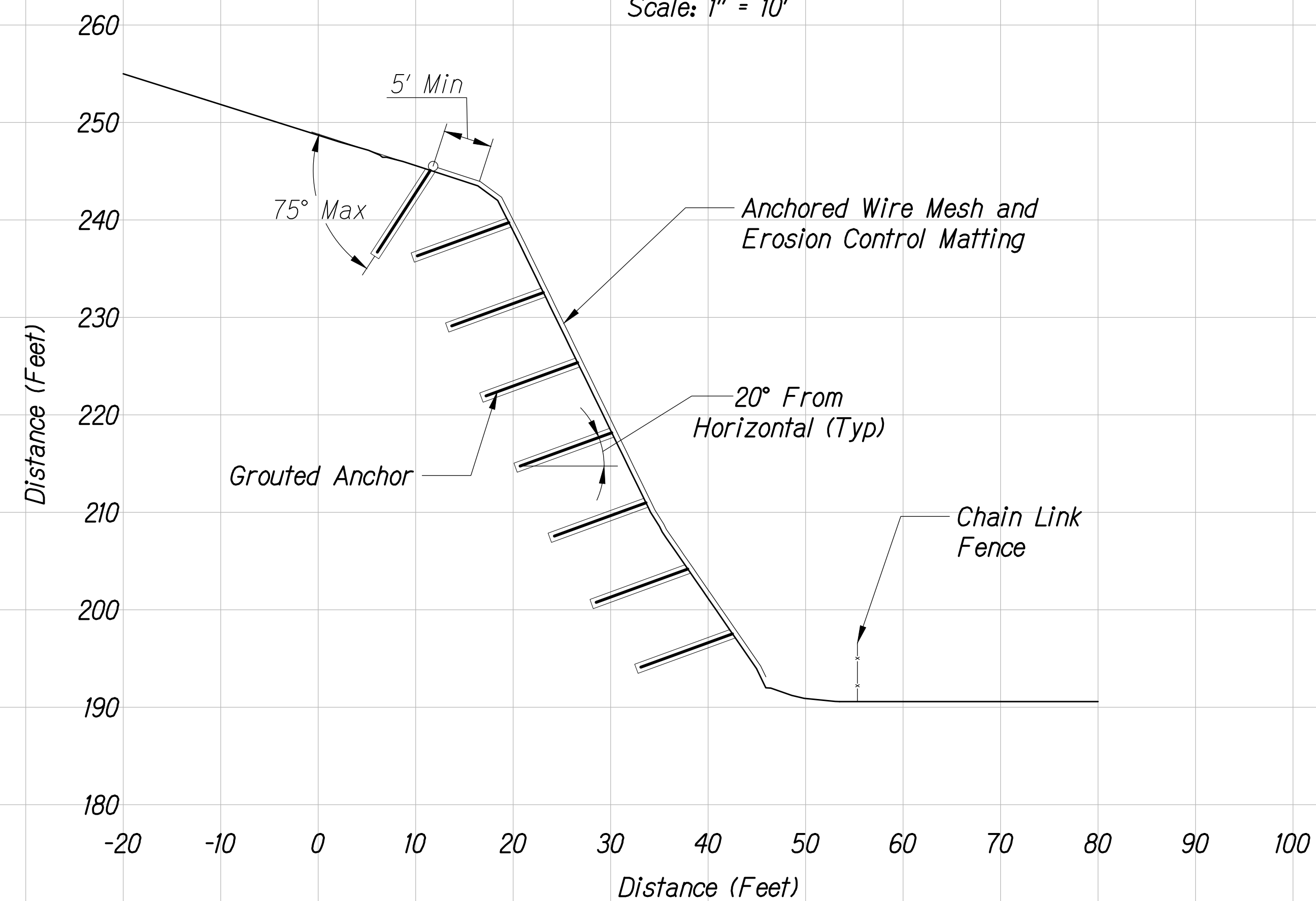
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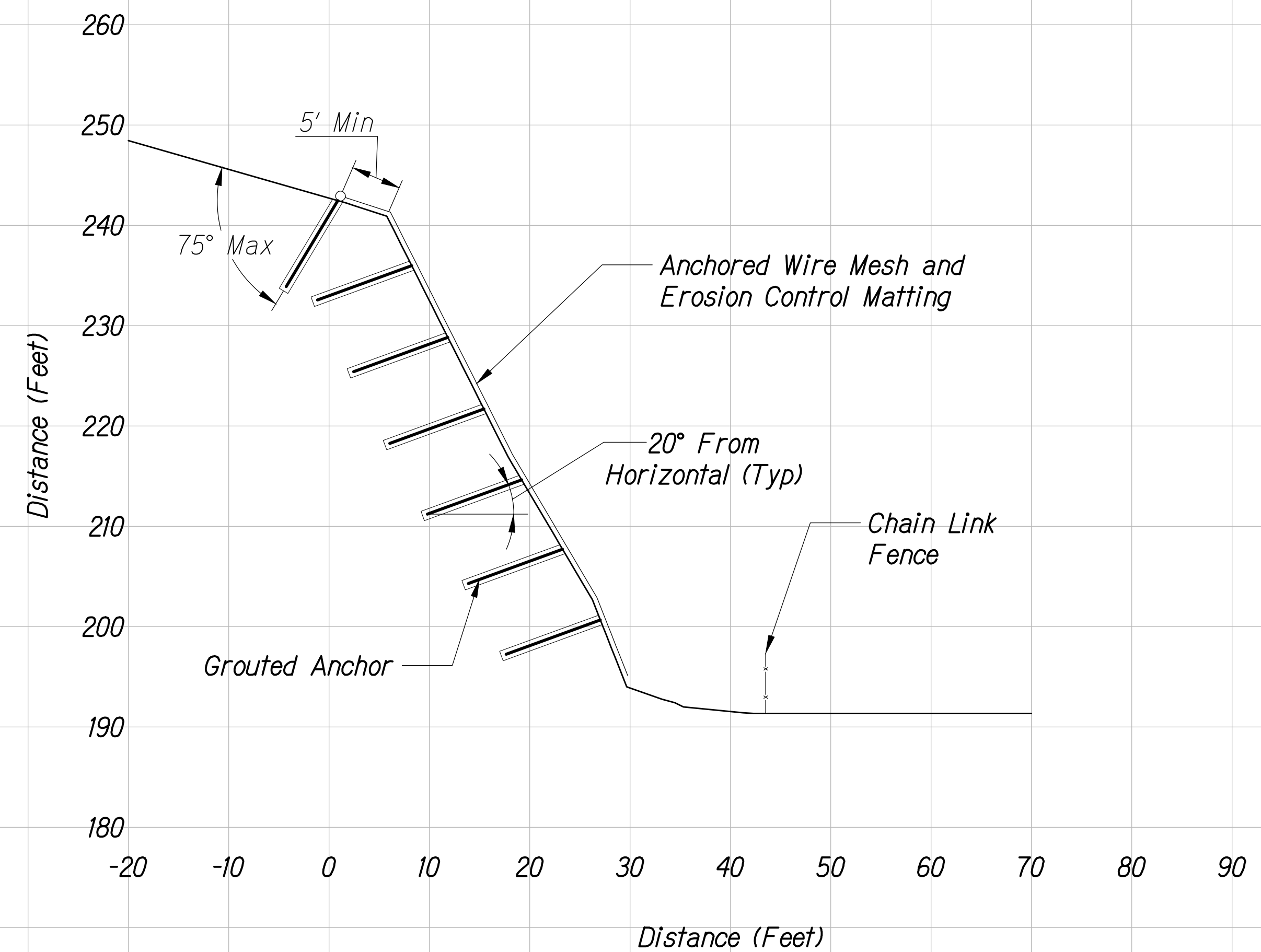
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Scale: 1" = 10'

Sta. 4+25



ANCHORED WIRE MESH
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Sta. 4+50



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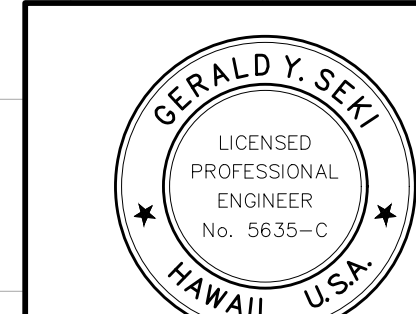
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DESIGNED BY: C70 CHECKED BY: KWNW DRAWN BY: JK

