# REQUEST FOR PROPOSALS
(COMPETITIVE SEALED PROPOSALS)

# Wastewater Treatment System Upgrade

RFP No:
HHSC 26-0259

for

Hawaii Health Systems Corporation
West Hawaii Region
Kona Community Hospital

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An Agency of the State of Hawaii

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# SECTION 1 ADMINISTRATION

## 1.0 INTRODUCTION

HHSC invites proposals from qualified and experienced licensed general contractors to provide construction services for the construction of a 50,000 gallon Wastewater Treatment System at Kona Community Hospital ("KCH").

KCH, situated mauka of Mamalahoa Highway in Kealakekua on the Big Island of Hawai'i, currently relies on a Purestream Model PT-50 wastewater treatment system (WWTS) that has been in operation since 1996. This extended aeration package plant, with a treatment capacity of 50,000 gallons per day, is essential for processing the hospital's sanitary wastewater, which peaks between 35,000 and 45,000 gallons daily. Due to the age and ongoing demands on the existing system, KCH has determined that critical repair and maintenance are necessary to ensure continued compliance with treatment standards and to preserve the system's long-term integrity. To achieve this without disrupting hospital operations, the hospital proposes to install a new wastewater treatment system (WWTS), identical in design and capacity to the current system. Once operational, the new WWTS will become the primary treatment facility for all hospital wastewater, while the existing WWTS will be refurbished and retained as a backup to be used during future maintenance or repair activities. The objective of this project is not to increase wastewater treatment capacity, but to ensure uninterrupted, effective treatment and safeguard hospital operations by providing a reliable and redundant treatment solution.

This Request for Proposal (hereinafter "RFP") is issued by the Hawaii Health Systems Corporation West Hawaii Region Kona Community Hospital (hereinafter "HHSC"), a public body corporate and politic and an instrumentality and Agency of the State of Hawaii. This solicitation is governed by the applicable provisions of Hawaii Revised Statutes ("HRS") and implementing policies. All procedures and processes will be in accordance with applicable HRS Chapters including, but not limited to, 323F. To the extent this solicitation contains any terms or provisions inconsistent with applicable HRS Chapters and implementing policies, the statutes and the policies will control.

Thank you for your interest in submitting a proposal for this solicitation. The rationale for this competitive sealed RFP is to promote and ensure the fairest, most efficient means to obtain the **most qualified contractor** to HHSC, i.e. the proposal offering the greatest overall combination of quality of work and service and pricing. Hereinafter, organizations interested in submitting a proposal in response to this RFP shall be referred to as "OFFEROR".

As an offeror, you are expected to submit proposals that are accurate, complete, and contain all terms and conditions which you feel are necessary. If, after submitting your proposal, you find changes are necessary, you may change or withdraw your proposal any time up to the time of the proposal opening. However, after the opening, the proposal may not be changed or altered in any way.

In order for HHSC to evaluate OFFEROR'S response in a timely manner, please thoroughly read this RFP and follow instructions as presented.

## 1.1 RFP TIMETABLE

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

| No. | Activity | Planned Date |
|---|---|---|
| 1. | RFP Public Announcement | Tuesday, January 13, 2026 |
| 2. | Closing Date for 1st Round of Questions. Answers to be Discussed at Pre-Proposal Conference | Friday, Janaury 16, 2026<br>2:00pm HST |
| 3. | Pre-Proposal Conference at Kona Community Hospital<br>Tour of Hospital Facilities.<br>Reservation form (Appendix G) and signed<br>Confidentiality Agreement (Appendix H)<br>must be received no later than Wednesday, January 21, 2026.<br>This meeting is mandatory for all Offerors.<br>See Appendix F for Agenda. Addendum for answers to 1st Round of Questions will be provided at Pre-Proposal Conference as well as Emailed to Offerors and posted online. | Thursday, January 22, 2026<br>10:00am – 11:30am HST |
| 4. | Closing Date for Receipt of 2nd Round of Questions | Tuesday, January 27, 2026<br>2:00pm HST |
| 5. | Addendum for HHSC Response to OFFEROR's 2nd Round of Questions | Monday, February 2, 2026 |
| **6.** | **Closing Date for Receipt of Proposals** | **Friday, February 13, 2026<br>10:00am HST** |
| 7. | Mandatory Requirements Evaluation | Friday, February 13, 2026 |
| 8. | Proposal Evaluations | Thursday, February 19, 2026 |
| 9. | Proposal Discussions (optional) | |
| 10. | Best and Final Offers (optional) | |
| 11. | Contractor Selection/Award Notification (on/about) | Wednesday, February 25, 2026 |
| 12. | Contract Execution Period | Feb 26 - Mar 4, 2026 |
| 13. | Contract Tentative Award Date | March 5, 2026 |

Figure 1. Procurement Schedule

## 1.2 AUTHORITY

This RFP is issued under the provisions of the applicable Hawaii Revised Statutes (HRS). All OFFERORS are charged with presumptive knowledge of all requirements of the cited authorities. Submission of a valid executed proposal by any OFFEROR shall constitute admission of such knowledge on the part of such OFFEROR.

### 1.2.1 RFP ORGANIZATION

This RFP is organized into five Sections:

**SECTION 1:** **ADMINISTRATIVE**
Provides information regarding administrative requirements.

**SECTION 2:** **SCOPE OF SERVICES**
Provides a detailed description of goods and/or services to be

provided and delineates HHSC and CONTRACTOR responsibilities.

**SECTION 3:** **PROPOSALS**
Describes the required format and content for submission of a proposal.

**SECTION 4:** **EVALUATION**
describes how proposals will be evaluated and lists the "value weight percentages" of the evaluation categories.

**SECTION 5:** **AWARD OF CONTRACT**
Describes procedures for selection and award of contract.

### 1.3 REGIONAL CHIEF EXECUTIVE OFFICER (RCEO)

The RCEO for HHSC West Hawaii Region, or designee, is authorized to execute any and all Agreements (Contracts), resulting from this RFP.

The RCEO for this RFP is:

Clayton R. McGhan
West Hawaii Region CEO
Hawaii Health Systems Corporation
79-1019 Haukapila Street
Kealakekua, HI 96750

Figure 2. RCEO – Regional Chief Executive Officer

### 1.4 DESIGNATED OFFICIALS

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

#### 1.4.1 ISSUING OFFICERS

The Issuing Officers are responsible for administrating/facilitating all requirements of the RFP solicitation process and are the **only points of contact** for OFFEROR from date of public announcement of the RFP until the selection of the successful OFFEROR. The Issuing Officer, Yvonne S. Taylor, will also serve as the Contract Manager responsible for contractual actions throughout the term of the contract. The Issuing Officers are:

Yvonne S. Taylor, Sr. Contracts Manager
(808)365-2415 (E.S.T.)
*and*
Loretta Buasriyottiya, Office Assistant V
(808)322-6992

WHRContractsMgmt@hhsc.org

Figure 3. Issuing Officer

## 1.5 HHSC ORGANIZATIONAL INFORMATION

### 1.5.1 CHARTER

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

### 1.5.2 STRUCTURE AND SERVICES

HHSC oversees the operation of nine public health facilities throughout the Hawaiian Island chain, including Oahu, Kauai and Hawaii. In addition to the nine HHSC facilities, Kahuku Medical Center, Hawaii Health Systems Foundation, and Alii Community Care are wholly owned subsidiaries.

HHSC is organized into five operational regions and provides a broad range of healthcare services including acute, long term, rural and ambulatory health care services. As the fourth largest public health system in the country, HHSC is the largest provider of healthcare in the Islands, other than on Oahu, and is the only acute care provider on the Islands of Maui and Lanai. In fiscal year 2009, HHSC had a total of 3,892 full time employees, operating 1,260 licensed beds, located on five different islands, with approximately 22,378 in-patient admissions.

HHSC West Hawaii Region has two hospitals: Kohala Hospital and Kona Community Hospital.

Kona Community Hospital is a 94-bed full-service acute care hospital with 24-hour emergency services, proudly serving the West Hawaii community. For nearly 100 years Kona Community Hospital has been caring for the people of West Hawaii. Adding more and more services, Kona Community Hospital has constantly improved our abilities to serve our residents and visitors whenever they are in need.

The Kona Community Hospital staff includes over 500 highly skilled employees and 100 medical staff practitioners, many who have been with our hospital for over 20 years. Along with our professional and experienced staff, Kona Community Hospital has many volunteers and affiliates that support our hospital. Kona Community Hospital also is one of the largest employers in West Hawaii.

### 1.5.3 MISSION

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

## 1.6 FACILITY INFORMATION

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

## 1.7 SUBMISSION OF QUESTIONS

Relevant questions must be submitted in writing via electronic mail, facsimile or post mail to the Issuing Officer no later than the "Closing Date for Receipt of Questions", identified in Figure 1 in order to generate an official answer. All written questions will receive an official written response from HHSC and become addenda to the RFP.

**- IMPORTANT –**

**OFFEROR may NOT request changes and/or propose alternate language to the attached HHSC Special Conditions and DAGS 1999 Interim General Conditions.**

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

Responses by HHSC shall be due to the OFFEROR no later than the dates for initial questions and final questions stipulated in Figure 1.

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

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

Send relevant questions to:

| |
|---|
| Yvonne S. Taylor, Sr. Contracts Manager<br>Direct (808) 365-2415 (EST)<br>*and*<br>Loretta Buasriyottiya, Office Assistant V<br>Direct (808) 322-6992<br><br>WHRContractsMgmt@hhsc.org |

Figure 4. Contact for Relevant Questions

### 1.8 RFP REVIEW

OFFEROR should carefully review this RFP for defects and questionable or objectionable matter. Comments concerning RFP's defects and questionable or objectionable matters must be made in writing and should be received by the Issuing Officers no later than the "Closing Date for Receipt of Questions" as identified in Figure 1. This will allow issuance of any necessary amendments to the RFP.

### 1.9 RFP AMENDMENTS

HHSC reserves the right to amend the RFP any time prior to the ending date for the proposal evaluation period. RFP Amendments will be in the form of addenda and posted on the KCH Procurement website and well as electronically mailed to all bidders who have requested a RFP package.

### 1.10 CANCELLATION OF RFP

The RFP may be canceled at any time for any reason when it is determined to be in the best interests of HHSC.

### 1.11 GRIEVANCE

It is the policy of the West Hawaii Region to work cooperatively with all vendors to the end of fair and fiscally sound procurement decisions. In the event a vendor or prospective vendor feels that a procurement decision has been made or is about to be made that is not in accordance with applicable law or policies, the vendor is encouraged to proceed as follows:

Request a debriefing in writing by the Issuing Officer.

If the debriefing does not satisfy the vendor, a meeting may be requested with the Issuing Officer who may invite others to participate as needed.

If the Issuing Officer does not resolve the issue, the vendor may request a meeting with the RCEO. The RCEO is the last recourse for disputes relating to procurement decisions and all decisions made by the RCEO shall be final.

A grievance based upon the content of the RFP shall be submitted in writing within five (5) working days **after** the aggrieved individual/business knows or should have known of the facts; provided further that the grievance shall not be considered unless it is submitted in writing prior to and not later than the "Closing Date for Receipt of Questions" identified in Figure 1.

Such grievances of an award or proposed award shall be submitted within five (5) working days after the posting of award of the contract. The notice of award, if any, resulting from this solicitation shall be posted on the Kona Community Hospital website:

| http://www.kch.hhsc.org/Procurement/ |
|---|

Figure 5. Website for all Procurement Activities

## 2.0 SCOPE OF SERVICES

# PROJECT PARAMETERS and SCOPE OF SERVICES

Project Summary

a. 50,000 gallons per day (gpd_ Redundant Wastewater Treatment System (WWTS)
b. Absorption Bed Effluent Disposal System
c. Temporary Use of Emergency Seepage Pit Area
d. Existing Purestream Model PT-50 Extended Aeration Package Plant

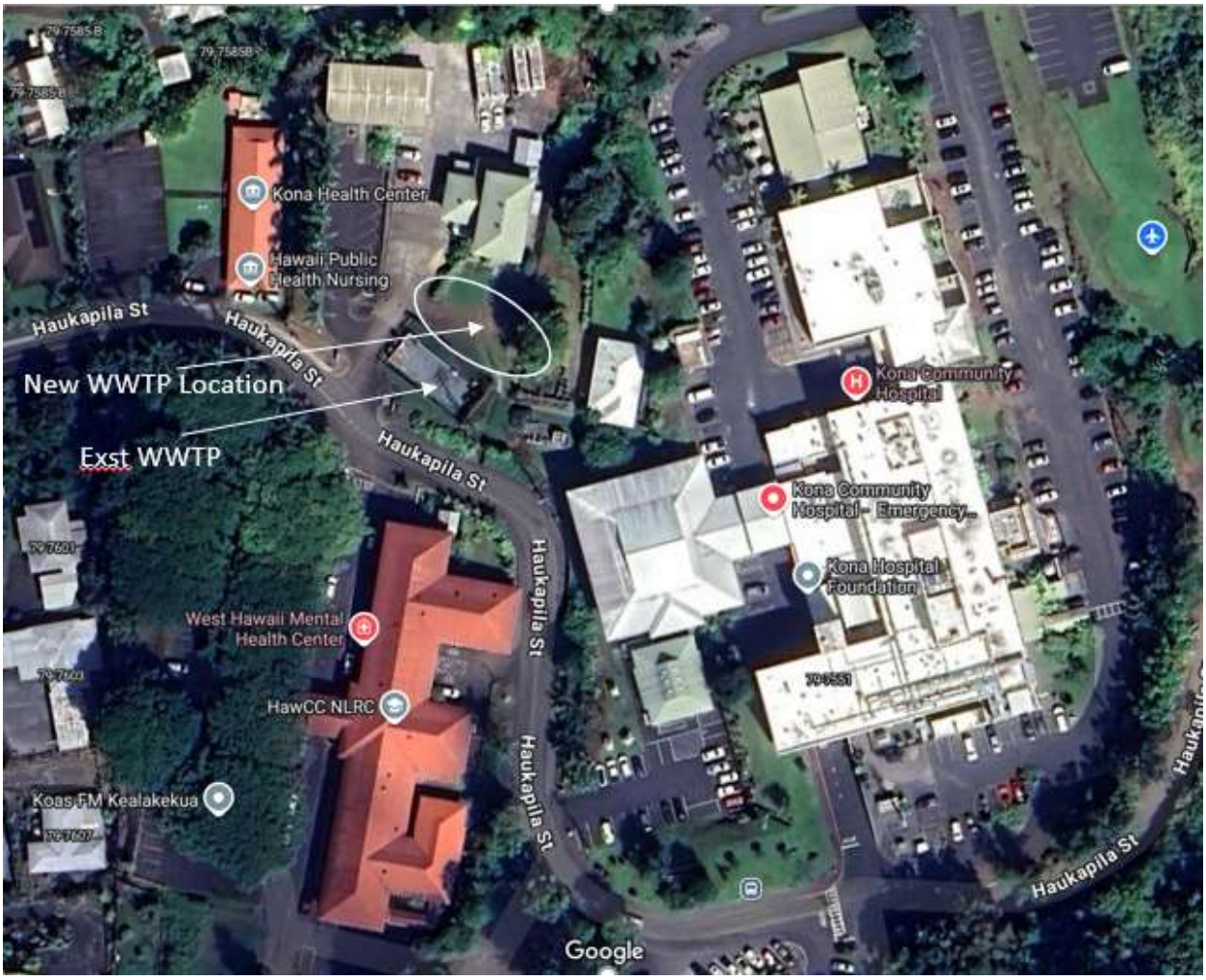
Description and Purpose

The existing and proposed wastewater treatment process at Kona Community Hospital utilizes a Purestream Model PT-50 extended aeration system, which has been operating since 1996 and treats up to 50,000 gallons per day (gpd) of raw sanitary sewage, consistently achieving effluent quality of 30 mg/L for both 5-day Biological Oxygen Demand ($BOD_5$) and Total Suspended Solids (TSS). Treated effluent is discharged to two absorption beds-one primary and one full-capacity backup. The proposed redundant WWTS will be identical to the current system, also with a 50,000-gpd capacity, and will use the same absorption beds for effluent disposal, ensuring operational redundancy. An emergency seepage pit, permitted for short-term use, is available during system switchover, and the total construction footprint is less than a quarter-acre, minimizing site disturbance.

Operation, monitoring, and maintenance are managed by a certified wastewater treatment operator under contract, with monthly sampling at both the effluent sample port and the absorption bed for BOD, TSS, and Total Nitrogen (TN) analysis. Results are submitted to the Hawaii Department of Health Wastewater Branch biannually, or annually if results remain within acceptable limits, and operators maintain a logbook of all maintenance, sampling, and operational activities in accordance with EPA wastewater sampling protocols.

Environmental considerations have been thoroughly addressed: the project is not expected to adversely affect surface or groundwater, no significant natural or cultural resources will be impacted, and the redundant system will ensure continued regulatory compliance, operational continuity for the hospital, and safeguards for public health and safety.

Location of new WWTS is shown below:




Specification manuals and engineered drawings are provided for this project in Appendices J and K.

All work must be performed in accordance with all applicable federal, state and local codes and laws.

The Contractor represents that, prior to submitting a response to this Request for Proposal, they have carefully reviewed the enclosed documents and inspected the site of the proposed work. In addition, they are fully informed of the conditions under which the work is to be performed. The Contractor further represents that they have satisfied themselves to the actual conditions of the premises, existing construction, actual elevations site logistics, local code restrictions, and any other conditions affecting the completion of the intended work. It being hereby understood and agreed that no considerations will be allowed subsequently to the Contractor's submission of their response to the Request for Proposal by reason of error, or oversight, on the part of the Contractor or, on account of, interference by other Contractor's activities. The Contractor's Proposal shall include, as a minimum, the following Scope of Services. **The following scope items are intended to clarify, but not limit, the Request for Proposal:**

1. Contractor shall manage, with his own personnel and qualified subcontractors, all construction work required for the construction in accordance with the Contract Documents prepared by the Engineer. It is the intent of this Request for Proposal to contract with a General Contractor who will provide "above" industry standard construction services as referenced in this Request for Proposal.

2. Rubbish removal from the jobsite will be the Contractor's responsibility. Rubbish removal must be completed at the end of every construction day. Worksite shall be cleaned on a daily basis. It is imperative that the Contractor maintain a clean and efficient worksite. Contractor may use KCH's metal and general waste containers. If Contractor notices the dumpster(s) are getting full, Contractor must notify Construction Supervisor (Robert Hollandsworth) so pick up can be scheduled.

3. Contractor shall visit the site to verify that he has familiarized himself with the jobsite regarding staging, site access, existing conditions, etc.

4. The Contractor shall maintain a detailed and accurate accounting system that shall be necessary for the proper financial management of the project. Contractor's records and receipts shall allow for ready identification of all charges included in subcontracts, purchase orders, change orders, invoices and Application for Payments. The HHSC shall have the right to audit, at any time, all the Contractors records related to this project and the work. Waiver of lien documents shall be provided for all subcontractor/suppliers and tier subcontract/suppliers.

5. Contractor shall keep the Construction Supervisor advised and copied on all communications with the Engineer, Engineer's consultants and other consultants or vendors contracted by the HHSC for this specific project.

6. Contractor shall communicate with the Construction Supervisor, Engineer and Engineer's consultants utilizing telephone and email. Procure shall be utilized for submittals and RFIs.

7. Contractor must coordinate with Construction Supervisor the transportation of heavy equipment and materials to and from the job site. The road the hospital is on is small but heavily traveled with hospital and school traffic, so minimizing interference with traffic is important.

8. Contractor shall utilize the preferred route and procedures, as determined by KCH, for the removal of construction debris and shall coordinate all necessary additional clean-up as part of construction operations, such that the jobsite is maintained free from accumulations of waste material, rubbish and debris.

9. Contractor shall maintain a detailed and accurate shop drawing control system and Procore for the project. The system shall be updated on a regular basis

and reported to the Construction Supervisor, Architect, Engineer and other applicable consultants for coordination at all appropriate meetings. The schedule responsibility is that of the Contractor and negligence in coordinating the shop drawing process does not relieve Contractor from its contractual obligation for Substantial Completion.

10. For bids of $25,000 or more, the Contractor shall comply with the following chapters of the Hawaii Revised Statutes (HRS): Chapter 237 HRS (general excise tax); Chapter 383 HRS (employment security - unemployment insurance); Chapter 386 HRS (workers compensation); Chapter 392 (temporary disability insurance); Chapter 393 HRS (pre-paid health care); and shall be incorporated or organized under the laws of the State, or be registered to do business in the State as a separate branch or division that is capable of fully performing under the contract.

11. The Contractor shall provide the following services as part of their proposed scope of services:

**Pre-Construction Phase**

1. Ensure that each employee who will spend more than ten (10) hours per week on the jobsite inside the SSB has completed the Human Resources ("HR") requirements contained in the Contractor Guidelines Handbook (Appendix L) at least two (2) weeks before he/she is permitted to start work on the project. **Employees who have not completed the HR requirements will not be allowed on the project site.**

2. Verify with Construction Supervisor the proper sequence of work.

3. Work with Construction Supervisor to get set up with Procore (if you do not have a login already) as KCH utilizes Procore for drawings, submittals and RFIs.

4. Work with engineer and/or building department for permitting issues. Permit application has been submitted and will be picked up by Contractor.

5. Commit sub-contractors.

6. Develop construction schedule and present to KCH for approval.

7. Obtain required levels and types of insurance. Email copies to the Contracts Department at WHRContractsMgmt@hhsc.org .

8. Preview OFCI equipment, if any, to ensure all items are on-site. At time of RFP release, KCH has not identified any OFCI equipment for this project.

**Construction Phase**

1. Construction

a) Provide, coordinate and supervise all construction work for the project. Verify that materials furnished, and work performed meet all plans, specifications and applicable code and regulatory requirements.

b) Regulate and control all subcontractors.

c) Provide traffic control on dirt removal and large equipment delivery days and other times as requested by KCH. The school above the KCH campus produces a large amount of traffic that backs up Haukapila Street twice a day (approximately 7:30-8:30am and 1:30-2:30pm). Contractor will need to plan deliveries around those times.

d) Provide and maintain a minimum of one standard-sized portable toilet at the project site (location to be determined by both parties), meeting all applicable federal, state, and local codes. The Contractor shall ensure that all portable toilets are maintained in a clean and sanitary condition, including the regular restocking of supplies

e) Coordinate all subcontractors to ensure that the project schedule is met.

f) Develop and implement a quality control system for all General Contractor activities.

g) Coordinate and review for compliance all shop drawings and items submitted by subcontractors prior to submission to the Engineer. Establish and maintain on site a complete file of all shop drawings and items submitted.

h) Coordinate with Construction Supervisor as necessary to provide coordination with trades, job schedules, storage, deliveries, etc. and ensure KCH's project completion dates are on schedule.

i) Conduct weekly (or at intervals determined by KCH) Owner Engineer Contractor ("OEC") meetings with the team members, prepare and distribute meeting minutes following each meeting.

j) KCH standard working hours are Monday through Friday 7:00am through 3:30pm.

k) Utilize Procore (www.procore.com) project management and collaboration system for drawings, submittals and RFIs. It is the responsibility of the Contractor to regularly check and review updated documents as they are added. There is no cost to the Contractor for use of Procore.

l) All employees onsite must follow, at a minimum, the below policies which are available at https://kch.hhsc.org/procurement/.

1. Alcohol Free and Drug Free Work Environment and Campus

2. Standards of Dress, Grooming and Related Behaviors
3. HHSC Non Harassment Policy
4. HHSC Workplace Disruptive Bhavior No Tolerance
5. Indentification Badges Hospital Issued
6. Photography, Video, Audio and Electronically Recorded Data
7. Smoke Free and Tobacco Free Campus

2. Accounting and Cost Control Systems

a) Prepare schedules of estimated values of all work awarded.

b) Review all progress payments and make recommendations for approval to Construction Supervisor.

c) Review all changes proposed by KCH and/or the Engineer and make recommendations regarding their practicality, cost and impact on the schedule.

d) Receive and review all change order requests from subcontractors and prepare independent take-offs to evaluate each subcontractor requests.

e) Construction Supervisor must review and approve each change order in writing prior to work commencing.

f) Hawaii law requires all State and County construction projects greater than $2,000.00 to pay prevailing wages to laborers and mechanics on the project jobsite and file certified payrolls with the contracting agency (KCH). The CONTRACTOR is responsible for complying with all requirements and rules regarding the State of Hawaii Wage Rate Schedule (http://labor.hawaii.gov/rs/home/wages/72-2/). Not complying with the prevailing wage requirements will result in KCH immediately shutting down the jobsite until the CONTRACTOR is in full compliance.

g) Weekly certified payroll reports certifying the hourly rate of wage of each worker for both CONTRACTOR and SUB-CONTRACTORS must be submitted to KCH in a timely and consistent manner. Invoice approvals may be delayed if submission of certified payroll reports is not current. Submit reports to Loretta Buasriyottiya, lbuasriyottiya@hhsc.org in the Contracts department.

**Post Construction**

1. Coordinate the punch list walk through, Prepare punch list(s) and ensure that all items are completed on a timely basis.

2. Assemble all booklets containing all guarantees and warranties, as required, into a project binder and deliver all such documents to KCH with certificates that they are complete. Provide digital copies of all documents as required.

4. Coordinate and expedite the preparation of subcontractor care and maintenance manuals and deliver all such manuals to KCH with a certificate of completion.

5. Receive and verify all releases of claims required prior to issuance of final certificates of completion and payment to subcontractors.

6. Coordinate the preparation of as-built drawings of the entire project including architectural and engineering drawings and provide to KCH.

Items listed in above in this section are not all-inclusive and it is expected that the CONTRACTOR know and perform all appropriate activities at the appropriate times during the renovation process.

Any questions or clarifications the CONTRACTOR may have shall be brought to the Construction Supervisor's attention in a timely manner so as to not delay the progress of the project.

*Additional specifics regarding the Scope of Services may be discussed at the onsite Pre-Proposal meeting and documented in writing via Addendum to the RFP.* ***The Pre-Proposal meeting is mandatory for all OFFERORS. Only OFERORS in attendance may submit a proposal.***

# SECTION 3 PROPOSALS

## 3.0 INTRODUCTION

One of the objectives of the RFP is to make proposal preparation easy and efficient, while giving OFFEROR ample opportunity to highlight their proposal. When an OFFEROR submits a proposal, it shall be considered a complete plan for accomplishing the requirements described in this RFP.

## 3.1 PROPOSAL PREPARATION

OFFEROR shall prepare a written proposal in accordance with requirements of this Section.

Proposals shall include all data and information requested to qualify proposals for evaluation and consideration for award. Non-compliance may be deemed sufficient cause for disqualification of a proposal. Examples of Non-Compliance are, but not limited to, no-bidding any section of RFP, quoting non-approved alternates or not submitting Sub Contractor information.

The development of overly elaborate proposals and presentation material, not required and/or related to RFP requirements, is HIGHLY DISCOURAGED.

Emailed proposals must contain separate labeled pages for the mandatory tabs, as stated below in section 3.1.1 so different sections can be identified easily.

"If your proposal is over 10MG, you must contact Yvonne or Loretta at WHRContractsMgmt@hhsc.org for a FileShare link as the HHSC computer system will reject your proposal and HHSC will NOT be notified."

MANDATORY PROPOSAL TABS/SECTION DIVIDERS

The following tabs/section dividers must be used in the OFFEROR's proposal:

| Mandatory Tabs | |
|---|---|
| 1. | PROPOSAL TRANSMITTAL COVER LETTER |
| 2. | TECHNICAL SECTION |
| | SUMMARY |
| | APPENDIX E, MANDATORY QUESTIONS |
| 3. | PRICE |
| | APPENDIX M, PRICE SCHEDULE |
| | REQUIREMENTS (see section 3.9) |
| 4. | REQUIRED DOCUMENTATION/COMPLIANCE DOCUMENTS |
| | W-9 |
| | VENDOR TERMS AND CONDITIONS (if any) |
| | CONFIDENTIALITY AGREEMENT (Appendix H) |
| | STATE OF HAWAII VENDOR CERTIFICATE OF COMPLIANCE (copy) |
| | GENERAL EXCISE LICENSE (copy) |
| | GENERAL CONTRACTOR LICENSE (copy) |
| | LETTER FROM SURETY COMMITTING TO PROVIDE PAYMENT AND PERFORMANCE BOND |
| 5. | PROPOSAL SUBMISSION CHECKLIST |

Figure 6. Mandatory Proposal Tabs/Section Dividers

Relevant material should be placed in the appropriate tabbed area. Greyed in areas in the Mandatory Proposal Tabs/Section Dividers (Figure 6) indicate category titles and separate sections. Inapplicable material or material placed in the incorrect tabbed area may not be evaluated.

### 3.2 COSTS FOR PROPOSAL PREPARATION

Any and all costs incurred in the development of proposals, i.e. preparing and submitting, on-site product/service demonstrations, on-site visits, oral presentations, travel and lodging, etc. shall be the sole responsibility of OFFEROR.

### 3.3 DISQUALIFICATION OF PROPOSALS

HHSC reserves the right to consider as acceptable only those proposals submitted in accordance with all requirements set forth in the RFP and which demonstrate an understanding of the Scope of Services. HHSC reserves the right to ask for clarification of any item in the proposal.

An OFFEROR will be disqualified and the proposal automatically rejected for any one or more of the following reasons:

Proof of collusion among OFFERORS, in which case all proposals involved in the collusive action will be rejected.

The OFFEROR'S lack of responsibility and cooperation as shown by past work or services.

The proposal shows any noncompliance with applicable law.

The proposal is conditional, incomplete, or irregular in such a way as to make the proposal incomplete, indefinite, or ambiguous as to its meaning.

The proposal has any provision reserving the right to accept or reject award, or to enter into a contract pursuant to an award, or provisions contrary to those required in the solicitation.

Proof of exclusion from participation in federal health care programs, as defined in the Social Security Act (Section 1128 and 1128A), and other federal laws and regulations relating to health care.

### 3.4 SUBMISSION OF PROPOSALS

Each OFFEROR may submit only one (1) proposal (response). The Issuing Officer must receive the proposal in electronic format no later than the "Closing Date for Receipt of Proposals", identified in Figure 1. **Proposals received after this time/date may be rejected.**

Proposals transmitted via email to Yvonne Taylor and Loretta Buasriyottiya (see section 1.7 for email addresses) shall have the following information in the subject line:

| RFP #26-0259 Wastewater Treatment System Upgrade |
|---|

### 3.5 PROPOSAL TRANSMITTAL COVER LETTER

OFFEROR is required to submit proposal with a transmittal cover letter. The transmittal cover letter must be on the OFFEROR'S official business letterhead; signed by an individual authorized to legally bind the OFFEROR and minimally include information, as written/requested, on the "sample" letter in APPENDIX A.

### 3.6 PUBLIC INSPECTION

Proposals shall not be opened publicly, but shall be opened in the presence of two or more procurement officials. The register of proposals and OFFERORS' proposals shall be open to public inspection after the contract is executed by all parties, subject to the nondisclosure provisions of HRS Chapter 92F.

OFFEROR shall request in writing the nondisclosure of designated trade secrets or other proprietary data to be confidential. Such data shall accompany the proposal and shall be readily separable from the proposal in order to facilitate eventual public inspection of the non-confidential portion of the proposal. The proposals are subject to disclosure rules set forth in Chapter 92F, H.R.S. The OFFEROR bears the burden of establishing that the designated data is exempted from the disclosure requirements set forth in Chapter 92F.

All proposals and other material submitted by OFFEROR become the property of HHSC and may be returned only at HHSC's option.

### 3.7 TECHNICAL SECTION

**Any proposal offering a significantly non-compliant Technical Section may be disqualified without further notice.**

The Technical Section is comprised of OFFEROR and project details (Appendix E will be completed by OFFEROR) with the exception of pricing and should include the following categories:

#### 3.7.1 SUMMARY

Clearly, concisely and briefly summarize and highlight the contents of the technical proposal in such a way to provide HHSC with a broad understanding and the unique, most promising aspects of the proposal. Summary should not exceed 1 page in length.

#### 3.7.2 MANDATORY QUESTIONS

Appendix E (Mandatory Questions) shall be completed.

### 3.8 PRICE PROPOSAL

Appendix M (Proposal Schedule) shall be completed.

#### 3.8.1 PRICE

Price shall be a fixed fee for all work described in drawing package dated October 2025 and specification manual dated November 2025.

Any State of Hawaii funded projects over $50,000.00 are required to have contract performance and payment bonds, the costs of which will be included in the final contract amount.

### 3.9 REQUIREMENTS

A. **Non Applicable Requirements.** Excluding HHSC General and Special Terms and Conditions, and any objectionable or defective RFP matters, if any proposal requirement, as describe in this Section, is not applicable to the OFFEROR and therefore will/cannot be provided, list what the requirement(s) are and why the requirement(s) are not applicable. If none, state "none".

B. **Non Acceptance of any RFP Requirement.** If any RFP requirement, as described in this RFP, is not acceptable to the OFFEROR, list what the requirement(s) are and why the requirement(s) are not acceptable. If none, state "none".

C. **HHSC Furnished Items.** If the OFFEROR's proposal requires any goods, services, equipment, third-party vendor support, or anything of value to be provided by HHSC, these items must be clearly detailed and stated in the OFFEROR's proposal. If none, state "none".

HHSC reserves the right to consider as acceptable only those proposals submitted in accordance with all requirements set forth in the RFP.

### 3.10 REQUIRED DOCUMENTATION/COMPLIANCE DOCUMENTS

In addition to the requirements outlined in this RFP, OFFEROR must submit the following documentation with response:

A. W9
B. VENDOR TERMS AND CONDITIONS (IF ANY)
C. CONFIDENTIALITY AGREEMENT (APPENDIXI H)
D. STATE OF HAWAII VENDOR CERTIFICATE OF COMPLIANCE
E. GENERAL EXCISE LICENSE (*COPY*)
F. GENERAL CONTRACTOR'S LICENSE (*COPY*)
G. LETTER FROM SURETY COMMITTING TO PROVIDE PERFORMANCE & PAYMENT BONDS

### 3.11 PROPOSAL SUBMISSION CHECKLIST

The proposal submission checklist is provided by HHSC and is designed to be used as a tool to ensure that all required documents and information are being submitted with OFFEROR's proposal. HHSC recommends the OFFEROR go through the checklist before submitting the response. The proposal submission checklist is in Appendix B

## 4.0 INTRODUCTION

The evaluation of proposals shall be conducted comprehensively, fairly, and impartially. Structural, quantitative scoring techniques will be utilized to maximize the objectivity of the evaluation.

### 4.1 PROPOSAL EVALUATION COMMITTEE

An evaluation committee will be selected from HHSC to perform all evaluation requirements. The committee will be composed of individuals with experience in, knowledge of, and program responsibility for the requirements identified in the RFP. HHSC reserves the right to request information from OFFEROR to clarify the OFFEROR's proposal.