NOVEMBER 2020

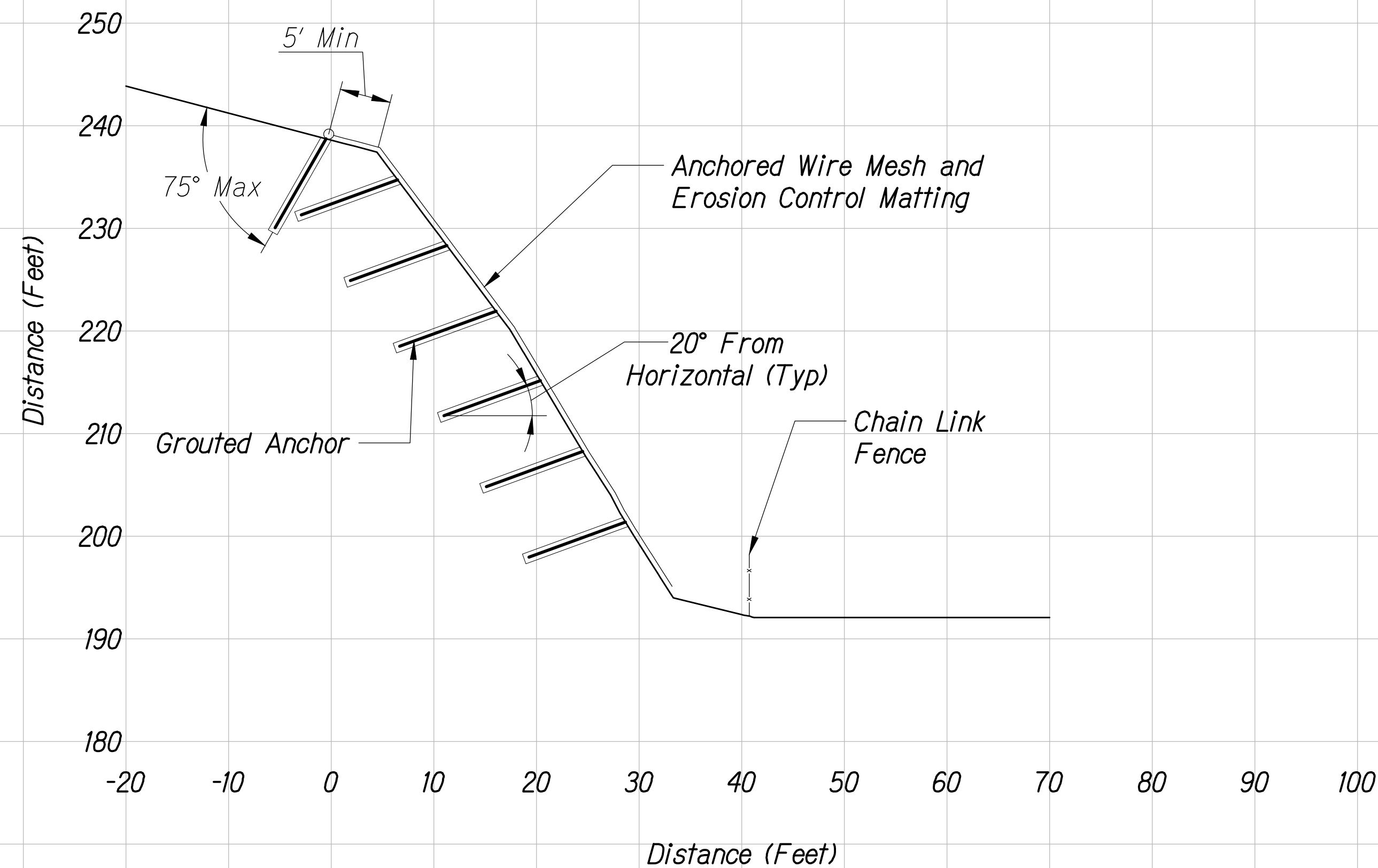


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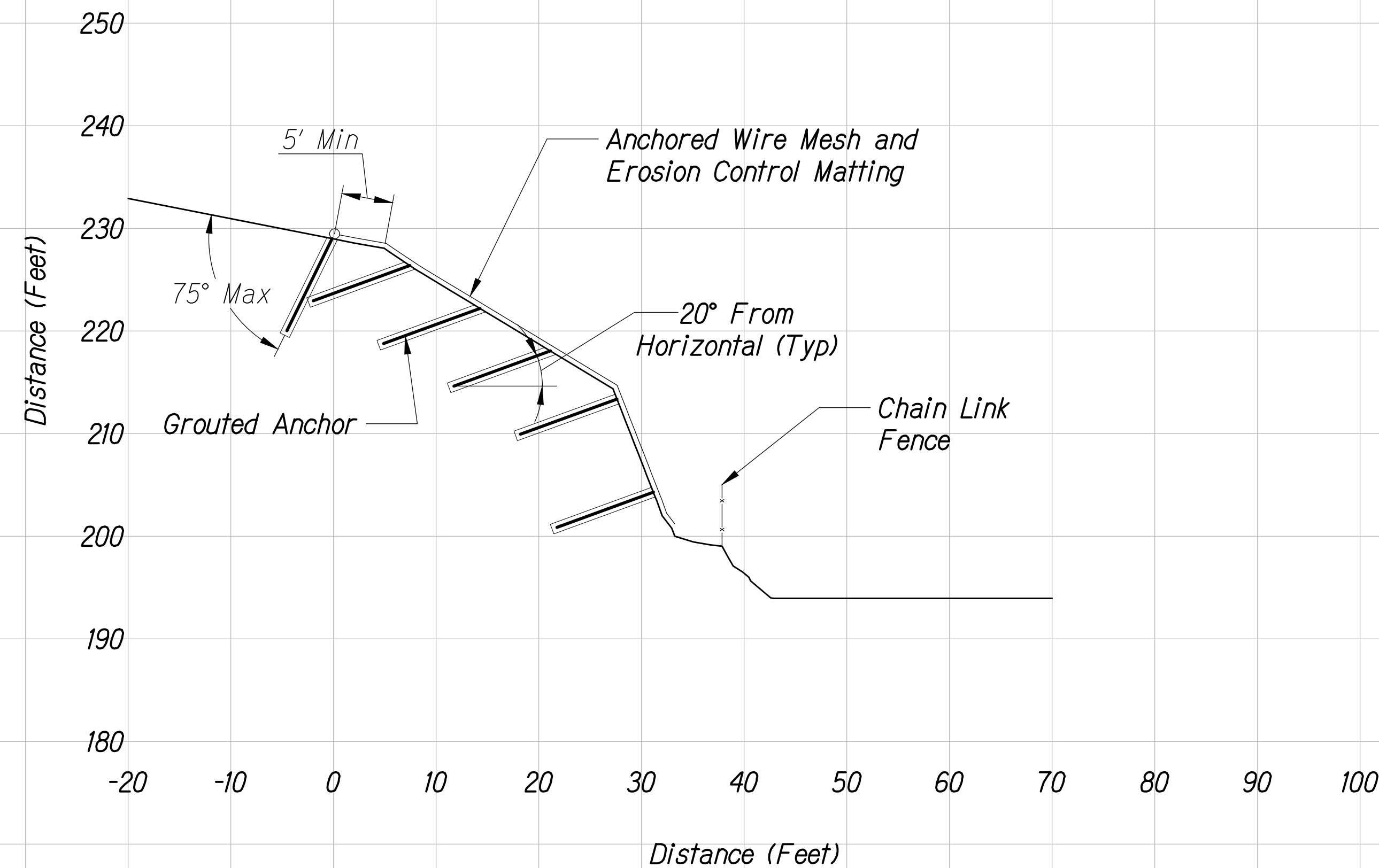
Gerald Y. Seki
SIGNATURE
LICENSE EXP. DATE: APRIL 30, 2022

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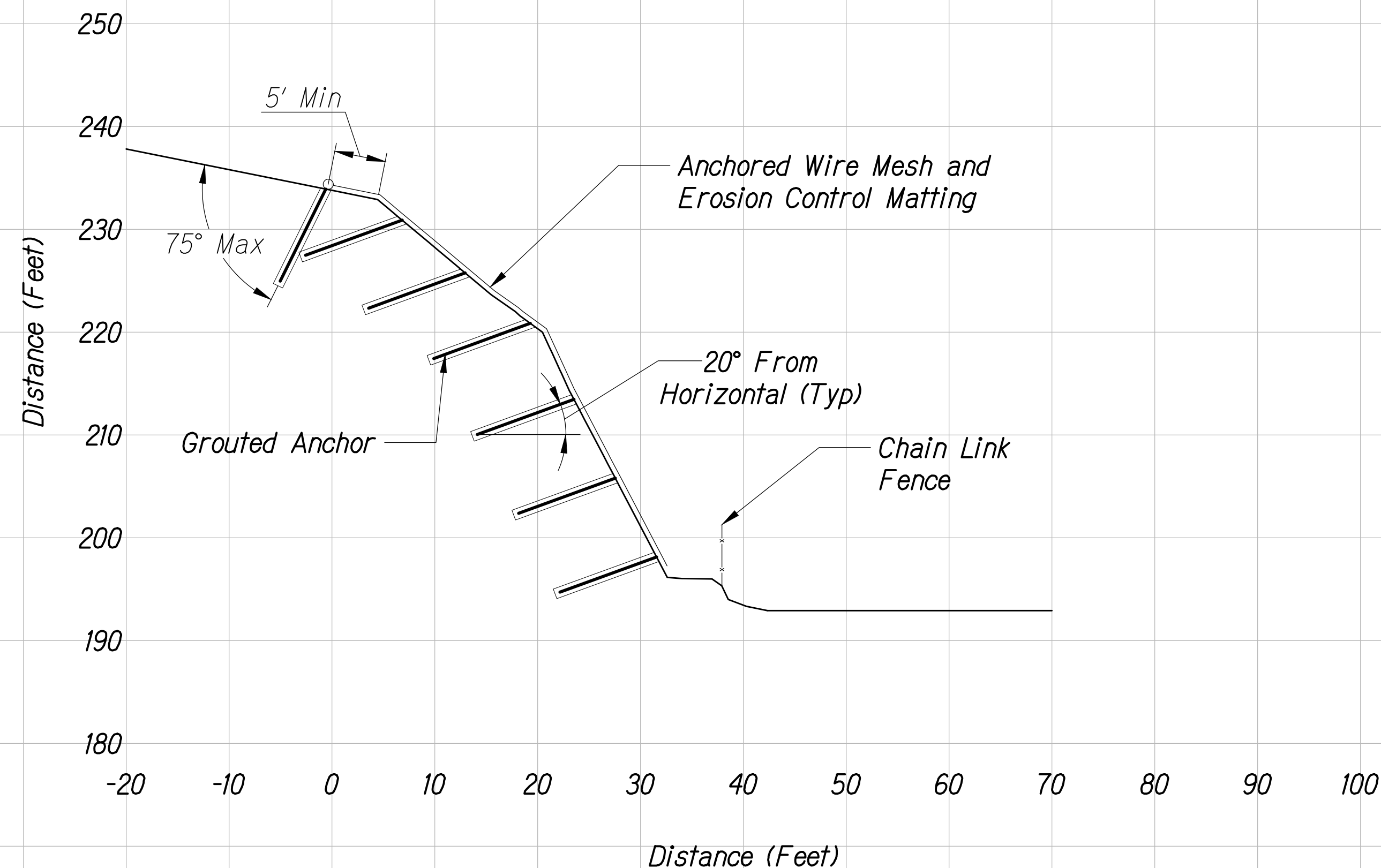
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ANCHORED WIRE MESH
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Sta. 5+50



ANCHORED WIRE MESH
Scale: 1" = 10'
Sta. 5+25

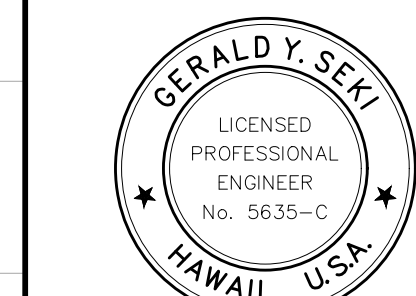
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STATE OF HAWAII
PAPAKOLEA KAPAHU ST. SLOPE IMPROVEMENT
KAPAHU ST. HONOLULU, HI 96813
TMK: 2-4-042:011-017, 2-4-041:017-026
JOB NO.

CROSS-SECTIONS

DESIGNED BY: C70 CHECKED BY: KWNW DRAWN BY: JK

NOVEMBER 2020



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Gerald Y. Seki
SIGNATURE

LICENSE EXP. DATE: APRIL 30, 2022

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GEOLABS, INC.

Geotechnical Engineering and Drilling Services

July 31, 2020
W.O. 8100-00

Ms. Kahealani W.N. Winchester, P.E.
G70

111 S. King Street, Suite 170
Honolulu, HI 96813

GEOTECHNICAL ENGINEERING CONSULTATION SERVICES
PHASE I - POTENTIAL ROCKFALL HAZARD & SLOPE EVALUATION STUDY
ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
HONOLULU, OAHU, HAWAII

Dear **Ms. Winchester:**

In accordance with our fee proposal dated August 23, 2019, we conducted a Phase I evaluation of the potential rockfall hazard conditions at the project site and developed possible long-term mitigation measures for the site located along Kapahu Street in Honolulu on the Island of Oahu, Hawaii. The project location and general vicinity are shown on the Project Location Map, Plate 1. A discussion of the observed site conditions and various rockfall mitigation design alternatives are presented for the existing slope along Kapahu Street.

This report presents our findings and preliminary recommendations from our visual observations of the existing site conditions at the project site. This report is based on our site reconnaissance, geological analysis, and engineering analysis of the potential natural hazards and hillslope deficiencies at the project site. The findings and preliminary recommendations presented herein are subject to the limitations noted at the end of this report.

PROJECT CONSIDERATIONS

The project site is located within the existing Department of Hawaiian Home Lands Papakolea residential subdivision in the Papakolea/Punchbowl area of Honolulu on the Island of Oahu, Hawaii. In general, Kapahu Street runs west to east, parallel to the base of a steep, rocky hillside.

We understand that boulders and cobbles fell during a recent significant rainfall event. Boulders and cobbles were accumulated behind a temporary rockfall fence-and-post system at the rear of the affected home.

We understand it is desired to design and install a long-term remedial solution for the steep, rocky hillside along Kapahu Street. The rockfall hazard evaluation and mitigation are typically performed in two phases of the work. Phase I generally consists of a preliminary evaluation study, which includes providing conceptual rockfall mitigation alternatives for design consideration. Once the mitigation alternatives are selected based on the Phase I study, the Phase II design stage may proceed. The Phase II work consists of some additional study to support the development of a design, including the preparation of appropriate construction plans, specifications, and cost estimates.

Our Phase I study was conducted to identify and evaluate the potential rockfall hazard conditions at the existing rocky hillside along Kapahu Street. Furthermore, conceptual rockfall mitigation alternatives are presented for the client's consideration.

PURPOSE AND SCOPE

The purpose of our geotechnical engineering study was to obtain a general overview of the site conditions and evaluate long-term mitigation measures to reduce the potential rockfall hazards at the project site. Our scope of work generally included the following tasks and work efforts:

1. Research and review of available geologic maps and in-house boring data in the vicinity of the project site.
2. Performance of a surface reconnaissance of the project area to make observations and map the existing conditions of the surface soil/rock exposures, both at the top of the slope and along the natural hill slope areas. The reconnaissance was performed by two engineers from our firm.
3. Analysis of the field data to formulate geotechnical engineering recommendations and rockfall hazard mitigation alternatives for the natural hill slopes above the homes.
4. Preparation of this letter report summarizing our work on the project and presenting our findings and preliminary recommendations.
5. Coordination of our overall work on the project by a senior engineer from our firm.
6. Quality assurance of our work and client/design team consultation by our principal engineer.
7. Miscellaneous work efforts such as drafting, word processing, and clerical support.

REGIONAL GEOLOGY

The Island of Oahu was built by the extrusion of basaltic lavas from two extinct shield volcanoes: Waianae and Koolau. The older Waianae Volcano is estimated to be middle to late Pliocene in age and forms the bulk of the western third of the island. The younger Koolau Volcano is estimated to be late Pliocene to early Pleistocene (Ice Age) in age and forms the majority of the eastern two-thirds of the island. After a long period of volcanic inactivity, during which time erosion incised deep valleys into the Koolau shield, volcanic activity returned to the island of Oahu with a series of lava flows followed by cinder and tuff cone formations. The most recent volcanic series is referred to as the Honolulu Volcanic Series. The Punchbowl Crater, located to the west of the project site, is one such extinct tuff and cinder cone.

The project area is located on the southern flank of the Koolau Range and is composed of basalt rock formation built by the extrusion of lavas of the Koolau Volcanic Series. These rocks are generally characterized by layered flows of jointed, dense vesicular basalt with interbedded clinker layers. For the past 1 to 2 million years, weathering of the Koolau lava flows occurred, creating the valley and ridge topography visible today on the southern side of the Koolau Mountain Range.

In the mountainous regions of Hawaii, the erosional processes are dominated by mass wasting, which is essentially the detachment of soil and rock masses from the valley walls and transportation downslope toward the axis of a valley (primarily by gravity) and deposited as colluvium. Once these colluvial materials reach a stream, typically in the central portion of a valley, alluvial processes become dominant and the sediments are transported and deposited as alluvium.

The project is located on the southern, lower hillside flank of a prominent ridgeline situated to the northwest of the Tantalus/Makiki area. The ridgeline is bounded by Kanaha Stream to the west. The Kapahu Street site is located at the boundary of a gently sloping alluvial valley floor and a steep, lower hillside flank of the ridge mentioned previously. The rockfall hazard is primarily due to the existence of highly fractured rock at the face of the steep hillside. The subject slope appears to have been formed by natural erosion of the area and may have been modified (steepened) during the development of the subdivision.

GENERAL SITE CONDITIONS

The project site is located at the break in slope between a steep hillside and a gently sloping plain located adjacent to Kapahu Street and a portion of Anianiku Street in the Papakolea area of Honolulu on the Island of Oahu, Hawaii. Six residential lots have been affected by repeated rockfall emanating from the steep rocky slope located on the northern-half of the residential properties, as shown on the Site Plan, Plate 2.

The existing homes were constructed on the level portion of the lots with the rear of the homes approximately 10 to 25 feet away from the toe of the slope. The residence

at TMK: 2-4-42: 17 (on the eastern end of the slope) is situated only about 5 feet from the slope toe.