### 4.2 EVALUATION PHASES

Evaluation phases will be conducted as follows:

| Phase | Phase Description |
|---|---|
| Phase 1 | Evaluation of Mandatory Requirements |
| Phase 2 | Technical Section Evaluation |
| Phase 3 | Determination of Short List of Offerors (optional) |

| | |
|---|---|
| Phase 4 | Proposal Discussions by Short-List (optional) |
| Phase 5 | Best and Final Offers by Short List (optional) |
| Phase 6 | Recommendation for Contract Award |

Figure 7. Proposal Evaluation Phases

### 4.2.1 PHASE 1 EVALUATION OF MANDATORY REQUIREMENTS

The evaluation of the mandatory requirements, as listed below, shall be based upon a "Pass/ No Pass" basis. The purpose of this phase is to determine whether an OFFEROR's proposal is sufficiently responsible and responsive to RFP requirements to permit a complete evaluation, i.e. responsible in terms of "Does the OFFEROR have the capability to perform fully the Scope of Services requirements"; and, "Were proposal documents received by HHSC and do they contain the required information?" Failure to meet any mandatory requirement will be grounds for deeming the proposal non-responsible, non-responsive or both and disqualification ("No Pass") thereof.

### 4.2.2 PHASE 2 TECHNICAL SECTION EVALUATION

Evaluation of OFFEROR'S technical section shall be conducted using the technical section categories and the value weight percentages identified in Paragraph 4.3 and the evaluation scoring system identified in Paragraph 4.4.

### 4.2.3 PHASE 3 DETERMINATION OF SHORT-LISTED OFFERORS (OPTIONAL)

At its discretion, following Phase 1 and 2, HHSC may develop a Short List of OFFERORs based on the evaluation of OFFERORS' Technical section.

### 4.2.4 PHASE 4 PROPOSAL DISCUSSIONS WITH SHORT-LISTED OFFERORS (OPTIONAL)

The OFFERORS on the Short List of OFFERORs may be asked to conduct discussions with HHSC. OFFEROR's proposal may be accepted without discussions. In the event that HHSC elects to hold discussions, HHSC shall inform Short-Listed OFFERORS of specific discussion topics and issues; and schedule the discussion.

### 4.2.5 PHASE 5 BEST AND FINAL OFFERS (OPTIONAL)

OFFEROR(s) may be requested to submit a Best and Final offer. Best and Final offers shall be evaluated and scoring of the OFFEROR's proposal adjusted, accordingly. If a Best and Final offer is requested but not submitted, the original submittal shall be accepted as the Best and Final offer.

### 4.2.6 PHASE 6 RECOMMENDATION FOR CONTRACT AWARD

The Evaluation Committee shall prepare a report summarizing proposal evaluation findings/rankings and provide recommendation for award of contract to the RCEO.

## 4.3 EVALUATION CATEGORIES AND VALUE WEIGHT PERCENTAGES

The following Evaluation Categories and Value Weight Percentages shall be used:

| Value Weight Percentages | Points | Evaluation Category |
|---|---|---|
| Pass/No Pass | N/A | MANDATORY REQUIREMENTS. Category includes: |
| | | PROPOSAL TRANSMITTAL COVER LETTER |
| | | REQUIRED DOCUMENTATION/COMPLIANCE DOCUMENTS PROVIDED |
| | | REQUIRED QTY OF ORIGINAL AND COPIES |
| 50% | 50 | TECHNICAL APPROACH. Category includes: |
| | | SUMMARY |
| | | MANDATORY QUESTIONS |
| 40% | 40 | PRICE. Category includes: |
| | | BID PROPOSAL FORM |
| 10% | 10 | COMPLIANCE WITH REQUIREMENTS. Category includes: |
| | | NON APPLICABLE PROPOSAL REQUIREMENT |
| | | NON ACCEPTANCE OF ANY RFP REQUIREMENT |
| | | HHSC FURNISHED ITEMS |
| | | PROPOSAL WAS COMPLETED IN ACCORDANCE WITH RFP REQUIREMENTS |

Figure 8. Evaluation Categories and Value Weight Percentages

## 4.4 EVALUATION SCORING SYSTEM

The maximum number of points available for scoring is one hundred (100) per evaluator. The proposal receiving the highest cumulative number of points is considered statistically the best proposal to HHSC; and will be recommended for award of contract, unless otherwise determined and justified by the evaluation committee.

Each Evaluation Committee Member shall review OFFEROR proposals that pass Phase 1 Evaluation of Mandatory Requirements. The Evaluation Committee Members shall determine the score for each Evaluation Category for each OFFEROR in accordance with Figure 11. The OFFEROR'S total score will be the sum of all scores by all evaluators.

# SECTION 5 AWARD OF CONTRACT

## 5.0 AWARD OF CONTRACT

Award of contract shall be made to the most responsible and responsive OFFEROR whose proposal is determined by the Evaluation Committee to provide the best value to HHSC, considering all evaluation reviews and results.

## 5.1 CONTRACT AWARD NOTIFICATION

The notice of award, if any, resulting from this solicitation shall be posted on the Kona Community Hospital website: http://www.kch.hhsc.org/Procurement/. This will serve as the official notification to all OFFERORS. In addition, the Issuing Officer will inform the successful OFFEROR of contract award selection by an official "notice of award" letter.

At its discretion and as a courtesy to the OFFEROR the Issuing Officer may issue a "Notice of Posting of Award" to the unsuccessful OFFERORS. However a delay in issuing the notice or the inadvertent omission of such courtesy notice will not extend the grievance filing time.

## 5.2 CONTRACT AWARD DEBRIEFING

If requested by unsuccessful OFFEROR, HHSC shall provide a contract award debriefing. The purpose of a debriefing is to inform the non-selected OFFEROR of the basis for the source selection decision and contract award. A written request to the Issuing Officer for a debriefing shall be made within three (3) working days after receipt of non-award letter from HHSC and/or posting of the award of the contract.

### 5.2.1 CONTRACT DOCUMENT

The contract will be awarded by executing an "Agreement for Goods or Services Based Upon Competitive Sealed Proposals" (hereinafter "CONTRACT") by HHSC and the successful OFFEROR (hereinafter "CONTRACTOR"). This document will serve as the official, legal contractual instrument between both parties. This document will incorporate (by attachments or reference) the RFP, with any and all addendums; DAGS 1999 INTERIM GENERAL CONDITIONS and SPECIAL CONDITIONS; and the CONTRACTOR's accepted proposal, with any and all addendums, changes, negotiated agreements, all of which becomes part and whole of the CONTRACT.

A "sample" CONTRACT is located as Appendix C. **DO NOT complete or execute the "sample" CONTRACT.**

### 5.2.2 GENERAL EXCISE/USE TAX

Work to be performed under this solicitation is a business activity taxable under Chapter 237, Hawaii Revised Statutes (HRS), and Chapter 238, HRS, where applicable. Both out-of-state and Hawaii CONTRACTOR are advised that the gross receipts derived from this solicitation are subject to the general excise tax imposed by Chapter 237, HRS, and where applicable to tangible property imported into the State of Hawaii for resale, subject to the use tax imposed by Chapter 28, HRS.

Pursuant to Section 237-9, HRS, the CONTRACTOR is required to obtain and/or possess a valid General Excise Tax License from the Hawaii State Department of Taxation (DOTAX) prior to executing a contractual agreement with a State Agency (Reference the GENERAL CONDITIONS - NON-PHYSICIAN HEALTHCARE SERVICES, APPENDIX D).

The General Excise Tax License shall be obtained from the DOTAX offices in the State of Hawaii or the DOTAX Web Site and by mail or FAX.

## 5.3 CONTRACT EXECUTION

Upon receipt of the CONTRACT document, the CONTRACTOR shall have five (5) business days to execute and return the CONTRACT to the Issuing Officer. A copy of the fully executed CONTRACT will be provided the CONTRACTOR within five (5) business days of CONTRACT execution.

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

## 5.4 CONTRACT COMMENCEMENT DATE

No work is to be undertaken by the CONTRACTOR prior to the commencement date specified in the **Fully Executed** Contract. HHSC is not liable for any work, contract, costs, expenses, loss of profits, or any damages whatsoever incurred by the CONTRACTOR prior to the official, notice to proceed “Commencement” date stated in the **Fully Executed** Contract.

# APPENDIX A

## SAMPLE PROPOSAL TRANSMITTAL COVER LETTER

Dear Yvonne Taylor:

(Name of Business) proposes to provide any and all goods and services as set forth in the "Request for Proposals for Competitive Sealed Proposals" to provide **"Kona Community Hospital – Wastewater Treatment System Upgrade, RFP # 26-0259** , for which fees/costs have been set. The fees/costs offered herein shall apply for (Please insert applicable period of time) .

It is understood and agreed that (Name of Business) have read HHSC's Scope of Services described in the RFP and that this proposal is made in accordance with the provisions of such Scope of Services. By signing this proposal, (Name of Business) guarantees and certifies that all items included in this proposal meet or exceed any and all such Scope of Services.

(Name of Business) agrees, if awarded the contract, to provide the goods and services set forth in the RFP; and comply with all terms and conditions indicated in the RFP; and at the fees/costs set forth in this proposal. The following individual(s) may be contacted regarding this proposal:

_____

_____

**Other information:**

| | | | |
|---|---|---|---|
| Business Phone #: | | Federal Tax ID #: | |
| E-mail address: | | Hawaii GET Lic. ID #: | |

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

Other (Specify) _____

State of Incorporation is: (Specify) _____

The exact legal name of the business under which the contract, if awarded, shall be executed is (must match W9):

_____

(Authorized Bidder's Signature, Printed Name/Title)

APPENDIX B

PROPOSAL SUBMISSION CHECKLIST

***IF SPECIFIC ITEM(S) IS NOT APPLICABLE, MARK WITH "N/A"---DO NOT LEAVE BLANK.**

| Please Check Off OFFEROR Submitted | HHSC Use | Proposal Items |
|---|---|---|
| | ☐ | Proposal Received "On-Time" |
| ☐ | ☐ | One (1) Email Submission |
| ☐ | ☐ | Proposal Transmittal Cover Letter: |
| ☐ | ☐ | i. Official Business Letterhead |
| ☐ | ☐ | ii. Authorized Signature |
| ☐ | ☐ | iii. Required Information |
| | | Technical Proposal |
| ☐ | ☐ | i. Summary |
| ☐ | ☐ | ii. Mandatory Questions |
| | | Price |
| ☐ | ☐ | i. Proposal Schedule |
| ☐ | ☐ | ii. Requirements<br>• Non Applicable Proposal Requirement(s)<br>• Non Acceptance of any RFP Requirement(s)<br>• HHSC Furnished Items |
| | | Required Documentation/Compliance Documents |
| ☐ | ☐ | i. W-9 |
| ☐ | ☐ | ii. Vendor's terms and conditions (if applicable) |
| ☐ | ☐ | iii. Confidentiality Agreement General Contractor's License (copy) |
| ☐ | ☐ | iv. State of Hawaii Vendor Certificate of Compliance (copy) |
| ☐ | ☐ | v. General Excise License (copy) |
| ☐ | ☐ | vi. Greneral Contractor License (copy) |
| ☐ | ☐ | vii. Surety Company's letter of commitment |
| ☐ | ☐ | Proposal Submission Checklist |

**APPENDIX C**

**SAMPLE**

# HAWAII HEALTH SYSTEMS CORPORATION
# AGREEMENT FOR GOODS OR SERVICES
# BASED UPON
# COMPETITIVE SEALED PROPOSALS

## AGREEMENT #

**THIS AGREEMENT**, executed on the respective dates of the signatures of the parties shown hereafter, is effective as of **xxx** , between **Kona Community Hospital**, a division of **Hawaii Health Systems Corporation** (hereinafter "HHSC"), by its Regional Chief Executive Officer, (hereinafter "CEO"), whose address is 79-1019 Haukapila Street, Kealakekua, HI 96750, and **[___CONTRACTOR NAME___]** (hereinafter "CONTRACTOR"), a **sole proprietor**, under the laws of the State of **Hawaii**, whose business address is **[___CONTRACTOR ADDRESS___]** and FEIN No **[___CONTRACTOR FEIN___]**.

## RECITALS

**A.** The HHSC is in need of the goods or services, or both, described in this Agreement and its attachments.

**B.** The HHSC has issued a request for competitive proposals, and has received and reviewed proposals submitted in response to the request.

**C.** The CONTRACTOR has been identified as the responsible and responsive OFFEROR whose proposal is the most advantageous for the HHSC, taking into consideration price and the evaluation factors set forth in the request.

**D.** The HHSC desires to retain and engage the CONTRACTOR to provide the goods or services, or both, as the case may be, and the CONTRACTOR is agreeable to providing said goods or services, or both.

**NOW, THEREFORE,** in consideration of the promises contained in this Agreement, the HHSC and the CONTRACTOR agree as follows:

**1. SCOPE OF SERVICES.** The CONTRACTOR shall, in a proper and satisfactory manner as determined by the HHSC, provide all the goods set forth in **Attachment 1 Scope of Services**.

**2. TIME OF PERFORMANCE.** The performance required of the CONTRACTOR under this Agreement shall be executed in accordance with the time period set forth in the **Attachment 2 Time of Performance**, which is made a part of this Agreement.

**3. COMPENSATION.** The CONTRACTOR shall be compensated for services performed under this Agreement pursuant to the provisions as set forth in **Attachment 3 Compensation**, which is hereby made a part of this Agreement..

**4. BONDS.** The CONTRACTOR ☒(is) or ☐(is not) required to provide a performance bond.

**5. STANDARDS OF CONDUCT DECLARATION.** The Standards of Conduct Declaration of the CONTRACTOR is attached and is made a part of this Agreement.

**6. OTHER TERMS AND CONDITIONS.** The General Conditions and any Special Conditions are attached hereto and made a part of this Agreement (or, Any Special Conditions are attached hereto and made a part of this Agreement). In the event of a conflict between the 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) Agreement, including all attachments and addenda; (2) Request, including all attachments and addenda; and (3) Proposal.

**7. LIQUIDATED DAMAGES.** Liquidated damages are applicable. See attachment

**8. TECHNICAL REPRESENTATIVE.** The Technical Representative shall have the right to oversee the successful completion of contract requirements, including monitoring, coordinating and assessing performance; and, approving completed work/services with verification of same on invoices. The Technical Representative also serves as the point of contact for the CONTRACTOR for "Technical" matters (non-contractual) from award to contract completion. The Technical Representative is:

Robert Hollandsworth, Building Operations Manager
Kona Community Hospital
79-1019 Haukapila Street
Kealakekua, HI 96750
Telephone 808-322-4555 Email: rhollandsworth@hhsc.org

**9. NOTICES.** Any written notice required to be given by any party to this Agreement shall be (a) delivered personally, or (b) sent by United States first class mail, postage prepaid. Notice required to be given to the CEO shall be sent to: **Kona Community Hospital, 79-1019 Haukapila Street, Kealakekua, HI 96750**. Notice to the CONTRACTOR shall be sent to the CONTRACTOR'S address as indicated in this Agreement. A notice shall be deemed to have been received three (3) days after mailing or at the time or actual receipt, whichever is earlier. The CONTRACTOR is responsible for notifying the HHSC in writing of any change of address.

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

**HHSC**

SIGNATURE: _____

PRINTED NAME: _____

TITLE: Regional CEO, West Hawaii Region

DATE: _____

---

**CONTRACTOR *** [___CONTRACTOR NAME___]

SIGNATURE: _____

PRINTED NAME: _____

TITLE: _____

DATE: _____

# STANDARDS OF CONDUCT DECLARATION

For the purposes of this declaration:

"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 percent (50%).

"Employee" means any nominated, appointed, or elected officer or employee of the State or HHSC, 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.

On behalf of **[ CONTRACTOR NAME ]**, CONTRACTOR, the undersigned does declare, under penalty of perjury, as follows:

1. CONTRACTOR ☐ IS or ☐ IS NOT a legislator or an employee or a business in which a legislator or an employee has a controlling interest.*

2. CONTRACTOR has not been assisted or represented by a legislator or employee for a fee or other compensation to obtain this Agreement and will not be assisted or represented by a legislator or employee for a fee or other compensation in the performance of the Agreement, if the legislator or employee had been involved in the development or award of the Agreement.

3. CONTRACTOR has not been assisted or represented for a fee or other compensation in the award of this Agreement by a State or HHSC employee or, in the case of the Legislature, by a legislator.

4. CONTRACTOR has not been represented or assisted personally on matters related to the Agreement by a person who has been an employee of the State or HHSC within the preceding two (2) years and who participated while in state office or employment on the matter with which the Agreement is directly concerned.

5. CONTRACTOR has not been represented or assisted on matters related to this Agreement, for a fee or other consideration by an individual who, within the past twelve (12) months, has been a State or HHSC employee, or in the case of the Legislature, a legislator.

6. CONTRACTOR has not been represented or assisted in the award of this Agreement for a fee or other consideration by an individual who, 1) within the past twelve (12) months, served as a State or HHSC employee or in the case of the Legislature, a legislator, and b) participated while an employee or legislator on matters related to this Agreement.

CONTRACTOR understands that the Agreement to which this document is attached is voidable on behalf of the State or HHSC if this Agreement 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 or HHSC.

**CONTRACTOR**

SIGNATURE: _____

Print Name: _____

Title: _____

Date: _____

# ATTACHMENT 1

# PROJECT PARAMETERS and SCOPE OF SERVICES

Final Scope of Services will be included in the contract.

# ATTACHMENT 2

# TIME OF PERFORMANCE

1. The CONTRACTOR shall provide the services required under this Agreement for a period from **XX** to and including **XX**, unless sooner terminated or extended as provided.

-OPTIONAL-

2. **OPTION TO EXTEND:** The TIME OF PERFORMANCE of this Agreement may be extended for XX ( ) additional XX ( ) month intervals, subject to mutual written agreement between HHSC and the CONTRACTOR, prior to the end of the current contract period. A Supplemental Agreement will be executed by the CONTRACTOR and HHSC to exercise extensions.

# COMPENSATION AND PAYMENT SCHEDULE

In full consideration for the services to be performed by the CONTRACTOR under this Agreement, the HHSC agrees, subject to appropriation and allotments, to pay to the CONTRACTOR a total sum of money not to exceed **XXX AND NO/100 DOLLARS ($XXX.00)** including all applicable taxes and expenses incurred, and in accordance with the following:

**A.** **Total Contract Award**. This Total Sum shall include any and all taxes, shipping and handling and other miscellaneous costs to complete the work required in the Scope of Services.

**B.** **Invoicing Schedule**. Contractor shall invoice Hospital in accordance with the following:

1. This is a Fixed Price Agreement.
2. The contractor is paid monthly thirty days after receipt of invoice and in accordance with the then current schedule of values.

3. Travel costs are not allowable.
4. If the not-to-exceed value is insufficient to complete all phases of the Project, Hospital may, at their sole discretion, issue a supplement agreement or a separate agreement in accordance with their procurement policies for the remainder of the work or complete the work with Hospital personnel.
5. HHSC will work with the CONTRACTOR to determine a reasonable construction schedule and completion date.

## C. Payment Guidelines

6. Company shall provide W-9 and Certificate of Insurance upon Contract Award.
7. **The Contract Number (XX-XXXX) and Payment Milestone Number must appear on every Invoice.**
8. The "Invoice To" must be "Kona Community Hospital".
9. The "Remit To" name on your invoice must match your company name as you are registered with the State of Hawaii and the name stated in Contract.
10. If the "Remit To" address on the invoice is different from the address stated on the face of the Contract, we must state the "Remit To" address in Contract.
11. Invoice shall be transmitted (electronically is preferred) to:

Robert Hollandsworth
Kona Community Hospital
79-1019 Haukapila Street
Kealakekua, HI 96750
Telephone 808-322-4555
Email: rhollandsworth@hhsc.org

****** If your invoice does not contain your contract number, it may be rejected and payment delayed. ******

## APPENDIX D

## 1999 DAGS INTERIM GENERAL CONDITIONS

(WILL BE ATTACHED TO AGREEMENT)

See following pages.

## SPECIAL CONDITIONS

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

2. The General Conditions are hereby amended as follows:

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

      i) Bidder shall have the same definition as Contractor.

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

      iii) Department shall be HHSC or its designee.

      iv) Engineer shall be the person so designated by Kona Hospital

      v) State shall be HHSC or its designee.

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

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

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

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

   e. The addresses specified in Section 2.6.1 of the Interim General Conditions shall be changed to Kona Community Hospital, 79-1019 Haukapila St, Kealakekua, HI 96750

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

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

      "The contract shall be signed and forwarded to Hawaii Health System Corporation, by the successful bidder all within three (3) days of receipt of the contract. The performance and payment bonds shall be received by Hawaii Health Systems Corporation within ten (10) calendar days after the bidders is awarded the contract. No proposal or contract shall be considered binding

upon the State until the contract has been fully and properly executed by all parties thereto."

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

i. Section 4.1: the words "accepted bid" is deleted from the first sentence.

j. Section 4.9.3: the words "submission of bids" is replaced with the words"execution of this contract".

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

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

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

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

n. Section 5.11 is hereby deleted in its entirety.

o. Section 5.12.4 is hereby deleted in its entirety.

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

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

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

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

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

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

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

the above warranty is true and to immediately cancel this Agreement in the event it is violated."

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

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

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

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

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

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

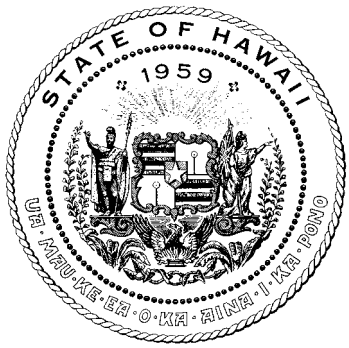
6. CERTIFICATION OF COMPLIANCE FOR FINAL PAYMENT. In addition to the requirements for final payment as specified in Section 8.8 of the General Conditions, the CONTRACTOR must submit an original CERTIFICATE OF COMPLIANCE FOR FINAL PAYMENT. A copy of the form is attached.

7. CAMPAIGN CONTRIBUTIONS BY STATE AND COUNTY CONTRACTORS.
CONTRACTORs are hereby notified of the applicability of Section 11-205.5, HRS, which states that campaign contributions are prohibited from specified State or county government contractors during the term of the contract if the contractors are paid with funds appropriated by a legislative body. For more information, please consult with the Campaign Spending Commission, or visit its website, www.hawaii.govicampaign.

# INTERIM

# GENERAL CONDITIONS

1999 EDITION




PUBLIC WORKS DIVISION
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
STATE OF HAWAII

# INTERIM GENERAL CONDITIONS

## 1999 EDITION

## FOR CONSTRUCTION

**State of Hawaii**
**Department of Accounting and General Services**
**Public Works Division**

## PREFACE

The State of Hawaii Procurement Code forms the basis for portions of this Interim General Conditions. The Hawaii Administration Rules Procurement Code is not physically included in this Interim General Conditions, but shall govern if any provisions used in this Interim General Conditions are not consistent with the Hawaii Administration Rules Procurement Code.

Copies of the Hawaii Administration Rules Procurement Code may be obtained from the State Procurement Office, Department of Accounting and General Services, State of Hawaii, fourth floor Kalanimoku Building Room 416, 1153 Punchbowl Street, Honolulu Hawaii.

## Approved for Publication

Comptroller, State of Hawaii
Department of Accounting and General Services

## Approved as to Form

Deputy Attorney General, State of Hawaii

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# ARTICLE 1 - Definitions

Whenever the following terms or pronouns are used in these Bidding and Execution of Contract Requirements, and General Conditions, or in any contract documents or instruments where these Bidding and Execution of Contract Requirements, and General Conditions govern, the intent and meaning shall be interpreted as follows

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

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

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

**1.4** **ADMINISTRATOR** The Public Works Administrator, Department of Accounting and General Services

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

**1.6** **AMENDMENT** A written document properly executed by the Contractor and Comptroller issued to amend the existing contract between the State and the Contractor.

**1.7** **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.

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

**1.9** **BID** See PROPOSAL

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

**1.11** **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.

**1.12** **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.

**1.13** **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.

**1.14** **BY OR TO THE ENGINEER** 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 Engineer" or "to the Engineer", 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.

**1.15** **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.

**1.16** **CHANGE ORDER** A written order signed by the Engineer 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.

**1.17** **COMPLETION** See SUBSTANTIAL COMPLETION and FINAL COMPLETION.

**1.18** **COMPTROLLER** The Comptroller of the State of Hawaii, Department of Accounting and General Services.

**1.19** **CONSULTANT** A person, firm or corporation having a contract with the State to furnish services with respect to the project

**1.20** **CONTRACT** The written agreement between the Contractor and the State of Hawaii by its Comptroller, 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 the State of Hawaii is obligated to compensate the Contractor therefor at the prices set forth therein. The contract shall include the Contract Documents and also any and all amendments and change orders which are required to complete the construction in an acceptable manner.

**1.21 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.

**1.22 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, a written order for minor changes in the work and Engineer's written interpretations and clarifications issued on or after the effective date of the Contract.

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

**1.24 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.

**1.25 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.

**1.26 DEPARTMENT** The Department of Accounting and General Services, State of Hawaii (abbreviated DAGS).

**1.27 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.

**1.28 ENGINEER** The Public Works Administrator, or the authorized person to act in the Administrator's behalf.

**1.29 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, that may be used in place of the one specified.

**1.30 FIELD ORDER** A written order issued by the Engineer or the Engineer's authorized representative 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 Engineer believes is reasonable for the change; or (2) may declare that the Engineer 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.

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

**1.32 FORCE ACCOUNT** Term used when Work is ordered to be done without prior agreements as to lump sum or unit price cost thereof and is to be billed for at cost of labor, materials and equipment, insurances, taxes, etc., plus an agreed percentage for overhead and profit.

**1.33 GUARANTEE** Legally enforceable assurance of the duration of satisfactory performance of quality of a product or Work

**1.34 GOODS** Materials. §103D-104

**1.35 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.

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

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

**1.38 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.

**1.39 LIQUIDATED DAMAGES** The amount prescribed in the General Conditions, Section 7.26 FAILURE TO COMPLETE THE WORK ON TIME to be paid to the State 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.

**1.40 LETTER OF AWARD** A written notice from the Comptroller to the successful bidder(s) stating that its proposal has been accepted by the State.

**1.41 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.

**1.42** **NON-CONFORMING WORK** Work that does not fulfill the requirements of the Contract Documents.

**1.43** **NOTICE TO CONTRACTOR** The advertisement for proposals for all work or materials on which bids are required. Such advertisement will indicate the location of the work to be done or the character of the material to be furnished and the time and place of the opening of proposals.

**1.44** **NOTICE TO PROCEED** A written notice from the Engineer 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.

**1.45** **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.

**1.46** **PROJECT ACCEPTANCE DATE** The calendar day on which the Engineer accepts the project as sufficiently completed in compliance with the contract so that the State can occupy or utilize the Work for its intended use. See SUBSTANTIAL COMPLETION.

**1.47** **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.

**1.48** **PROJECT GUARANTEE** A guarantee issued by the Contractor to the State. See GUARANTEE.

**1.49** **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.

**1.50** **PROPOSAL FORM** The form prepared by the State 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.

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

**1.52** **QUESTIONNAIRE** The specified forms on which the bidder shall furnish required information as to its ability to perform and finance the work.

**1.53** **SHOP DRAWINGS** All drawings, diagrams illustrations, schedules and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

**1.54** **SPECIAL CONDITIONS** Supplements or modifies 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.

**1.55** **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.

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

**1.57** **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.

**1.58** **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.

**1.59** **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.

**1.60** **SUPERINTENDENT** The employee of the Contractor who is charged with the responsibility of all the Work.

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

**1.62** **UNUSUALLY SEVERE WEATHER** Uncommonly harsh weather including but not limited to hurricanes, tornados, tropical storms and tropical depressions, or as otherwise defined in the SPECIAL CONDITIONS.

**1.63** **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.

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

**ABBREVIATIONS**

HAR Hawaii Administrative Rules

HRS Hawaii Revised Statutes

VECP Value Engineering cost Proposal

DOTAX State Department of Taxation

IRS Internal Revenue Service

# BIDDING AND EXECUTION OF CONTRACT REQUIREMENTS

## ARTICLE 2 - Proposal Requirements and Conditions

**2.1 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 or more.

**2.1.1 Notice of Intention to Bid**

2.1.1.1 In accordance with Section 103D-310, Hawaii Revised Statutes, and Section 3-122-108, Hawaii Administrative Rules, a written notice of intention to bid must be filed for the construction of any public building or public work when the bid is $25,000 or more. A written notice of intention to bid need not be filed for the mere furnishing and installing of furniture, equipment, appliances, material and any combination of these items when a Contractor's license is not required under Chapter 444 of the Hawaii Revised Statues, as amended, and the rules and regulations of the Contractor's License Board.

2.1.1.2 The written notice must be addressed to the Comptroller, State of Hawaii, who is the officer charged with letting the contract. The words, "**INTENTION TO BID**" must be clearly written or typed on the face of the envelope containing the written notice of intention to bid. The notice may be faxed, hand carried or mailed to the office indicated in the Notice to Contractors. Submitting the intention to bid via fax is acceptable only to the Oahu office.

2.1.1.3 The written notice must be received by the office(s) indicated in the Notice to Contractors no later than 2:00 p.m. on the 10th calendar day prior to the day designated for opening bids. If the 10th calendar day prior to the day designated for opening bids is a Saturday, Sunday, or legal State holiday, then the written notice must be received by the Department no later than 2:00 p.m. on the last working day immediately prior to said Saturday, Sunday, or legal State holiday. The written notice will be time stamped when received by said office. The time designated by the time stamping device in said office shall be official. If the written notice is hand carried, then the bearer is responsible to ensure that the notice is time stamped by said office. If the notice is faxed, the time of receipt by the Department fax machine shall be official.

2.1.1.4 It is the responsibility of the prospective bidder to ensure that the written notice of intention to bid 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.

2.1.1.5 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 of intention to bid. 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 of the Hawaii Revised Statutes, as amended, 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 register with the office of the Director of Commerce and Consumer Affairs in accordance with Chapter 425 of the Hawaii Revised Statutes, as amended.

2.1.1.6 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 the Department.

2.1.1.7 The Comptroller may, in accordance with Section 103D-310 Hawaii Revised Statutes, require the prospective Bidder to submit answers to questions contained in the STANDARD QUALIFICATION QUESTIONNAIRE FOR PROSPECTIVE BIDDERS ON PUBLIC WORKS CONTRACTS, on the form provided by the Department, 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, at least two (2) working days prior to the time advertised for the opening of bids. 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.

2.1.1.8 If upon review of the Questionnaire, or otherwise, the Bidder appears not fully qualified or able to perform the intended work, the Comptroller 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.

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

**2.1.2 Tax Clearance** § 103D -328 HRS)

2.1.2.1 Contractors are required to provide both state and federal tax clearances as a prerequisite to entering into a public contract of $25,000 or more. To meet this requirement, all Bidders shall submit valid tax clearances with their bid proposals when the bid is $25,000 or more. An additional tax clearance will be required before final payment can be made.

2.1.2.2 Tax clearances may be obtained by completing the Tax Clearance Application (Form A-6) and submitting it to the Hawaii State Department of Taxation (DOTAX) or the

Internal Revenue Service (IRS). The application may be obtained from the DOTAX, the IRS, or the Public Works Division, Kalanimoku Building, Room 422, 1151 Punchbowl Street, Honolulu, Hawaii. The application may be mailed in or walked in to either the DOTAX or the IRS. Both tax agencies encourage the use of their mail-in process, which should be completed within twenty-one (21) calendar days. Tax clearance certificates will be issued to the applicant upon determination that the applicant has filed all tax returns due, and has paid all amounts owing on such returns, including penalty and interest.

2.1.2.3 Only original tax clearance certificates or certified copies will be accepted for this purpose. Failure to submit the required tax clearance certificates may be sufficient grounds for the Department to refuse to receive or consider the prospective bidder's proposal.

2.1.2.4 Tax clearance certificates are valid for six (6) months. The six-month period will begin with the later approval date stamped on the tax clearance. An original copy of a tax clearance that bears an original green certified copy stamp will be accepted by the Department for final payment. The period of validity is two months.

2.1.2.5 The tax clearances submitted with the bid proposals must be valid on the solicitation's first legal advertisement date or any date thereafter up to the bid opening date. Valid tax clearances submitted with the proposal will remain valid for the contract award and encumbrance.

2.1.2.6 Any person, firm or corporation that is not presently doing business in the State of Hawaii and submits a Notice of Intention to Bid must submit along with said Notice of Intention to Bid a certified letter stating that said person, firm or corporation is not doing business in the State of Hawaii and is not in default of any obligations due to the State or any of its political subdivisions.

2.1.2.7 If a business cannot obtain a tax clearance certificate because of tax delinquencies, it may submit a "special letter" from DOTAX and/or the IRS. The "special letter" may only be obtained if (1) the business has an existing installment agreement with the tax agency, or (2) the delinquency is the subject of an administrative or judicial appeal. The bidder is cautioned that the "special letter" from the IRS must be certified by DOTAX. All conditions applied to tax clearance certificates for this purpose are applicable to these "special letters". Instructions to obtain the "special letter" are available from each respective tax agency.

2.1.2.8 Various combinations of tax clearance certificates and "special letters" are acceptable for this purpose as follows:

(a) Tax clearance certificate signed by both tax agencies;

(b) Individual tax clearance certificates from each tax agency, respectively;

(c) Tax clearance certificate from one tax agency and a "special letter" from the other tax agency;

(d) "Special letters" from both tax agencies.

**2.1.3 Wrongful Refusal to Accept a Bid** - In the event the Comptroller, 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. Refer to 2.13 PROTEST.

## 2.2 INTERPRETATION OF QUANTITIES IN BID SCHEDULE

**2.2.1** 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.

**2.2.2** After determining the low bidder by comparison of bids submitted in accordance with the proposal form and Section 3.1 CONSIDERATION OF PROPOSALS; CANCELLATION in these specifications, the quantities of unit price items of work may increase or decrease.

**2.2.3** 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 Section 4.7 VARIATIONS IN ESTIMATED QUANTITIES.

## 2.3 CONTENTS OF PROPOSAL FORMS

**2.3.1** Prospective bidders will be furnished with proposal forms 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.

**2.3.2** 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.

**2.3.3** The drawings, specifications and other documents designated in the proposal form, will also be considered a part thereof whether attached or not.

**2.3.4** By submitting a bid on the proposal form, a bidder accepts the language therein as its own.

## 2.4 THE SITE AND PROPOSED CONTRACT DOCUMENTS

**2.4.1** The Bidder shall examine carefully the Project Site contemplated and the proposal, drawings, specifications, supplemental specifications, SPECIAL 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 drawings, specifications, supplemental specifications, SPECIAL CONDITIONS and any documents and items referenced therein, and contract and bonds.

## 2.5 ADDENDA AND BID CLARIFICATIONS

**2.5.1** 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 addenda or bid clarification.

**2.5.2** 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.

**2.5.3** **Bid Discrepancy** - 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 no later than 14 days before the bids are opened.

**2.5.4** Addenda to the bid documents will be provided to all prospective bidders at the respective offices furnished for such purposes. Each addendum shall be an addition to the Contract Documents.

**2.5.5** Upon providing an addenda, all bidders shall be deemed to be on notice of the information therein whether or not the addendum or bid clarification is actually received. All addenda and bid clarifications so issued shall become part of the Contract Documents.