Geolabs previously conducted a rockfall hazard evaluation and recommended mitigation alternatives for the project site. Of the rockfall mitigation alternatives presented in our report titled “Geotechnical Engineering Exploration, Rockfall Protection Improvements, Kapahu Street, Papakolea Development, Honolulu, Oahu, Hawaii,” dated April 30, 2001, we understand that the “heavy-gauge chain link fence with embedded foundation posts” system was selected. The construction of this fence also involved removing some of the colluvial talus aprons against the toe of the slope. At the time of our recent site reconnaissance program, the chain-link fence was observed to span from TMK: 2-4-42: 13 to 17. The chain-link fence was not observed behind TMK: 2-4-42: 12. Instead, TMK: 2-4-42: 12 had a concrete rubble masonry (CRM) retaining wall bordering the back edge of the property. In addition, the residential structure and graded portion of this lot were set back farther towards the slope than TMK: 2-4-42: 13.

Based on the topographic survey map provided, the rock slope resides at average inclinations ranging from about one horizontal to one vertical (1H:1V) to 0.5H:1V. Based on our site reconnaissance, the existing rock slope is somewhat irregular containing short-length with nearly vertical rises with some rock overhangs separated by less-steep slope segments. The rock slope extends upward towards the rear property boundaries (and in some places beyond the rear property boundaries), especially at the western and central portions of the project site. The two parcels located at the far eastern end of the project site encompass both a steep rock slope (ledge) and flatter slopes located above the ledge.

Based on the topographic information provided, the steep rock slope ranges from about 30 to 80 feet in vertical height above the elevation of the lower residential lots. In general, the taller and steeper rock slopes exist at the central portion of the project site in the vicinity of TMK: 2-4-42: Parcels 13, 14, and 15. The average vertical slope height is on the order of about 60 to 80 feet.

The rock formation composing the steep slope consists of layered, dense basalt rock with interbedded weak friable clinker seams. The exposed rock encompassing the cliff face appears extremely fractured with open joints and some overhanging blocks of dense rock material. Dense vegetation, including vine and banyan tree root growth, make observation of the upper portion of the cliff difficult.

SITE RECONNAISSANCE

Site reconnaissance of the project site was conducted by two of our project engineers on May 18 and June 9, 2020 to evaluate the existing site conditions. The observations presented in the following sections are referenced against the property TMK numbers. The topography of the existing slope relative to the adjacent properties (labeled by TMK number) is presented on the Site Plan, Plate 2. Site Reconnaissance

Photographs depicting the existing site conditions are presented on Plates 5.1 through 5.8.

Lower Properties (TMK: 2-4-42: 12 through 17)

TMK: 2-4-42: 12 is located at the western end of the existing rocky slope. As previously mentioned, this is the only property without the heavy-gauge chain link fence. Instead, it appears that the current owner built a CRM retaining wall approximately 25 feet closer to the slope than the chain-link fence. The retaining wall measured approximately 5 to 5.5 feet in height. Behind the retaining wall, approximately 5 feet of relatively level ground separates the wall from the base of the rocky slope; therefore, the existing residence is approximately 10 to 12 feet away from the base of the slope. Most of the slope was covered by heavy vegetation, including haole koa trees, creeper vines, and a few tall trees. The tall trees were observed near the middle and top of the slope, with the latter leaning over towards the home on the subject property.

TMK: 2-4-42: 13 had the largest measured setback distance from the existing chain link fence: approximately 12 to 30 feet from the base of the slope. Within this relatively level setback, numerous boulders were observed, ranging in size from about 1 to 3.5 feet in largest diameter. Only three boulders were observed to be within 5 feet of the chain-link fence, with one boulder resting against the fence near the eastern side of the property. No damage to the chain-link fence due to rockfall activity was observed within the property. The slope face was generally heavily vegetated, with only a few exposed slope features visible. One large tree (trunk diameter of approximately 3 feet) was observed at the top of the slope near the western side of the property. Near the eastern end of the property, the slope inclination steepens, transitioning to about 0.5H:1V with occasional near-vertical sections. The exposed rock in this section was observed to be severely to moderately fractured, presenting a moderate rockfall hazard potential.

The steep rocky face from the previous property continued into the western portion of TMK: 2-4-42: 14. Here, woody vegetation was observed growing through the slope face in multiple areas. The roots of this vegetation were generally observed to be widening the fractures of the basalt rock. The subject property was also the site of a recent rockslide/debris flow. Based on available information, the event occurred around June 2019. Soil and rock material detached near the top of the slope on the eastern side of the property and collected against the chain-link fence. Based on our field reconnaissance, the fence did not appear to be damaged. Most of the soil and rock material had been removed, and only a single boulder (approximately 2.5 feet in largest diameter) was observed pressing up against the chain-link fence. The source area of the rockslide/debris flow was observed near the top of slope and exposed near-vertical faces of soil, weathered rock, and/or basalt boulders. Due to the highly fractured nature of the rock on the western portion of the property and the potentially unstable source area of the previous landslide event, the slope above the subject property presents a moderate to high rockfall hazard potential.

A near-vertical rocky face was observed about one-third of the way up from the bottom of the slope face on the western end of TMK: 2-4-42: 15. Two relatively large trees (trunk diameter about 1.5 feet) were observed above this near-vertical feature. In general, the rock was observed to be highly fractured, with relatively unstable rock blocks measuring about 1 to 2 feet in largest dimension. However, due to the relatively low relief of the slope beneath the near-vertical feature and the setback distance to the chain-link fence, the rockfall potential within this area may be considered low to moderate. Near the eastern side of the property, a natural funnel-like gully was observed. The gully was generally heavily vegetated, and therefore potential rockfall sources could not be observed at the time of our field reconnaissance. However, due to the shape and average inclination of the gully, detached rock material within this gully may be able to build moderate speed and energy. Therefore, the gully could pose a moderate to high rockfall potential if debris or rock material detached near the top of slope.

Both the horizontal setback area behind the chain-link fence and the slope face were heavily vegetated within TMK: 2-4-42: 16, which prevented access on the western half of the property and limited observations of the slope conditions. However, near the base of the slope, an approximately 8-foot thick layer of weathered clinker was observed along the eastern half of the slope face and extended into TMK: 2-4-42: 17. The weathered clinker may erode faster than the surrounding basalt rock, leaving overhanging masses of fractured basalt. This undercutting action could create rockfall hazards in the future.

TMK: 2-4-42: 17 has the smallest slope setback behind the existing chain link fence, with only about 4 to 7 feet of lateral distance. The overall slope height is relatively low compared to the rest of the slope (about 16 to 30 feet in height), and average slope inclinations range from approximately 1.5H:1V to 0.5H:1V. Two instances of recent rockfall activity were observed: an approximately 5-foot diameter boulder pressing against the chain-link fence near the western part of the property, and an approximately 2.5 to 3-foot diameter boulder that damaged the eastern end of the chain-link fence. Although the fence post on the eastern end of the fence was bent and the top cross-brace was detached, the fence was generally intact, and the boulder was contained. Based on the two recent events and the proximity of the residence to the base of the slope, the slope above the subject property presents a moderate to high rockfall hazard potential.

Hilltop Properties (TMK: 2-4-41: 17 through 24)

Field observations were also conducted at the top of the subject slope to observe possible rockfall sources and destabilizing mechanisms. In general, the top of slope areas were heavily vegetated, which limited our observations. Numerous large trees were observed, some of which leaned out towards the slope and the lower properties. In addition, overcast material (i.e., man-made debris/rubbish and cut vegetation material) were observed near the tops-of-slope in several of the properties.

Each of the hilltop properties generally had a backyard area that sloped down towards the top of slope. TMK: 2-4-41: 20 had an elevated swimming pool near the back of the property. Drainpipes from the elevated swimming pool fed out near the top of slope. Based on these field observations and the topography of the hilltop lots, we envision that stormwater from the hilltop properties generally flows towards the slope.

DISCUSSION AND RECOMMENDATIONS

In addition to our field reconnaissance, our evaluation of the potential rockfall hazards at the project site included the performance of a statistical analysis of potential rockfall activity using the Colorado Rockfall Simulation Program (CRSP) Version 4.

Based on our evaluation, we believe the existing slope within the project limits may contain multiple rockfall hazards. Therefore, the following discussions are presented to aid the owner (Department of Hawaiian Home Lands) in selecting a rockfall mitigation scheme. The key design elements to be considered are drainage improvements at the top of slope, vegetation clearing, rock slope scaling, draped wire mesh installation, and anchored wire mesh installation. Discussions of each of these elements are presented in the following sections.

Due to the proximity of the existing lower property residences to the toe of the slope, adequate temporary rockfall barriers should be installed at the base of the slope prior to the start of construction to protect the existing homes. The temporary barriers should be able to resist the anticipated kinetic energy of the falling boulders and be constructed to an adequate height to catch boulders that may bounce an appreciable height.

Slope Failure and Rockfall Mechanisms

Based on our understanding of past events at the project site and our site reconnaissance at the project site, it appears that there are three main mechanisms generating slope failure and rockfall events at the site. The three mechanisms related to slope failure and rockfall are: a large amount of surface water on the slope face, raveling failure, and differential erosion of alternating volcanic rock layers.

Based on the photographs from the June 2019 rockfall event, we believe slope failures at the project site may be due to shallow slope failures and not deep-seated slope failures. This type of slope failure is typically due to saturation of the near-surface soils creating weakened planes susceptible to shallow slope failure. Based on our field observations, the hilltop properties are graded to divert water over the top of slope and down the slope face. In addition, at least one of the properties was observed to be diverting stormwater towards the slope using drainpipes.

Raveling of one or several rocks from the slope may occur due to a multitude of causes. The hazard develops when the raveling rock falls and has sufficient velocity and volume to break through the existing chain link fence or bounce over the fence.

Raveling may be caused by water pressure behind the rock, differential weathering or erosion along faults or shear zones, weakening of rock due to temperature and moisture cyclic fluctuations and loosening by animals or trees and wind. Raveling may also result from ground vibration. Due to the weathered condition of the basalt rock slope surfaces at the project area, raveling is an important process that continually works to shed weathered and broken rock materials from the slopes.

One of the most frequent causes of raveling is by invasive tree roots prying on the existing cracks located on the rock slope surface. Tree roots (especially of the larger trees) frequently develop and grow larger in the discontinuities of rock materials. The added force of wind action on tree limbs and branches may create leveraged forces that are transferred to the roots lodged within the discontinuity. Over time, the repetitive leveraging of the discontinuity can loosen rock and cause it to fall. Because of the numerous large trees at the project site, we believe that tree root pry is a significant mechanism for creating rock slope instability because of the hardy growth of trees and vegetation on the slope.

In addition to raveling processes, inter-layered rock with variable strength and rates of weathering commonly exhibit accelerated erosion and rockfall. The weaker layers tend to erode and undercut the more weathering resistant rock located above. This may lead to raveling of the harder layers or failure of undercut blocks of rock as support from the underlying weaker layers is removed. As mentioned previously, a thick layer of weathered clinker was observed traversing the slope face near two of the eastern properties. It is possible that there are other layers of weathered clinker along the slope face, the presence of which is currently obscured by the heavy slope vegetation.

Rockfall Simulation Analysis

As previously discussed, site reconnaissance was performed to visually identify and locate potential rockfall hazards, such as loose surface boulders and unstable rock outcroppings, within the project study area. The site reconnaissance also permitted us to evaluate probable rolling trajectories in relation to the existing topographic features encountered in the field. Following the site reconnaissance, selected information recorded in the field was input to the CRSP computer program to validate the field evaluation.

The CRSP computer program is a widely accepted engineering tool used by experienced personnel to estimate potential rockfall behavior by simulating rockfall activity based on input parameters that are assigned on a site-specific basis. The input parameters for this project were based on the observations and measurements collected in the field. The program provides a statistical evaluation of potential rockfall behavior based on the typical hillslope topographic profile and other input information such as rock size, shape, and parameters used to describe ground surface irregularities. Information obtained from the CRSP analysis includes the predicted falling rock velocity, bouncing height, kinetic energy, and roll-out distance. The output

information is useful to assist in the site-specific design of various rockfall mitigation schemes such as rockfall impact barriers or other rockfall containment systems.

The slope profiles used in our CRSP analyses were generated from the topographic survey map provided. Section was cut in areas where potential rockfall sources were observed, and where evidence of past rockfall activity was noted in the field.

Based on preliminary CRSP analysis, we estimate that approximately 90 percent or more of the simulated spherical boulders about 2.5 feet in diameter may pass through the location of the existing chain link fence. Therefore, we believe that a rockfall mitigation scheme is necessary for the project site.

Rockfall Mitigation Design Alternatives

Based on our site reconnaissance, we believe there are potential rockfall hazards at the project site. Therefore, priority should be assigned to implementing a rockfall mitigation system at the project site. In addition, drainage improvements should be made at the top of slope to prevent stormwater from the hilltop properties from flowing over the slope face.

Based on our site reconnaissance and evaluation, we believe that there are two potentially viable long-term rockfall protection systems for the project site and are listed below. For both options, we recommend keeping the existing heavy chain link fence and post system.

1. The first option consists of drainage improvements at the top of slope, slope vegetation removal and major scaling of the loose rocks from the slope face.
2. The second option consists of drainage improvements at the top of slope, slope vegetation removal, major scaling of the loose rocks from the slope face, and installation of draped and anchored wire mesh systems on the prepared slope surface.

For the first option, the anticipated useful life of drainage improvements, slope vegetation removal and slope scaling alone is generally estimated to be less than about 5 to 6 years because the weathering of rock is an ongoing process of erosion. Beyond this period, the slope will likely need to be scaled again to remove the build-up of loose rocks.

For the second option with the implementation of drainage improvements, vegetation removal, scaling, and installation of draped and anchored mesh systems, the useful life of the improvements may be increased to about 10 to 15 years (or the life of the draped and anchored wire mesh based on the corrosive environment at the project site).

The installation of draped and anchored wire mesh systems on the slope face serves to control the release of loose rock that may develop on the slope face in the years following the scaling work. In addition, the anchored wire mesh system will help to stabilize sections of the existing slope prone to shallow slope failures.

Following the slope scaling effort, we anticipate that most of the large blocks of rock and boulders would have been removed. Therefore, the draped and anchored wire mesh should help retain some loose rock (less than 3 feet in diameter) on the slope, but more importantly, it should allow for the controlled release of fallen rock toward the base of the slope behind the existing chain link fence. Future debris will accumulate within the setback area behind the existing chain link fence, where it can be periodically cleared by manual and/or mechanized means. Based on the above, we recommend that the second option consisting of implementation of drainage improvements, vegetation removal, scaling, and installation of draped and anchored wire mesh be selected.

Slope Vegetation

Based on our observations, the existing slopes are generally densely vegetated, with mixed vegetation consisting of thick ground cover vines and grasses, small to medium-size trees, brush, and a few large trees. At the top of slope, man-made debris was observed mixed within the dense slope vegetation.

Based on our evaluation, the existing vegetation and man-made debris should be removed. All existing woody stem shrubbery and trees on the slope face should be cut flush with the finish ground surface and poisoned to reduce the potential for undesired re-growth on the slope face. In addition, existing ground cover vegetation should be removed to completely expose the slope surface in preparation for slope scaling and the installation of slope improvements.

We observed several large, mature trees growing along the top edge of the slope. The existing large trees located within about 5 feet of the slope crest should be cut and poisoned close to the existing ground surface. Subsurface tree trunk remnants should not be excavated (i.e., left in-place).

Large trees with cantilevered branches and trunks growing from the slope face and along the slope crest are a hazard because of the levering action imparted on the slope materials by wind loading on the tree canopy. In addition, invasive root penetration into the fractured rock materials comprising the slope face can result in mechanical widening of rock fractures, ultimately resulting in a higher risk for slope instability and falling rock. Large trees with broad canopies have the potential to destabilize the crest of the slope because the tops of the slopes are commonly composed of erodible soils and weathered rock materials. Large trees growing at the exposed crest of a slope have the potential to sway and lean or topple, and may result in significant disturbance to the slope crest by loosening and erosion of the weaker soil and rock materials comprising the top edge of the slope.

Rock Slope Scaling

Rock slope scaling consists of experienced crews employing manual labor and hand tools to remove loose rocks and precariously positioned rock fragments from the slope face. The scaling crews performing the rock slope scaling should be experienced in the performance of rock slope scaling by rappelling and/or working from crane baskets. Rock slope scaling work typically proceeds by starting from the top of the slope and working downward in a controlled and orderly manner in conjunction with the combined progress of all the scaling crews working on the slope face. Rock slope scaling should be typically performed on slopes with a slope inclination steeper than about 2H:1V.

Due to the proximity of the lower property residences to the slope toe, adequate temporary rockfall barriers should be installed prior to the rock slope scaling work. The temporary barriers should be able to resist the anticipated kinetic energy of the falling boulders and be constructed to an adequate height to catch boulders that may bounce an appreciable height.

Draped Wire Mesh System

Based on our site reconnaissance, we recommend a long-term rockfall mitigation system along the steep slope section adjacent to TMK: 2-4-42: 13 and the western side of TMK: 2-4-42: 14. Signs of slope instability in this area were not observed at the time of our site reconnaissance. In addition, the slope face in this section is very steep and near-vertical in some areas. Therefore, we envision that the installation of anchored wire mesh along this section would not be practical or cost-effective.

Along this section of slope, the horizontal setback distance is larger, providing a boulder catchment zone. Due to the topography of this section of slope and the available boulder catchment area, we recommend a draped wire mesh system. The approximate limits of the draped wire mesh are presented on the Site Plan, Plate 2.

Once the rock slope scaling work has been completed, installation of the draped wire mesh may proceed. The draped wire mesh cover over the slope should assist in the controlled release of loose rock that is shed from the slope face during weathering and erosion. Therefore, it is not the primary intent to closely pin the wire mesh to the slope face as a retention system. A typical detail of the draped wire mesh system is provided on Plate 4. The draped wire mesh should provide positive rockfall control for the useful life of the wire mesh material. The draped wire mesh cover over the slope essentially contains broken rock material against the slope face as the fallen rock materials move downward by gravity. In this way, the rock fragments are deposited along the mesh outlet located at the base of the slope. We anticipate that the majority of the large blocks of rock and boulders would have been removed following the slope scaling effort.