**2.5.6** 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.

## 2.6 SUBSTITUTION OF MATERIALS AND EQUIPMENT BEFORE BID OPENING

**2.6.1** 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 Public Works Administrator. The face of the envelope containing the request must be clearly marked "SUBSTITUTION REQUEST". The request may be hand carried to the Public Works Division, 4th Floor of the Kalanimoku Building, Room 426, 1151 Punchbowl Street or mailed to the Public Works Division, P.O. Box 119, Honolulu, Hawaii 96810. In either case, the written request must be received by the Public Works Division no later than the time and date specified in the SPECIAL CONDITIONS. The written request will be time stamped by the Public Works Division. For the purpose of this section, the time designated by the time stamping device in the Public Works Division shall be official. If the written request is hand carried, the bearer is responsible to ensure that the request is time stamped by the Public Works Division.

**2.6.2** Submit three (3) sets of the written request, technical brochures, and a statement of variances. Refer to the Appendix for the Sample "Request for Substitution."

**2.6.3** **Statement of Variances** - The 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 all at no cost to the State

**2.6.4** **Substitution Denial** - Any substitution request not complying with the above requirements will be denied. Substitution requests sent to other agencies and received by the Public Works Division after the deadline above will be denied.

**2.6.5** An addendum shall be issued to inform all prospective bidders of any accepted substitution in accordance with Section 2.5 ADDENDA AND BID CLARIFICATIONS.

**2.6.6** For substitutions of materials and equipment after issuance of the Letter of Award, refer to Section 6.3 SUBSTITUTION OF MATERIALS AND EQUIPMENT AFTER BID OPENING.

## 2.7 PREPARATION OF PROPOSAL

**2.7.1** 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 thereon. 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. By submitting a bid, the Bidder adopts the language of the proposal as its own.

**2.7.2** 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 State. If made by a corporation the proposal must show the name, titles, 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 State. 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 State.

**2.7.3** 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.

**2.8 BID SECURITY** §3-122-223(d) HAR

**2.8.1** Subject to the exceptions in Section 3-122-223(d) HAR, all lump sum bids of $25,000 and higher, or lump sum base bids including alternates of $25,000 and higher, that are not accompanied by bid security are non-responsive. Bid security shall be one of the following: §3-122-222(a) HAR

2.8.1.1 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 the Appendix; or

2.8.1.2 Legal Tender; or

2.8.1.3 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.

(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.

(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 Comptroller.

**2.8.2** 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 alternates or in an amount required by the terms of the federal funding, where applicable.

**2.8.3** 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.

**2.8.4** 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.

**2.8.5** 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.

**2.8.6** 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 these 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.

**2.9 DELIVERY OF PROPOSALS** - The entire proposal shall be placed together with the bid security, in a sealed envelope no smaller than 9-1/2" x 12" so marked as to indicate the identity of the project, the project number, the date of bid opening and the name and address of the bidder and then delivered as indicated in the Notice to Contractors. 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 words "SEALED BID" must be clearly written or typed on the face of the sealed envelope containing the proposal and bid security.

**2.10 WITHDRAWAL OR REVISION OF PROPOSAL** - may be modified prior to the deadline to submit the offers by any of the following documents.

**2.10.1 Withdrawal of Proposals**:

2.10.1.1 A signed, written notice received in the office designated in the solicitation; or

2.10.1.2 A written notice faxed to the office designated in the solicitation; or

2.10.1.3 A telegraphic message received by telephone by the office designated in the solicitation from the receiving telegraph company office, provided the telegraph company confirms the telephone message by sending a written copy of the telegram showing that the message was received at such office prior to the time and date set for the opening.

**2.10.2 Modification of Proposals**:

2.10.2.1 A written notice received in the office designated in the solicitation, stating that a modification to the offer is submitted; and

2.10.2.2 The actual modification sealed securely in a separate envelope or container, accompanying the written notice.

**2.11 PUBLIC OPENING OF PROPOSALS** - Proposals will be opened and read publicly at the time and place indicated

in the Notice to Contractors. Bidders, their authorized agents and other interested parties are invited to be present.

**2.12 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:

**2.12.1** Non-compliance with Section 2.1 QUALIFICATION OF BIDDERS.

**2.12.2** Evidence of collusion among bidders.

**2.12.3** 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.

**2.12.4** Being in arrears on existing contracts with the State of Hawaii, or having defaulted on a previous contract with the State of Hawaii.

**2.12.5** Lack of proper equipment and/or sufficient experience to perform the work contemplated, as revealed by the Standard Questionnaire and Financial Statement for Bidders.

**2.12.6** No contractor's license or a contractor's license which does not cover type of work contemplated.

**2.12.7** More than one proposal for the same work from an individual, firm, partnership, corporation or joint venture under the same or different name.

**2.12.8** Delivery of bids after the deadline specified in the advertisement calling for bids.

**2.12.9** 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.

**2.12.10** Debarment or suspension pursuant to the provisions of Chapters 103D, 104 and 444, Hawaii Revised Statutes, as amended.

**2.13 PROTEST**

**2.13.1** Protests shall be adjudicated in accordance with §103D-701, HRS and as amended.

**2.13.2** No Protest based upon the contents of the solicitation shall be considered unless it is submitted in writing to the Comptroller, State of Hawaii prior to the date set for the receipt of proposals.

**2.13.3** A protest of an award or proposed award pursuant to §103D-302 or §103D-303, HRS, shall be submitted in writing to the Comptroller within five (5) working days after the posting of the award of the Contract.

**2.13.4** In addition to any other relief, when a protest is sustained and the protestor should have been awarded the contract under the solicitation but is not, then the protestor shall be entitled to the actual costs reasonably incurred in connection with the solicitation, including bid or proposal preparation costs but not attorney's fees.

# ARTICLE 3 - Award and Execution of Contract

**3.1 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 by lot. 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 State.

**3.2 IRREGULAR PROPOSALS** - Proposals will be considered irregular and may be rejected for the following reasons:

**3.2.1** If the proposal is unsigned.

**3.2.2** If bid security is not in accordance with Section 2.8 BID SECURITY.

**3.2.3** If proposal is on a form other than that furnished by the Department; or if the form is altered or any part thereof detached.

**3.2.4** If the proposal shows any non-compliance with applicable law, alteration of form, additions not called, conditional bids, incomplete bids, non initialed erasures, other defects, or if the prices are obviously unbalanced.

**3.2.5** If the Bidder adds any provisions reserving the right to accept or reject an award.

**3.2.6** If the Bidder adds any provisions reserving the right to enter into a contract pursuant to an award.

**3.2.7** 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.

**3.2.8** 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.

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

### 3.3 CORRECTION OF BIDS AND WITHDRAWAL OF BIDS §3-122-31 HAR

**3.3.1** Corrections to bids after bid openings but prior to award may be made under the following conditions:

3.3.1.1 If the mistake is attributable to an arithmetical error, the Comptroller shall so correct the mistake. In case of error in extension of bid price, the unit price shall govern.

3.3.1.2 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 Comptroller shall prepare a written approval or denial in response to this request. Examples of such mistakes include:

(a) Typographical errors;

(b) Transition errors;

(c) 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.

3.3.1.3 For reasons not allowable under paragraphs 3.3.1.1 and 3.3.1.2 when the Comptroller 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.

**3.3.2** 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 Comptroller shall prepare a written approval or denial in response to this request.

**3.3.3** 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 Comptroller makes a written determination that the Department's procurement practices and policies would not be materially affected by such correction or withdrawal.

### 3.4 AWARD OF CONTRACT

**3.4.1** The award of contract, if it be awarded, will be made within sixty (60) 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 Comptroller 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.

**3.4.2** If the contract is not awarded within the sixty (60) days noted in paragraph 3.4.1 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.

**3.4.3** No contract will be awarded to any person or firm suspended or debarred under the provisions of Chapters 103D, 104 and Chapter 444, Hawaii Revised Statutes as amended.

**3.4.4** The contract will be drawn on the forms furnished by the Comptroller. 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.

**3.5 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.

**3.6 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.

### 3.7 REQUIREMENT OF PERFORMANCE AND PAYMENT BONDS

**3.7.1** Performance and Payment Bonds shall be required for contracts $25,000 and higher. At the time of the execution of the contract, the successful Bidder shall file good and sufficient performance and payment bonds on the form furnished by the Department (see Appendix), 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:

3.7.1.2 Surety bonds underwritten by a company licensed to issue bonds in this State; or

3.7.1.3 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 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 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 acceptable.

**3.7.2** 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 under Section 3.9 FAILURE TO EXECUTE THE CONTRACT and award of the contract shall be made to the next lowest responsible and responsive bidder.

**3.8 EXECUTION OF THE CONTRACT**

**3.8.1** 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 Comptroller may allow. No proposal or contract shall be considered binding upon the State until the contract has been fully and properly executed by all parties thereto and the Comptroller has endorsed 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 State's amount required by such contract.

**3.8.2** On any individual award totaling less than $25,000, the State reserves the right to execute the contract by the issuance of a State Purchase Order. Issuance of a State Purchase Order shall result in a binding contract between the parties without further action by the State. The issuance of a State Purchase Order shall not be deemed a waiver of these General Conditions and Contract Document requirements.

**3.9 FAILURE TO EXECUTE THE CONTRACT**

**3.9.1 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 State shall be entitled to retain as liquidated damages the amount established as bid security, and may take all appropriate actions to recover the liquidated damages sum from the property or third-party obligations deposited as bid security.

**3.9.2 After the Award** - If the Bidder to whom 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 Comptroller may allow, the State 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 responsive bidder or calling for new bids. The State may apply all or part of the amount of the bid security to reduce its damages. If upon determination by the State of the amount of its damages the bid security exceeds that amount, it shall release or return the excess to the person who provided same.

**3.9.3 Comptroller'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 Comptroller may thereupon award the contract to the next lowest responsible and responsive Bidder or may call for new bids, whichever method the Comptroller may deem to be in the best interests of the State.

**3.10 NOTICE TO PROCEED**

**3.10.1** After the contract is fully executed and signed by the Comptroller, 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 Comptroller may terminate the contract in accordance with Section 7.27 TERMINATION OF CONTRACT FOR CAUSE.

**3.10.2** 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 Engineer in writing. All work performed shall be conducted in accordance with Section 7.1 PROSECUTION OF THE WORK.

**3.10.3** In certain cases, the State, with agreement of the Contractor, may issue a Notice to Proceed before full execution of the contract by the Comptroller and it may further issue a Notice to Proceed concurrently with the Notice of Award.

**3.10.4** In the event the Notice to Proceed is not issued within one hundred and eighty (180) days after the date of the award of contract 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 180 days. Such claims shall be accompanied with the necessary documentation to justify the claim. No payment will be made for escalation costs that are not fully justified.

# GENERAL CONDITIONS

## 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.

**4.2 CHANGES** - The Engineer 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 Engineer 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 Engineer 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 Engineer 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 the Engineer 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 State 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 Engineer within thirty (30) days after delivery to the Engineer 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** – 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, Contractor shall file a notice of intent to claim within thirty (30) calendar days after receipt of the written Field Order that was not agreed upon by both parties. Failure to file such protest within the time specified shall constitute agreement on the part of the Contractor with the terms, conditions, amounts and adjustment or non-adjustment to contract price and / or contract time set forth in the Field Order. The requirement for timely written notice shall be a condition precedent to the assertion of a claim.

**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. The Change Order will be issued in the format attached (refer to the Appendix). 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.

4.2.4.3 Upon receipt of a Change Order, 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, Contractor shall file a notice of intent to claim within thirty (30) calendar days after receipt of the written Change Order that was not agreed upon by both parties. Failure to file such protest within the time specified shall constitute agreement on the part of the Contractor with the terms, conditions, amounts and adjustment or non-adjustment to contract price and / or contract time set forth in the Change Order. The requirement for timely written notice shall be a condition precedent to the assertion of a claim.

**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 Engineer 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 fifteen (15) days after receipt of a Bulletin or Field Order containing a request for proposal, the Contractor shall submit to the Engineer a detailed written statement in a format similar to the one shown in the Appendix to these General Conditions 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 fifteen (15) days, or as allowed by the Engineer, 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.

**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 to 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 Engineer, 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 Engineer of the reasonable and necessary costs attributable to the event or situation covered by the change, plus appropriate profit or fee, all as computed by the Engineer 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, fifteen percent (15%) of the direct cost;

4.5.1.2 For each subcontractor involved, for any work performed by its own forces, fifteen percent (15%) of the direct cost;

4.5.1.3 For the Contractor or any subcontractor, for work performed by their subcontractors, seven percent (7%) of the amount due the performing subcontractor.

**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 Engineer, 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 Engineer 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 State 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 Engineer 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 Engineer 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 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 Engineer. 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 State 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), notify the Engineer 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.

**4.9.2** After receipt of written notice, the Engineer 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 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 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 UTILITIES AND SERVICES

**4.10.1** The cost of all the following will be included in the contract price and the Contractor shall be fully responsible for:

4.10.1.1 Reviewing and checking all such information and data,

4.10.1.2 Locating all underground and overhead utilities shown or indicated in the contract documents,

4.10.1.3 Coordination of the Work with the Owners of such underground and overhead utilities during construction, and

4.10.1.4 The safety and protection of all such underground and overhead utilities as provided in Section7.17 PROTECTION OF PERSONS AND PROPERTY and repairing any damage thereto resulting from the work.

**4.10.2 Unknown Utilities** - During the progress of the work, if an underground utility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents, or found at a location that is substantially different than shown or indicated in the Contract Documents, Contractor shall promptly, and before any such conditions are disturbed or damaged (except in an emergency as required by subsection 7.17.8), notify the Engineer. Contractor shall be responsible for the safety and protection of the underground utility as provided in Section7.17 PROTECTION OF PERSONS AND PROPERTY. Refer to subsections 4.9.2 and 4.9.3.

**4.10.3** If the Engineer determines a change in the Contract Documents is required, a Field Order or Change Order will be issued. Upon issuance of a duly authorized Field Order or Change Order regarding the disposition of a newly discovered utility, Contractor shall be responsible for damages to the utility, including any damage claims due to the disruption of service caused by the utility being damaged.

**4.10.4 Restoration of Damaged Utilities** - The Contractor shall repair and restore to pre-damaged condition any utilities or any other property it damaged. The Contractor shall be liable for any resulting damages, to the Work or to the utility owner or property owner and shall pay any claim due to the disruption of service caused by the utilities being damaged. Contractor shall defend and save harmless the State from all suits, actions or claims of any character brought on account of such damages, whether or not the State may have been partially at fault. Contractor shall obtain public liability and property damage insurance pursuant to Article 7 PROSECUTION AND PROGRESS to cover such risk of damage.

**4.10.5** 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 immediately notify the Engineer. If the Contractor is without fault in such a situation, notwithstanding subsection 4.10.4, the Contractor shall not be liable for resulting damages or the defense of the State from claims brought on account of said damages to unknown utilities or other property. Upon instruction from the Engineer, 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.

# ARTICLE 5 - Control of Work

### 5.1 AUTHORITY OF THE ENGINEER

**5.1.1** The Engineer 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 rate of progress of the work, the interpretation of the Contract Documents, 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.

**5.1.2** The Engineer 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.

**5.1.3** The Engineer shall have the authority to suspend the work wholly or in part as provided in Section 7.24 SUSPENSION OF WORK.

**5.1.4** The Engineer may delegate specific authority to act for the Engineer to a specific person or persons. Such delegation of authority shall be established in writing to the Contractor.

### 5.2 AUTHORITY OF THE INSPECTOR

**5.2.1** The Inspector shall observe and inspect the contract performance and materials. The Inspector does not have any authority vested in the Engineer unless specifically delegated in writing.

**5.2.2** The Inspector may offer advice and recommendations to the Contractor, but any such advice or recommendations are not directives from the Engineer.

**5.2.3** 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.

**5.3 AUTHORITY OF CONSULTANT(S)** - The Department may engage Consultant(s) for limited or full observation to supplement the inspections performed by the State and respective Counties. Unless otherwise specified in writing to the Contractor, such retained Consultant(s) will have the authority of a Project Inspector.

**5.4 SHOP DRAWINGS AND OTHER SUBMITTALS**

**5.4.1** The following documents shall be submitted where required by the contract documents:

5.4.1.1 **Shop Drawings**

(a) The Contractor shall prepare, and thoroughly check, 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, as necessary, to show the details, dimensions, sizes of members, anchor bolt plans, insert locations and other information necessary for the complete fabrication and erection of the structure to be constructed.

(c) All shop drawings as required by the contract, or as determined by the Engineer to be necessary to illustrate details of the Work shall be submitted to the Engineer 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.

(d) 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 Engineer 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.

5.4.1.2 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

5.4.1.3 The size of the sheets that shop drawings are prepared on shall be as appropriate to suit the drawing being presented so that the information is clearly and legibly depicted. At the determination of the Engineer, for each sheet of drawings, the submittal shall consist of either; one reproducible transparency and five prints, or eight prints.

5.4.14 Descriptive Sheets and Other Submittals When a submittal is required by the contract, the Contractor shall submit to the Engineer 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 Engineer 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.

5.4.15 Material Samples and Color Samples - When sample submittals are required by the contract, the Contractor shall review, approve, indicate its approval and submit to the Engineer 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.

**5.4.2 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 Engineer. If the variances are not acceptable to the Engineer, the Contractor will be required to furnish the item as specified or indicated on the contract documents at no additional cost or time.

**5.4.3 Review and Acceptance Process** - Submittals will be returned to the Contractor within twenty one (21) days (for projects on Oahu) and twenty five (25) days (for projects on the islands of Hawaii, Maui, Kauai, Molokai and Lanai) after receipt by the Engineer unless otherwise agreed between the Contractor and the Engineer or as stated elsewhere in the contract documents.

5.4.3.1 The acceptance by the Engineer of the Contractor's submittal relates only to their sufficiency and compliance with the intention of the contract. Acceptance by the Engineer 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 Engineer'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 is explicitly agreed to in writing by the Engineer. 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.

5.4.3.2 If the Engineer 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 Engineer. Any other differences between the resubmittal and the prior submittal shall also be specifically described in the transmittal.

5.4.3.3 No mark or notation made by the Engineer 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 Engineer or else lose its right to claim for an adjustment.

**5.5 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 subparagraphs shall govern:

**5.5.1 Addenda** shall govern over all other Contract Documents. Subsequent addenda issued shall govern over prior addenda only to the extent specified.

**5.5.2 SPECIAL CONDITIONS and Proposal** shall govern over the GENERAL CONDITIONS and Specifications.

**5.5.3 Specifications** shall govern over drawings.

**5.5.4 Specification Error** - Should an error or conflict appear within the specification, the Contractor shall immediately notify the Engineer. The Engineer 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.

5.5.4.1 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.

**5.5.5 Drawings**:

5.5.5.1 Schedules shall govern over all other notes and drawings.

5.5.5.2 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."

5.5.5.3 Except for drawing schedules and bottom elevations as noted above, general notes shall govern over all other portions of the drawings:

5.5.5.4 Larger scale drawings shall govern over smaller scale drawings.

5.5.5.5 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 Engineer.

5.5.5.6 In cases of discrepancies in the figures or drawings, the discrepancies shall be immediately referred to the Engineer 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 Engineer, the Contractor shall bear all extra expense involved.

5.5.5.7 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 Engineer for a decision.

5.5.5.8 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 Engineer for a decision.

5.5.5.9 Any requirement occurring in one or more of the sheets is as binding as though occurring in all applicable sheets.

**5.6 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 State and shall at once report to the Engineer 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 Engineer' clarification and interpretation. The Engineer will issue a clarification or interpretation that is consistent with the intent of and reasonably inferred from Contract Documents.

**5.7 EXAMINATION OF DRAWINGS, SPECIFICATIONS, PROJECT SITE**

**5.7.1** 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 Contact Documents.

5.7.1.1 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.

5.7.1.2 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.

**5.7.2** 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.

**5.7.3** Reference is made to the SPECIAL CONDITIONS for identification of subsurface investigations, reports, explorations and tests utilized by the State in preparation the Contract Documents. Such reports, drawings, boring logs etc. are not part of the Contract Documents.

**5.8 COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT**

**5.8.1 Furnishing Drawings and Specifications** - Contractor will be supplied up to twenty-four (24) copies of the Contract Drawings and Specifications. Contractor shall have and maintain at least one copy of the Contract Drawings and Specifications on the work site, at all times. Contractor shall cooperate with the Engineer, the Inspector(s), and other contractors in every possible way.

**5.8.2 Superintendent** - The Contractor shall have a competent superintendent or agent on the work site while work is being performed under the contract. The superintendent or agent shall be experienced in the type of project being undertaken and the work being performed. The superintendent or agent shall represent the Contractor and shall have the authority to act on behalf of the Contractor. Communications given to the superintendent or agent shall be as binding as if given to the Contractor.

5.8.2.1 If the superintendent or agent is not present at the work site, the Engineer shall have the right to suspend the work as described under Section 7.24 SUSPENSION OF WORK.

5.8.2.2 The Contractor shall file with the Engineer a written statement giving the name of the superintendent or agent assigned to the project. The Contractor shall be responsible for notifying the Engineer in writing of any change in the superintendent or agent.

5.8.2.3 The requirements of this subsection 5.8.2 may be waived by the Engineer.

**5.8.3 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 Engineer, 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 Engineer. 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.

5.8.3.1 The Engineer shall furnish the requisite bench elevations.

5.8.3.2 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 Engineer, any change shall be made in accordance with the Engineer's instruction.

5.8.3.3 The Contractor shall verify all street survey monuments (horizontal and vertical alignment) prior to final acceptance by the Engineer in accordance with any governmental requirements.

5.8.3.4 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.

**5.8.4 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 Engineer shall allocate the work and designate the sequence of construction in case of controversy between Contractors on separate projects under State jurisdiction.

5.8.4.1 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 Engineer 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.

5.8.4.2 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.

5.8.4.3 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 State may determine to be proper. Any additional work necessary will be paid in accordance with Section 8.3 PAYMENT FOR ADDITIONAL WORK.

**5.9 INSPECTION** - The Engineer, 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.

**5.9.1** 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 this Section 5.9 to the same extent as the Contractor.

**5.9.2 Authority to Suspend Operations** - The Inspector 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.

**5.9.3** 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 Engineer, defective and nonconforming work shall be corrected to comply with the contract requirements. Unsuitable, unspecified or unapproved materials may be rejected.

**5.9.4 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 State.

**5.10 REMOVAL OF DEFECTIVE, NON-CONFORMING AND UNAUTHORIZED WORK**

**5.10.1** 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 Engineer 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 expense.

**5.10.2 Scheduling Corrective Work** - The Contractor shall perform its corrective or remedial work at the convenience of the State and shall obtain the Engineer's approval of its schedule.

**5.10.3 Failure to Correct Work** -Upon failure on the part of the Contractor to comply promptly with any order of the Engineer made under the provisions of this Section 5.10, the Engineer 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.

**5.11 VALUE ENGINEERING INCENTIVE**

§3-132 HAR amended by Act 149 SLH 1999 - On projects with contract amounts in excess of $250,000, 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.

**5.11.1** 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 Engineer.

**5.11.2 Value Engineering Change Proposal** - All VECP must:

5.11.2.1 Result in a savings to the State of at least four thousand dollars ($4,000) by providing less costly items than 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.

5.11.2.2 Require, in order to be applied to this contract, a change order to this contract.

5.11.2.3 Not adversely impact on the schedule of performance or the contract completion date.

**5.11.3 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:

5.11.3.1 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;

5.11.3.2 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;

5.11.3.3 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;

5.11.3.4 A prediction of any effects the VECP would have on other costs to the State, such as State 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;

5.11.3.5 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

5.11.3.6 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.

**5.11.4 Required Use of Licensed Architect or Engineer** - When, in the judgment of the Engineer, 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.

**5.11.5** 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.

5.11.5.1 The determination of the Engineer as to the acceptance of any VECP under a contract shall be final.

**5.11.6 Acceptance of VECP** - The Engineer 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:

5.11.6.1 Design calculations;

5.11.6.2 The design criteria used; and

5.11.6.3 A detailed breakdown of costs and expenses to construct or implement such revisions.

5.11.6.4 The change order will identify the final VECP on which it is based.

**5.11.7 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.

**5.11.8** 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 paragraph, if it is stated on that sheet as follows:

5.11.8.1 "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."

**5.11.9** 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.

**5.11.10** The Contractor shall submit with each VECP all required information and provide all additional information as may be required by the Engineer 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.

**5.11.11** If the services of the Department's architect, engineer or consultant is necessary to review and evaluate a VECP, the cost therefor shall be paid for by the Contractor.

**5.11.12** 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.

**5.11.13** 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.

5.11.13.1 The Department may accept the proposed VECP in whole or in part. The Engineer shall issue a contract change order to identify and describe the accepted VECP.

**5.12 SUBCONTRACTS** - Nothing contained in the contract documents shall create a contractual relationship between the Department and any subcontractor.

**5.12.1 Substituting Subcontractor**s - Contractors may enter into subcontracts only with subcontractors listed in the proposal or with non-listed joint contractors / subcontractors permitted under subsection 2.7.3. No subcontractor may be added or deleted and substitutions will be allowed only if the subcontractor:

5.12.1.1 Fails, refuses or is unable to enter into a subcontract; or

5.12.1.2 Becomes insolvent; or

5.12.1.3 Has its subcontractor's license suspended or revoked; or

5.12.1.4 Has defaulted or has otherwise breached the subcontract in connection with the subcontracted work; or

5.12.1.5 Is unable to comply with other requirements of law applicable to contractors, subcontractors and public works projects.

**5.12.2 Requesting Approval to Substitute a Subcontractor** - Requests to substitute a subcontractor shall be submitted to the Engineer for approval. Contractor agrees to hold the State harmless and indemnify the State for all claims, liabilities, or damages whatsoever, including attorney's fees arising out of or related to the approval or disapproval of the substitution.

**5.12.3** 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.

**5.12.4 Subcontracting** - Contractor shall perform with its own organization, work amounting to not less than twenty (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 State in the contract as "specialty items" may be performed by a subcontract and the cost of any such specialty items so performed by the subcontract 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.

# 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 State 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 Engineer, shall be used. In order to expedite the inspection and testing of materials, at the request of the Engineer, the Contractor shall identify its proposed sources of materials within ten (10) days after notification by the Engineer.

**6.2.2** At the option of the Engineer, the materials may be accepted by the Engineer 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 Engineer's Authorization to Test Materials** - Materials proposed to be used may be inspected and tested whenever the Engineer 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 State.

**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 State. No material which is in any way unfit for use shall be used.

**6.3 SUBSTITUTION OF MATERIALS AND EQUIPMENT AFTER BID OPENING**

**6.3.1** Substitution of materials and equipment before bid opening - Refer to Section 2.6 SUBSTITUTION OF MATERIALS AND EQUIPMENT BEFORE BID OPENING. For materials and equipment submitted in compliance with Section 2.6, 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 State.

**6.3.2 Substitution After Contract Award** - Subject to the Engineer'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 Contract Award 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 Engineer 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 Engineer, 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 Engineer may require any or all materials to be tested by means of samples or otherwise. Contractor shall collect and forward samples requested by the Engineer. 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 Engineer may 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 Engineer 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 Engineer 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 Engineer has received and accepted the samples. If the Contractor proceeds to use such materials before the Engineer 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 5.4 SHOP DRAWINGS AND OTHER SUBMITTALS.

**6.7 NON-CONFORMING MATERIALS** - All materials not conforming to the requirements of these contract

documents, whether in place or not, shall be rejected and removed immediately from the site of work unless otherwise permitted by the Engineer 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 Engineer. If the Contractor fails to comply forthwith with any order of the Engineer made under the provisions of this Section 6.7, the Engineer 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 Engineer'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 ASSIGNMENT OF ANTITRUST CLAIMS FOR OVERCHARGES FOR GOODS PURCHASED** - Contractor (or Vendor) and the Department recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the Department. Therefore, Contractor hereby assigns to the Department any and all claims for such overcharges as to goods purchased in connection with this order or contract, except as to overcharges which result from antitrust violations commencing after the price is established under this order or contract and any change order. In addition, Contractor warrants and represents that each of its first tier suppliers and subcontractors shall assign any and all such claims to the Department, subject to the aforementioned exception.

# 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 Comptroller, 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 Engineer 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 Engineer 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 Engineer of its intentions and has been advised by the Engineer 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 Engineer. 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 Engineer, 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 Engineer:

**7.2.1 Identification of the Superintendent** or authorized representative on the job site. Refer to Section 5.8 COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT.

**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 Engineer who may reject same and require the bidder to submit another or several other schedules if in the Engineer'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 Engineer 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.

**7.2.5 Proof of Insurance Coverage**. Certificate of Insurance or other documentary evidence satisfactory to the Engineer 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 Engineer.

**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 State.

**7.3.3** Certificate(s) of Insurance acceptable to the State shall be filed with the Engineer 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 coverages being certified will not be cancelled or materially changes without giving the Engineer at least thirty (30) days prior written notice. If the State is to be an Additional Insured on any of the required insurance, it shall be so noted on the certificate. Should any policy be canceled before final acceptance of the work by the State, and the Contractor fails to immediately procure replacement insurance as specified, the State, 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 State harmless pursuant to other provisions of this contract. In no instance will the State'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 Engineer, when requested, satisfactory proof of coverage of each type of insurance required covering the work. Failure to comply with the Engineer'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 General Liability - The Contractor shall obtain General Liability insurance with a limit of not less than $2,000,000 per occurrence and in the Aggregates. The General liability insurance shall include the State as an Additional Insured. The required limit of insurance may be provided by a single policy or with a combination of primary and excess polices. Refer to SPECIAL CONDITIONS for any additional requirements.

7.3.7.3 Auto Liability - The Contractor shall obtain Auto Liability Insurance covering all owned, non-owned and hired autos with a Combined single Limit of not less than $1,000,000 per occurrence. The required limit of insurance may be provided by a single policy or with a combination of

primary and excess polices. Refer to SPECIAL CONDITIONS for any additional requirements.

7.3.7.4 Property Insurance (Builders Risk)

(a) New Building(s) - The Contractor shall obtain Property Insurance covering building(s) being constructed under this Contract. The limit shall be equal to the completed value of the building(s) and shall insure against all-loss excluding earthquakes and floods. The coverage shall be provided by a company authorized to write insurance in the State of Hawaii as an insurer. If the project falls within the State University System, The University of Hawaii shall be named as an insured. Refer to SPECIAL CONDITIONS for any additional requirements.

(b) Building Renovation and / or Installation Contract - The Contractor shall obtain Property Insurance with a limit equal to the completed value of the work or property being installed and shall insure against all-loss excluding earthquakes and floods. The coverage shall be provided by a company authorized to write insurance in the State of Hawaii as an insurer. If the project falls within the State University System, The University of Hawaii shall be named as an insured. Refer to SPECIAL CONDITIONS for any additional requirements.

(c) The Contractor is not required to obtain property insurance for contracts limited to site development

**7.4 PERMITS AND LICENSES**

**7.4.1** The State or its representative may process Federal (e.g. Corps of Engineers), State and County Permit applications. The Contractor shall pick up the pre-processed 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 State 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 Engineer.

**7.4.3** The Engineer 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 State, the Contractor shall notify the Engineer 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 Engineer's approval three (3) consecutive working days prior to the date of the change.

**7.6 HOURS OF LABOR** (Section 104-2 Hawaii Revised Statutes)

**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 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 hours on any other day. For the purposes of determining overtime compensation under this Section 7.6, 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** - (§ 104-2 HRS)

**7.7.1** The Contractor shall at all times 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, HRS Wages and Hours of Employees on Public Works Law'.

**7.7.2 Wage Rate Schedule** - The wage rate schedule is not 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. Said wage rate schedule may be obtained from the Contracts Office, Department of Accounting and General Services, 1151 Punchbowl Street, Room 422, Honolulu, Hawaii or, via the FAX-ON-DEMAND system of the Department of Labor and Industrial Relations, phone number (808) 586-8695. When the bid documents are made available on respective neighbor islands, copies of the wage rate schedule may also be obtained from the office of the respective neighbor island DAGS District Office.

**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 Director of Labor and Industrial Relations and published in wage rate schedules. Any increase in wage rates, as determined by the Director 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 Director 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 Director 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 Comptroller may withhold from the Contractor so much of the accrued payments as the Comptroller 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) - 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 Comptroller 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 disqualification from bidding in accordance with the provisions of Section 2.12 DISQUALIFICATION OF BIDDERS. 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 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 Comptroller, the Director 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 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 day or work performed on Saturday, Sunday or legal holiday of the State. Overtime and night work are permissible when approved by the Engineer in writing, or as called for elsewhere within these GENERAL CONDITIONS.

**7.10.2** **Overtime Notification** - Contractor shall inform the Engineer 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 insure 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 Engineer determines State 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 State 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 State 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 STATE INSPECTION SERVICE**

**7.11.1** Whenever the Contractor's operations require the State's inspection and staff personnel to work overtime or at night, the Contractor shall reimburse the State for the cost of such services unless otherwise instructed in the Contract. The Engineer 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 State 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 State'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.

7.11.1.3 Fees and other costs billed the State 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 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 insure the least practicable interference with pedestrian and motor traffic passageways. The Contractor shall furnish convenient detours and provide and plan all 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 Engineer.

**7.12.3** Each Contractor shall be responsible for any damage done by it to work performed by another contractor. Each Contractor shall so conduct its operations and maintain the work in such condition that 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 or disregards the directions of the Engineer, the Engineer 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, adequate drainage, the repair of damage and complies with the direction of the Engineer. No payment will be made for the costs of such suspension.

## 7.13 ASSIGNMENT OR CHANGE OF NAME §3-125-14 HAR

**7.13.1 Assignment** - The Contractor shall not sublet, sell, transfer, assign or otherwise dispose of this contract or any part hereof or any right, title or interest herein or any monies due or to become due hereunder without the prior written consent of the Comptroller.

**7.13.2** The Contractor may assign money due or to become due it under the contract and such assignment will be recognized by the Department, if given proper notice thereof, to the extent permitted by law; but any assignment of monies shall be subject to all proper set-offs in favor of the State and to all deductions provided in the contract and particularly all monies withheld or unpaid, whether assigned or not, shall be to use by the Department for the completion of the work in the event that the Contractors should be in default therein.

**7.13.3 Recognition of a Successor in Interest; Assignment** - When in the best interest of the State, a successor in interest may be recognized in an assignment agreement in which the transferor and the transferee and the State shall agree that:

7.13.3.1 The transferee assumes all of the transferor's obligations;

7.13.3.2 Transferor remains liable for all obligations under the contract but waives all rights under the contract against the State; and

7.13.3.3 The transferor shall continue to furnish, and the transferee shall also furnish, all required bonds.

**7.13.4 Change of Name** - When a Contractor requests to change the name in which it holds a contract with the State, the Comptroller shall, upon receipt of a document indicating such change of name (for example: an amendment to the articles of incorporation of the corporation), enter into an agreement with the requesting Contractor to effect such a change of name. The agreement changing the name shall specifically indicate that no other terms and conditions of the contract are thereby changed.