Because of the proximity of the project location to the ocean, the draped wire mesh and hardware should be corrosion resistant. Therefore, we propose that the draped wire mesh and hardware be galvanized, as a minimum. The useful life of the draped wire mesh is estimated to be about 10 to 15 years, depending on the quality of the draped wire mesh, hardware, and workmanship employed during the draped wire mesh installation. Alternatively, stainless steel wire mesh or other coatings such as zinc-aluminum and fused PVC may be considered for longer life.

Anchored Wire Mesh System

Based on our observations, the project site shows evidence of active soil/rock falling and erosion hazard. In addition, shallow-seated slope failures have occurred in recent history. Due to these possible slope instabilities and the proximity of the homes to the existing slope, we recommend installing an anchored wire mesh system along the length of the remaining slope, as shown on the Site Plan, Plate 2. The anchored wire mesh system will address shallow slope instabilities and contain rocks that are shed from the slope face due to weathering and erosion. A typical detail of the anchored wire mesh system is provided on Plate 3.

An anchored wire mesh system is a slope treatment that involves the installation of steel wire mesh panels anchored onto the slope face with soil/rock nails in an effort to prevent the soils and rocks from moving/falling under the long-term rockfall protection system. The primary intent of this stabilization system is to closely pin the wire mesh to the slope face as a retention system.

The following provides a brief outline of the anchored wire mesh installation procedures.

1. Trim slope face of vegetation, loose materials and protruding rock outcrops.
2. Stakeout grouted soil/rock anchors in general accordance with the project spacing requirements taking into account the low spots.
3. Excavate the dell for pre-tensioning of the anchored wire mesh before drilling the grouted soil/rock anchors.
4. Install the grouted soil/rock anchors (anchor heads should not project above the terrain line or predominant slope line).
5. Lay the erosion control matting on the slope.
6. Lay the steel wire mesh panels on the slope over the erosion control matting.

7. Join or seam the steel wire mesh panels together.
8. Fit the boundary wire ropes around the perimeter of the anchored wire mesh system.
9. Install the spike plates and pre-tension with a torque wrench or hydraulic press to the specified forces.
10. Hydromulch all exposed cut slope areas after mesh installation.

Because of the exposed ocean environment, which is very conducive to corrosion, the useful life of the anchored wire mesh system could be highly variable, depending on the quality of the steel wire mesh and hardware, corrosion protection, and workmanship employed during the anchored wire mesh installation.

LIMITATIONS

The findings and recommendations submitted herein are based, in part, upon available information of the project site and visual observations made during our site reconnaissance only. Variation in the surface and subsurface conditions between our observations may occur, and the nature and extent of these variations may not become evident until additional field exploration or construction is underway. If variations then appear evident, it will be necessary to re-evaluate the findings and recommendations provided herein.

It should be noted that slopes composed of rock materials (rock slopes) deteriorate with the passage of time due to natural weathering processes, wet-dry and hot-cold cycles, and erosion conditions. Therefore, the findings and recommendations contained herein may be used only within a reasonable time from the date of issuance of this letter report. Land use, site conditions, and/or other factors may change with the passage of time. Therefore, additional work to evaluate the applicability of the findings and preliminary recommendations contained in this letter report due to changes with the passage of time will be required.

Finally, there are no guarantees in the professional engineering and architectural design fields with respect to potential rockfall hazards due in large part to the unpredictable nature of rockfall activity, which is affected by many external variables, including natural and man-induced causes. This report has been prepared for the exclusive use of G70 and their consultants for specific application to the *Rockfall Hazard Mitigation at Kapahu Street* project in accordance with generally accepted geotechnical engineering principles and practices. No warranty is expressed or implied. Any party other than the client who wishes to use this report shall notify Geolabs, Inc. in writing of their intended use.

This report has been prepared solely for the purpose of evaluating and assisting the client/owner in understanding the potential rockfall and natural geological hazards located within the project study area. Therefore, this report may not contain sufficient data, or the proper information, to serve as the basis for the preparation of construction cost estimates. A contractor wishing to bid on this project is urged to retain a competent geotechnical engineer to assist in the interpretation of this report and/or in the performance of additional site-specific exploration for bid estimating purposes.

The owner/client should be aware that unanticipated surface and subsurface conditions are encountered commonly. Unforeseen conditions, such as surface rock outcroppings, archeological features, terrain irregularities, perched groundwater, soft deposits, hard layers or loose fills, may occur in localized areas and may require additional exploration or corrections in the field (which may result in construction delays) to attain a properly constructed project. Therefore, a sufficient contingency fund is recommended to accommodate these possible extra costs.


CLOSURE

We appreciate the opportunity to provide our services to you on this project. If you have questions or need additional information, please contact our office.

Respectfully submitted,

GEOLABS, INC.

By


Gerald Y. Seki, P.E.
Vice President



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

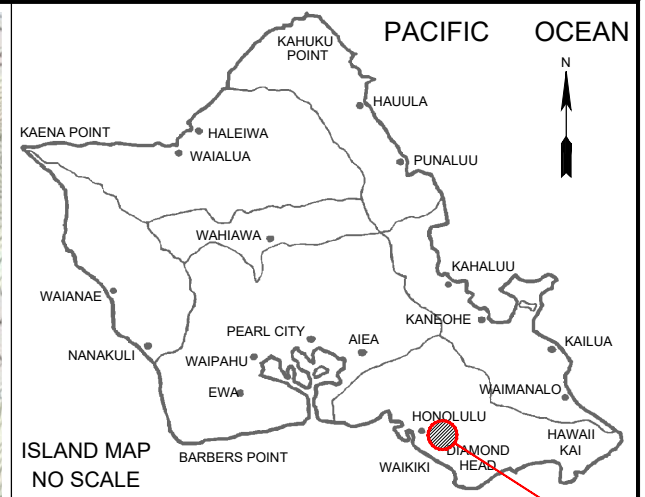
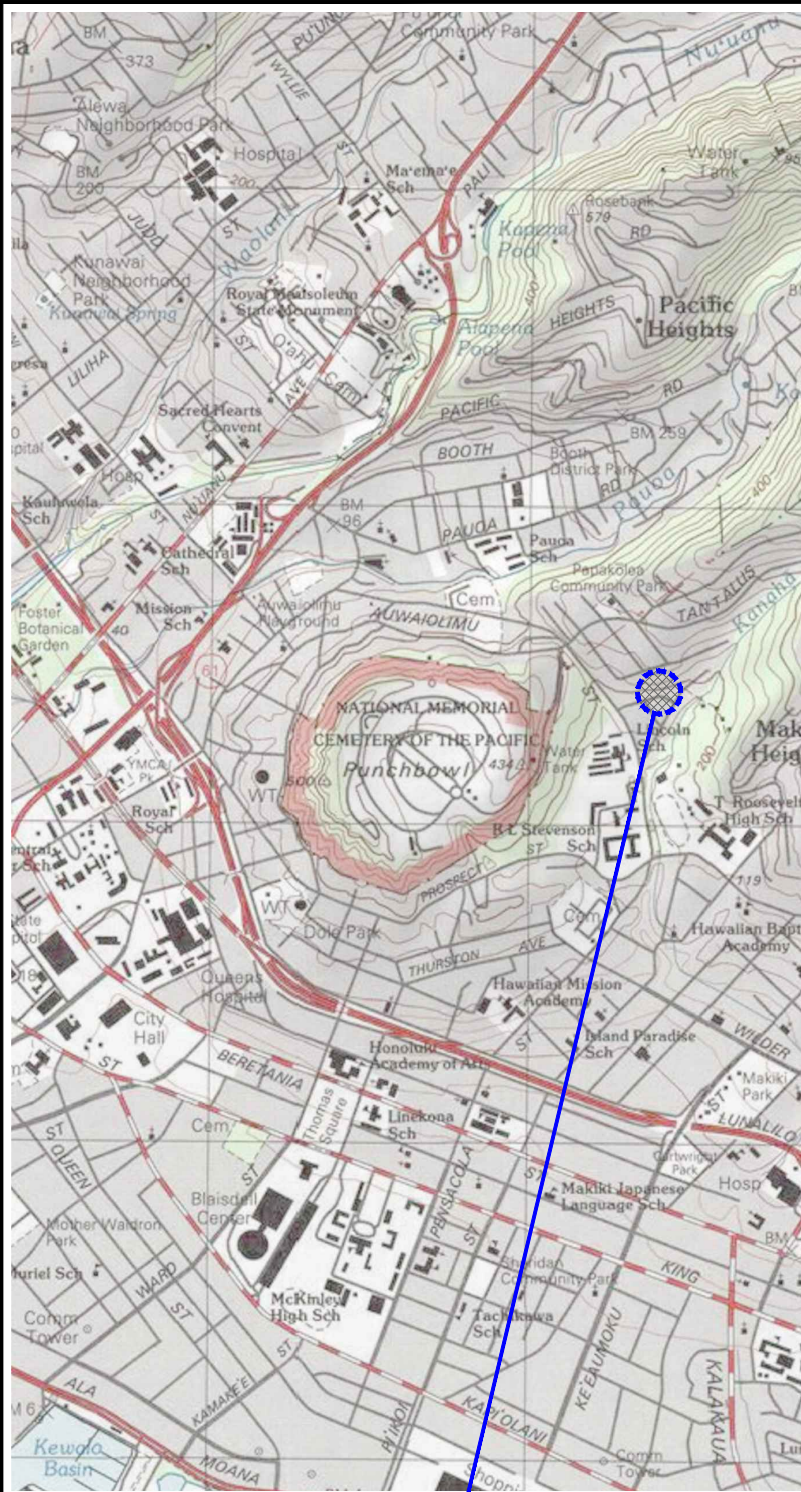
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SIGNATURE 4-30-22
EXPIRATION DATE
OF THE LICENSE