**7.13.5** All change of name or novation agreements effected hereunder other than by the Comptroller shall be reported to the Comptroller within thirty (30) days of the date that the agreement becomes effective.

**7.13.6** Notwithstanding the provisions of paragraphs 7.13.3.1 through 7.13.3.3 above, when a Contractor holds contracts with more than one purchasing agency of the State, the novation or change of name agreements herein authorized shall be processed only through the Comptroller.

## 7.14 LAWS TO BE OBSERVED

**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 Engineer 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).

**7.15 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 and its Departments and Agencies, any affected third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright in connection with the work to be performed under the contract, shall defend, protect, indemnify and hold harmless the State and its Departments and Agencies for any costs, expenses and damages which it may be obligated to pay by reason of any such infringement at any time during the prosecution or after the completion of the work. This section shall not apply to any design, device, material 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 paragraphs 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 Engineer. 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 Engineer promptly. The work in the affected area shall be resumed in the absence of hazard materials or when the hazzard 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 Engineer, shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Contractor shall give the Engineer 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 Engineer 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 as shown on the drawings 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 Engineer. The Contractor shall remove the fencing upon completion of construction, or as directed by the Engineer.

**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 Engineer immediately; and if the Contractor entered the archaeological site area without permission, it shall stop work in this area immediately. The Engineer 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 indemnify the State and the Department against all loss of or damage to the State's or the Department's existing property and facilities arising out of any act or omission committed in the performance of the work by the Contractor, any subcontractor or their employees and agents. Contractor shall defend, hold harmless and indemnify the Department and the State, their employees, officers and agents against all losses, claims, suits, liability and expense, including but not limited to attorneys' fees, arising out of injury to or death of persons (including employees of the State and the Department, the Contractor or any subcontractor) or damage to property resulting from or in connection with performance of the work and not caused solely by the negligence of the State or the Department, their agents, officers and employees. The State or the Department may participate in the defense of any claim or suit without relieving the Contractor of any obligation hereunder. The purchase of liability insurance shall not relieve the Contractor of the obligations described herein.

**7.19.2** The Contractor agrees that it will not attempt to hold the State and its Departments and Agencies and 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 GENERAL CONDITIONS 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 Engineer 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 its Departments and Agencies and 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.

## 7.20 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 GENERAL CONDITIONS, otherwise, the Engineer 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 Engineer, 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 Engineer, 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 Engineer. Should the Contractor or subcontractor continue to employ, or again employ such person or persons on the project, the Engineer may withhold all payments which are or may become due, or the Engineer may suspend the work until the Engineer'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 Engineer 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 Engineer 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 Notice to Proceed and shall continue consecutively to the date of Project Acceptance determined by the Engineer. 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.

**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 that 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 Engineer, provided the Contractor notifies the Engineer 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**
§3-125-18(4) - 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 Engineer 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 Engineer 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.

(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 both the Contractor, its subcontractor(s) or supplier(s), the Contractor may be granted an extension of time provided that it complies with the following procedures.

7.21.6.1 The Contractor must notify the Engineer 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 Engineer 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.

(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 Engineer shall be computed as follows:

7.21.7.1 When the performance of the work is totally suspended for one or more days (calendar or working days, as appropriate) by order of the Engineer in accordance with paragraphs 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 Engineer's order to suspend operations to the effective date of the Engineer'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 Engineer 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 Engineer, on a timely basis, 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.

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 Engineer prior to the start of the work. The purpose of the schedule is to allow the Engineer 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 Engineer'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. Additional compensation shall not be due the Contractor in the event that deviations from the Contractor's schedule, caused by any design revisions required to resolve site conditions or State, County, or utility requirements, affect the efficiency of its operations.

**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.

**7.22.4 Caution -** The Department will not be responsible if the Contractor does not meet its accelerated schedule.

**7.22.5** The requirements of this Section 7.22 CONSTRUCTION SCHEDULE may be waived by the Engineer.

**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 Engineer may, by written order, suspend the performance of the Work up to thirty (30) days and the Comptroller, for an unlimited number of days, 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 Engineer for prosecution of the work; or

7.24.1.2 Soil Conditions considered unsuitable by the Engineer 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 Engineer;

(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 Section 5.8 COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT.

7.24.1.4 When any redesign is deemed necessary by the Engineer; 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 specifications; or

7.24.1.6 The convenience of the State.

**7.24.2 Partial, 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** §3-125-7 HAR

7.24.3.1 In the event that the Contractor is ordered by the Engineer in writing as provided herein to suspend all work under the contract in accordance with paragraphs 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 Engineer, 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 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 and Section 4.2 CHANGES.

7.24.3.4 Claims for such compensation shall be filed with the Engineer 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 Engineer may make such investigations as are deemed necessary and shall be the sole judge of the claim and the Engineer's decision shall be final.

**7.24.4 Claims Not Allowed** - No claim under this Section 7.24 shall be allowed:

7.24.4.1 For any direct costs incurred more than twenty (20) days before the Contractor shall have notified the Engineer in writing of any suspension that the Contractor considered compensable. This requirement shall not apply as to a claim resulting from a suspension order under paragraphs 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.

7.24.4.3 No provision of this Section 7.24 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 Engineer under the provisions of paragraphs 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

**7.25.1 Required Notification** - As a condition precedent for any claim, the Contractor must give notice in writing to the Engineer 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 Engineer as an extra;

7.25.1.2 Failure by the State and Contractor to agree to an Oral Order or an adjustment in price or contract time for a Field Order or a Change Order issued by the State;

7.25.1.3 An action or omission by the Engineer requiring performance changes beyond the scope of the contract;

7.25.1.4 Failure of the State 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 Engineer. 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

**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 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 above shall be supplemented as requested by the Engineer.

**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, except as provided under Section 8.9 CLAIMS ARISING OUT OF PAYMENT FOR REQUIRED WORK.

**7.25.8** Contractor may protest the assessment or determination by the Engineer of amounts due the State from the Contractor by providing a written notice to the Engineer within thirty (30) days of the date of the Engineer's written assessment or determination. Said notice shall comply with all requirements of subsections 7.25.4 and 7.25.6 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 "pass through" claims of subcontractors or suppliers. 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:

7.25.9.1 "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 State 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 Engineer on the claim shall be final and conclusive, unless fraudulent, or unless the Contractor delivers to the Comptroller a written appeal of the Engineer's decision. Said appeal shall be delivered to the Comptroller no later than thirty (30) days after the date of the Engineer's decision.

7.25.10.1 In that event, the decision of the Comptroller shall be final and conclusive, unless fraudulent or unless the Contractor brings an action seeking judicial review of the Comptroller's decision in an appropriate circuit court of this State within six (6) months from the date of the Comptroller'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 shall only be calculated until the time such action is initiated. Interest on amounts due the State from the Contractor shall be payable at the same rate from the date of issuance of the Engineer'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 Engineer 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 State; provided that in any event the Contractor shall proceed diligently with the performance of the contract where the Engineer 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 State 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 State's business. In addition, the State 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 State projects because of the need to devote State resources to the project after the required completion date. The monetary amount of such public inconvenience, interference with State 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 as set forth below.

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 based upon the amount stated in the Specification Section 00800 SPECIAL CONDITIONS.

7.26.1.2 If the Contractor fails to correct Punchlist deficiencies as required by Section 7.32 PROJECT ACCEPTANCE DATE, the State 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 the Specification Section 00800 SPECIAL CONDITIONS. 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 Engineer.

7.26.1.3 If the Contractor fails to submit final documents as required by Section 7.33 FINAL SETTLEMENT OF THE CONTRACT, the State 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 the Specification Section 00800 SPECIAL CONDITIONS. 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 Engineer.

7.26.1.4 The Engineer shall assess the total amount of liquidated damages in accordance with the amount stated in the Specification Section 00800 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 Engineer shall be accepted by the parties hereto as final, unless the Contractor delivers a written appeal of the Engineer's decision in accordance with subsection 7.25.10 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 State.

## 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 Engineer to commence and continue correction of the refusal or failure with diligence and promptness, the Comptroller 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 Comptroller 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, 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 Comptroller may, when the interests of the State so require, terminate this contract in whole or in part, for the convenience of the State. The Comptroller 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 State's approval. The Comptroller 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 work not terminated by the notice of termination.

**7.28.3 Right to Construction and Goods** - The Comptroller may require the Contractor to transfer title and delivery to the State in the manner and to the extent directed by the Comptroller, 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 State has an interest. If the Comptroller 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 year from the effective date of termination, the Comptroller may pay the Contractor, if at all, an amount set in accordance with paragraph 7.28.4.3.

7.28.4.2 The Comptroller 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 construction, supplies, and construction materials under paragraph 7.28.3.3 of this Section, and the contract price of the work not terminated.

7.28.4.3 Absent complete agreement, the Comptroller 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, 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 State 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 State, and thereafter to expeditiously complete the correction of said defects, the Engineer 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 Engineer. However, the Contractor shall not remove any warning and directional signs prior to the formal acceptance by the Engineer. 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 Engineer, 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 Engineer 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 Engineer shall make a preliminary determination whether project is Substantially Complete.

(b) If the Project is not Substantially Complete, the Engineer 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 Engineer 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 Engineer shall schedule a Final Inspection within fifteen (15) days of the Contractor's notification letter or as otherwise determined by the Engineer.

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) Operating and maintenance manuals.

(d) Air conditioning test and balance reports.

(e) Any other final submittal required by the technical sections of the contract.

**7.31.2 Final Inspection** If at the Final Inspection the Engineer determines that all work is completed, the Engineer 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 Engineer, within five (5) days from the Final Inspection Date. The Contractor shall make the necessary corrections.

7.31.2.1 The Engineer 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 Engineer 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 Engineer may revoke the determination of Substantial Completion if the Engineer finds it was not warranted. The Engineer 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 Engineer finds that the project has been satisfactorily completed in compliance with the contract, the Engineer 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 State 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.

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 Engineer'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 Engineer 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 Engineer 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 State 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** - 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 Necessary Submissions** in addition to the items noted under paragraph 7.31.1.2.

7.33.1.1 All written guarantees required by the contract.

7.33.1.2 Complete and certified weekly payrolls for the Contractor and its Subcontractor(s).

7.33.1.3 Certificate of Plumbing and Electrical Inspection.

7.33.1.4 Certificate of Building Occupancy.

7.33.1.5 Certificates for Soil Treatment and Wood Treatment.

7.33.1.6 Certificate of Water System Chlorination.

7.33.1.7 Certificate of Elevator Inspection, Boiler and Pressure Pipe installation.

7.33.1.8 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 Comptroller 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 Engineer 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 excluding earthquakes and floods, 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, whichever is earlier.

**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 Engineer 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 Engineer that the deficiencies have been repaired or remedied.

**7.35.5** If guarantee is specified for greater than two (2) years, two (2) years shall prevail except for manufacturer's warranties. Manufacturer's warranties shall remain as specified in their respective Specification sections.

7.35.5.1 However, the number of years specified in the technical specifications shall prevail only if it is stated that the number of years for guarantee supercedes this provision.

### 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 and 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.

### 7.3*7* RIGHT TO AUDIT RECORDS

**7.37.1** Pursuant to Section 103D-317 HRS the State, at reasonable times and places, may audit the books and records of a Contractor, prospective contractor, subcontractor and prospective subcontractor relating to the Contractor's or subcontractor's cost or pricing data. The books and records shall be maintained by the Contractor and subcontractor(s) for a period of four (4) years from the date of final payment under the contract.

**7.37.2** The Contractor shall insure 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, authorizes 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 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 Agreement.

**7.38.2** The representative of the Department, the Comptroller of the State of Hawaii, 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 Agreement 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 Agreement.

**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 retain all records related to the Contractor and subcontractor's performance of services under this Agreement for four (4) years from the date of final payment, except that if any litigation, claim, negotiation, investigation, audit or other action involving the records has been started before the expiration of the four (4) year period, the Contractor and subcontractors shall retain the records until completion of the action and resolution of all issues that arise from it, or until the end of the four (4)) year retention period, whichever occurs later. Furthermore, it shall be the Contractor's responsibility to enforce compliance with this provision by any subcontractor. . . . . .

# ARTICLE 8 - Measurement and Payment

### 8.1 MEASUREMENT OF QUANTITIES

**8.1.1** All work completed under the Contract shall be measured by the Engineer 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 engineering practice. These measurements shall be considered correct and final unless the Contractor has protested same to the Engineer 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 surface, 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, except where slope exceeds ten percent (10%) 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 Engineer, 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 Engineer 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 Engineer 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 Engineer or any representative of the Engineer, 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 Engineer, 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 Engineer 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, workers compensation insurance premiums, State unemployment contributions, Federal unemployment taxes, social security and Medicare taxes to which a markup of up to six percent (6%) may be added.

8.3.4.3 Materials - For materials accepted by the Engineer 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 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 clause 8.3.4.5.(h) owned or leased by the Contractor or a related entity, the use of which has been authorized by the Engineer:

(a.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.

(a.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 Engineer prior to the use of said machinery or equipment. If there is no agreement, the Engineer will set a rate. The Contractor may contest the rate pursuant to Section 7.25 DISPUTES AND CLAIMS.

(a.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 Engineer 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 Engineer; 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 Engineer.

(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 Engineer; 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 Engineer.

(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 paragraph 8.3.4.5. Rental rates for Contractor-owned trucks not listed in the Rental Rate Blue Book shall be agreed upon in writing by the Contractor and Engineer prior to the use of said trucks. If there is no agreement, the Engineer 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 hours per day until the equipment is no longer needed.

(e.1) The rental time to be paid will be for the time actually used. Any hours or operation in excess of 8 hours in any one day must be approved by the Engineer prior to the performance of such work.

(e.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.

(e.3) In the event the Force Account work is completed in less than 8 hours, equipment rental shall nevertheless be paid for a minimum 8 hours.

(e.4) For the purpose of determining the rental period the continuous and consecutive days shall be the normal 8-hour shift work day, Monday through Friday excluding legal holidays. Any work day to be paid less than 8 hours shall not be considered as continuous, except for equipment removed from rental for fuel and lubrication.

(e.5) No additional premium beyond the normal rates used will be paid for equipment over 8 hours per day or 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 five hundred dollars ($500) 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.

(i.1) The Contractor shall provide the cost of replacement to the Engineer prior to using the equipment. If the Engineer does not agree with the replacement cost, the Engineer 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 an equipment cost under paragraph 8.3.4.5.

(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:

(k.1) The location from which the equipment is to be moved or transported shall be approved by the Engineer.

(k.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.

(k.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 Engineer based upon the prevailing rates charged by established haulers within the locale.

(k.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.

(k.5) At the discretion of the Engineer, 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 paragraphs 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 paragraphs 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 paragraphs 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 Engineer 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 Engineer.

8.3.4.8 Statements - No payment will be made for work on a Force Account basis until the Contractor has submitted to the Engineer, 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

(c.1) Quantities of materials, prices and extensions

(c.2) Costs of transporting materials, if such cost is not reflected in the prices of the materials.

(c.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 them to the Engineer. 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 Engineer and will be subject to compliance with Section 7.9 PAYROLLS AND PAYROLL RECORDS.

**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 Engineer 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 Work; or

8.4.3.2 For special items of materials accepted by the Engineer, 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 Work.

**8.4.4** Partial payments shall be made only if the Engineer 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.

**8.5 PROMPT PAYMENT** §3-125-23 HAR

**8.5.1** Any money paid to a Contractor for work performed by a subcontractor or for unpaid material invoice shall be disbursed to such subcontractors and material suppliers within ten (10) days after receipt of the money from the Department, provided that there are no bona fide disputes, and

**8.5.2** Upon final payment to the Contractor, full payment to all subcontractors and material suppliers shall be made within ten (10) days after receipt of the money, provided there are no bona fide disputes over the subcontractor's or material supplier's performance under the subcontract.

**8.5.3 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.

**8.5.4 Filing Non-Payment Complaint** - Subcontractors and material suppliers may file in writing a complaint with the Comptroller regarding non-payment by the Contractor. Such complaint shall include:

8.5.4.1 The amount past due for work performed and already paid for by the Department;

8.5.4.2 That all the terms, conditions or requirements of its subcontract have been met; and

8.5.4.3 That no bona fide dispute over its performance exists. The Department will investigate the validity of the complaint.

**8.5.5** 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.

**8.5.6** If the Engineer 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 Engineer shall inform the Contractor of the findings and request the Contractor make payment accordingly. If the Contractor does not act promptly, the Engineer 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 State 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 if progress is satisfactory, the Engineer at its sole discretion may elect not to withhold further retainage. If progress is not satisfactory, the Department may continue to withhold as retainage sums not exceeding five percent (5%) of the amount earned.

**8.6.2** The retainage shall not include sums deducted as liquidated damages from moneys due or that may become due the contractor under the contract.

**8.6.3** Contractor may withdraw from time to time the whole or any portion of the sum retained after endorsing over to the Department and depositing with the Department any general obligation bond of the State or its political subdivisions suitable to the Department but in no case with a face value less than the value established by law of the amount to be withdrawn. The Department may sell the bond and use the proceeds therefrom in the same way as it may use monies directly retained from progress payments or the final payment.

**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.

**8.8 FINAL PAYMENT**

**8.8.1** Upon final settlement, the final payment amount, less all previous payments and less any sums that may have been deducted in accordance with the provisions of the contract, will be paid to the Contractor, provided the Contractor has submitted a Tax Clearance Certificate from the Department of Taxation and the Internal Revenue Service to the effect that all taxes levied or accrued under Federal and State Statutes against the contractor have been paid.

**8.8.2** Sums necessary to meet any claims of any kind by the State may be retained from the sums due the Contractor until said claims have been fully and completely discharged or otherwise satisfied.

**8.9 CLAIMS ARISING OUT OF PAYMENT FOR REQUIRED WORK** - If the Contractor disputes any determination made by the Engineer regarding the amount of work satisfactorily completed, or the value thereof, or the manner in which payment therefore is made or calculated, it shall notify the Engineer in writing of the specific facts supporting the Contractor's position. Such notice shall be delivered to the Engineer no later than thirty (30) days after the Contractor has been tendered payment for the subject work, or, if no payment has been tendered, not later than fifty (50) days after it has submitted the Monthly Payment Application required under Section 8.4 PROGRESS AND/OR PARTIAL PAYMENTS herein to the Engineer for the work that is the subject of the dispute. The delivery of the written notice cannot be waived and shall be a condition precedent to the filing of the claim. No claim for additional compensation for extra work or change work shall be allowed under this provision, unless the notice requirements of Article 4 SCOPE OF WORK have been followed. Acceptance of partial payment of a Monthly Payment Application amount shall not be deemed a waiver of the right to make a claim described herein provided the notice provisions are followed. The existence of or filing of a payment claim herein shall not relieve the Contractor of its duty to continue with the performance of the contract in full compliance with the directions of the Engineer. Any notice of claim disputing the final payment made pursuant to Section 8.8 FINAL PAYMENT must be submitted in writing not later than thirty (30) days after final payment that is identified as such has been tendered to the Contractor.

END ARTICLE 8

# APPENDIX E

# MANDATORY QUESTIONS

See following pages.

# EXHIBIT E
## Mandatory Questions

| | | |
|---|---|---|
| | Company Name & Address:<br>Contact Name & Information: | |
| | QUESTION | COMMENTS |
| | 3.7.3<br>A. Background, Qualifications and Experience | |
| | Provide a brief description of Company's qualifications to perform the Scope of Services requirements. | |
| | Does your company have previous experience working with waste water treatment plants or sewer lift stations in the past 3 years? If yes, provide details of applicable projects. | |
| | Does your company have any letters of recommendations that can be submitted as a part of this RFP? If yes, please include. | |
| | How long has your company been in business? | |
| | Have you ever operated under another business name? If yes, please list the name(s) and date(s). | |
| | What state is your company incorporated in? | |
| | How many employees does your company employ? (Direct employees only.) | |
| | What is the shortest timeframe an employee has worked with you and what is the longest? | |
| | In what types of projects do you specialize? | |
| | What sets you or your company apart from your competitors? | |
| | What does your company offer its employees by way of job education? | |

# EXHIBIT E
## Mandatory Questions

| | | |
|---|---|---|
| | Company Name & Address:<br>Contact Name & Information: | |
| | QUESTION | COMMENTS |
| | What is the longest amount of down-time your company experienced between jobs and why? | |
| | Have you, individually or as a part of your company, ever failed to complete any construction project? If yes, explain why. | |
| | Identification of litigation currently impacting the Company, if any. State "NONE", if none. | |
| | Identification of any fines or violations received in the past 3 years relative to safety and environmental issues. State "NONE", if none. | |
| | State your Experience Modification Rate (EMR). This can be obtained from your insurance company. | |
| | Have you had any legal action brought against you as the result of work you have performed? If yes, why, and what was the outcome? | |
| | Have you or any of your company's ever declared bankruptcy? | |
| | How will you identify with which sub-contractors to work on this Project? | |
| | Describe your Company's warranty program. | |
| | Describe your project close-out process. | |
| | Is your company bondable for 100% of the project cost for both performance and payment? | Yes or No |
| | B. Project Management | |

# EXHIBIT E
## Mandatory Questions

| | | |
|---|---|---|
| | Company Name & Address:<br>Contact Name & Information: | |
| | QUESTION | COMMENTS |
| | How much lead-time does your company need to begin dedicating resources to this project once the contract is signed? | |
| | Will there be a construction supervisor on site at all times? | |
| | - Supervisor must be knowledgeable in all aspects of managing a construction site. Site Supervisor must be able to communicate from the site via electronic means. | |
| | Conflicts between Company and KCH may occur from time to time during this project; how do you anticipate mitigating disagreements as well as resolving them? | |
| | Do you have a project management plan to ensure cost-effective, efficient and timely performance of all project tasks? If yes, please describe. If not, | |
| | - How do you track and manage questions, resolutions, decisions, directions and other information matters throughout your projects? | |
| | If your company does not have a West Hawaii office, will you be willing to discuss partnering with a locally based contractor? | |
| | How many projects will your company have occurring at the same time as this project? | |
| | - If multiple projects, how will your company successfully manage all projects at the same time? | |

# EXHIBIT E
## Mandatory Questions

| | | |
|---|---|---|
| | Company Name & Address:<br>Contact Name & Information: | |
| | QUESTION | COMMENTS |
| | How many outstanding bids does your company have at this time? | |
| | In order to execute the project by the agreed upon completion date, what will you require of HHSC? What do you see as HHSC's responsibilities? | |
| | Submit a detailed yet approximate project timeline. A separate sheet behind the mandatory questions may be used if necessary. | |
| | What steps will your company take to execute the project in a cost-effective, efficient and timely manner? | |
| | Do you anticipate any special requirements for this project? If yes, what are they? | |
| | State the concerns applicable to this project and how OFFEROR proposes to minimize risk associated with the concerns. | |
| | What potential project risks or issues are anticipated and how will they be addressed in order to minimize risk? | |
| | KCH uses Procore for RFIs and document sharing. OFFEROR will be required to use Procore for those purposes. Does your company use Procore currently? | |
| | C. Financial | |
| | What is your company's legal structure? | |
| | What is your OH&P percentage for this project? | |
| | How is OH&P calculated? | |
| | How do you calculate OH&P on additive and deductive change orders? | |

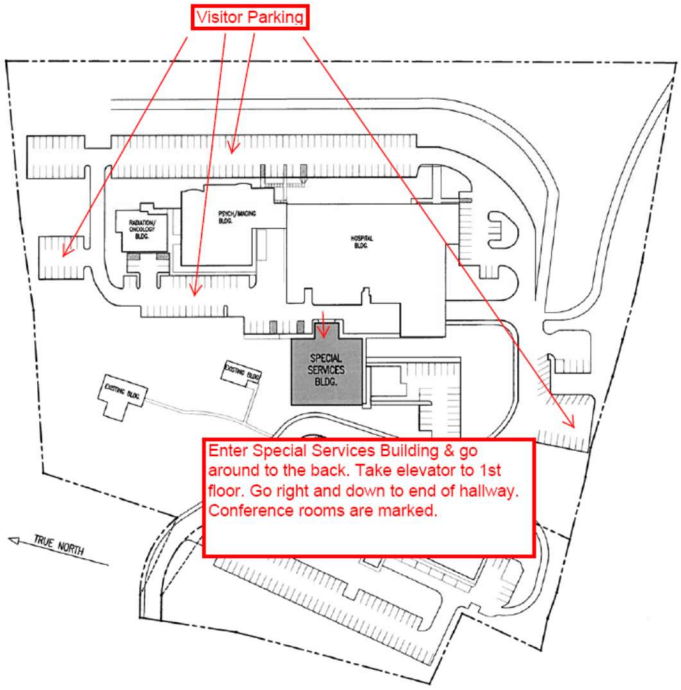
# EXHIBIT E
## Mandatory Questions

| | | |
|---|---|---|
| | Company Name & Address:<br>Contact Name & Information: | |
| | QUESTION | COMMENTS |
| | How do you ensure your subcontractors are providing fair pricing? | |
| | What is your Company's bonding capacity? | |
| | If it is determined some work must be performed on off-work or weekend, how will the upcharge be computed with this being a fixed fee agreement? | |
| | Do you bill monthly or according to milestones? Please explain in detail your billing method as well as deposit requirements, if any. | |
| | D. References | |
| | Provide 3 references of past and/or present projects demonstrating Company's qualifications, experience and performance with regard to performance of the Scope of Services requirements. Include customer name, contact name, email address and telephone number. | |
| | If KCH was to contact any of your subcontractors for a reference, what do you think they would tell us about your company and your projects? | |
| | Who are your top 3 material suppliers? | |
| | - Are your accounts in good standing? If not, why? | |
| | Why should KCH hire your company to perform the requirements of this project? | |
| | Is there any additional information that might be valuable to KCH in determining which company to award the Wastewater Treatment Plant project to? | |

# APPENDIX F

# AGENDA FOR PRE-PROPOSAL CONFERENCE WITH TOUR OF HOSPITAL FACILITIES

| General Information | | |
|---|---|---|
| Date | January 22, 2026 | |
| Location | Kona Community Hospital<br>**Special Services Building**<br>**Conference Room 2**<br>79-1019 Haukapila Street<br>Kealakekua, HI 96750<br>Map is below | |
| Points of Contact | Contracts Management<br>Loretta Buasriyottiya<br>West Hawaii Region<br>Email whrcontractsmgmt@hhsc.org<br>Direct (808) 322-4691<br><br>OR | Contracts Management<br>Yvonne Taylor, Sr. Contracts Manager<br>West Hawaii Region<br>Email whrcontractsmgmt@hhsc.org |
| Agenda | | |
| 9:50 am – 10:00 am | Check in at the front of the Special Services Building for Visitor Badges (see Security Guards). Vendors must have a signed confidentiality agreement, either already submitted or brought to the meeting. | |
| 10:00 am to 10:45 am | Briefing, including questions and answers | |
| 10:45 am to 11:30 am | Project site tour | |




Map of Kona Community Hospital

# APPENDIX G

## RFP CONFERENCE RESERVATION FORM

Submit completed forms to Issuing Officer by the date shown in Figure 1 of the solicitation.

| Conference Information | |
|---|---|
| RFP No: | 26-0259 |
| RFP Title: | Kona Community Hospital – Wastewater Treatment System Upgrade |

| OFFEROR Information | | |
|---|---|---|
| Business Name | | |
| Street Address | | |
| City | | |
| State | | Zip code |

| Priority | Attendee Name, Title | Email Address | Role in Procurement | Will Attend Meeting & Hospital Tour |
|---|---|---|---|---|
| 1 | | | | ☐ |
| 2 | | | | ☐ |

Due to space constraints and to avoid disruption to Hospital operations, it is necessary to limit the number of attendees to two per company. Please limit Hospital Tour participants to those individuals that have a need to view the work areas in order to prepare the OFFEROR's proposal. **An executed Confidentiality Agreement (Appendix H) is necessary to participate in Hospital Tour.**

**PLEASE SUBMIT RESERVATION FORM AND SIGNED CONFIDENTITALITY AGREEMENT AT LEAST 24 HOURS PRIOR TO THE MEETING**

## APPENDIX H

## MANDATORY HOSPITAL TOUR CONFIDENTIALITY AGREEMENT

I understand that while attending the hospital tour, I may hear patients discussing their health information and I may see someone I know. I understand that I cannot disclose this confidential information to friends, relatives, co-workers or anyone else.

If I violate this agreement, I may be subject to adverse action up to and including termination of my ability to work at Kona Community Hospital. In addition, under applicable law, I may be subject to criminal or civil penalties.

I have read and understand the above and agree to be bound by it.

**OFFEROR**

Name: _____

Title: _____

Company: _____

Signature: _____

Date: _____

[THE REMAINDER OF THIS PAGE IS LEFT BLANK INTENTIONALLY.]

# APPENDIX J

## WWTS SPECIFICATION MANUAL

See following pages

# PROPOSAL AND SPECIFICATIONS FOR KONA COMMUNITY HOSPITAL

# 79-1019 HAUKAPILI STREET, KEALAKEKUA, KONA, HAWAII

# TMK: (3) 7-9-010-081

# NOVEMBER 2025

Prepared by:

**ENGINEERING PARTNERS**
455 E LANIKAULA STREET
HILO, HAWAII 96720
www.epinc.pro

# PROPOSAL SCHEDULE

KONA COMMUNITY HOSPITAL WASTEWATER TREATMENT PLANT PROJECT

KEALAKEKUA, KONA, HAWAI'I

The undersigned Bidder hereby proposes to furnish and pay for all materials, tools, transportation, equipment, labor, and other incidental work necessary to construct and complete in place the "KONA COMMUNITY HOSPITAL WASTEWATER TREATMENT PLANT SYSTEM UPGRADE" , Kealakekua, Kona, Hawaii, together with equipment and all necessary appurtenances and work incidental thereto in accordance with the true intent and meaning of the plans, proposal, general specifications, and detailed specifications made a part of these specifications.

~~The Bidder agrees to complete the work within the time period specified below including the date of commencement.~~

~~Basic Bid 365 Consecutive Calendar Days from NTP~~

Work Days and Work Hours for this project shall be Monday through Friday, eight (8) hours per day. The Contractor shall be responsible for payment of overtime charges.

~~It is understood that the award of the contract shall be based on the Lowest Basic Bid.~~

| Item No. | Quantity | Unit | Description | Unit Price | Total |
|---|---|---|---|---|---|
| 1. | 1 | LS | Mobilization and Demobilization. (Not to Exceed 10% of the Total Sum Bid) | | $_____ |
| 2. | 5 | EA | Concrete testing by 3rd party firm including sampling (set of 4 cylinders) and laboratory work. | | $_____ |
| 3 | 5 | EA | Compaction test for aggregates and asphalt pavement by 3rd party firm including aggregate sampling and gradation analysis of materials. | | $_____ |
| 4. | 1 | LS | Demolition Work: to include demolition, hauling & disposal as required to construct new improvements. | | $_____ |

| Item No. | Quantity | Unit | Description | Unit Price | Total |
|---|---|---|---|---|---|
| 5. | 1 | LS | Grading Work, as required to construct new improvements, complete in place. | | $_____ |
| 6. | 1 | LS | New 50,000-gallon Packaged Wastewater Treatment, in place complete. | | $_____ |
| 7. | 1 | LS | 6" SDR-26 PVC sewer pipe and fittings, including trench, pipe cushion, and all items necessary, in place complete. | | $_____ |
| 8. | 1 | LS | 8" SDR-26 PVC sewer pipe and fittings, including trench, pipe cushion, and all items necessary, in place complete. | | $_____ |
| 9. | 1 | LS | 12" DI Sewer line including trench, pipe and fittings, in place complete. | | $_____ |
| 10. | 1 | LS | Realignment of 1-1/4" HDPE force main piping from existing sewage pump station to new wastewater treatment plant, complete in place. | | $_____ |
| 11. | 1 | LS | Installation of new in-line Muffin Monster grinder unit or approved equal, complete in place. | | $_____ |
| 12. | 1 | LS | New CMU Retaining wall; as required to construct new improvements; complete and in place | | $_____ |
| 12. | 1 | LS | Reconstruction existing wall rock to match existing, complete in place. | | $_____ |
| 13. | 1 | LS | New sewer manhole over existing 8" sewer line complete in place. | | $_____ |
| 14. | 1 | LS | New Chain Link Fence and double swing gate; including new fence posts, mesh material & appurtenances, as required, in place complete. | | $_____ |
| 15. | 1 | LS | Electrical Work, in place complete. | | $_____ |
| 16. | 1 | LS | Record Drawings | | $_____ |
| 17. | 1 | LS | Site Restoration; asphalt; landscaping restoration including all incidentals and appurtenance complete in place. | | $_____ |
| 18. | 1 | FA | Water Pollution and Erosion control, including maintenance and removal of BMPs, as required by weather conditions | $15,000.00 | $ 15,000.00 |

| Item No. | Quantity | Unit | Description | Unit Price | Total |
|---|---|---|---|---|---|
| 19. | 1 | FA | Additional site restoration due to field realignment of unforeseen obstructions and unforeseen encroachment into asphalt concrete pavement, fences, and CMH/CRM walls; including all items necessary to restore the site to existing or better conditions, in place complete. | $25,000.00 | $25,000.00 |

**Total Sum Base Bid** $_____

TABLE OF CONTENTS

**Division 16 – Electrical**



**Division 46 – Water and Wastewater Equipment**

**SECTION 01000**

**GENERAL REQUIREMENTS**

PART 1 – GENERAL

1.01 PROJECT DESCRIPTION

1. A brief description of the work is provided in the Summary of Work section. To determine the full scope of the project or any particular part thereof, it is necessary to refer to and coordinate the applicable information across several parts of these Contract Documents. This approach ensures that all relevant details are considered, providing a comprehensive understanding of the project's requirements and objectives.

2. The design of the wastewater treatment plant is a Purestream PT-50 Extended Aeration Treatment system and is described as a complete, prefabricated unit in a compact package that can be installed above or below grade.

3. The design of the wastewater treatment plant and associated appurtenances as present in these plans and specifications is for design purposes. The awarded contractor may, at their discretion, omit or modify certain or all elements as part of this bid proposal. It is expressly understood that any and all costs associated with such omissions or changes shall be borne entirely by the contractor. The contractor assumes full responsibility and will ensure the modifications or omissions do not compromise the functionality, safety, or regulatory requirements of this project. The owner and design team shall not be held liable for any additional expenses incurred as a result of the contractor's decision to deviate from the original design.

4. The General Requirements and Covenants of the Department of Public Works, County of Hawai‘i (July 1972) or as applied to the General Provisions for Construction Projects, State Department of Transportation; Air and Water Transportation Facilities Division dated 2016 shall be applicable and incorporated herein and made a part of these specifications.

5. The Standard Specifications (1986) and Standard Details (1984) for Public Works Construction, Department of Public Works, County of Hawai‘i, where applicable the 2005 Standard Specifications for Road and Bridge Construction shall be incorporated

herein and made a part of these specifications.

6. It is understood that the requirements and specifications for this project are comprehensively detailed within these bidding documents. In the event of any discrepancies or conflicts between various sections, codes, or regulations referenced herein, the more stringent regulation or requirements shall prevail.