Attachments: Project Location Map, Plate 1
Site Plan, Plate 2
Typical Anchored Wire Mesh Detail, Plate 3
Typical Draped Wire Mesh Detail, Plate 4
Site Reconnaissance Photographs, Plates 5.1 thru 5.8

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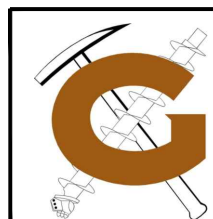
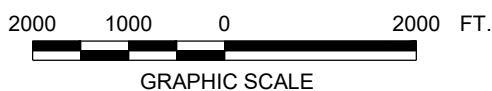


GENERAL PROJECT LOCATION

PROJECT LOCATION

PROJECT LOCATION MAP

ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
HONOLULU, OAHU, HAWAII



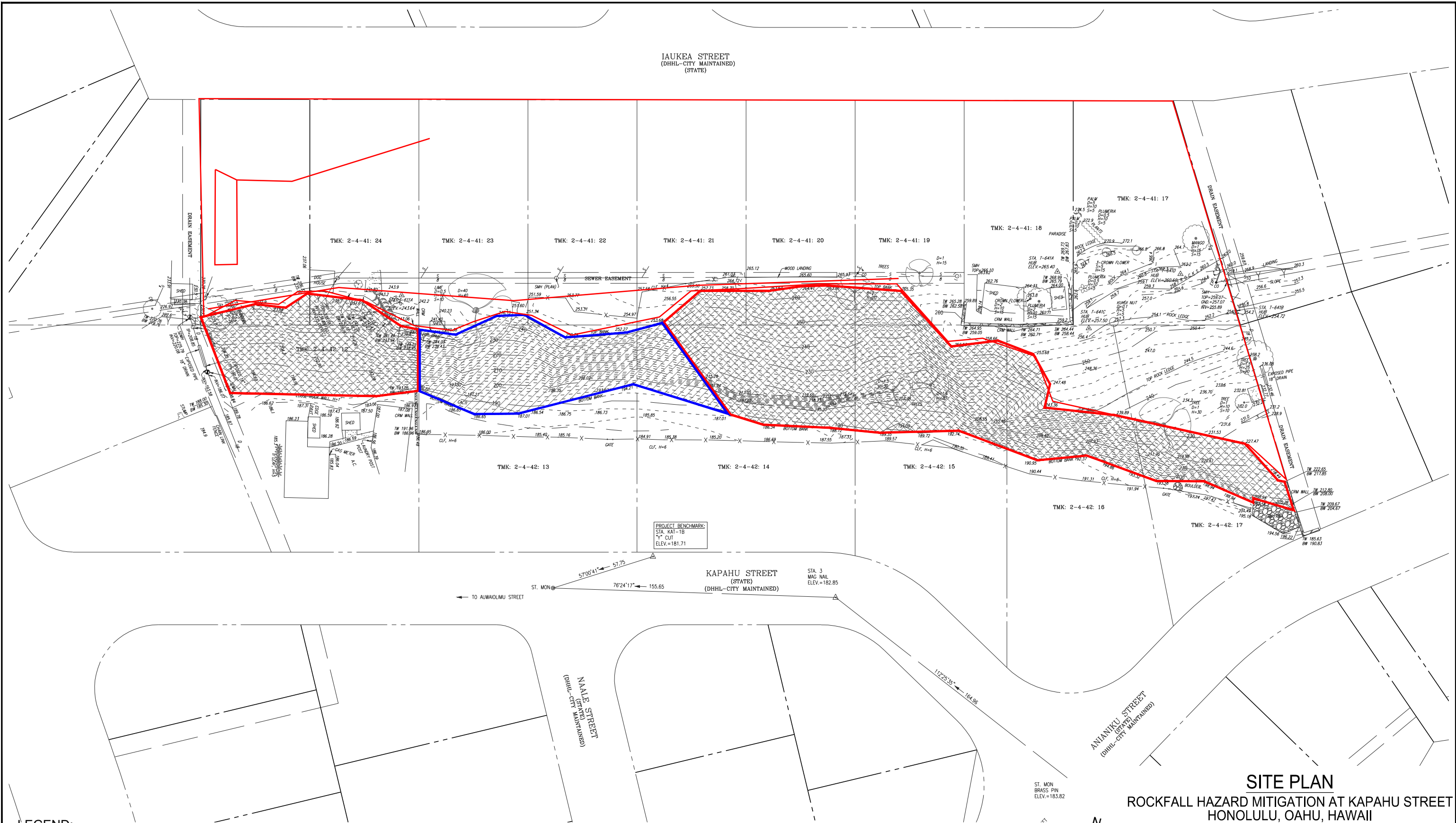
GEOLABS, INC.

Geotechnical Engineering



| DATE | DRAWN BY | PLATE |
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| 1" = 2,000' | 8100-00 | 1 |

REFERENCE: MAP CREATED WITH TOPO!® ©2010 NATIONAL GEOGRAPHIC; ©2007 TELE ATLAS, REL. 1/2007.

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LEGEND:

-  APPROXIMATE LIMITS OF ANCHORED WIRE MESH
-  APPROXIMATE LIMITS OF DRAPED WIRE MESH

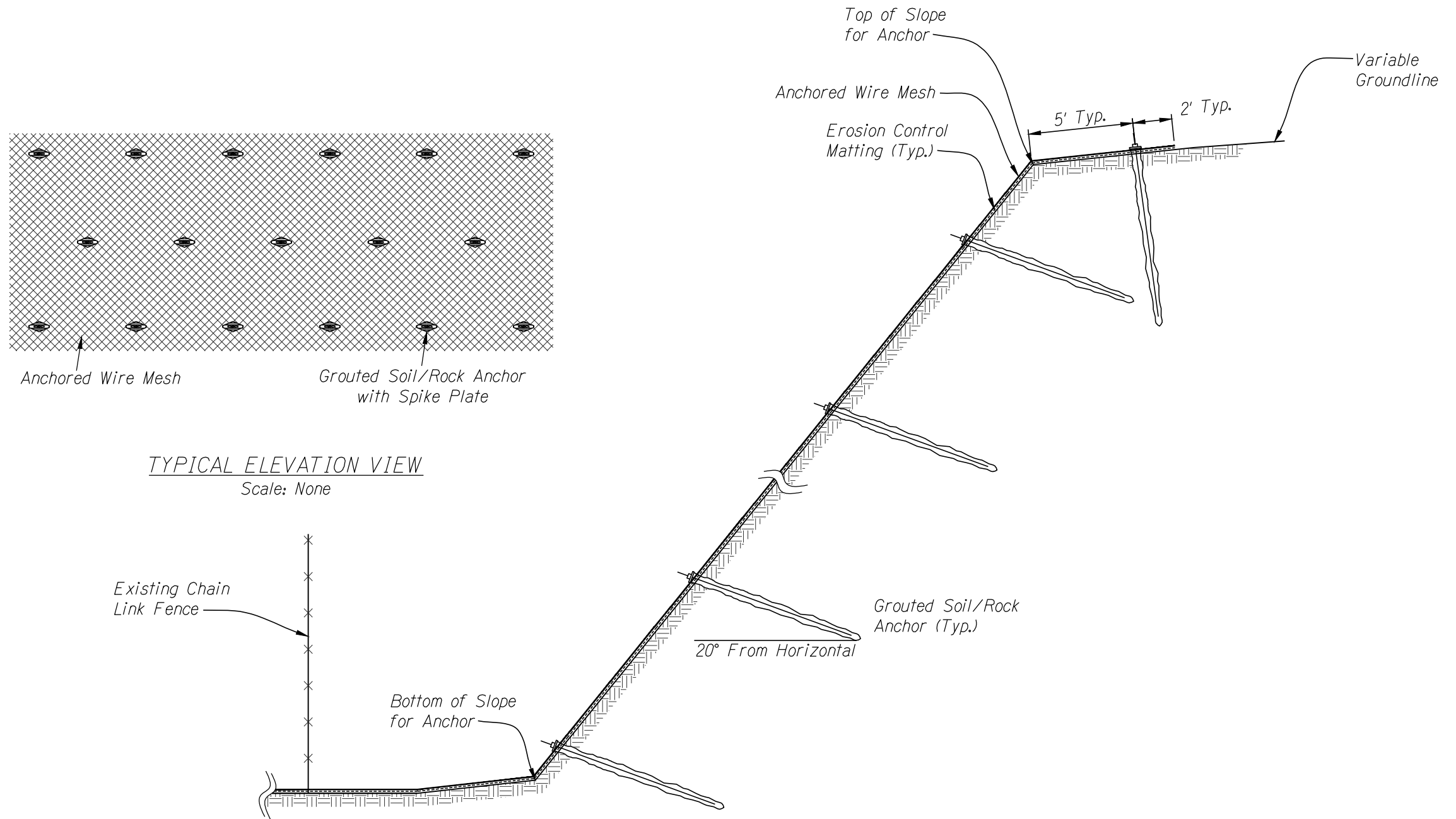
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SITE PLAN
ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
HONOLULU, OAHU, HAWAII

| GEOLABS, INC. | | |
|--------------------------|----------|-------|
| Geotechnical Engineering | | |
| DATE | DRAWN BY | PLATE |
| JUNE 2020 | ASP | |
| SCALE | W.O. | 2 |
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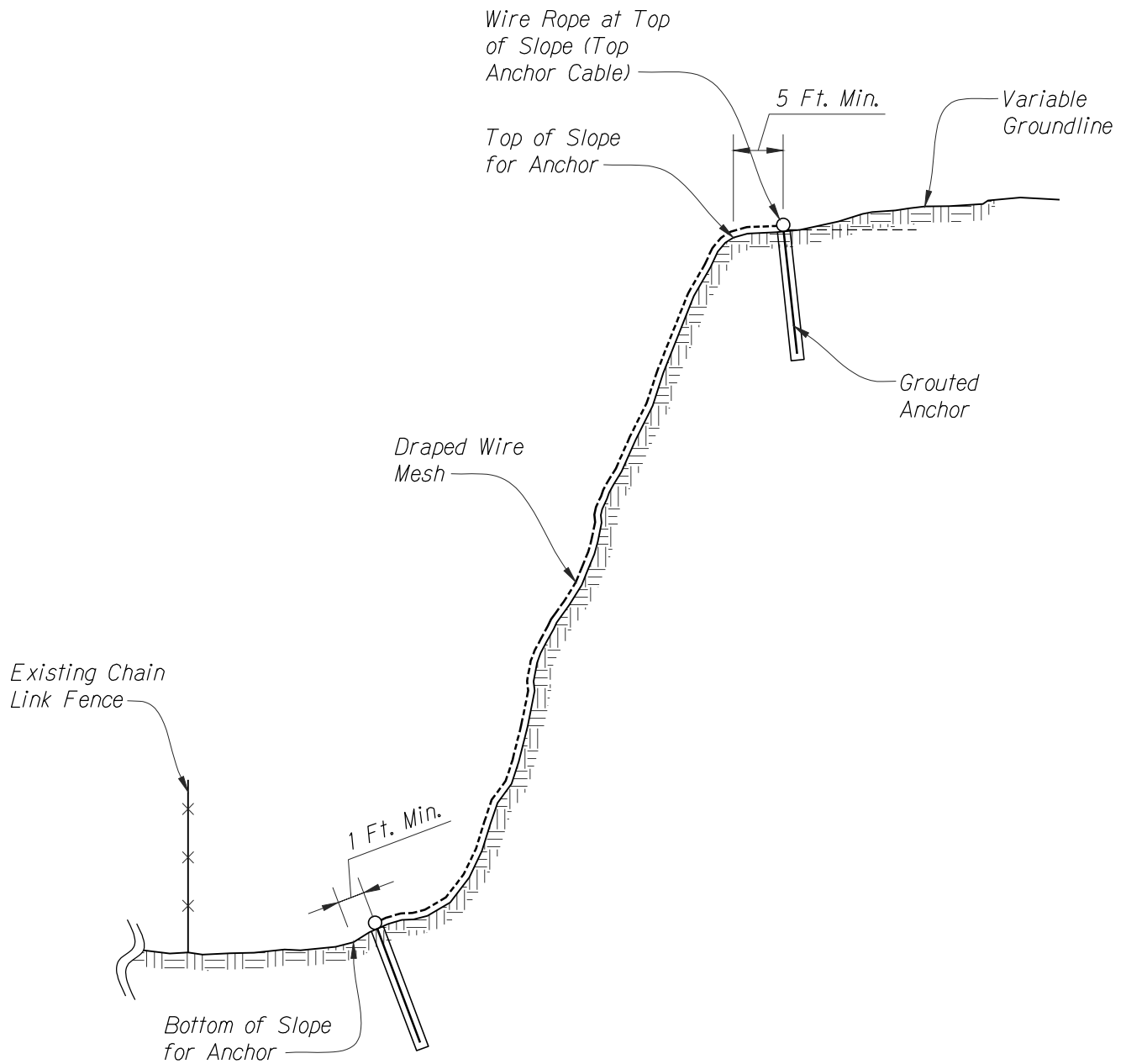
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TYPICAL ANCHORED WIRE MESH DETAIL
ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
HONOLULU, OAHU, HAWAII


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| | GEOLABS, INC. Geotechnical Engineering | | |
| | DATE JULY 2020 | DRAWN BY ASP | PLATE 3 |
| | SCALE NOT TO SCALE | W.O. 8100-00 | |
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TYPICAL DRAPED WIRE MESH DETAIL

ROCKFALL HAZARD MITIGATION AT KAPAHU STREET HONOLULU, OAHU, HAWAII

| | | | | |
|--|--------------|----------|---|----------------|
|  | | | GEOLABS, INC. <i>Geotechnical Engineering</i> | |
| DATE | JULY 2020 | DRAWN BY | ASP | PLATE 4 |
| SCALE | NOT TO SCALE | W.O. | 8100-00 | |

**ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
SITE RECONNAISSANCE PHOTOGRAPHS**



Photo No. 1 (TMK: 2-4-42: 12) – Existing CRM wall at the back of the property. Adjacent slope is highly vegetated.



Photo No. 2 (TMK: 2-4-42: 12) – Profile view of existing CRM retaining wall. Front of wall measures approximately 5 to 5.5 feet above the top of the adjacent concrete slab. Back of wall measures approximately 1-foot above the top of the backfill.

**ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
SITE RECONNAISSANCE PHOTOGRAPHS**



Photo No. 3 (TMK: 2-4-42: 12) – Profile view of existing slope. Rocky material exposed below heavy vegetation.



Photo No. 4 (TMK: 2-4-42: 13) – Boulder cluster, approximately 1 to 3.5 feet in largest diameter. Boulders located about 8.5 to 12 feet away from the existing fence.

**ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
SITE RECONNAISSANCE PHOTOGRAPHS**



Photo No. 5 (TMK: 2-4-42: 13) – Two 12 to 18-inch diameter boulders about 2.5 to 3 feet away from the existing fence.



Photo No. 6 (TMK: 2-4-42: 13) – One 21-inch diameter boulder against the existing fence. No visible damage to fence observed.

**ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
SITE RECONNAISSANCE PHOTOGRAPHS**



Photo No. 7 (TMK: 2-4-42: 13) – Near-vertical rock face near the base of the slope. Rock face is located at the eastern end of TMK: 2-4-42: 13 and extends into TMK: 2-4-42: 14. Woody vegetation growing on face. Multiple rock blocks prone to falling.



Photo No. 8 (TMK: 2-4-42: 14) – Eastern side of near-vertical rock face. Better visual representation of the vegetation growing from the slope face.

**ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
SITE RECONNAISSANCE PHOTOGRAPHS**



Photo No. 9 (TMK: 2-4-42: 14) – 30-inch diameter boulder against fence. This is the farthest-reaching boulder from the rockfall event that occurred in June 2019 according to the current resident, who had a dated photograph of the event.



Photo No. 10 (TMK: 2-4-42: 14 & 15) – Source of June 2019 rockfall event in upper left. Photograph also depicts the residence on TMK: 2-4-42: 15 and the heavily vegetated slope condition above.

**ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
SITE RECONNAISSANCE PHOTOGRAPHS**



Photo No. 11 (TMK: 2-4-42: 15) – Western portion of near-vertical slope face. Multiple loose rock blocks observed.



Photo No. 12 (TMK: 2-4-42: 15) – Eastern side of near-vertical slope face.

**ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
SITE RECONNAISSANCE PHOTOGRAPHS**



Photo No. 13 (TMK: 2-4-42: 17) – 5-foot diameter boulder against existing fence. No visible damage to fence observed.



Photo No. 14 (TMK: 2-4-42: 17) – Possible source for 5-foot diameter boulder, located approximately 15 to 20 feet above the toe of the slope. Woody branch growing through rock face in this location; vegetation could have loosened large boulder.

**ROCKFALL HAZARD MITIGATION AT KAPAHU STREET
SITE RECONNAISSANCE PHOTOGRAPHS**



Photo No. 15 (TMK: 2-4-42: 17) – Damaged edge of fence on eastern side of the property. The approximately 2.5 to 3-foot diameter boulder damaged the fence post and top cross-brace, but the fence remained relatively intact and retained the boulder.



Photo No. 16 (TMK: 2-4-41:21) – Typical view from the top-of-slope. Heavy vegetation prevented any meaningful observations. Access to top-of-slope limited due to steep drop-off and vegetation obscuring existing ground conditions.