1.02 WATER SYSTEMS STANDARDS

1. Water Systems Standards, dated 2002, as amended, Department of Water Supply, County of Hawaii. This document is not physically included in the Contract, but it is incorporated by reference as part of the Contract Documents.

1.03 SPECIFICATIONS

1. The following articles shall and do hereby apply to each and every section of the Specifications as though fully contained therein.

1.04 TRADE DISTINCTIONS

1. For convenience of reference and to facilitate letting of subcontracts, these Specifications are separated into Sections. Such separations shall not operate to make the Engineer an arbiter or to establish subcontract limits between the Contractor and Subcontractor. Sections in these specifications conform roughly to the customary trade practice. They are used for convenience only. The Engineer or Owner is not bound to define the limits of any subcontract.

2. Grouping items of work in divisions of technical specifications is not intended as assignment to a specific subcontractor or trade union.

1.05 WORK INCLUDED

1. Each specification section shall imply the furnishing of all labor and materials, required for the complete installation of the subject work unless specifically stated otherwise in the specific section of the Specifications.

1.06 RELATED WORK SPECIFIED IN OTHER SECTIONS

1. Considered to apply wherever it is properly implied in any section whether specifically stated or not.

1.07 CODES AND STANDARDS

1. Any reference in the specifications text to codes, standard specifications or manufacturer's instructions shall mean the latest printed edition of each in effect at the contract date.

1.08 BUILDING LAWS

1. Applicable to this project to the extent required by permits.

1.09 LAWS AND PERMITS

1. The Contractor shall comply with the local laws, ordinances, rules, and regulations bearing on the work, and he must obtain and pay for all permits, licenses, certificates, and give all notices which may be required.

2. In the event that Kona Community Hospital (KCH) secures project permits prior to award of the Contract, the Contractor shall be responsible for compliance with all permit conditions and submittal of additional documents which may be required under the conditions of the permit.

1.10 MATERIAL, EQUIPMENT AND WORKMANSHIP

1. Unless otherwise specifically stated in the contract documents, the Contractor shall provide and pay for materials, labor, tools, equipment, water, light, power, transportation, supervision, and temporary construction of any nature, and other services and facilities of any nature, whatsoever necessary, to execute, complete and deliver the work within the specified time.

2. Material and equipment shall be new and of a quality equal to that specified. The equipment offered shall be current models, which have been in successful regular operation under comparable conditions. This requirement does not apply to minor details, or to thoroughly demonstrate improvements in design or in materials of construction.

3. Construction work shall be executed in conformity with the standard practice of each trade.

1.11 QUALITY

1. Where the contract requires that materials or equipment be provided or that construction work be performed, and detailed specifications of such materials, equipment or construction work are not set forth, the Contractor shall perform the work using materials and equipment of the best grade in quality and workmanship obtainable in the market, from firms of established good reputations, and shall follow standard practices in the performance of construction work.

2. The work performed shall be in conformity and harmony with the intent to secure the standard of construction and equipment of work as a whole and in part.

## 1.12 MATERIAL AND EQUIPMENT SPECIFIED BY NAME

1. When material or equipment is specified by reference to one or more patents, brand names, or catalog numbers, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements, and that other materials or equipment, of equal capacities, quality and function shall be considered by Engineer of Record and KCH upon the Contractor's request for substitution.

## 1.13 SINGLE SOURCE PRODUCTS

1. If material or equipment is specified by only one patent or proprietary name, or by the name of only one manufacturer, it is for the purpose of standardization, or because the Engineer of Record or Owner knows of no equal. If standardization is the reason for using one name to specify any material or equipment, the specifications will so state, and substitutions will not be considered. In other cases, the Contractor may offer substitutions of products considered to be equal to that specified.

## 1.14 SPECIFIED ARTICLES OR EQUAL CLAUSE

1. In order to establish a basis of quality, certain materials or articles may be specified by designating a particular manufacturer's name, brand, or number. It is not the intent of the specifications to exclude other materials or articles that measure up to the standards of those specified. Whenever an article is specified by giving the manufacturer's name, it is understood that the words "or equal" follow thereafter.

2. Should the Contractor desire to make any substitutions, substitutions shall be requested in writing to Engineer of Record.

## PART 2.00 - DEMONSTRATION OF COMPLIANCE WITH CONTRACT REQUIREMENTS

### 2.01 INSPECTION

1. To demonstrate their compliance with the contract requirements, the Contractor shall assist the Engineer in their performance of inspection work.

2. The Contractor shall grant the Engineer access to the work and to the site of the work, and to the places where work is being prepared, or where materials, equipment or machinery are being obtained for the work. The Contractor shall provide information requested by the Engineer in connection with inspection work.

3. If the contract documents, laws, ordinances, or any public regulatory authority require parts of the work to be specially inspected, tested or approved, the Contractor shall give the Engineer adequate prior written notice of the availability of the subject work for examination.

4. If parts of the work are covered in the absence of the Engineer and contrary to the Engineer's directive, the cost of exposing the work for inspection and closing shall be borne by the Contractor regardless of whether or not the work is found to be in compliance with the contract.

### 2.02 MATERIALS AND EQUIPMENT SPECIFIED BY NAME

1. When materials or equipment is specified by reference to one or more patents, brand names, or catalog numbers, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements, and that other materials or equipment, of equal capacities, quality and function shall be considered by KCH upon the Contractor’s request for substitution.

### 2.03 CERTIFICATION

1. In cases where compliance of materials or equipment to contract requirements is not readily determinable through inspection and tests, the Engineer shall request that the Contractor provide properly authenticated documents, certificates or other satisfactory proof of compliance. These documents, certifications and proofs shall include performance characteristics of materials.

2.04 INSPECTION AT POINT OF MANUFACTURING:

1. If inspection and testing of materials or equipment in the vicinity of the work by KCH is not practicable, the specifications may require that such inspection and testing or witnessing of tests take place at the point of manufacture.

2. In this case and in the event that remote inspection and testing is not specified and is requested by KCH, the required travel, subsistence, and labor expense shall be paid by KCH.

3. If the Contractor requests KCH to inspect and test material or equipment at the point of manufacture, then the additional cost to the KCH for travel, subsistence, and labor expenses shall be paid by the Contractor.

2.05 MANUFACTURER'S DIRECTIONS

1. Manufactured articles, material and equipment shall be applied, installed, connected, erected, adjusted, tested, operated and maintained as recommended by the manufacturer, unless otherwise specified.

2. Manufacturers' installation instructions and procedures shall be provided prior to installation of the manufactured articles, material, and equipment

2.06 SPECIAL TOOLS

1. For each type of equipment furnished by him, the Contractor shall provide a complete set of all special tools (including grease guns and other lubricating devices), which may be necessary for the adjustment, operation, maintenance and disassembly of such equipment. Tools shall be high-grade, smooth, forged, alloy, tool steel. Grease guns shall be lever type.

2. Special tools are considered to be those tools which because of their limited use are not normally available, but which are necessary for the particular equipment.

3. Special tools shall be delivered at the same time as the equipment to which they pertain. The Contractor shall properly store and safeguard such special tools until completion of the work, at which time they shall be delivered to KCH.

2.07 PROTECTION AGAINST ELECTROLYSIS

1. Where dissimilar metals are used in conjunction with each other, suitable insulation shall be provided between adjoining surfaces to eliminate direct contact and any resultant electrolysis. The insulation shall be bituminous impregnated felt, heavy bituminous coatings, nonmetallic separators or washers, or other acceptable materials.

## 2.08 CORRECTION OF DEFECTIVE WORK

1. When, and as often as the Engineer determines through the inspection procedures, material, equipment, or workmanship incorporated in the project do not meet the requirements of the contract, the Engineer shall give written notice of the noncompliance to the Contractor.

2. Within five (5) workdays from the receipt of such notice, the Contractor shall undertake the work necessary to correct the deficiencies, and to comply with the contract.

3. If the Contractor disagrees with the Engineer's determination and believes that the corrective work should be covered by a change order, the Contractor shall immediately notify the Engineer, in writing, setting forth their position.

4. Within ten (10) workdays after receipt of the Contractor's notification, the Engineer will review the matter and notify the Contractor, in writing, of the determination.

5. If the Engineer determines that the corrective work is required in order to comply with the contract, the Contractor shall proceed with such work.

6. As a condition precedent to the Contractor's request for either additional compensation or time extension, or both, resulting from the performance of such corrective work, the Contractor shall within 15 calendar days after receipt of the Engineer's determination notify the Engineer in writing of their intent to claim additional compensation, time or both.

7. The written notification to the Engineer shall be submitted prior to the performance of any and all corrective work.

8. The Contractor shall document the cost information associated with the corrective work with daily records and shall provide such information to the Engineer monthly. Receipt of the cost data by the Engineer shall not be construed to be an acceptance of the corrective work, or an authorization for a change order to cover the corrective work.

## 2.09 SITE INVESTIGATION AND REPRESENTATION

1. By submission of this Bid, the Contractor acknowledges that he has satisfied himself as to the nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, access to the site, disposal, handling and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, river stages, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during the prosecution of the work and all other matters which can in any way affect the work or the cost thereof under this Contract.
2. The Contractor further acknowledges that he has satisfied himself as to the character, quality, and quantity of surface and subsurface materials to be encountered from the inspection of the site and from reviewing any available records of exploratory work furnished by KCH. Failure by the Contractor to acquaint himself with the physical conditions of the site and all the available information will not relieve him of responsibility for properly estimating the difficulty or cost of successfully performing the work.
3. The Contractor warrants that as a result of examination and investigation of all the aforesaid data that he can perform the work in a good and workmanlike manner and to the satisfaction of KCH.
4. KCH assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this contract, unless (1) such representations are expressly stated in the Contract, and (2) the Contract expressly provides that the responsibility therefore is assumed by KCH.
5. The Contractor shall be responsible for addressing, to the satisfaction of the Engineer, any unforeseen conditions encountered at no additional cost to the County.

## 2.10 INFORMATION ON-SITE CONDITIONS

1. Any information obtained by KCH and specifically referenced in the Contract Documents regarding site conditions, subsurface information, ground-water elevations, construction of existing site facilities as applicable, and similar data will be available for inspection at the office of the Engineer upon request.
2. Such information is offered as supplementary information only. Neither the Engineer nor the KCH assumes any responsibility for the completeness or interpretation of such

supplementary information.

PART 3 – EXECUTION

3.01 UNDERGROUND UTILITIES

1. Known utilities and structures adjacent to or expected to be encountered in the work are shown on the Drawings or provided record drawings. The locations shown are taken from existing records; however, it is expected that there may be some discrepancies and omissions in the locations and quantities of utilities and structures shown.

2. Those shown are for the convenience of the Contractor only, and no responsibility is assumed by either KCH or the Engineer for their accuracy or completeness.

3.02 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICES.

1. Where the Contractor's operations could cause damage or inconvenience to telephone, power, water, or sewer systems, the operations shall be suspended until all arrangements necessary for the protection of these utilities and services have been made by the Contractor.
2. Notify all utility offices which are affected by the construction operation at least 48 hours in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities.
3. The Contractor shall be solely and directly responsible to KCH and operators of such properties for any damage, injury, expense, loss inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage which may result from the construction operations under this Contract.
4. Neither the KCH nor its officers or agents shall be responsible to the Contractor for damages as a result of the Contractor's failure to protect utilities encountered in the work.

3.03 MAJOR UTILITIES SERVING THE AREA OF WORK

1. The following is a list of the major utilities serving the work area indicating the name of the authority responsible of the various utilities which should be notified as required if conflicts or emergencies arise during the progress of the work:

| Utility | Agency | Phone |
|---|---|---|

| | | |
|---|---|---|
| Water | Department of Water Supply | 808-961-8060 |
| Electricity | HECO | 808-969-6999 |
| Gas | GASCO, Inc (The Gas Co) | 808-935-0021 |

3.04 INTERFERING STRUCTURES

1. Take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground. An attempt has been made to show major structures on the Drawings. The completeness and accuracy of information shown cannot be guaranteed, and it is presented simply as a guide to avoid known possible difficulties.
2. Protect underground and aboveground existing structures from damage, whether or not they lie within the limits of the work.
3. Without additional compensation and with the consent of the Engineer, the Contractor may remove and replace in a condition as good or better than original, such small miscellaneous structures as covers, backboards, and supports that interfere with the Contractor's operations.

3.05 FIELD RELOCATION

1. During the progress of construction, it is expected that minor relocation of the work will be necessary. Such relocation shall be made only by direction of the Engineer.

2. If existing structures and utilities are encountered which prevent the construction, and which are not shown on the Drawings, notify the Engineer before continuing with the construction in order that the Engineer may make such field revisions as necessary to avoid conflict with the existing structures and utilities.
3. If the Contractor shall fail to so notify the Engineer when an existing structure and utility is encountered, and shall proceed with the construction despite this interference, shall do so at their own risk.

3.06 DIMENSIONS OF EXISTING STRUCTURES

1. Where the dimensions and locations of existing structures are of importance in the installation or connection of any part of the work, the Contractor shall verify such dimensions and locations in the field before the fabrication of any material or equipment

which is dependent on the correctness of such information.

3.07 OBSTRUCTIONS

1. The Contractor shall remove all obstructions, the removal of which shall be necessary for the proper reception, performance, construction, installation, and completion of all work under this contract, as called for or implied in the plans and specification.

3.08 MEASUREMENTS

1. Figured dimensions and drawings take precedence over measurements by scale, and detail drawings over general drawings. The Contractor must verify all measurements at the site and be responsible for the accuracy of the same.

PART 4 – WORK HOURS AND CONSTRUCTION PROGRESS

4.01 HOURS OF LABOR

1. Work hours and workdays for this project have been established as Monday through Friday with eight (8) work hours per day. No work shall be done more than the established workdays and work hours, or legal holidays of the Federal, State or County government without a prior written consent of KCH. Should consent be given, Contractor shall be responsible for paying all overtime expenses for employees or representatives at no additional cost to KCH.

4.02 CONSTRUCTION PROGRESS

1. Avoidable Delays: Avoidable delays in the prosecution of the work shall include delays which could have been avoided by the exercise of care, prudence, foresight and diligence on the part of the Contractor or subcontractors. Avoidable delays include:
    a. Delays which may in themselves be unavoidable, but which affect only a portion of the work and do not necessarily prevent or delay the prosecution of other parts of the work nor the completion of the whole work within the contract time.

    b. Time associated with the reasonable interference of other contractors employed by KCH which do not necessarily prevent the completion of the whole work within the contract time.

2. Unavoidable Delays: Unavoidable delays in the prosecution or completion of the work shall include delays which result from causes beyond the control of the Contractor, and which could not have been avoided by the exercise of care, prudence, foresight and diligence on the part of the Contractor or subcontractors.

    a. Delays in the completion of the work of other contractors employed by the County under separate contracts will be considered unavoidable delays insofar as they interfere with the Contractor's completion of the work.

    b. Delays caused by acts of God, fire, unusual storms, floods, tidal waves, earthquakes, strikes, labor disputes, freight embargoes and shortages of materials shall be considered as unavoidable delays insofar as they prevent the Contractor from proceeding with at least seventy-five percent (75%) of the normal labor and equipment force for at least five hours per day toward completion of the current controlling item on the accepted critical path schedule.

3. Should abnormal conditions arise that either delay the standard start of the workday or prevent the Contractor from utilizing at least seventy-five percent of its standard labor or equipment for a minimum of five hours per day, and the crew is subsequently dismissed as a result, the Owner will not be charged for that working day. This provision applies regardless of whether conditions later improve to the point where a major portion of the day could have been considered suitable for work on the project's critical path item. In essence, a full day's credit is granted once the specified conditions of delay and dismissal are met, and this determination is not subject to reversal based on subsequent weather improvements.

4.03 SCHEDULE MODIFICATIONS:

1. The Contractor shall furnish such manpower, materials, facilities and equipment as may be necessary to ensure the prosecution and completion of the work in accordance with the accepted schedule.
2. It is further understood and agreed that none of the services performed by the Engineer in monitoring, reviewing and reporting project status and progress shall relieve the Contractor of responsibility for planning and managing construction work in conformance with the construction schedule.

3. If work falls 10 days or more behind the accepted construction schedule, the Contractor agrees that he will take some or all the following actions to return the project to the accepted schedule. These actions may include the following:

a. Increase manpower in quantities and crafts.

b. Reschedule activities: If requested by the Engineer, the Contractor shall prepare a proposed schedule revision demonstrating a plan to make up the lag in progress and ensure completion of the work within the contract time. The proposed revision shall be submitted to the Engineer.

4.04 CONTRACTOR'S RESPONSIBILITIES:

1. Avoidable Delays: All actions to return the project to the accepted schedule are at the Contractor's expense.

2. The Contractor shall pay all costs incurred by KCH which result from the Contractor's action to return the project to its accepted schedule. Contractor agrees that KCH shall deduct such charges from payments due the Contractor.

3. Unavoidable Delays: For delays which the Contractor considers to be unavoidable, the Contractor shall submit to the Engineer complete information demonstrating the effect of the delay on the controlling operation in the construction schedule.

4. The submission shall be made within the end of the following working day of the occurrence, which is claimed to be responsible for the unavoidable delay.

5. The Engineer shall review the Contractor's submission and determine the number of days unavoidable delay and the effect of such unavoidable delay on controlling operations of the work. KCH agrees to grant an extension of time to the extent that unavoidable delays affect controlling operations in the construction schedule. During such an extension of time, neither extra compensation or engineering inspection and administration nor damages for delay will be charged to the Contractor.

6. It is understood and agreed by the Contractor and KCH that time extensions due to unavoidable delays will be granted only if such unavoidable delay involves controlling operations which would prevent completion of the whole work within the specified contract time.

4.05 MEASUREMENT AND PAYMENT

1. Measurement and payment shall be as specified in the Proposal Schedule and shall include all work, complete in place, including labor, material, equipment, tools, testing, appurtenances and incidental items complete in place.

4.06 EXTRA WORK

1. No work of any kind in connection with the work covered by these specifications and plans shall be considered as extra work, or entitles the Contractor to extra compensation, except when the work has been ordered in writing by the Engineer and specifically referred to as EXTRA WORK and the amount of compensation stated in the order.

PART 5– SUPERVISION AND WORK COORDINATION

5.00 SUPERVISION AT THE JOB SITE

1. The Contractor shall be or have in person on the job site or be represented by a competent and responsible agent with full legal authority to act for the Contractor in connection with the contract during the performance of the contract.

2. The Contractor shall file with the Engineer a written statement signed by the Contractor giving the names of any and all foremen and employees who are authorized to act in place of the Contractor. Any communications signed on behalf of the Contractor by such agents shall bind the Contractor.

5.01 SUBCONTRACTORS

1. Under the terms of this contract, no subcontractor will be recognized by KCH. The subcontractor's dealings shall be with the Contractor; however, each and every subcontractor shall manage and take care of the materials and waste, as part of the work to be performed by him.

2. KCH will hold the Contractor responsible for all acts of a subcontractor, and it will deal only with the Contractor in any matter that may affect a subcontractor.

5.02 COORDINATION WITH OTHER CONTRACTORS

1. The Contractor shall coordinate the work with that of other contractors in the area and shall cooperate in the arrangements for storage of materials, scheduling of work, and scheduling of vehicular traffic patterns.

## PART 6 – DISPOSAL OF MATERIALS

### 6.01 RESPONSIBILITY FOR SALVAGE AND PROTECTION OF EQUIPMENT AND MATERIALS REMOVED

1. The equipment and material to be salvaged as the work proceeds shall be removed with extreme care so as not to damage it for future use. Equipment shall be cleaned and protected from dirt and the elements and stored on site as directed.
2. Materials and equipment shall be stored and protected in accordance with the requirements of applicable technical specifications. Temporary storage facilities may be erected at the project site for protection of materials and equipment with written permission from the Engineer.
3. The Contractor shall be responsible for the security of the equipment and material until accepted by KCH.
4. Prior to dismantling equipment or piping, the Contractor shall confer with KCH and the Engineer. The Engineer will indicate the locations where equipment is to be disconnected. Damage caused by the Contractor to equipment or material specified or indicated on the Drawings to be salvaged shall be replaced or repaired by the Contractor, at the Contractor's own expense.

### 6.02 MATERIALS TO BE SALVAGED

1. Salvage work shall be considered incidental to the lump sum work or unit price work as applicable, and the Contractor's cost shall be included in the various work items in the Proposal Schedule. Material to be salvaged shall be delivered to the location specified by the Engineer.

### 6.03 DISPOSAL OF UNSUITABLE MATERIAL

1. All non-salvageable materials shall be disposed of at the cost of the Contractor. All surplus rock, boulder and soil that cannot be incorporated in the work shall be disposed of at the cost of the Contractor.

## PART 7 – TEMPORARY CONSTRUCTION UTILITIES AND FACILITIES

7.01 - TEMPORARY WATER AND ELECTRICAL POWER

1. The Contractor shall make arrangements to provide a separate meter and piping for transporting water to the work, if so required, and shall pay all fees and costs resulting therefrom.
2. The Contractor shall notify the Engineer if there is any water shut-off prior to installing plumbing work. At the completion of the work, Contractor shall remove all temporary facilities at their expense.
3. The Contractor shall provide temporary Electrical power without additional fees charged to the Owner.

7.02 - SAFETY REQUIREMENTS FOR TEMPORARY ELECTRIC POWER

1. Temporary electric power installation shall meet the construction safety requirements of OSHA, State, the serving Utility, and any other applicable governing agencies.

7.03 - SANITARY FACILITIES

1. The Contractor shall provide and maintain sanitary facilities for the employees and the subcontractors' employees, and KCH project personnel that will comply with the regulations of the local and State Departments of Health and as directed by the Engineer.

PART 8 – MOBILIZATION AND DEMOBILIZATION

8.01 MOBILIZATION

1. Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the acquisition of false work materials; for the establishment of all offices; buildings and other facilities, excluding field office and project site laboratories; necessary for work on the project; and for all other work and operations which must be performed, or costs incurred, prior to beginning work on the various items on the project site.

8.02 BASIS OF PAYMENT

1. Mobilization and demobilization will be paid for on a lump sum basis per the Measurement and Payment Technical Specification. Absence of a Technical

Specification, payment shall be:

2. When 5 percent of the original contract amount is earned, 50 percent of the amount bid for mobilization and demobilization will be paid.

3. When 50 percent of the original contract amount is earned, 95 percent of the amount bid for mobilization and demobilization will be paid.

4. When 100 percent of the original contract amount is earned, 100 percent of the amount bid for mobilization and demobilization will be paid.

5. Nothing herein shall be construed to limit or preclude partial payment otherwise provided for by the Contractor.

## PART 9 – PRESERVATION, RESTORATION AND CLEANUP

### 9.01 - SITE RESTORATION AND CLEANUP

1. At all times during the work, keep the premises clean and orderly, and upon completion of the work, repair all damage caused by equipment and leave the project free of rubbish or excess materials of any kind.

### 9.02 - STREET CLEANUP DURING CONSTRUCTION

1. Thoroughly clean all spilled dirt, gravel, or other foreign material caused by the construction operations from all public streets and roads at the conclusion of each day's operation.

### 9.03 - PROTECTION OF PROPERTY

1. The Contractor shall take all necessary precautions during the progress of the work to protect adjoining property from damage and injury, and shall promptly make good such damages to adjoining property.
2. The Contractor shall repair to the entire satisfaction of KCH all damages to existing streets, sidewalks, or other public property at the Contractor’s expense.

### 9.04 DUST & NOISE PREVENTION

1. The Contractor shall perform the work in such a manner as to avoid dust problems. Whenever visual observation of dust is detected by the Contractor or Engineer outside the property boundary, a dust problem is considered to exist. The Contractor shall take

immediate action to alleviate this problem.

2. Give all unpaved streets, roads, detours, or haul roads used in the construction area an approved dust-preventive treatment or periodically water to prevent dust. Applicable environmental regulations of the State Department of Health for dust prevention shall be strictly enforced.

3. Between 7:30 p.m. and 7:00 a.m., noise from Contractor's operations shall not exceed limits established by State Department of Health regulations and in no event shall exceed 86 dBA at a distance of 50 feet from the noise source.

## 9.05 STRUCTURES RESTORATION

1. The Contractor shall remove such existing structures, including curbs, gutters, pipelines and utility poles, as may be necessary for the performance of the work and shall rebuild the structures thus removed in as good a condition as found. The Contractor shall also repair existing structures which may be damaged as a result of the work under this contract at their own expense.

## 9.06 ROADS AND STREETS RESTORATION

1. Unless otherwise specified, roads and streets in which the surface is removed, broken, or damaged, or in which the ground has caved or settled during the work under this contract, shall be resurfaced and brought to the original grade and section.
2. Roadways used by the Contractor shall be cleaned and repaired. Before resurfacing material is placed, edges of pavements shall be trimmed back far enough to provide clean, solid, vertical faces, and shall be free of loose material. Repair work shall conform to the paving specifications.

## 9.07 CULTIVATED AREAS AND OTHER SURFACE IMPROVEMENTS

1. Cultivated or planted areas and other surface improvements which are damaged by the actions of the Contractor shall be restored as nearly as possible to their original condition at the Contractor’s expense.
2. Existing fences, barricades, and gravel areas shall be protected and replaced if damaged. Replacement costs shall be borne by the Contractor.

## 9.08 POLLUTION CONTROL

1. Throughout the entire contract period, the Contractor shall effectively maintain pollution control in accordance with Act 105, Section 1, Chapter 103 of the Hawai‘i Revised Statutes, as amended.

9.09 DAILY JOB SITE CLEAN UP

1. On completion of the work of each and every section of these specifications, or by each trade, on a daily basis, remove from the site all debris, tools and excess material resulting from the work and leave the area of the work and any affected surroundings broom clean.

9.11 FINAL CLEAN UP

1. As a condition precedent to final acceptance or release of a space or process unit for use by KCH, the Contractor shall thoroughly clean all work areas.

9.12 GUARANTEE

1. The Contractor guarantees all materials and equipment furnished to be in operable condition upon written final acceptance of the work and that all such materials and equipment conform to the requirements of this contract and be fit for the use intended.
2. The Contractor further guarantees all such materials and equipment against defects and poor workmanship and, to the extent that the Contractor is responsible for design, the Contractor guarantees the design to meet the criteria and operating requirements specified against failure to perform in accordance with such criteria and operating requirements.
3. The period of this guarantee shall commence upon written final acceptance of the work by KCH, and shall extend through the project performance evaluation period not to exceed two (2) years, unless otherwise specified herein, for all materials and equipment, provided that this period shall be extended from the time of correction of any defect or failures, corrected under the terms of this guarantee, for a like period of the corrected work.
    a. The Contractor shall correct all defects or failures discovered within the guarantee period.

    b. KCH will give the Contractor prompt written notice of such defects or failures

following their discovery.

c. The Contractor shall commence corrective work within 10 calendar days following notification and shall diligently prosecute such work to completion, or as required by the Technical Specifications.

d. The Contractor shall bear all costs of corrective work, which shall include necessary disassembly, transportation, reassembly, and retesting, as well as repair or replacement of the defective material or equipment, and any necessary disassembly and reassembly of adjacent work.

e. If the Contractor fails to perform corrective work in the manner and within the time stated, KCH may proceed to have such work performed at the Contractor's expense and sureties will be liable therefore.

f. KCH shall be entitled to reasonable attorney fees and court costs necessarily incurred by the Contractor's refusal to honor and pay such costs of corrective work.

4. The Contractor's performance bond shall continue in full force and effect during the period of this guarantee.

5. The rights and remedies of KCH under this provision do not preclude the exercise of any other rights or remedies provided by this contract or by law with respect to unsatisfactory work performed by the Contractor.

6. This guarantee shall be deemed supplemental to guarantee provisions provided in other sections of the specifications for the individual units and systems of units specified.

9.13 WORK ON PUBLIC ROADWAYS

1. Work that will be completed on State and County Public Roadways. Permissions and applicable permits shall be secured from the appropriate agencies.

PART 10 – TRAINING

10.01 - TRAINING OF OWNER'S PERSONNEL

1. Provide site-specific operations and maintenance training for items of mechanical,

electrical, and instrumentation equipment when specified in specifications for the equipment. Generally, all training will include a process overview of all components, operational process, maintenance, troubleshooting, and rebuilding. The Owner may provide a summary of training requirements.

2. Contractor shall organize and coordinate the training periods with the Owner's personnel and manufacturer's representatives and shall submit a training schedule at least 30 days prior to the time that the associated training is to be provided.
3. The Contractor shall use only qualified manufacturer's representatives to conduct training sessions.
4. For systems with multiple components, the manufacturer that has primary responsibility for the overall system shall coordinate and schedule the training.
5. Training sessions shall include hands-on activities, demonstrations, and discussion. Simply reviewing the equipment manual does not fulfill the training requirements.

**END OF SECTION**

SECTION 01010

SUMMARY OF WORK/PROJECT DESCRIPTION

1. This project encompasses the comprehensive installation of a Wastewater Package/Modular Wastewater Treatment Plant, requiring all necessary labor, materials, and services.
2. The contractor is responsible for furnishing and installing a complete PURESTREAM 50 factory-built extended aeration type sewage treatment plant, including all necessary equipment for its effective operation as manufactured. This plant shall consist of a welded steel rectangular tank structure, divided into two major sections: an aeration compartment and a settling basin. The principal equipment for each unit will include air diffusers, an effluent trough, return sludge air lift or air lifts, and rotary blower(s) complete with the required motors and controls.
3. Additionally, the plant will feature a blower and motor housing, along with all necessary internal piping and accessory equipment as specified herein. The treatment plant structure is designed and reinforced to withstand normal pressures from both the surrounding soil and the interior hydrostatic load, ensuring structural integrity and longevity.
4. Project plans applicable to the work are as follows:

    a. The plant will provide preliminary and secondary treatment. The treatment facility shall be able to handle 50,000 gallons per day of raw unprocessed sewage.
    b. Effluent disposal system exists therefore connection shall be to the sewer manhole immediately existing the wastewater treatment plant. Effluent is expected to meet HAR 11-62 disposal requirements.
5. There will be no off-site improvements. On-site improvements shall include but are not limited to:
    a. Installation of new chain-link fencing around new system with a double swing gate for manpower and equipment access.
    b. Construction of a new CMU retaining wall.
    c. Removal and replacement of concrete walkways around the facility.

d. Installation of a new diversion sewer manhole over the existing 8” sewer main; channelizing to split flow between the existing and newly constructed wastewater treatment facility.
e. Installation of new force main; sewer mains; cleanouts and all other appurtenances required and as noted on the project plans.

**END OF SECTION**

SECTION 01030

PERMITS AND ENDANGERED SPECIES

1.00 DESCRIPTION:

1. The Contractor will obtain the necessary permits for this project. The Contractor shall comply with the conditions of all permits issued by utility companies and regulatory agencies in connection with all work under the contract. Unless otherwise specified in the Contract, one (1) digital electronic copy of all permits required for the Project shall be submitted to KCH and the Engineer of Record.
2. The Contractor shall provide the necessary supporting documentation to secure the project-specific NPDES permit as required under KCH's Notice of General Permit Coverage.

1.01 COST OF PERMITS:

1. The Contractor shall pay all charges imposed by utility companies, public agencies, or regulatory agencies, resulting from all permits. The contractor shall be responsible for conducting all tests and furnishing materials, equipment, and labor necessary for compliance with all permits.

2. The required permits may include, but not be limited to, the following:

    a. DPW – Grading Permit

    b. Noise Variance Permit

    c. National Pollutant Discharge Elimination System Permit.

2.00 - UNITED STATES DEPARTMENT OF THE INTERIOR – FISH AND WILDLIFE SERVICE

1. The US Environmental Protection Agency has designated the State of Hawai'i, Department of Health as its non-federal representative to monitor rules and regulations under Section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq) (ESA) for the following listed species:

    *a. 'Qpe'ape'a or Hawaiian hoary bat (Lasiurus cinereus semotus)*

b. *Hawaiian seabirds, including Hawai'i Distinct Population Segment of the ake'ake or band-rumped storm petrel (Hydrobates castro), 'a'o or Newell;s shearwater (Puffinus newelli), 'ua'a or Hawaiian petrel (Pterodroma sandwichensis).*

2. This project shall incorporate the Service recommended Avoidance and Minimization Measures for federally listed Hawaiian seabird species and the ope'ape'a.

3. To avoid and minimize impacts to 'ope'ape'a, the Project will not use barbed wire fencing.

2.01 - Avoidance and Minimization Measures

1. Endangered ope'ape'a (Hawaiian Hoary Bat) roosts in woody vegetation across all islands and will leave their young unattended in trees and shrubs when they forage.

    a. If trees and shrubs 15 feet or taller are cleared during the pupping season, June 1 through September 15, there is a risk that young bats could inadvertently be harmed or killed, since they are too young to fly or move away from disturbance. Hawaiian hoary bat forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

    b. To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you incorporate the following applicable measures into your project description:

    c. Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat birthing and pup rearing season (June 1 through September 15).

    d. Do not use barbed wire for fencing.

2. Endangered 'ua'a (Hawaiian petrel, Pterodrama sandwichensis), 'A'o, (Newell's shearwater, Puffinus newelli), and the 'ake'ake (band-rumped storm-petrel, Hydrobates castro).

    a. Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and

collide with nearby wires, buildings and other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flight from their mountain nests to the sea, are particularly vulnerable to light attractions.

b. To avoid and minimize potential project impacts to seabirds the contract shall incorporate the following measures into your project description.

c. Fully shield all outdoor lights so the bulb can only be seen from below.

d. Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.

e. Avoid nighttime construction during the seabird fledging period, through December 15.

f. Seabirds have been known to collide with fences, powerlines, and other structures near nesting colonies. To avoid and minimize the likelihood of collision we recommend you incorporate the following measures into your project description:

   i. Where fences extend above vegetation, integrate three strands of polytape into the fence to increase visibility.

   ii. For powerlines, guy-wires and other cables, minimize exposure to above vegetation height and vertical profile.

3. If additional information is needed, please contact:

   Fish and Wildlife Service
   Pacific Islands Fish and Wildlife Office 300 Ala Moana Boulevard, Room 3-122
   Honolulu, Hawai'i 96850

**END OF SECTION**

SECTION 01060

SAFETY AND HEALTH

PART 1 - GENERAL

1.01 SAFETY AND HEALTH

1. The Contractor shall be experienced and qualified to anticipate and meet the safety and health requirements of this project.

1.01 DRUG FREE POLICY

1. The Contractor and all subcontractors shall certify that a drug-free workplace shall be provided and maintained for the duration of the project. Certification signed by a corporate officer shall be submitted within ten (10) workdays of the Notice to Proceed.

1.02 SAFETY AND HEALTH REGULATIONS

1. The Contractor shall comply with the standards of the Occupational Safety and Health Administration (OSHA) and all applicable Federal, State, and County laws and regulations relating to safety in the performance of the work.

2. The Contractor shall comply with the State laws and standards regarding a safe place of employment and safe practices and shall do everything reasonable and necessary to protect the life, safety, and health of all personnel involved in the project, as well as the affected general public.

3. Strict compliance with all safety requirements will be enforced. Primary concern is safety of the Contractor's employees, KCH and its representatives and Consultants, as well as the affected general public. Safety related directions and/or orders by KCH or representatives shall not be construed as relieving the Contractor of it’s responsibility for safety.

4. All workers on the construction site as needed, must wear appropriate personal protective equipment (PPE), including

    *a. Hard hats to protect against falling objects and head injuries.*
    *b. Safety glasses or googles for eye protection.*
    *c. Gloves to protect hands from cuts, abrasions, and chemical exposure.*

d. *Steel-toed boots for foot protection.*

e. *High-visibility vests or clothing to ensure workers are easily seen.*

5. Falls are a leading cause of construction fatalities, so fall protection is critical:

6. Fall protection systems like guardrails, safety nets, or personal fall arrest systems are required for work at heights of 6 feet or more.

7. Proper scaffolding design, construction and use is mandated.

8. Ladders must be used safely and inspected regularly.

## 1.03 HAZARD COMMUNICATION

1. The contractor shall implement and maintain a comprehensive Hazard Communication Program in compliance with applicable regulations to ensure the safety of all personnel working on-site. The program must include the following mandatory elements:

    a. Safety Data Sheets (SDS): The contractor shall provide and maintain readily accessible Safety Data Sheets (SDS) for all hazardous materials brought to or used on the project site. These SDS must be available to all workers and project personnel at all times.

    b. Chemical Labeling: All chemicals used or stored on-site must be properly labeled in accordance with regulatory standards. Labels must clearly identify the chemical, its hazards, and any necessary precautions to ensure safe handling and use.

    c. Worker Training: The contractor is responsible for training all workers on chemical hazards associated with materials used on-site. The training must include information on recognizing hazards, understanding the SDS, safe handling procedures, emergency response protocols, and the use of appropriate personal protective equipment (PPE).

2. The contractor shall ensure full compliance with these requirements throughout the duration of the project. Failure to adhere to these provisions may result in corrective action, penalties, or termination of the contract.

## 1.04 EQUIPMENT AND TOOL SAFETY

1. The contractor shall implement and maintain comprehensive safety protocols for all tools, equipment, and machinery used on the project site.

2. Tools and Equipment Inspection and Maintenance:

    a. All tools and equipment must be inspected before each use to ensure they are in safe working conditions.

    b. A regular maintenance schedule shall be established and followed for all tools and equipment.

    c. Any damage or malfunctioning tools or equipment must be immediately removed from service and either repaired or replaced.

3. Proper Tools and Equipment Selection:

    a. The contractor shall ensure that the right tool or equipment is used for each specific task.

    b. Workers must be trained on proper tool and equipment selection of various job functions.

4. Machinery Safeguards and Engineering Controls:

    a. All hazardous machinery must have appropriate safeguards and engineering controls in place.

    b. These safeguards and controls must be regularly inspected and maintained to ensure their effectiveness.

    c. Workers must be trained on the proper use of machinery safeguards and the importance of not bypassing or disabling safety features.

5. The contractor shall ensure full compliance with these requirements throughout the duration of the project.

## 1.05 SITE ORGANIZATION AND HOUSEKEEPING

1. The Contractor shall maintain a clean and orderly jobsite throughout the duration of the wastewater treatment plant construction project. Regular debris removal and proper housekeeping practices shall be implemented to ensure a tidy work environment.

2. All tools and materials must be appropriately stored in designated areas when not in use, promoting both safety and efficiency on the site.

3. The Contractor shall also be responsible for maintaining clear and unobstructed pathways throughout the construction area to minimize the risk of trips and falls.

4. These measures are essential for creating a safe working environment, optimizing productivity, and presenting a professional appearance to visitors and inspectors. Compliance with these cleanliness and organization requirements will be monitored and enforced as part of the overall project management and safety protocols.

## 1.06 TRAINING AND PREPAREDNESS

1. As part of the wastewater treatment plant construction project, all workers must undergo safety training specifically tailored to their assigned tasks. To maintain a strong focus on safety throughout the project, regular safety meetings or toolbox talks shall be conducted. These sessions will serve to reinforce safety protocols and address any emerging concerns. Additionally, clear safety instructions and signage should be prominently displayed around the construction site. This comprehensive approach to safety education, ongoing communication, and visual reminders will help ensure a safe working environment for all personnel involved in the project.

## 1.07 EMERGENCY PREPAREDNESS

1. An emergency response plan must be in place and communicated to all workers.

2. Fire protection measures and firefighting equipment must be available.

3. First aid supplies and trained personnel should be accessible.

4. The Contractor shall put emphasis in the following:

5. Equipment must be provided with the necessary warning devices and signs.

6. Confined Space: The Contractor shall ensure that a Confined Space Program is provided for their employees and any and all Subcontractor employees who are required to enter Confined Spaces as defined by HIOSH and OSHA Regulations.

7. Entry into the existing wet wells; cesspools; manholes shall be considered as entries into Confined Spaces.
8. The Contractor shall be responsible for defining any other Confined Space areas during the construction work.
9. KCH will notify the Contractor of any non-compliance with environmental pollution control or with safety standards, of any safety violations, and the action to be taken.
10. If the Contractor fails or refuses to comply promptly, KCH may issue an order in writing to stop the work or any portion thereof, until satisfactory corrective actions have been taken.
11. The right to stop the work shall not be construed as creating a duty on the part of KCH to exercise this right for the benefit of the Contractor or any other person nor as an assumption of responsibility for the Contractor's administration, implementation, or enforcement of safety on the job site.
12. No extension of time or payment for excess costs or damages shall be made for the time lost due to such stop action.
13. All costs incurred to provide compliance shall be borne by the Contractor.

## 1.08 ACCIDENT REPORTS

1. If death or serious injuries or serious damages occur, the accident shall be reported immediately by telephone followed by email to the Engineer. In addition, the Contractor must promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.

2. If a claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim.

## 1.09 BARRICADES

1. The Contractor shall erect, install, and maintain all temporary walks, warning signs, barricades, or other protective means around the construction site as may be ordered by KCH, for the effectual protection of the public, employees, or of workmen employed on the project.

** END OF SECTION **

SECTION 01300

SUBMITTALS

PART 1 – GENERAL

1.01 GENERAL

1. The information to be submitted shall consists of drawings, specifications, descriptive data, certificates, samples, test results and such other information, all as specifically required in the specifications.

PART 2 – CONTRACTOR'S RESPONSIBILITIES

2.01 GENERAL

1. The contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the materials, equipment or method of work shall be as described in the submittal. Submittals shall contain all required information, including satisfactory identification of items, units, and assemblies in relation to the contract drawings and specifications. The Contractor shall verify that the materials and equipment described in each submittal conform to the requirements of the specifications and drawings.

2. Unless otherwise approved by the Engineer, submittals shall be made only by the Contractor, who shall indicate by a signed stamp on the submittals, that it (the Contractor) has checked the submittals, and that the work shown conforms to contract requirements and has been checked for dimensions and relationship with work of all other trades involved.

3. If the information shows deviations from the specifications and drawings, the Contractor, by statement in writing accompanying the information shall identify the deviations and state the reason(s) for the deviation(s).

4. The Contractor shall ensure that there is no conflict with other submittals and shall notify the Engineer in each case where its submittal may affect the work of another contractor or KCH. The Contractor shall ensure coordination of submittals among the related crafts and subcontractors.

5. The Contractor may authorize in writing a material or equipment supplier to deal directly with the Engineer or with KCH with regard to a submittal. The Contractor, however, shall be responsible for the accuracy and completeness of information contain in all submittals.

6. All equipment and manufacturer's instruction submittals, including follow-up submittals, shall be submitted no later than 30 days following the Notice to Proceed not later than necessary to procure the item or avoid schedule delays as established in the Contractor's construction schedule.

## 2.02 SUBMITTAL SCHEDULE

1. The Contractor shall provide a submittal schedule to allow coordination of review of the submittals in order that work may be accomplished within the specified contract time. Submittal schedule shall be provided within ten (10) calendar days after award of the Contract.

## 2.03 TRANSMITTAL PROCEDURES

1. A separate form shall be used for each specific item, class of materials, and items specified in separate, discrete sections, for which the submittal is required.

2. Submittals of various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole.

3. A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted. Original submittal numbers shall have the following format: "xxx"; where "xxx" is the sequential number assigned by the Contractor.

4. Resubmittals shall have the following format:

    a. "xxx-y"; where xxx is the originally assign submittal number and "y" is a sequential letter assigned for re-submittal, i.e. A,B.C being the 1st, 2nd, and 3rd re- submittals respectively. Submittal 25B, for example, is the second re-submittal of submittal 25.

5. Submittals shall be sent to the Engineer of Record via electronic transmittal.
6. Deviation from Contract

    a. If the Contractor proposes to provide material which does not conform to the specifications and drawings, it shall indicate so under "deviations" on the submittal transmittal form accompanying the submittal copies. The Contractor shall prepare its reason for a change, including cost and time differential.

7. Submittal Completeness

    a. Submittals which do not have all the information required to be submitted, including deviations, shall be considered as not complying with the intent of the contract and are not acceptable and will be returned without review.

2.04 SUBMITTAL REQUIREMENTS

1. Submit shop drawings, manufacturers' data and certificates for equipment, materials, finish, and pertinent details for each system and have them approved before procurement, fabrication or delivery of the items to the job site.

2. Partial submittals will not be acceptable and will be returned without review.

3. Submittals shall include the manufacturer's name, trade name, catalog number or number, nameplate data, size, layout dimensions, capacity, project specification and paragraph reference, applicable industry and technical society publication references and other information necessary to establish contract compliance of each item the Contractor proposes to furnish.

4. SHOP DRAWINGS

    a. Drawings shall be ANSI D (22 inches by 34 inches) in size, except as specified otherwise.

        i. Drawing shall include floor plans, sectional views, installation details of equipment; and equipment spaces identifying and indicating proposed locations, layout and arrangement of items of equipment, accessories, piping and other items that must be shown to ensure a coordinated

installation.

ii. Drawing shall indicate adequate clearance for operation, maintenance and replacement of operating equipment devices. If equipment is disapproved, drawings shall be revised to show acceptable equipment and be resubmitted.

5. MANUFACTURER'S DATA
    a. Submittals for each manufactured item shall be manufacturer's descriptive literature of cataloged.

2.05 CONTRACTOR'S RESPONSIBILITIES

1. All submittals required by these specifications are required to be submitted by the Contractor in full, complete form, no exceptions. The Contractor shall request in writing to the Owner those specific submittals not required or not applicable to the project. Unless so granted by the Owner, all submittals are required as a prerequisite to project acceptance.
2. Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the material, equipment or method of work shall be as described in the submittal. Submittals shall contain all required information, including satisfactory identification of items, units, and assemblies in relation to the contract drawings and specifications. The Contractor shall verify that the material and equipment described in each submittal conform to the requirements of the specifications and drawings. Unless otherwise reviewed by the Director, submittals shall be made only by the Contractor, who shall indicate by a signed stamp on the submittals, that it (the Contractor) has checked the submittals, and that the work shown conforms to contract requirements and has been checked for dimensions and relationship with work of all other trades involved. If the information shows deviations from the specifications or drawings, the Contractor, by statement in writing accompanying the information, shall identify the deviations and state the reason(s) therefore. The Contractor shall insure that there is no conflict with other submittals and shall notify the Director in each case where its submittal may affect

the work of another contractor or KCH. The Contractor shall ensure coordination of submittals among the related crafts and Subcontractors.

3. The Contractor may authorize in writing a material or equipment supplier to deal directly with KCH with regard to a submittal. The Contractor, however, shall be responsible for the accuracy and completeness of information contained in all submittals.
4. All equipment and manufacturer's instruction submittals, including follow-up submittals, shall be submitted no later than 180 days following the Notice to proceed nor later than necessary to procure the item or avoid schedule delays as established in the Contractor's construction schedule.

## 2.06 PERFORMANCE (CONSTRUCTION) SCHEDULE

1. The Contractor shall provide a construction schedule for scheduling and coordinating the work within the contract time. The construction schedule shall be in itemized and be in Gantt chart format, and shall be submitted to KCH for approval no later than 60 days after the Contract Award Date or prior to the issuance of Notice to Proceed, whichever is earlier. Contract time extensions shall be incorporated into updated schedules, reflecting their effect at the time of occurrence. Failure of the Contractor to comply with these requirements for submittal of the performance schedule and reports shall be cause for delay in review of progress payments by KCH. Project status review and update shall be provided each month and submitted with progress payment requests.

## 2.07 SAMPLES AND TESTING

1. Where required in the Specifications, and as determined necessary by KCH, samples of materials, appliances, and fittings to be used or offered for use in connection with the work shall be submitted to the KCH at the Contractor's expense, with information as to their sources, with all cartage charges prepaid, and in such quantities and sizes as may be required for proper examination to establish the quality or equality thereof, as applicable.
2. All samples shall be submitted in ample time to enable KCH to make any examinations necessary, without delay to the work. The Contractor will be held

responsible for any loss of time due to neglect or failure to deliver the required samples to KCH, as specified.

3. Samples also shall be taken during the course of the work, as required by KCH.

4. Laboratory tests and examinations that the KCH elects to make in its own laboratory will be made at no cost to the Contractor, except that, if a sample of any material or equipment proposed for use by the Contractor fails to meet the Specifications, the cost of testing subsequent samples shall be borne by the Contractor.
5. All tests required by the specifications to be performed by an independent laboratory shall be made at the sole expense of the Contractor.
6. Material used in the work shall conform to the submitted samples and test certificates as approved by KCH.

## PART 3 – TRANSMITTAL PROCEDURE

### 3.01 GENERAL

1. Submittals regarding material shall be stamped as required, and accompanied by a transmittal document. A separate form shall be used for each specific item, class of material, and items specified in separate, discrete sections, for which the submittal is required. Submittals of various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole.
2. A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted. Original submittal numbers shall have the following format: "XXX"; where "XXX" is the sequential number assigned by the Contractor.
3. Resubmittals shall have the following format:
   "XXX-Y"; where "XXX" is the originally assigned submittal number and "Y" is a sequential letter assigned for resubmittals, i.e., A, B, or C being the 1st, 2nd, and 3rd resubmittals, respectively. Submittal 25B, for example, is the second resubmittal of submittal 25.

### 3.02 DEVIATION FROM CONTRACT

1. If the Contractor proposes to provide a material which does not conform to the specifications and drawings, it shall indicate so under "deviations" on the submittal transmittal form accompanying the submittal copies. The Contractor shall prepare its reason for the proposed change, including cost and time differential. All deviations shall be reviewed and approved by KCH on an individual basis.

3.03 SUBMITTAL COMPLETENESS

1. Submittals shall contain all information specifically required and additional information as required to provide a complete description and reference for review by KCH.
2. Submittals shall be complete and not packaged by individual line items as may be presented in the specifications. Submittals shall include all information required of a specific Section and include pertinent or related information required under separate Sections.
3. Any and all deviations shall be so stated on the submittals.
4. Submittals that are not complete, in KCH's opinion, or fail to identify deviations, shall be considered not in compliance with the intent of the contract and are therefore unacceptable. Such unacceptable submittals will be returned to the Contractor without review and it will be the Contractor's responsibility to complete and resubmit the submittal.

PART 4 – REVIEW PROCEDURE

4.01 When the contract requires a submittal, the Contractor shall submit the specified information as follows to KCH for review.

1. Unless otherwise specified, upon receipt of the submittal by the Director, the submittal shall be reviewed and the Director shall return two (2) copies of the marked-up reproducible original. The reproduction original will be retained by the Director. The Contractor may submit additional sets of the submittal should he require additional sets for distribution to Subcontractors, suppliers, or for other purposes. Unless otherwise indicated, the Contractor shall allow for ten (10) working days for review and return of all submittals. Submittals requiring shorter

review times may be requested by the Contractor, however, no guarantee is made shorter review periods will be accommodated. The returned submittal shall indicate one of the following actions:

a. If the review indicates that the material, or work method is in general conformance with the design concept and complies with the drawings and specifications, submittal copies will be marked "NO EXCEPTIONS TAKEN". In this event the Contractor may begin to implement the work method or incorporate the material or equipment covered by the submittal.
b. If the review indicates limited corrections are required, copies will be marked "NOTE MARKINGS". The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections. A corrected copy of the submittal shall be provided.
c. If the review reveals that the submittal is insufficient or contains incorrect data, copies will be marked accordingly and will be required to be resubmitted. The Contractor shall not undertake work covered by this submittal until the submittal has been revised resubmitted and returned and marked either "NO EXCEPTIONS TAKEN" or "NOTE MARKINGS".
d. If the review indicates that the material, equipment, or work method is not in general conformance with the design concept or incompliance with the drawings and specifications, copies of the submittal will be marked "REJECTED". Submittals with deviations that have not been identified clearly may be rejected. Except at its own risk, the Contractor shall not undertake work covered by such submittals until a new submittal is made and returned marked either "NO EXCEPTIONS TAKEN" or "NOTE MARKINGS".

## PART 5 – EFFECT OF REVIEW OF CONTRACTOR'S SUBMITTAL

5.01 KCH's review of drawings, method of work, or information regarding materials or equipment the Contactor proposes to provide, shall not relieve the Contractor of its

responsibility for deficiencies, omissions and errors therein and shall not be regarded as an assumption of risks or liability by KCH, or by any officer, employee, consultant, or subcontractor thereof, and the Contractor shall have no claim under the contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed. A mark of "NO EXCEPTION TAKEN" OR "NOTE MARKINGS" shall mean that KCH has no objection to the Contractor, upon its own responsibility, using the plan or method of work proposed, or providing the material or equipment proposed.

SECTION 01720

RECORD DRAWINGS

1.01 DESCRIPTION

1. Record drawings refer to those documents maintained and annotated by the Contractor during construction and are defined as:

    a. A neatly and legibly marked set of contract drawings showing the final location and elevation of piping and equipment, and

    b. The Contractor's layout and installation drawings.

1.02 PRODUCTS

1. Unless otherwise specified, record drawings shall be full size and maintained in a clean, dry, and legible condition.

    a. Record documents shall not be used for construction purposes and shall be available for review by the Engineer during normal working hours at the Contractor's field office.

    b. The Contractor shall certify the record documents accurately reflect the as-built condition of the project and all modifications and changes made during construction are incorporated.

1.03 EXECUTIONS

1. Marking of the drawings shall be kept current and shall be done at the time the material and equipment are installed. Annotations to the record documents shall be made with an erasable colored pencil conforming to the following color code:
    a. Additions - Red

    b. Deletions - Green

    c. Comments - Blue

2. At completion of the work and prior to Final Acceptance, two (2) sets of marked record drawings shall be submitted to the Engineer for review and acceptance.

3. Reproducible record drawings shall be submitted to Kona Community Hospital and the Engineer of Record.
4. The Record Drawings may be provided as a scanned document. Color coding is not required to be provided on electronic copy, however, all changes shall be clearly annotated.
5. The Contractor shall provide two (2) sets of final reproducible record drawings and shall be provided on bond, ANSI D (22" x 34"), paper.

**END OF SECTION**

SECTION 02000

WATER POLLUTION, EROSION, SEDIMENT AND DUST CONTROL

1.01 DESCRIPTION

1. This section is about submitting detailed plans, diagrams, and written site-specific best management practice (BMP); the construction, maintenance and repair of temporary and permanent water pollution, erosion, sediment, and dust control measures at the project site, including work areas, material stockpiling areas, and haul roads; removal and disposal of potentially hazardous wastes; and compliance with applicable State and Federal Permit conditions.
2. The requirements of this section also apply to borrow pit operations, haul roads and/or Contractor's storage sites located outside the contract limits.
3. The requirements of this section do not apply to dewatering or hydro-testing activities. If excavation/backfilling operations require dewatering or the installation of relocating water lines require hydro-testing, and the Contractor elects to discharge dewatering or hydro-testing effluents into State Waters or existing drainage systems, the Contractor shall obtain a National Pollution Discharge Elimination System (NPDES_ Dewatering or Hydro-Testing Waters Permit from the Department of Health, Clean Water Branch).
4. The Contractor shall conform to the requirements of the NPDES Notice of General Permit Coverage and shall follow the guidelines in the "Best Management Practices Manual for Construction Sites in Honolulu" dated November 2011 in developing, installing, and maintaining the BMP's for the project site and follow Honolulu's City and County "Rules for Soil Erosion Standards and Guidelines" and use respective soil erosion guidelines for County of Hawai'i.
5. The erosion and sediment control structures shall be maintained until temporary ground cover is established to stop all sediment, dust and erosion. All fines imposed for improper erosion, and sediment, and dust control shall be paid by the Contractor responsible for the work.
6. Install temporary erosion and sediment controls which will ensure that the storm water and other drainage from job site areas which will be stripped or modified of its naturally existing or artificially established stabilization or protection against erosion shall pass

through a filter system before being discharge and that these areas shall be kept sufficiently moist to control dust.

7. Requirements under this section shall apply to all work directly related to the performance of work under this Contract. If the Contractor elects to utilize excavated material as backfill material on private properties in areas outside of the project work limits or elects to perform additional grading and/or excavation work on properties outside of the work limits; such agreements shall be considered as private agreements between the Contractor and the private property owner. In such cases the Contractor shall be responsible for the costs of all required water pollution and erosion control measures for that work.

1.02 SILTATION FENCE, RE-VEGETATION, CRUSHED ROCK PAD, AND ROCK CHECK DAM

1. Establish, construct, and maintain erosion and sediment control measures. Temporary siltation control devices and a crushed rock pad shall be installed before construction begins. All disturbed and graded areas shall be hydro mulched at the end of the construction project. The installation of these erosion and sediment control measures shall be in accordance with the approximate locations shown on the Plans. All erosion and sediment control measures shall be kept in good repair and maintained throughout construction.

1.03 DUST CONTROL

1. The Contractor shall exercise precautionary measures to minimize dust emissions, which shall include, but not be limited to, periodic sprinkling or wetting of the site. The Contractor has the option of using a dust palliative. The Contractor must comply with all local requirements.

1.04 SUBMITTALS

1. Name(s) of the individuals designated to be responsible for the water pollution and erosion controls on the project site along with home, business, and cellular telephone numbers. Individuals shall be available during off-hours, weekends and holidays.

2. A copy of the site-specific BMP Plan will be provided by the Engineer of Record.

Modify and resubmit the above items to correct unforeseen conditions that develop during pre-construction and construction phases. These drawings shall be reviewed and approved by the Engineer of Record.

1.05 SILT FENCE

1. Silt fence shall be nylon reinforced polyester netting with fabric weight in excess of 4.0 ounces per yard and having a built-in cord running throughout the top edge of the fabric. Silt fence fabric shall be Mirafi 100X, or equal, inert to chemicals commonly found in soil and resistant to mildew, rot, insects, and rodent attack. Posts shall be either steel or two-inch square pressure treated fir, southern pine or hemlock and shall be spaced not more than six feet on center. The silt fence with a two-foot-height minimum shall be installed at the down slope boundaries of the project site.

1.06 GRAVEL DRIVEWAY

1. Crushed rock shall be #3 Coarse in accordance with ASTM C33.

1.07 CURB AND GUTTER INLET PROTECTION

1. BioSock sediment filter by BioSolutions Products or approved equal product. The purpose is to keep silt, sediment, and construction debris out of storm water systems.

1.08 GRATED INLET PROTECTION

1. Dandy Bag II by Dandy Products or an approved equal product. The purpose is to keep silt, sediment, and construction debris out of storm water systems.

1.09 CONSTRUCTION REQUIREMENTS

1. The Contractor shall conform to the requirements of the NPDES Notice of General Permit Coverage.
2. The Contractor shall not begin work on the project until all submittals detailed above is completed, reviewed and approved by the Engineer, and submitted in writing.
3. The Contractor shall install and maintain a rain gauge at the project location.
4. The Contractor shall install stabilized construction entrances and egresses (crushed rock pad) to minimize track of dirt, and mud onto the roadways.
5. BMP measures shall be installed and accepted by the Engineer of Record before

commencement of work activities that result in the disturbance of earth material. The Contractor shall coordinate and maintain BMP measures throughout the construction and post-construction period.

6. The Contractor shall address any water pollution, erosion and sediment control concerns brought to attention by KCH within 24 hours of notification.
7. The Contractor shall apply accepted erosion control measures to all exposed surfaces subject to erosion. If after 7 days, the erosion control measures have not been applied, the Contractor shall apply an accepted erosion control measure at no cost to KCH.
8. Silt fences shall be installed by securely fastening silt fence fabric using wire ties. The silt fence fabric panels shall be installed loosely with adjacent panels overlapping a minimum of 12 inches. Silt fence material shall be embedded at least 6 inches beneath the ground surface and shall extend upward at least two feet above the disturbed area ground surface. The top edge of the fabric shall be reinforced or shall have a one-inch tuck.
9. An eight-inch-thick gravel driveway shall be installed at the ingress/egress of the project site as shown on the Plans to aid in the removal of dirt/mud from the tires of trucks leaving the construction site areas.
10. Curb and gutter inlet production shall be installed at curb and inlets and shall be removed and cleaned of all accumulated sediment and debris after each storm event.
11. Grated inlet protection shall be installed at drainage inlets and shall be removed and cleaned of all accumulated sediments and debris after each storm event.

## 1.10 MONITORING AND REPORTING REQUIREMENTS

1. Accumulated silt and debris buildup behind the face of the silt fence and rock check dam shall be removed as needed whenever it reaches 1/3 of their heights to provide proper silt fence and rock dam operation. Clogged or damaged filter fabric for silt fence and rock check dam shall be immediately replaced and accumulated silt and debris shall be removed at no additional cost.
2. The Contractor shall implement erosion control measures around all areas to be disturbed prior to disturbing ground in the area, to the satisfaction of KCH. KCH will periodically inspect erosion and sediment control structures to confirm that the Contractor is maintaining these features.

3. The Contactor shall take sufficient precautions during construction to eliminate run-off polluting substances such as silt, clay, wastes, fuels, oils, and bitumen into the ocean, water supplies and surface waters. Special precautions shall be taken in the use of construction equipment to conduct operations in a manner that reduces erosion.
4. The temporary erosion and sediment control features shall be maintained at locations identified in Contractor's site-specific BMPs submitted for the NPDES permit. Care shall be taken to prevent the discharge of unsuitable drainage to the ocean, a water supply, or surface water body.
5. The contractor shall monitor and record daily (7 days/week) rainfall at the same or near same time of the day continuous for the duration of the project. The rainfall record shall be submitted to the Engineer of Record weekly.
6. The Contractor shall inspect, and shall make any necessary repairs to all erosion and sediment control measures continuously for the duration of the project at the following intervals:
    a. Weekly during dry periods,
    b. Within 24-hours of any rainfall event of 0.5 inch or greater occurring in a 24-hour period,
    c. Daily during periods of prolonged rainfall.
    d. When existing erosion control measures are damaged or not operating properly.
7. The contractor shall maintain a record of all inspections and repairs made. These records shall be continuously for the duration of the project and submitted weekly to the Engineer of Record.
8. Failure to conform to the above requirements shall be the cause for temporary or permanent suspension of operations. If operations are suspended due to the Contractor's failure to conform, the Contractor shall maintain the project during the period of suspension at no cost to KCH. KCH further reserves the right to employ outside assistance to address the necessary corrective action and hold the Contractor responsible for associated costs.
9. For all citations or fines received by KCH for non-compliance with the Notice of

General Permit Coverage, KCH will deduct the citations or fines amount from the progress payment due to the Contractor. If the progress payment due to the Contractor does not cover the cost of the citations or fines, the Contractor shall reimburse KCH within 30 calendar days for the full amount of the outstanding cost KCH incurred.

**END OF SECTION**

SECTION 02150

WASTEWATER TREATMENT PLANT SITE PREPARATION

## 1.00 GENERAL

1. This section provides requirements for site preparation at the existing site.

2. This section specifies site preparation which consists of the following:

    a. Clearing, grubbing, and stripping

    b. Demolition and removal of structures, and obstructions

3. Clearing, grubbing, and stripping shall be performed in accordance with Section 10 of the Standard Specifications for Public Works Construction, September 1986 and whenever specified herein along with the project plans. The most stringent requirement shall prevail.

## 1.01 PROTECTION

1. Site preparation shall not damage structures, landscaping or vegetation adjacent to the site. The Contractor shall repair or replace any damaged property to its existing condition or better.

## 1.02 CLEARING, GRUBBING AND STRIPPING

1. Unless otherwise specified, the Contractor shall remove obstructions such as brush, trees, logs, stumps, roots, heavy sod, vegetation, rock, stones, and broken or old concrete and pavement, and debris where the completion of the work required their removal. The area to be cleared, grubbed, and stripped shall be within clearing and grubbing limits as shown on the drawings, as staked by the Contractor, and as reviewed by the Engineer.

2. Included in this work shall be the preservation from injury or defacement, and the replacement, in kind, to the satisfaction of the Engineer, of any such injury or defaced vegetation or objects outside the limits of construction as staked by the Contractor, and as reviewed by the Engineer.

3. Material that is removed and is not to be incorporated in the work shall be disposed of at an authorized area. Clearing and grubbing shall be performed prior to performing as other work.

4. After the area has been cleared and grubbed, all surface soils containing organics, debris, and other deleterious materials shall be stripped and disposed of in accordance with the requirements of the State Department of Health and at an authorized disposal site. The stripped materials shall not be used for embankment or for backfilling of any type. Open burning is prohibited.

**END OF SECTION**

SECTION 02220

CONTROLLED LOW STRENGTH MATERIAL (CLSM)

1.01 DESCRIPTION

1. This work includes furnishing and placing CLSM as sewer line trench backfill material.

1.02 SUBMITTALS

1. The following information shall be provided.

    a. Mix design for the CLSM.

    b. Submit a manufacturer's certificate of the CLSM and include the unconfined 28-day compressive strengths. The material certification shall include the actual test data for each mixture used.

1.03 MATERIALS

1. CLSM shall include a mixture of Portland cement, aggregate, and water. The proportions of the CLSM shall:

    a. Produce a uniform, flowable mixture that is essentially self-leveling when placed.

    b. Provide flowable CLSM with aggregate in suspension.

    c. Have a 28-day compression strength of approximately 50-150 psi.

2. Aggregates shall be from a source acceptable to the Engineer and conform to ASTM C- 33 Aggregate for Concrete. Aggregate shall stay in suspension in the CLSM to the extent required for proper flow.

3. Acceptance: Proportion and place the CLSM as specified herein. In general, the strength desired is the maximum hardness that can be excavated later using conventional excavating equipment.

4. Provide CLSM conforming to Section 39, Standard Specifications for Public Works Construction, except as modified in this Section.

1.04 CONSTRUCTION REQUIREMENTS:

1. Check excavated sides and bottoms of trenches for cracks, voids, or other defects that may cause CLSM to escape. Plug or repair as necessary.

2. The mixture shall fill all voids during the backfill operation. When drainage layers such as permeable bases and permeable separators are present, restore the drainage layers as part of the pavement structure.

1.05 PIPES AND TRENCHES

1. Thoroughly mix the CLSM in the delivery truck before discharge.

2. Place CLSM using chute, conveyor, bucket or pump.

3. Install CLSM as indicated on the drawings and specified.

4. The trench or excavation should have vertical wall limits to confine the flowable CLSM mixture. Bulkheads, earth dams or stiffer concrete shall be used to contain the material at open end placement.

**END OF SECTION**

SECTION 02300

EARTHWORK

1.01 SCOPE

1. Furnish materials, labor and equipment required to accomplish all excavation, filling and grading as indicated on the drawings.

2. It shall be the responsibility of the Contractor to examine the site and determine for himself the existing conditions.

3. Obvious conditions of the site existing on the date of the bid opening shall be accepted as part of the work, even though they may not be clearly indicated on the drawings and/or described herein or may vary there from.

1.02 STANDARD SPECIFICATIONS

1. Work shall be in accordance with the following sections of the County's "Standard Specifications for Public Works Construction" (SSPWC), dated September 1986 as revised, except as amended in the plans and specifications herewith.

| | |
|---|---|
| a. Clearing and Grubbing | Section 10 |
| b. Trench Excavation and Backfill | Section 11 |
| c. Roadway Excavation | Section 12 |
| d. Structural Excavation and Backfill | Section 13 |
| e. Rock for fill | Section 14 |
| f. Crushed Rock | Section 15 |
| g. Borrow | Section 16 |
| h. Embankment | Section 17 |

1.03 PERMITS

1. The Contractor shall obtain and pay for necessary permits prior to the commencement of work.

1.04 CONSTRUCTION LINE, LEVELS AND GRADES

1. The Contractor shall verify all lines, levels, elevations and improvements indicated on the drawings before any clearing, excavation or construction begins. Any discrepancy shall be immediately brought to the attention of the Engineer, and any change shall be made in accordance as instructed. Starting of clearing and grubbing operations shall be construed to mean that the Contractor agrees that the existing grades and improvements are essentially correct as shown. The Contractor shall not be entitled to extra payment if existing grades and improvements are in error, or fails to report the discrepancies before proceeding with any work whether within the area affected or not.

2. All lines and grades shall be verified and established by a Surveyor or Civil Engineer licensed in the State of Hawaii.

3. The laying out of base lines, establishment of grades and staking out the entire work shall be done by a licensed Surveyor or licensed Civil Engineer.

1.05 MATERIALS

1. Asbestos Prohibition: No asbestos containing materials or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos-free.

2. Structural Fill and Backfill Materials: Fill areas of the project site shall be capped with a minimum 2-foot thick layer of structural fill material. Structural fill shall be well graded granular material, with particles less than 3 inches in maximum size and contain less than 30 percent particles passing the No. 200 sieve by weight. When placed in confined areas, such as utility trenches and footing excavations the maximum particle size shall be limited to 2 inches.

3. General Fill Materials: Fill and backfill materials below the minimum 2-foot thick structural fill layer may consist of general fill material. General fill material shall be well-graded granular material, free from organic material and backfill, debris, other deleterious substances and majority of which are less than 12 inches in size with an

absolute maximum dimension of 18 inches. Materials between 12 and 18 inches in particle size should be limited to about 15 percent or less of the total volume.

4. Cushion fill: Under exterior and interior concrete slabs-on-grade shall be ASTM C33 Standard Size Aggregate No. 67 (No. 3B fine gravel).

5. Drain Rock: Shall meet the gradation requirements for ASTM C33 Standard Size No. 67 (No. 3B fine gravel).

6. Base Course and Subbase Course for roadways shall meet the requirements of the Standard Specifications for Public Works Construction, Section 30-Select borrow for Subbase Course and Section 31-Aggregate Base Course.

7. Insufficient Earth Material: The Contractor shall import all necessary material to complete the grading work at no additional cost to KCH. Such imported material shall meet the requirements as specified for each category of the materials.

8. Excavated onsite basalt materials may be used as fill and backfill, provided that the materials are well graded and maximum size of the individual fragments are limited to the applicable sizes for general fill and backfill and structural fill and backfill.

1.06 PROTECTIVE MEASURES

1. All excavation shall be protected and guarded against danger to life, limb and property in accordance with applicable regulations.

2. Shoring, as required to safely preserve the excavations, existing electrical hand-hole boxes, retaining walls, etc. free from damages resulting from the work, shall be provided and installed by the Contractor.

3. All excavations shall be kept free from standing water. The Contractor shall do all pumping and draining that may be necessary to remove water to the extent required in carrying on work. Grading shall be controlled so that the ground surface is properly sloped to prevent water run-off from entering open trenching excavations.

4. The Contractor shall conduct operations with minimum interference to streets, driveways, sidewalks, passageways, traffic, etc.

5. The Contractor shall confine all work, equipment, materials and personnel as much as possible to the work area as indicated. The Contractor shall schedule all work that involves excessive noise, dust, dirt, or any other detrimental aspect of this work in order that there will be minimum disruptions to neighbors.

6. When necessary and when directed, the Contractor shall provide and erect barriers, etc. with special attention to the protection of personnel.

1.07 LAYING OUT

1. The laying out of baselines, establishment of grades and staking out the entire work shall be done by a qualified surveyor, at the expense of the Contractor and shall be solely responsible for their accuracy. The Contractor shall erect and maintain substantial batter boards showing construction lines and levels.

2. Should any discrepancies be discovered in the dimensions given in the plans, the Contractor shall immediately notify the Engineer before proceeding any further with the work; otherwise, will be held responsible for any costs involved in corrections of construction placed due to such discrepancies.

1.08 SITE GRADING

1. All grading work shall be performed in conformance with County of Hawai'i Ordinance 168, the applicable provisions of Chapter 54, Water Quality Control Standards, and Chapter 55, Water Pollution Control, of Title 11, Administrative Rules of the State Department of Health. In addition, the work shall be in conformance with the Air Pollution Control Standards and Regulations of the State Department of Health.

2. The area to be graded shall be cleared of vegetation, debris, rubbish, old pavements, abandoned pipelines and other deleterious materials. Trees and large masses of roots shall be grubbed. All of these materials shall be removed and disposed of properly off-site at no cost to KCH.

3. No blasting will be permitted.

4. The areas not covered by concrete slab or pavement up to the Contract Zone Limits shall be graded to conform to finish contours with allowance for depth of topsoil. Rough grading shall prevent the drainage of water into construction areas.

## 1.09 SITE PREPARATION

1. Prior to commencement of earthwork operations, all vegetation debris and other deleterious materials shall be removed from the site.

2. Any underground structures such as cesspools, cisterns, septic tanks, wells, pipelines, fuel tanks, etc. discovered in the site preparation work shall be removed and backfilled in accordance with these specifications and any applicable regulations.

3. All subgrades of fill areas shall be ripped to a depth of about 3 feet below the existing ground surface to detect and collapse near-surface cavities and/or voids. As a minimum, ripping of the subgrades should extend at least three (3) feet laterally beyond the limits of the fill areas.

4. After the fill surface has been ripped to a depth of 3 feet below the ground surface, the ground should be proof-roll and compacted to provide a relatively level surface. Yeilding areas, loose area, or cavities disclosed during clearing and proof-rolling operations should be over-excavated and backfilled with compacted fill materials.

## 1.10 GENERAL FILL AND BACKFILL

1. General fill and backfill can be used in areas at least 3 feet outside of buildings and shall be placed in level lifts not exceeding 18 inches in loose thickness, moisture conditioned and compacted to a minimum of 90% relative compaction as determined by ASTM D1557-91.

2. General fill and backfill shall be compacted to a firm, unyielding surface. Conventional compaction testing is generally not practicable in fills which are composed of rocks, boulders and/or cobbles. A testing program to evaluate the number of passes of a compactor needed to achieve the desired level of compaction shall be conducted at the start of the grading phase of the project.

3. General fill, areas at least 3 feet outside of pavement shall be compacted not less than 90% compaction.

## 1.11 STRUCTURAL FILL AND BACKFILL

1. Structural fill, subgrade and backfill beneath the new asphalt concrete pavement, and underneath building footprint, and shall be compacted to 95% compaction as determined by ASTM D1557.

2. Structural fill and backfill shall be used under buildings and to backfill any voids detected during demolition and excavation.

3. All fill areas shall be capped with up to 12 inches of structural fill material.

4. Structural fill and backfill shall be laid in lifts not exceeding 8 inches in loose thickness moisture-conditioned and compacted to at least 95% relative compaction (ASTM 1557-91). For structural fill and backfill in confined areas, the material shall be placed in smooth, loose lifts less than 6 inches thick, moisture conditioned and compacted to at least 95% relative compaction (ASTM D1557¬91).

## 1.12 UTILITY TRENCH EXCAVATION AND BACKFILL FOR EXTERIOR UTILITIES

1. Trench excavation for exterior utility lines (water, sewer, drain, electrical), shall be dug to depths shown on the drawings.

2. If depths are not indicated, the trench shall be cut down to proper levels that will provide the minimum coverage required.

3. Trenching work shall be open cut excavation with banks as nearly vertical as practical, with sufficient width to provide proper working space and bottom of trench accurately graded to provide uniform slope and support.

4. Backfill for the utilities shall be as indicated on the plans and as specified within the project plan details. The upper portion of the trench backfill shall consist of granular material generally less than 6 inches in maximum size compacted to at least 90 percent relative compaction as determined by ASTM D1557-91.

5. For trenches located in paved areas, the upper 2 feet of the trench backfill below the road subgrade shall be compacted to not less than 95 percent relative compaction.

1.13 TESTING

1. The contractor shall provide compaction testing for driveways, building foundations, trenches, paved and unpaved areas as specified in the plans and/or specifications. In the absence of specific requirements, the Contractor shall meet the recommendations provided by a licensed geotechnical professional.

2. Driveways and Pavement Areas

3. Compact subgrades to 95% of maximum dry density per ASTM D698.

4. Compact base course to 98% of maximum dry density per ASTM D698

5. Building Foundations

6. Compact foundation subgrades to 95% of maximum dry density per ASTM D698.

1.14 TRENCHES

1. Compact pipe bedding, initial and final backfill to 95% of maximum dry density per plan detail.

2. Perform field density tests in accordance with ASTM D2922 (Nuclear Method) and/or as recommended by a licensed geotechnical professional or as specified in the project documents. The more stringent requirement will prevail.

3. All costs of testing shall be borne by the Contractor.

4. Testing shall be done throughout the project area for each compact lift.

5. All testing reports shall be certified and submitted to the Engineer of Record.

6. Should any test fail, additional testing will be required at no cost to KCH.

1.15 FINISH GRADING

1. Where finish grades and contours are not given, Contractor shall grade to provide drainage away from new and existing structures and shall provide good transitions into existing grades outside the grading limits.

**END OF SECTION**

SECTION 02362

SOIL TREATMENT FOR VEGETATION CONTROL

1.01 GENERAL

1. This work shall consist of spraying weed killer on the prepared parking area, driveway, roadway and shoulder subgrade prior to the installation of the base course and where called for on the plans and on existing growth prior to application of asphalt.

1.02 MATERIALS

1. Asbestos Prohibition: No asbestos containing materials or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos-free.

    a. Weed Killer Trade Name Application

    b. Casoron 4G or Norsac 10G -Under new or rebuild asphalt pavement

    c. Hyvar X, Roundup -Existing weed for resurfacing work

2. Submit material product data and Material Safety Data Sheets

1.03 APPLICATION

1. Mix the under asphalt weed killer and uniformly spread using calibrated application equipment at the maximum rates permitted under asphalt use. Install base course material as soon as possible after applying the weed killer to preclude loss of germination inhibiting action.

2. In treatment of existing growth on resurfacing jobs, mix the weed killer and uniformly spray in strict accordance with the manufacturer's label.

3. Retreat nut grass and weeds two (2) days after initial application and again if growth still exists.

4. Notify KCH 24 hours before application of weed killer.

**END OF SECTION**

SECTION 02513

ASPHALTIC CONCRETE PAVING

1.01 DESCRIPTION

1. This section specifies the requirements for restoration of asphaltic concrete roadways and driveways over a backfilled trench, including the preparation of subgrade, and installation of aggregate base and subbase course materials, and installation asphaltic concrete pavement. This section also specifies the requirements for resurfacing roadways beyond the trench limits.

1.02 SUBMITTALS

1. The Contractor shall submit the test results (certified degree of compaction and moisture content and gradation tests) of aggregate base and subbase courses, and a job mix design for the asphalt concrete mixture to be applied to the project to the Engineer for review during submittal review process and all applicable requirements.

1.03 MATERIALS

1. Subbase Course – Refer to Section 30, Standard Specifications for Public Works Construction

2. Aggregate Base Course – Refer to Section 31, Standard Specifications for Public Works Construction

3. Tack Coat – Refer to Section 33, Standard Specifications for Public Works Construction

4. Asphalt Concrete Pavement – Refer to Section 34, Standard Specifications for Public Works Construction

5. Asphalt Concrete Resurfacing – Refer to Section 34, Standard Specifications for Public Works Construction

6. Asphaltic Concrete Mix shall be County Mix No. 4 for all work.

1.04 EXECUTION

1. Asphaltic Concrete pavement restoration shall include removal of existing pavement, preparation of the existing ground if within the cutback area, installation of subbase course, aggregate base course and asphaltic concrete pavement, and all testing and submittals.

2. Asphaltic Concrete pavement shall include installation of asphaltic concrete pavement by overlay on top of the existing roadway, and all testing and submittals.

3. Miscellaneous restoration: utility manhole frame/covers, survey monuments, pavement markers, markings, striping and signage.

## 1.05 REMOVAL OF EXISTING PAVEMENT

1. The contractor shall remove existing pavement as indicated on the Contract Drawings. Edges of the required excavation shall be cut with a power saw to ensure a neat cut along the pavement and facilitate removal.

2. Pavement removed beyond the limits indicated on the Contract Drawings shall be incidental and replaced at the Contractor's expense unless otherwise ordered by the Engineer.

3. The Contractor shall be responsible for the disposal of all removed pavement.

## 1.06 PREPARATION OF EXISTING GROUND

1. Prior to placement of any material, the existing ground shall be scarified to a depth of 6- inches, moistened to slightly above optimum moisture content, and compacted to 90% maximum density as determined by ASTM D1557.

2. Soft or loose soils that do not readily compact after six passes with a 15-ton, drum roller, shall be removed and disposed. All removed soil shall become the property of the Contractor.

## 1.07 SUBBASE COURSE

1. Place and compact the new subbase course to the thickness indicated on the Contract Drawings in conformance with Section 30 of the Standard Specifications for Public Works Construction, or as directed by the Engineer.

## 1.08 AGGREGATE BASE COURSE

1. Place and compact the new aggregate base course to the thickness indicated on the Contract Drawings in conformance with Section 31 of the Standard Specifications for Public Works Construction, or as directed by the Engineer.

## 1.09 ASPHALTIC CONCRETE PAVEMENT

1. Apply tack coat to existing asphaltic concrete pavement where it will contact the new asphaltic concrete pavement, in conformance with Section 33 of the Standard Specifications for Public Works Construction, or as directed by the Engineer.

2. Install Mix #4 (Fine) Asphalt Concrete Pavement to the thickness and widths indicated on the Contract Drawings in conformance with Section 34 of the Standard Specifications for Public Works Construction.

## 1.10 TESTING

1. Aggregate base course and asphaltic concrete pavement shall be tested by an independent testing agency selected by the Contractor and approved by the Engineer.

2. The contractor shall furnish the Engineer with test reports covering the shipment of each lot of asphalt cement used for the project.

3. The testing methodology, schedule and frequency shall be determined by Contractor and approved by the Engineer of Record. At a minimum, these shall include compaction tests conducted at frequent intervals on the finished base course and the finished asphaltic concrete surface.

4. The Engineer reserves the right to prohibit the Contractor from proceeding with any part of the work until tests have been completed and are deemed satisfactory. No additional payment will be made for resultant delays.

5. All costs associated with testing shall be borne by the Contractor.

**END OF SECTION**

SECTION 02710

SEWER CONSTRUCTION

1.01 DESCRIPTION

1. This work shall consist of furnishing all materials, labor, equipment and incidentals necessary for the construction of new sewer lines located as designated on the plans.

2. Lateral locations will be specified on the project plans. Changes to the lateral location must be approved by the Engineer. No cost changes will be allowed without prior authorization.

1.02 MATERIALS

1. Excavation for Sewer Construction shall be in accordance with Section 11, TRENCH EXCAVATION AND BACKFILL of the Standard Specifications for Public Works Construction, dated September 1986 as amended, except where noted in the plans and/or specifications herewith.

2. Materials for Sewer Construction shall be in accordance with Section 21, PVC Sewer Pipe and Appurtenances, of the Standard Specifications for Public Works Construction, dated September 1986 as amended, except where noted in the plans and/or specifications herewith.

3. Gravity sewer and lateral pipes and fitting shall be SDR26 PVC bell and spigot sanitary sewer pipe in compliance with ASTM D3034. PVC material used for pipes and fittings shall conform to Class 12454-B, as defined in ASTM D1784.

4. PVC pipe for gravity sewer shall be furnished complete with couplings of the same type and composition as the pipe, gaskets conforming to the ASTM F477, and required lubricants. All gaskets and lubricants shall be made from materials that are compatible with plastic materials and with each other when used together, are suitable for wastewater service and will support growth of bacteria.

5. Materials for pipe cushion (3/4” base course) shall conform to Section 15 CRUSHED ROCK, of the Standard Specifications for Public Works Construction, dated September 1986 as amended, except where noted in the plans and/or specifications herewith.

6. Materials for Select Borrow, Aggregate Subbase and Aggregate Base shall be in accordance with Section 29 SUBGRADE and Section 30 SELECT BORROW FOR SUBBASE COURSE and Section 31 AGGREGATE BASE COURSE, of the Standard Specifications for Public Works Construction, dated September 1986 as amended, except where noted in the plans and/or specifications herewith.

7. Materials for Concrete Jacket per Standard Detail S-5 shall be Class "B" be in accordance with Section 39, PORTLAND CEMENT CONCRETE of the Standard Specifications for Public Works Construction, dated September 1986 as amended, except as noted in the plans and/or specifications herewith.

8. Materials for Cleanout Concrete Collar shall be Class "B" Concrete be in accordance with Section 39, PORTLAND CEMENT CONCRETE of the Standard Specifications for Public Works Construction, dated September 1986 as amended, except as noted in the plans and/or specifications herewith.

9. Materials for cleanout enclosures where required for vehicular loading shall be traffic rated frames and covers (Model SBF 1246 W, manufactured by South Bay Foundry, or approved equal).

10. Plugging of the existing sewer lines to be abandoned in-place shall be by installation of a concrete plug using water stop repair mortar similar to or equal to Water plug repair mortar as provided by Chemrex, Inc.

1.03 NEW SEWER CONSTRUCTION

1. Sewer construction shall be in accordance with Section 21, PVC SEWER PIPE AND APPURTENANCES, of the Standard Specifications for Public Works Construction, dated September 1986.

2. Acceptance testing all new sewer line and sewer laterals shall be performed and approved by the Engineer prior to final intercept connection and/or channeling of existing live sewers.

3. New PVC sewer pipe connections shall be made with solid body repair coupling (GXG) or approved equal product.

1.04 PAVEMENT RESTORATION:

1. For County roadways, pavement restoration shall be to existing condition or in accordance with Section 33 ASPHALT SURFACE TREATMENT, Section 34 ASPHALT CONCRETE PAVEMENT, and Section 35 ASPHALT CONCRETE
   RESURFACING, of the Standard Specifications for Public Works Construction, dated September 1986 and specifications included herein whichever is structurally better. Pave or restore the pavement section no earlier than eight (8) hours after backfilling unless otherwise allowed by the Engineer. Protect the backfill material from traffic during the period before restoration of the pavement section.

2. For State roadways or highway, pavement restoration shall be to existing conditions or in accordance with Section 401 HOT MIX ASPHALT CONCRETE, Section 407 TACK COAT and any other applicable sections of the "Standard Specifications for Road and Bridge Construction", dated 2005. Pave or restore the pavement section no earlier than 8 hours after backfilling unless otherwise allowed by the Engineer. Protect the backfill material from traffic during the period before restoration of the pavement section.

3. Acceptance shall be in accordance with Section 21, PVC PIPE AND APPURTENANCES, of the "Standard Specifications for Public Works Construction", dated September 1986, and other specifications included herein.

4. CRM Restoration shall be in accordance with Section 44 CEMENT RUBBLE MASONRY, of the Standard Specifications for Public Works Construction, dated September 1986 as amended, except where noted in the plans and/or specifications herewith.

5. Driveway Restoration:

6. On County roadways, driveway restoration shall be in accordance with Section 55 RECONSTRUCTION DRIVEWAY RAMP WITHIN PRIVATE PROPERTIES, of the Standard Specifications for Public Works Construction, dated September 1986 as amended, except where noted in the plan and/or specifications herewith.

7. On State roadways or Highways, driveway restoration shall be in accordance with

Section 610 REINFORCED CONCRETE DRIVEWAYS and any other applicable sections of the "Standard Specifications for Road and Bridge Construction", dated 2005.

8. Soil preparation and landscaping shall be in accordance with State Department of Transportation's Specifications Section 209.09 (c) rye grass installation for temporary erosion control, as well as Section 50 SOIL PREPARATION and Section 52 TRANSPLANTING OR EXISTING TREES, of the Standard Specifications for Public Works Construction dated September 1986 as amended, except where noted in the plans and/or specifications herewith.

9. Sidewalk Restoration shall be to existing condition or in accordance with Section 42 CONCRETE SIDEWALK, of the Standard Specifications for Public Works Construction, dated September 1986 as amended, except where noted in the plans and/or specifications herewith. In addition, use edging tool with ¼-inch radius to finish outside edges of sidewalk. Finish sidewalk as plane surface with 2-percent (allowable construction tolerance of plus or minus 0.4 percent maximum) cross slope towards roadway. Test surface of concrete sidewalk with 10-foot straightedge. Correct any deviation in excess of ¼-inch.

10. Excavating or backfilling of abandoned in place utilities pipes (including water, sewer, telephone, oil and gas lines) and conduit (including roadway and sign lighting, traffic signal, and other communication systems) is required. Controlled Low Strength Material (CLSM) in accordance with Section 02220 - CLSM for may be used with written approval from the Engineer.

1.05 DEBRIS EXCLUSION FROM SEWER:

1. All debris resulting from the sewer construction work shall not be allowed to enter the sewer. The Contractor shall provide the necessary barriers and collection devices to prevent debris from entering the sewer. All debris shall be removed from the site by the end of each workday.

**END OF SECTION**

SECTION 02735

SEWER MANHOLES

1.01 DESCRIPTION

1. This work shall consist of furnishing all materials, labor, equipment and incidental's necessary for the construction of sewer manholes. Manholes shall conform to Section 23, SEWER MANHOLES, of the Standard Specifications for Public Works Construction, dated September 1986 and as supplemented or modified in the plans or specifications herein.

1.02 SUBMITTAL

1. The following shall be submitted.

    a. Show Drawings for Sewer Manholes

    b. Manufacturer's product certification and data for Concrete Mix Design, Frame and Cover, Rungs, Pipe Connect Gasket Sea, Butyl Rubber Mastic Strip/Caulking

1.03 PRECAST CONCRETE MANHOLE

1. Precast concrete manhole sections shall conform to the requirements of ASTM C478.

2. Cement shall be ASTM C150, Type II, low alkali, conforming to ASTM C150 with Xypex Admix C-1000 at a dosage rate of 3% by weight of the Portland cement fraction of the mix design.

3. Minimum wall thickness for reinforced sections shall be 5 inches. Manhole sections shall be lap jointed and sealed together by an approved butyl rubber mastic strip/caulking.

4. Plain and shallow drop manholes (depth <5.0'), shall have eccentric cone sections with Type SA frames and covers.

5. Plain and shallow drop manholes (depth <5.0'), and transition manhole, shall be provided with a flat top precast concrete cover with Type SB frames and covers.

6. The precast manhole riser section shall be cast with openings whenever sewer pipes

must pass through.

1.04 MANHOLE RUNGS

1. Manhole rungs shall conform to the requirements of ASTM A615 and C478.

2. Manhole Type SA rungs shall be of ¾ inch diameter Type 304 stainless steel.

3. Manhole Type SE rungs shall be corrosion resistant "Manhole Step No. 93810" (by BOWCO Industries), "Manhole Step PSI-PF" (by M.A. Industries Inc.), or approved equal.

1.05 MANHOLE FRAME AND COVER

1. All manhole frames and covers shall be standard SA & SB covers.

1.06 MANHOLE SEWER PIPE CONNECTIONS

1. Sewer pipe connections shall be made with a resilient watertight manhole gasket (i.e. A- Lok Gasket manufactured by A-Lok Products.

2. Manhole inverts shall be constructed with smooth transition to ensure an unobstructed flow through the manhole. Remove sharp edges or rough sections that tend to obstruct flow. Coat manhole inverts using Xypex Megamix II or an approved equal.

1.07 CLEAN UP

1. The contractor shall clean up all materials, equipment and debris upon completion of any portion of the work and upon completion of the entire backfilling and related work.

**END OF SECTION**

SECTION 02750

SEWERLINE ACCEPTANCE TEST

1.01 SCOPE

1. This section provides requirements for Leakage Testing and Mandrel Testing of newly installed sewer lines.

2. All sewer mains shall be subject to acceptance testing prior to final acceptance.

3. All sewer laterals shall be subject to leakage inspection prior to final acceptance.

1.02 SUBMITTALS

1. The following shall be submitted for approval.

2. Detailed drawings of the Mandrel to be used for inspection of the lines show compliance with Section 21.3.E of the Standard Specifications for Public Works Construction, September 1986.

1.03 LEAKAGE TEST EQUIPMENT

1. The Contractor shall be responsible for providing all Leakage Test equipment meeting the requirements of Section 21.3.D of the Standard Specifications for Public Works Construction, September 1986 and any and all appurtenances for performance of the leakage test.

1.04 MANDRELS

1. The Contractor shall be responsible for providing test mandrels meeting the requirements of Section 21.3.E of the Standard Specifications for Public Works Construction, September 1986 and any and all related appurtenances for performance of the mandrel test.

1.05 EXECUTION

1. Leakage testing shall be accomplished in accordance with Section 21.3.D of the Standard Specifications for Public Works construction, September 1986. All costs for

leakage testing shall be borne by the Contractor.

2. Mandrel testing shall be accomplished in accordance with Section 21.3.E of the Standard Specifications for Public Works construction, September 1986. All costs for mandrel testing shall be borne by the Contractor.

1.06 TESTING SCHEDULING

1. The Contractor shall coordinate all testing with the Engineer of Record and KCH to arrange a compatible time to conduct the tests.

2. The Contractor shall provide a minimum of ten (10) working days' notice prior to the proposed inspection date.

1.07 DISPUTES

1. Should the Contractor dispute the results of the inspection performed, the Contractor may obtain the services of a private Contractor to re-perform the inspection.

2. All costs related to use of the private Contractor shall be borne by the Contractor at no cost to KCH.

1.08 CORRECTIVE WORK

1. The Contractor shall promptly perform all Corrective Work in accordance with the General Requirements and Covenants of the Department of Public Works, County of Hawaii (July, 1972), as amended.

2. All corrective work shall be performed in accordance with the plans and specifications.

3. Sewer mains and laterals that have been corrected shall be leakage tested in accordance with the specifications and shall be re-inspected at the Contractor's expense.

4. In the event that defects are still observed after a maximum of two (2) repair attempts, the entire segment of piping shall be replaced from Structure-to-Structure.

**END OF SECTION**

SECTION 03200

CONCRETE REINFORCEMENT

PART 1

1.01 DESCRIPTION

1. The section specifies reinforcing steel for use in reinforced concrete.

2. This section supplements Section 48 – REINFORCING STEEL of the Standard Specifications for Public Works Construction, September 1986, of the County of Hawaii. In cases of conflict between the requirements of this section and those of any referenced documents except the drawings, the requirements of this section shall prevail.

1.02 REFERENCES

1. American Society for Testing and Materials (ASTM)

   ASTM A82 Cold-Drawn Steel Wire for Concrete Reinforcement ASTM A185

   Welded Steel Wire Fabric for Concrete Reinforcement

   ASTM A615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

2. American Welding Society

   AWS D1.4-05 Structural Welding Code – Reinforcing Steel

1.03 SUBMITTALS

1. Certificates: Certified copies of mill reports attesting that the reinforcing steel furnished meets the requirements specified shall be submitted prior to the installation of reinforcing steel.

2. Shop Drawings: Provide reinforcing steel shop drawings indicating the size, number, arrangement and required shape of the reinforcing steel for review.

3. Qualifications of Welders: Welders shall be qualified in accordance with AWS D1.4. Furnish certificates of welders to Engineer prior to any welding.

1.04 DELIVERY

1. Reinforcement and accessories shall be stored off the ground on platforms, skids, or other supports.

PART 2 - PRODUCTS

2.01 BAR REINFORCEMENT

1. Reinforcing bars shall be grade 60, unless noted otherwise on the drawing.

2.02 WIRE FABRIC

1. Wire fabric shall be welded steel mesh conforming to ASTM A185. The gauge of the wire and dimensions of the mesh shall be given in these specifications or as shown on the plans.

2.03 TIE WIRE

1. The wire shall be minimum 16 gage annealed steel conforming to FEDSPEC QQ-W- 461H.

2.04 SUPPORTS

1. Bar supports for formed surfaces shall be designed and fabricated in accordance with CRSI Manual of Standard Practice and shall be steel or precast concrete blocks. Precase concrete blocks shall be not less than 4 inches square when supporting reinforcement off ground. Precase concrete block shall have a compressive strength equal to that of the surrounding concrete. Where concrete formed surfaces will be exposed to weather or where surfaces are to be painted, steel supports within ½-inch of concrete surface shall be plastic protected or of stainless steel. Concrete supports used in concrete exposed to view shall have the same color and texture as the finish surface. For slabs on grade, supports shall be precast concrete blocks, plastic coated steel fabricated with bearing plates, or specifically designed wire-fabric supports fabricated of plastic.

PART 3 – EXECUTION

3.01 REINFORCEMENT

1. Reinforcement shall be fabricated to shapes and dimensions shown and shall conform to the requirements of ACI 318. Reinforcement shall be cold bent unless otherwise authorized. Bending may be accomplished in the field or at the mill. Bars shall not be bent after embedment in concrete. Tack welding of cross bars is prohibited.

Placement: Reinforcement shall be free from loose rust and scale, dirt, oil or other deleterious coating that could reduce bond with the concrete. Reinforcement shall be placed in accordance with ACI 318 at locations shown plus or minus one bar diameter. Concrete coverage shall be as indicated or as required by ACI 318. If bars are moved more than one bar diameter from their specified location to avoid interference with other reinforcement, conduits or embedded items, the resulting arrangement of bars, including additional bars required to meet structural requirements, shall be approved by the Engineer before concrete is placed.

Reinforcing steel shall be positioned accurately and secured against displacement by using annealed iron wire or clips at intersection and shall be supported by concrete or metal chairs, spacers or metal hangers. Steel rods and pegs may be used to support reinforcing steel on rock foundations. Reinforcing steel shall be placed in such a manner as to not damage waterproofing membrane or plastic lining which have been previously applied.

3.02 SPLICING

1. Splices of reinforcement shall conform to ACI 318 and shall be located only as indicated. If a splice is required other than where shown on the reviewed shop drawings, approval from the Engineer is required. Splicing shall be by lapping or by mechanical or welded butt connection, except that lap splice shall not be used for bars larger than No. 11 unless otherwise indicated. Welding shall conform to AWS D1.4. Welded butt splices shall be full penetration butt welds. Lapped bars shall be placed in contact and securely ties or spaced transversely apart to permit the embedment of the entire surface of each bar in concrete. Lapped bars shall not be spaced farther apart than one-fifth the requirement length of lap or 6-inches. Mechanical butt splices shall be in accordance with the recommendation of the manufacturer or the mechanical splicing device. But splices shall develop 125 percent of the specified minimum yield tensile strength of the spliced bars or of the smaller bar in transition splices. Bars shall be flamed-dried before butt splicing. Adequate jigs and clamps or other devices shall be provided in support, align, and hold the longitudinal centerline of the bars to be butt spliced in a straight line.

3.03 WELDED-WIRE FABRIC

1. Welded-wire fabric shall be placed in slabs as indicated. Fabric placed in slabs on grade shall be continuous between construction and contraction joints. Lap splices shall be made in such a way that the overlapped area equals the distance between the outermost crosswires plus 2 inches. Laps shall be staggered to avoid continuous laps in either direction. Fabric shall be wired or clipped together at laps at intervals not to exceed 4 feet. Fabric shall be positioned by the use of supports.

3.04 DOWELS

1. Dowels shall be installed in slabs on grade at locations indicated and a right angle to joint being doweled. Dowels shall be accurately aligned parallel to the finished concrete surface and rigidly supported during concrete placement. One end of dowels shall be coated with a bond breaker.

**END OF SECTION**

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.01 DESCRIPTION

1. This section specifies cast-in-place concrete requirements, including furnishing and storage of materials, mixing, transporting, placing, curing and finishing.

2. This section supplements Section 39 – PORTLAND CEMENT CONCRETE of the Standard Specifications for Public Works Construction, September 1986, of the County of Hawaii. In cases of conflict between the requirements of this section and those of any referenced documents except the drawings, the requirements of this section shall prevail.

1.02 REFERENCES

1. American Society for Testing and Materials (ASTM)
    a. ASTM C 39 Compressive Strength of Cylindrical Concrete Specimens
    b. ASTM C 670 Preparing Precision Statements for Tet Methods for Construction Materials.
    c. ASTM C683 Compressive and Flexural Strength of Concrete Under Field Conditions.
    d. ASTM C 803 Penetration Resistance of Hardened Concrete
2. American Concrete Institute
    a. ACI 301 Specifications for Structural Concrete
    b. ACI 347 Guide to Formwork for Concrete

1.03 SUBMITTALS

1. Mix Design: Submit mix designs from ready mix provider indicating quantities for typical cubic yard of Portland cement concrete. In addition, provide gradations of both fine and course aggregate demonstrating compliance with requirements of Standard Specifications. The number and method of submittals shall be in accordance with Section 01300 “Submittal Procedure”.

2. Formwork Design: All falsework and forming requirements for elevated concrete

sections and walls must be designed by an engineer registered in Hawaii. The drawings, with supporting calculations, must each be signed and sealed by the engineer. No work shall be started until the form support and design has been submitted to the Manager. The false work design engineer must visit the site and approve the erection of all shoring prior to the placement of any concrete. The Contractor shall be solely responsible for the adequacy of the forming, shoring and bracing design.

3. Any formwork installed by the Contractor shall be solely at Contractor's risk. The Manager receipt of the required design documents will not lessen or diminish the Contractor's liability.

## PART 2 – PRODUCTS

### 2.01 FORMWORK

1. Forms shall be true to line and plumb and design in accordance with ACI 347, with sufficient strength to support and hold the fluid concrete. Joints shall be tight enough not to allow concrete to seep through. Formwork shall be within the tolerances of ACI 301.
2. Forms and falsework supports for elevated slabs or beams shall be sufficiently rigid and strong to support the wet concrete, construction personnel, and equipment necessary for its placement without appreciable deflections. A minimum of 40 PSF for live-load shall be allowed in the design.
3. Form surfaces shall be smooth and joints aligned where concrete will be exposed to view.

## PART 3 – EXECUTION

### 3.01 JOB-SITE MIXED CONCRETE

1. Concrete may be mixed at the job site only for minor concrete placements and only prior written approval of the Engineer.

### 3.02 READY MIX CONCRETE

1. Ready mix companies shall furnish delivery tickets, signed by a Certified Weighmaster, on which each ticket shall state the weight of aggregates, sand, cement, admixtures and water and the number of cubic yards of concrete furnished, which will be compared against the approved mix design and the time the truck left the batch plant. The ticket

shall be given to the inspector when the truck arrives to the site.

2. Limit the haul time of central-mixed concrete so that the specified slump is attained without the onsite addition of water which will cause the mix design water-cement ratio to be exceeded. In no event shall the time exceed 90 minutes from the batch plant to the completion of the pour, unless specifically approved by the Engineer of Record.

3.04 FORM WORK

1. Forms shall be used, whenever necessary, to confine the concrete, to shape the concrete to the required lines and grades, and to obtain a thoroughly compacted dense concrete through proper vibrating.

2. The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping and vibration, without deflection from the prescribed lines. The surfaces of all forms in contact with the concrete shall be clean, rigid, tight and smooth.

3. Exposed sharp edges shall be eliminated from finished concrete work by means of ¾" triangular fillets or chamfer strips placed in the forms.

4. Before concrete is deposited within the forms, all inside surfaces of steel and plywood form surfaces shall be thoroughly, but not excessively, coated with an approved non staining bond releasing form oil.

5. Removal: Forms shall be so constructed that they can be removed without hammering on, or prying against, the concrete and shall be removed in such a manner as to prevent damage to the concrete and to ensure the complete safety of all parts of the structure. All forms shall be removed before backfilling is placed.

6. Forms may be removed as soon as the concrete has developed sufficient strength to prevent sagging, excess deflection, misalignment, spalling, cracking, breaking of edges and surfaces and any other damage to the concrete.

7. Forms previously used shall be thoroughly cleaned of all dirt, mortar and foreign matter before being reused.

8. Tie holes shall be thoroughly sandblasted or roughened. The tie holes shall then be coated with a water insensitive epoxy or an acceptable bonding agent and properly filled

through damp-packing with a mortar of dry consistency and a mix of one part of cement to one part of sand. The amount of water to be added to the cement-sand mix shall be such that the mortar can be driven into the voids and will compact properly.

3.05 PROTECTION FROM ABRASION OR FIRE

1. Every reasonable precaution shall be taken to protect finished surfaces from abrasions or other damage. Concrete surfaces or edges likely to be injured during the construction period shall be protected by leaving the forms in place or by erecting satisfactory covers. No fire shall be permitted in direct contact with concrete at any time.

3.06 CONCRETE PLACEMENT

1. If avoidable, do not place concrete during rainstorms. Protect concrete placed immediately before rain to prevent rainwater from coming in contact with it. Keep sufficient protective covering on hand at all times for this purpose.

2. All dirt, chips, sawdust, mud, water and other foreign matter shall be removed from within the forms or within the excavated areas, before any concrete is deposited therein.

3. Concrete placed for encasement or arch of PVC shall not be backfilled until the concrete has reached at least 50% of its 28-day compressive strength confirmed by concrete cylinder tests. The Contractor may mold and cure additional concrete cylinder as specified here-in to verify that the 50% strength has been achieved, prior to the required 7-day test. The Contractor shall keep the trench dewatered until that time. The Contractor may use Type III cement (High Early Strength) in lieu of Type II cement in the samematch quantities as specified, but there will be no additional reimbursement to the Contractor for costs incurred using such concrete.

4. Concrete placed for encasement or arch of PVC shall not be backfilled until the concrete has reached at least 50% of its 28-day compressive strength confirmed by concrete cylinder tests. The Contractor may mold and cure additional concrete cylinder as specified here-in to verify that the 50% strength has been achieved, prior to the required 7-day test. The Contractor shall keep the trench dewatered until that time. The Contractor may use Type III cement (High Early Strength) in lieu of Type II cement in the same batch quantities as specified, but there will be no additional reimbursement to the Contractor for costs incurred using such concrete.

5. Determine pump size by the rate of concrete placement, length of delivery pipe or hose, aggregate size, mix proportions, vertical lifts, and slump of concrete. The minimum inside diameter of pipe or hose shall be based on the maximum aggregate size as follows: 1-inch maximum aggregate: 3 inches minimum I.D.

6. Do not use aluminum pipes to deliver concrete.

7. At cold joints in the concrete construction, the hardened concrete shall be roughened to provide a quarter-inch amplitude on the surface with exposed aggregate. A cement slurry or concrete bonding agent shall be scrubbed into the surface just prior to placing the fresh concrete.

3.07 CONSOLIDATION

1. Use mechanical vibration in placing concrete to eliminate rock pockets and voids, to consolidate each layer with that previously placed, to completely embed reinforcing bars and fixtures, and to bring just enough fine material to exposed surfaces to produce a smooth, dense, and even texture. Vibrators shall be of the high-frequency internal type, and the number in use shall be ample to consolidate the incoming concrete to a proper degree within 15 minutes after it is deposited in the forms. In all cases, at least three (3) operable vibrators shall be available at the site.

3.08 CONCRETE REPAIR

1. Defective surfaces, such as honeycomb, shall be cut out entirely until homogeneous concrete is encountered, even if it means going through the entire concrete section.

2. The exposed surface shall be coated with an approved epoxy or adhesive bonding material, which shall be applied in accordance with the manufacturer's instructions, before damp-packing the area with a mix consisting of one part of Portland cement and two parts of sand and fine gravel, epoxy and sand mix, or any combination of materials and mixes as the situation dictates in the opinion of the Manager.

3. The water content of the damp-pack material shall be such that a ball of the mix may be squeezed in the hand without bringing free water to the surface.

4. Damp-pack material shall be tamped into place and finished to match adjacent concrete surfaces. Particular care shall be taken that no sagging of the material will occur.

5. The repair area shall be cured similar to the original concrete as specified in the

Standard Specifications.

## 3.09 CONCRETE TESTS

1. Compression tests shall conform to ASTM C-39, ASTM C-670, ASTM C-683 and ASTM C-803.

2. At least one slump test and four test cylinders shall be made, under the supervision of the Manager, by an approved testing lab for every 40 cubic yards of ready-mixed concrete delivered to the jobsite. Each cylinder shall be coded to identify the date of delivery, the truck number, the location where the concrete has been used and the slump measured upon discharge.

3. The Contractor may, take additional test samples to determine compressive strength prior to the day 7 test.

4. The specimens shall be standard test cylinders, six inches in diameter, twelve inches in length, and they shall be prepared in accordance with ASTM Standard C-31. Making and testing of cylinders shall be performed by an approved testing laboratory that normally engages in the preparation of concrete mix designs and testing of concrete materials

5. Molds for the standard test cylinders shall be furnished at the expense of the Contractor.

6. All costs for making and testing of concrete and materials, by an approved recognized reputable testing laboratory, will be borne by the Contractor.

7. A compression test may be made on one cylinder from each group test specimens after 7. A strength test shall be conducted using two cylinders from each group at 28 days for use in evaluating the concrete strength in accordance with the Standard Specifications.

8. In addition to the test cylinders specified above, an additional 3 test cylinders shall be made for each day's beam encasement pour. These cylinders will be used to determine the compressive strength on the beam concrete to determine when shoring can be removed from the form work of the beams.

9. They shall be cured in the same manner, and in the same location of the concrete area to be investigated. Before forms may be stripped, at least one cylinder, of each batch

of 3 cylinders, must be tested to verify whether the in-place concrete strength meets the minimum specified design strength.

10. Shall the compressive tests at 28-days not meet the specified criteria, any extra costs involved in such testing shall be borne by Contractor; and the concrete, at the Owner's option, and at Contractor's sole expense, may be cored for further evaluation or rejected and removed from the site or it may be strengthened with additional shotcrete or concrete as the situation warrants it. Should the core tests indicate that the strength requirement has been met or if the low strength concrete is deemed acceptable to the Manager, the extra costs involved in such testing shall still be borne by the Contractor.

**END OF SECTION**

SECTION 15130

COMMINUTING AND GRINDING EQUIPMENT

PART 1 - GENERAL

1.01 SUMMARY

Furnish and install one (1) complete in-channel, dual-shafted comminuting grinder unit, including motor, speed reducer, and all necessary components for a complete and operational assembly as specified herein and as indicated on the Drawings.

1.02 SUBMITTALS

1. Product Data: Submit manufacturer's technical data, catalog cuts, installation instructions, and dimensional drawings for the grinder unit, motor, and reducer.
2. Shop Drawings: Submit detailed drawings showing overall dimensions, connection locations and sizes, weight, and required clearances for service and maintenance.
3. Operation and Maintenance Data: Submit data for inclusion in the project O&M manuals.

1.03 QUALITY ASSURANCE

1. Manufacturer: Unit shall be manufactured by JWC Environmental (JWCE), or approved equal.
2. Standards: Equipment shall be designed and manufactured in accordance with applicable standards of NSF, ANSI, and ASTM.

1.04 DELIVERY, STORAGE, AND HANDLING

1. Store equipment in a clean, dry location. Protect from weather, dirt, and damage.

1.05 WARRANTY

1. Manufacturer's Warranty: Submit manufacturer's standard warranty agreement. Grinder shall be guaranteed against defects in materials and workmanship for a period of one (1) year from date of substantial completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

1. Acceptable Manufacturer: JWC Environmental, Model “Muffin Monster” or approved

equal product.

2.02 COMMINUTING GRINDER

1. Model: JWCE ‘Muffin Monster”; Model 30001-1206 or approved equal.
    a. Design: In-channel, dual-shafted design.
    b. Cutters:
        i. Type: 11T "Cam Cutters."
        ii. Material: Hardened alloy steel, 1:1 stack configuration.
    c. Seals and Elastomers: Buna -N elastomers
    d. Gaskets: Cork and Rubber
    e. Flanges: New 6-inch diameter pipe flanges.
    f. Housing: Cast iron or fabricated steel with Epoxy Green paint
    g. Serial Number: Unit shall have a unique, factory-assigned serial number.

2.03 SOURCE QUALITY CONTROL

1. The unit shall be factory-tested prior to shipment to ensure proper operational function.

PART 3 – EXECUTION

3.01 EXAMINATION

A. The contractor shall verify existing site conditions, including piping alignment, mounting base and electrical supply, prior to installation. The new grinder is a direct replacement for the existing unit.

3.02 INSTALLATION

A. Install the grinder in the specified location in accordance with the with the manufacturer’s published instruction and approved shop drawings.
B. Connect to existing piping via the 6-inch flanges, using gaskets and bolts suitable for the service.
C. Connect electrical power to the motor in accordance with electrical specifications and local codes. All electrical connections shall be performed by a qualified electrician.

3.03 ADJUSTING AND CLEANING

A. After installation, ensure the grinder cutter assembly rotates freely by hand.
B. Conduct a operational test run to verify proper rotation, absence of unusual noise or vibration, and correct function.
C. Clean the exterior of the unit and leave the work area clean and ready for use.

3.04 DEMONSTRATION

A. The Contractor shall coordinate with the Manufacturer's Representative to provide a startup service and operational demonstration for the Owner's maintenance personnel.

**END OF SECTION**

SECTION 16010

BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 SUMMARY

1. This section specifies the basic requirements for the electrical installations and includes requirements common to more than one section of Division 16. It expands and supplements the requirements specified in sections of Division 1.
2. Standards of the organizations listed below but referred to in the various sections by basic designation only, form a part of this specification to the extent indicated by the reference thereto:
    a. American Society for Testing and Materials (ASTM).
    b. National Fire Protection Association (NFPA).
    c. American National Standards Institute (ANSI).
    d. Illuminating Engineering Society (IES).
    e. Institute of Electrical and Electronics Engineers (IEEE).
    f. Insulated Cable Engineers Association ICEA).
    g. National Electrical Manufacturer's Association (NEMA).
    h. National Electrical Contractors' Association (NECA).
    i. Underwriters' Laboratories, Inc. (UL).
    j. Factory Mutual (FM).
    k. Federal Specifications (FS).
    l. National Electrical Code (NEC) with County of Hawaii Amendments.
    m. ANSI TIA/EIA Telecommunication Building Wiring Standards.
3. References shall mean to the latest edition of the standard.
4. Conform to local ordinances and codes.

1.03 QUALITY ASSURANCE

1. Verify final locations for rough-ins with field measurements and with the requirements

of the actual equipment to be connected. Contractor shall coordinate with the appropriate supplier, vendor, or subcontractor regarding the exact and specific rough-in requirements for equipment actually supplied.

2. Conduits, junction boxes, wireway, etc. required for low voltage/telecommunications, cabling shall be coordinated with telecommunications cabling divisions prior to rough-in.

1.04 ELECTRICAL INSTALLATIONS

1. Coordinate electrical equipment and materials installation with other building components.
2. Verify all dimensions by field measurement. Do not scale drawings.
3. Arrange for chases, slots, and openings in other building components to allow for electrical installations.
4. Sequence, coordinate, and integrate installations of electrical materials and equipment for efficient flow of the work.
5. Coordinate the access panel requirements with General Contractor to accommodate the installation of electrical equipment and materials.
6. Where mounting heights are not detailed or dimensioned, install electrical services and overhead equipment to provide the maximum headroom possible.
7. Install electrical equipment to facilitate maintenance and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.
8. Coordinate the installation of electrical materials and equipment above ceilings with suspension system, mechanical equipment and systems, and structural components.
9. Contractor shall review Civil drawings prior to bid.
    a. Final connections to equipment shall be per manufacturer's approved wiring diagrams, details and instructions. It shall be the Contractor's responsibility to provide materials and equipment compatible with equipment actually supplied.
    b. It is the intent of these drawings and specifications to establish a standard of quality.
    c. Work shall be performed in a workmanlike manner to the satisfaction of the Hospital.
    d. Contractor shall verify and coordinate exact location of equipment to be

furnished by others prior to rough-in.

e. Contractor shall be responsible for replacing equipment which is damage due to incorrect field wiring provided under this section or factory wiring in equipment provided under this division.

f. Contractors shall visit site prior to bid and verify that conditions are as indicated. Contractor shall include in the bid, costs required to make the work that meet existing conditions.

10. Proposed substitutions of electrical equipment or request for "or equal" or approved equal" listing shall be submitted to the Hospital as specified under Division 1.
11. Wire termination provisions for panelboards, circuit breakers, safety switches and all other electrical apparatus shall be listed as suitable for 75 degree C.
12. Systems shall be complete, operable and ready for continuous operations. Lights, switches, receptacles, motors, etc., shall be connected and operable.
13. Electrical equipment shall be located to maintain clear and level clearances outlined in NEC 110-26. Panelboards, disconnects, switches, breakers, etc. shall be located to comply with NEC 110-26(a). Where the clearances outlined in NEC 110-26 cannot be obtained, the Contractor shall notify the engineer prior to performing any rough-in.
14. Maintain separation between telecommunication conduits and electrical feeders, electronic ballasts, transformers, etc. to minimize electromagnetic compatibility issues.

## 1.05 ELECTRICAL SUBMITTALS

1. Refer to Division 1 Specifications for submittal requirements.
2. Data shall be submitted at one time in three ring binders and indexed as scheduled below. Partial submittals will not be accepted.
    a. 16060 – Grounding and Bonding
    b. 16073 – Hangers and Supports for Electrical Systems
    c. 16075 – Electrical Identification
    d. 16120 – Conductors and Cables
    e. 16130 – Raceways and Boxes
    f. 16140 – Wiring Devices
3. Submit shop drawings and product data grouped to include complete submittals of related systems, products and accessories in a single submittal.
4. Identify products requiring color selections.

5. Identify products for use on project.

1.06 PRODUCT OPTIONS AND SUBSTITUTIONS

Substitutions shall be made in accordance with Division 1 Specifications.

1.07 PRODUCT LISTING

1. Prepare listing of major electrical equipment and materials for the project.
2. Submit this listing as a part of the submittal requirement specified in the Division 1 Specifications.

1.08 NAMEPLATE DATA

Provide permanent operational data nameplate on each item of power operated equipment, indicating, manufacturer, product name, model number, serial number, capacity, operating and power characteristics, labels of tested compliances, and similar essential data. Locate nameplates in an accessible location.

1.09 DELIVERY, STORAGE AND HANDLING

1. Deliver products to project properly identified with names, model numbers, types, compliance labels and similar information needed for distinct identification; adequately packaged and protected to prevent damage during shipment, storage and handling.
2. Store equipment and materials at the site, unless off-site storage is authorized in writing. Contractor shall protect stored equipment and materials from damage and theft.
3. Coordinate deliveries of electrical materials and equipment to minimize construction congestion. Limit each shipment of materials and equipment to the items and quantities needed for the smooth and efficient flow of installations.

1.10 RECORD DOCUMENTS

1. Refer to the Division 1 Specifications for requirements. The following paragraphs supplement the requirements of Division 1.
2. Mark drawings to indicate revisions to conduit size and location both exterior and interior, actual equipment locations, dimensioned to column lines; concealed equipment, dimensioned to column lines; distribution and branch electrical circuitry;

fuse and circuit breaker size and arrangement support and hanger details; Change Orders; Addendums; concealed control system devices.

3. Mark specifications to indicate approved substitutions; Change Orders; Addendums and equipment and materials used.

1.11 OPERATION AND MAINTENANCE DATA

1. Refer to DIVISION 1 Specifications for procedures and requirements for preparation and submittal of maintenance manuals.
2. In addition to the information required by DIVISION 1 for Maintenance Data, include the following information.
3. Description of function, normal operating characteristics and limitations, performance curves, engineering data tests, and complete nomenclature and commercial numbers of all replaceable parts.
4. Manufacturer's printed operating procedures to include start-up, break-in, routine and normal operating instructions; regulation, control, stopping, shut-down and emergency instructions and summer and winter operating instructions.
5. Maintenance procedures for routine preventative maintenance and troubleshooting, disassembly, repair and reassembly; aligning and adjusting instructions.
6. Servicing instructions and lubrication charts and schedules.

1.12 WARRANTIES

1. Refer to the Division 1 Specifications for procedures and submittal requirements for warranties. Refer to individual equipment specifications for warranty requirements.
2. Compile and assemble the warranties specified in Division 16, into a separated set of vinyl covered, three ring binders, tabulated and indexed for easy reference.
3. Provide complete warranty information for each item to include product or equipment to include date of beginning of warranty or bond; duration of warranty or bond; and names, addresses and telephone numbers and procedures for filing a claim and obtaining warranty services.

1.13 CLEANING

Refer to the Division 1 Specifications for general requirements for final cleaning.

**END OF SECTION**

SECTION 16060

GROUNDING AND BONDING

1.01 SUMMARY

This Section includes methods and materials for grounding systems and equipment grounding requirements specified in this section may be supplemented by special requirements of section described in other sections.

1.02 SUBMITTALS

1. Product Data: For each type of product indicated.
2. Other Informational Submittals: Plans showing dimensioned as-built locations of grounding features Including the following:
    a. Ground rods.
    b. Ground rings.
    c. Grounding arrangements and connections for separately derived systems.
3. Field quality-control test reports.
4. Operation and Maintenance Data: For grounding to include the following in emergency, operation, and maintenance manuals:
    a. Instructions for periodic testing and inspection of grounding features based on NFPA 70B.
        i. Tests shall be to determine if ground resistance or impedance values remain within specified maximums, and instructions shall recommend corrective action if they do not.
        ii. Include recommended testing intervals.

1.03 QUALITY ASSURANCE

1. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
2. Comply with UL 467 for grounding and bonding materials and equipment.

1.04 CONDUCTORS

1. Insulated Conductors: Copper wire or cable insulated for 600V unless otherwise

required by applicable Code or authorities having jurisdiction.

2. Equipment Grounding Conductors: Insulated with green-colored insulation.
3. Isolated Ground Conductors: Insulated with green-colored insulation with yellow stripe. On feeders with isolated ground, use colored tape, alternating bands of green and yellow tape to provide a minimum of three bands of green and two bands of yellow.
4. Grounding Electrode Conductors: Stranded cable.
5. Underground Conductors: Bare, tinned, stranded, unless otherwise indicated.
6. Bare Copper Conductors:
    a. Solid Conductors: ASTM B 3.
    b. Stranded Conductors: ASTM B 8.
    c. Tinned Conductors: ASTM B 33.
    d. Bonding Cable: 28 mil, 14 strands of No. 17 AWG conductor, 1/4 inch (6 mm) in diameter.
    e. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
    f. Bonding Jumper: Copper tape, braided conductors, terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.
    g. Tinned Bonding Jumper: Tinned-copper tape, braided conductors, terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.
7. Grounding Bus: Rectangular bars of annealed copper, 1/4 by 2 inches (6 by 50 mm) in cross section, unless otherwise indicated; with insulators.

1.05 CONNECTORS

1. Listed and labeled by a nationally recognized testing laboratory acceptable to authorities having jurisdiction for applications in which used, and for specific types, sizes, and combinations of conductors and other items connected.
2. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, bolted pressure-type, with at least two bolts.
3. Pipe Connectors: Clamp type, sized for pipe.
4. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

1.06 GROUNDING ELECTRODES

Ground Rods: Copper-clad/steel 5/8 inches in diameter by 120 inches (16 by 3000 mm) in length.

1.07 APPLICATIONS

1. Conductors: Install solid conductors for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger, unless otherwise indicated.
2. Underground Grounding Conductors: Install bare copper conductor, size per drawings.
3. Isolated Grounding Conductors: Green-colored insulation with continuous yellow stripe. On feeders with isolated ground, identify grounding conductor where visible to normal inspection, with alternating bands of green and yellow tape, with at least three bands of green and two bands of yellow.
4. Grounding Bus: Install in electrical and telephone equipment rooms, in rooms housing service equipment, and elsewhere as indicated.
    a. Install bus on insulated spacers 1 inch (25 mm), minimum, from wall 18 inches (450 mm) above finished floor, unless otherwise indicated.
    b. Where indicated on both sides of doorways, route bus up to top of door frame, across top of doorway, down to specified height above floor, and connect to horizontal bus.
5. Conductor Terminations and Connections:
    a. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
    b. Underground Connections: Welded connectors, except at test wells and as otherwise indicated.
    c. Connections to Ground Rods at Test Wells: Bolted connectors.
    d. Connections to Structural Steel: Welded connectors.

1.08 GROUNDING UNDERGROUND DISTRIBUTION SYSTEM COMPONENTS

1. Comply with IEEE C2 grounding requirements.
2. Duct Banks: Install a grounding conductor with at least 50 percent ampacity of the largest phase conductor in the duct bank.
3. Grounding Manholes and Handholes: Install a driven ground rod through manhole or handhole floor, close to wall, and set rod depth so 4 inches (100 mm) will extend above finished floor. If necessary, install ground rod before manhole is placed and provide No. 1/0 AWG bare, tinned-copper conductor from ground rod into manhole through a waterproof sleeve in manhole wall. Protect ground rods passing through concrete floor with a double wrapping of pressure-sensitive insulating tape or heat-shrunk insulating sleeve from 2 inches (50 mm) above to 6 inches (150 mm) below concrete. Seal floor

opening with waterproof, non-shrink grout.

4. Grounding Connections to Manhole Components: Bond exposed-metal parts such as inserts, cable racks, pulling irons, ladders, and cable shields within each manhole or handhole, to ground rod or grounding conductor. Make connections with No. 4 AWG minimum, stranded, hard-drawn copper bonding conductor. Train conductors level or plumb around corners and fasten to manhole walls. Connect to cable armor and cable shields as recommended by manufacturer of splicing and termination kits.

## 1.09 EQUIPMENT GROUNDING

1. Install insulated equipment grounding conductors with all feeders and branch circuits.
2. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
    a. Feeders and branch circuits.
    b. Receptacle circuits.
    c. Single-phase motor and appliance branch circuits.
    d. Three-phase motor and appliance branch circuits.
    e. Flexible raceway runs.
    f. Armored and metal-clad cable runs.
    g. Busway Supply Circuits: Install insulated equipment grounding conductor from grounding bus in the switchgear, switchboard, or distribution panel to equipment grounding bar terminal on busway.
3. Air-Duct Equipment Circuits: Install insulated equipment grounding conductor to duct-mounted electrical devices operating at 120 V and more, including air cleaners, heaters, dampers, humidifiers, and other duct electrical equipment. Bond conductor to each unit and to air duct and connected metallic piping.
4. Water Heater: Install a separate insulated equipment grounding conductor to each electric water heater. Bond conductor to heater units, piping, connected equipment, and components.

5. Isolated Grounding Receptacle Circuits: Install an insulated equipment grounding conductor connected to the receptacle grounding terminal. Isolate conductor from raceway and from panelboard grounding terminals. Terminate at equipment grounding conductor terminal of the applicable derived system or service, unless otherwise indicated.

1.10 INSTALLATION

1. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
2. Ground Rods: Drive rods until tops are a minimum of 2 inches (50 mm) below finished floor or final grade, unless otherwise indicated.
    a. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating, if any.
    b. For the grounding electrode system, install at least three rods spaced at least one- rod length from each other and located at least the same distance from other grounding electrodes, and connect to the service grounding electrode conductor.
3. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance, except where routed through short lengths of conduit.
    a. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
    b. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install so vibration is not transmitted to rigidly mounted equipment.
    c. Use exothermic-welded connectors for outdoor locations, but if a disconnect-type connection is required, use a bolted clamp.
4. Grounding and Bonding for Piping:
    a. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes, using a bolted clamp connector or by bolting a lug-type connector to a pipe flange, using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
    b. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.

c. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.

5. Ground Ring: Install a grounding conductor, electrically connected to each building structure steel column and other indicated items, extending around the perimeter of area or item indicated.
    a. Install tinned-copper conductor not less than No. 4/0 AWG for ground ring and for taps to building steel.
    b. Bury ground ring not less than 30 inches (750 mm) below grade and 24 inches (600 mm) from building foundation.
6. Ufer Ground (Concrete-Encased Grounding Electrode): Fabricate according to NFPA 70, using a minimum of 20 feet (6 m) of bare copper conductor, size per drawings.
    a. If concrete foundation is less than 20 feet (6 m) long, coil excess conductor within base of foundation.
    b. Bond grounding conductor to reinforcing steel in at least four locations and to anchor bolts. Extend grounding conductor below grade and connect to building grounding grid or to grounding electrode external to concrete.

## 1.11 FIELD QUALITY CONTROL

1. Test completed grounding system at service disconnect enclosure grounding terminal, and at all grounding electrodes. Make tests at electrodes before any conductors are connected.
2. Measure ground resistance not less than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
3. Report measured ground resistance. If resistance exceeds 25 ohms, provide supplemental ground if required to comply with NEC 250.53(A)(2). All costs to achieve required ground resistance shall be included in the contractor's bid.

## 1.12 GRADING AND PLANTING

1. Restore surface features, including vegetation, in areas disturbed by the Work of this Section. Re-establish original grades, unless otherwise indicated. If sod has been removed, replace it as soon as possible after the backfilling is completed. Restore areas disturbed by trenching, storing of dirt, cable laying, and other activities to their original

condition. Include application of topsoil, fertilizer, lime, seed, sod, sprig and mulch.

2. Restore disturbed paving as indicated.

**END OF SECTION**

SECTION 16073

HANGERS & SUPPORTS FOR ELECTRICAL SYSTEMS

1.01 SUMMARY

1. This Section includes the following:
    a. Hangers and supports for electrical equipment and systems.
    b. Construction requirements for concrete bases.

1.02 DEFINITIONS

1. EMT: Electrical metallic tubing.
2. IMC: Intermediate metal conduit.
3. RMC: Rigid metal conduit.

1.03 PERFORMANCE REQUIREMENTS

1. Delegated Design: Design supports for multiple raceways, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
2. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.
3. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
4. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of five times the applied force.

1.04 SUBMITTALS

1. Product Data: For the following:
    a. Steel slotted support systems.

1.05 QUALITY ASSURANCE

Comply with NFPA 70.

1.06 COORDINATION

1. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases.

Concrete, reinforcement, and formwork requirements are specified in Division 3.

2. Coordinate installation of roof curbs, equipment supports, and roof penetrations. These items are specified in Division 7.

PART 2 – PRODUCTS

2.01 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

1. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.
    a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
        i. Allied Tube & Conduit.
        ii. Cooper B-Line, Inc.; a division of Cooper Industries.
        iii. ERICO International Corporation.
        iv. GS Metals Corp.
        v. Thomas & Betts Corporation.
        vi. Unistrut; Tyco International, Ltd.
        vii. Wesanco, Inc.
    b. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
    c. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
    d. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
    e. Channel Dimensions: Selected for applicable load criteria.
2. Raceway and Cable Supports: As described in NECA 1 and NECA 101.
3. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
4. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of

threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.

5. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
6. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
    a. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened Portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
        i. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
        ii. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
            a. Hilti Inc.
            b. ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
            c. MKT Fastening, LLC.
            d. Simpson Strong-Tie Co., Inc.; Masterset Fastening Systems Unit.
7. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened Portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
    a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
        i. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
            a. Cooper B-Line, Inc.; a division of Cooper Industries.
            b. Empire Tool and Manufacturing Co., Inc.

c. Hilti Inc.

d. ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.

e. MKT Fastening, LLC.

8. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
9. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
10. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
11. Toggle Bolts: All-steel springhead type.
12. Hanger Rods: Threaded steel.

PART 3 – EXECUTION

3.01 - APPLICATION

1. Comply with NECA 1, NECA 101 and manufacturer's instructions for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.
2. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
3. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
    a. Secure raceways and cables to these supports with two-bolt conduit clamps, single-bolt conduit clamps or single-bolt conduit clamps using spring friction action for retention in support channel.
4. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.
5. Do not support raceway with wire or perforated pipe straps. Remove wire used

for temporary supports. Do not attach raceway to ceiling support wires or other piping systems.

3.02 SUPPORT INSTALLATION

1. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
2. Raceway Support Methods: In addition to methods described in NECA 1, EMT may be supported by openings through structure members, as permitted in NFPA 70.
3. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb. (90 kg).
4. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
    a. To Wood: Fasten with lag screws or through bolts.
    b. To New Concrete: Bolt to pre-set concrete inserts or expansion anchors.
    c. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners or pre-set concrete inserts on solid masonry units.
    d. To Existing Concrete: Expansion anchor fasteners.
    e. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts, Beam clamps (MSS Type 19, 21, 23, 25, or 27), complying with MSS SP-69.
    f. To Light Steel: Sheet metal screws.
    g. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.
5. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.
6. Install surface-mounted cabinets and panelboards with minimum of four anchors.
7. In wet and damp locations, use steel channel supports to stand cabinets and

panelboards one inch off wall.

8. Use sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.
9. Do not fasten supports to pipes, ducts, mechanical equipment, and conduit.
10. Do not use power-actuated anchors.
11. Obtain permission from Owner before drilling or cutting structural members.

## 3.03 INSTALLATION OF FABRICATED METAL SUPPORTS

1. Comply with installation requirements in Division 5 Section "Metal Fabrications" for site-fabricated metal supports.
2. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
3. Field Welding: Comply with AWS D1.1/D1.1M.
4. Fabricate supports from structural steel or steel channel. Rigidly weld members or use hexagon head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.

## 3.04 CONCRETE BASES

1. Construct concrete bases of dimensions indicated but not less than 4 inches (100 mm) larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.
2. Use 4500-psi (31.0-MPa) 28-day compressive-strength concrete. Concrete materials, reinforcement, and placement requirements are specified in "Cast-in- Place Concrete".
3. Anchor equipment to concrete base.
    a. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
    b. Install anchor bolts to elevations required for proper attachment to supported equipment.
    c. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

## 3.05 PAINTING

1. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
    a. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).
2. Touchup: Comply with requirements for cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal.
3. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

## 3.06 FIRESTOPPING

Apply firestopping to cable and raceway penetrations of fire-rated floor and wall assemblies to achieve fire-resistance rating of the assembly. Firestopping materials and installation requirements are required to be met.

## 3.07 DEMOLITION

1. Protect existing electrical equipment and installations indicated to remain. If damaged or disturbed in the course of the Work, remove damaged portions and install new products of equal capacity, quality, and functionality.
2. All abandoned wiring shall be removed in its entirety in accordance with the locally amended National Electrical Code, NFPA 70.
3. Accessible Work: Remove exposed electrical equipment and installations, indicated to be demolished, in their entirety.
4. Abandoned Work: Cut and remove buried raceway, indicated to be abandoned in place, 2 inches below the surface of adjacent construction. Cap raceways and patch surface to match existing finish.
5. Remove demolished material from Project site.
6. Remove, store, clean, reinstall, reconnect, and make operational components indicated for relocation.

**END OF SECTION**

SECTION 16075

ELECTRICAL IDENTIFICATION

PART 1 - GENERAL

1.01 SUMMARY

1. This Section includes the following:

    a. Identification for raceway
    b. Identification for conductors and communication and control cable.
    c. Underground-line warning tape.
    d. Warning labels and signs.
    e. Instruction signs.
    f. Equipment identification labels.
    g. Miscellaneous identification products.

1.02 SUBMITTALS

1. Product Data: For each electrical identification product indicated.
2. Identification Schedule: An index of nomenclature of electrical equipment and system components used in identification signs and labels.

1.03 QUALITY ASSURANCE

1. Comply with ANSI A13.1 and ANSI C2.
2. Comply with NFPA 70.
3. Comply with 29 CFR 1910.145.

1.04 COORDINATION

1. Coordinate identification names, abbreviations, colors, and other features with requirements in the Contract Documents, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual, and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
2. Coordinate installation of identifying devices with location of access panels and doors.
3. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.02 RACEWAY IDENTIFICATION MATERIALS

1. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
2. Color for Printed Legend:
    a. Power Circuits: Black letters on an orange field.
    b. Legend: Indicate system or service and voltage, if applicable.
3. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
4. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
5. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeves, 2 inches (50 mm) long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
6. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; 2 inches (50 mm) wide; compounded for outdoor use.

2.02 CONDUCTOR AND COMMUNICATION- AND CONTROL-CABLE IDENTIFICATION MATERIALS

1. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.
2. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
3. Aluminum Wraparound Marker Labels: Cut from 0.014-inch- (0.35-mm-) thick aluminum sheet, with stamped, embossed, or scribed legend, and fitted with tabs and matching slots for permanently securing around wire or cable jacket or around groups of conductors.
4. Metal Tags: Brass or aluminum, 2 by 2 by 0.05 inch (50 by 50 by 1.3 mm), with stamped legend, punched for use with self-locking nylon tie fastener.

2.03 UNDERGROUND-LINE WARNING TAPE

1. Description: Permanent, bright-colored, continuous-printed, polyethylene tape.
    a. Not less than 6 inches (150 mm) wide by 4 mils (0.102 mm) thick.
    b. Compounded for permanent direct-burial service.
    c. Embedded continuous metallic strip or core.
    d. Printed legend shall indicate type of underground line.

2. WARNING LABELS AND SIGNS
    a. Safety Signs: Comply with NFPA 70 and 29 CFR 1910.145.
    b. Baked-Enamel Warning Signs for Interior Use: Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application. 1/4-inch (6.4- mm) grommets in corners for mounting.
    c. Metal-Backed, Butyrate Warning Signs for Exterior Use: Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch (1-mm) galvanized-steel backing; and with colors, legend, and size required for application. 1/4-inch (6.4-mm) grommets in corners for mounting.
    d. Warning label and sign shall include, but are not limited to, the following legends:
    e. Multiple Power Source Warning: "DANGER – ELECTRICAL SHOCK HAZARD EQUIPMENT HAS MULTIPLE POWER SOURCES."
    f. Workspace Clearance Warning: "WARNING – OSHA REGULATION – AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES (915 MM)."

2.04 INSTRUCTION SIGNS

1. Engraved, laminated acrylic or melamine plastic, minimum 1/16 inch (1.6 mm) thick for signs up to 20 sq. in. (129 sq. cm) and 1/8 inch (3.2 mm) thick for larger sizes.
2. Engraved legend with white letters on black face for normal power. White letters on red face for emergency power.
3. Punched or drilled for mechanical fasteners.

2.05 EQUIPMENT IDENTIFICATION LABELS

1. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on black face for normal power. White letters on red face for emergency power. Minimum letter height shall be 3/8 inch (10 mm).

2.06 MISCELLANEOUS IDENTIFICATION PRODUCTS

1. Cable Ties: Fungus-inert, self-extinguishing, 1-piece, self-locking, Type 6/6 nylon cable ties.
    a. Minimum Width: 3/16 inch (5 mm).
    b. Tensile Strength: 50 lb. (22.6 kg), minimum.
    c. Temperature Range: Minus 40 to plus 185 deg F (Minus 40 to plus 85 deg C).
    d. Color: According to color-coding.
2. Paint: Paint materials and application requirements are specified in Division 9 painting Sections. Select primer and finish coats applicable to the materials to be painted.
3. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 – EXECUTION

3.01 APPLICATION

1. Accessible Raceways, 600 V or Less, for Service, Feeder, and Branch Circuits More Than: Identify with orange self-adhesive vinyl label, paint, or self-adhesive vinyl tape applied in bands.
2. Accessible Raceways of Auxiliary Systems: Identify the following systems with color-coded, self-adhesive vinyl tape applied in bands or paint:
    a. Color coding for raceways shall be as follows:

| Color Service | Band | Minimum Band Width |
|---|---|---|
| Telephone | Black | 2” |
| Power | Yellow | 2” |
| Emergency Power | Red | 2” |
| Fiber Optic | Orange | 2” |

3. Power-Circuit Conductor Identification: For primary and secondary conductors in vaults, pull and junction boxes, manholes, and handholes use color-coding conductor tape and write-on tags. Identify source and circuit numbers of each set of conductors. For single conductor cables, identify phase in addition to the above.
4. Branch-Circuit Conductor Identification: Where there are conductors for more than three branch circuits in same junction or pull box, use color-coding conductor tape.

Identify each ungrounded conductor according to source and circuit number.

5. Conductors to Be Extended in the Future: Attach write-on tags to conductors and list source and circuit number.
6. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, signal, sound, intercommunications, voice, and data connections.
    a. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
    b. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
    c. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and Operation and Maintenance Manual.
7. Locations of Underground Lines: Identify with underground-line warning tape for power, lighting, communication, and control wiring and optical fiber cable.
8. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Comply with 29 CFR 1910.145 and apply baked-enamel warning signs. Identify system voltage with black letters on an orange background. Apply to exterior of door, cover, or other access.
    a. Equipment Requiring Workspace Clearance According to NFPA 70: Unless otherwise indicated, apply to door or cover of equipment but not on flush panelboards and similar equipment in finished spaces.
9. Instruction Signs:
    a. Operating Instructions: Install instruction signs to facilitate proper operation and maintenance of electrical systems and items to which they connect. Install instruction signs with approved legend where instructions are needed for system

       or equipment operation.
    b. Emergency Operating Instructions: Install instruction signs with white legend on a red background with minimum 3/8-inch (10-mm) high letters for emergency instructions at equipment used for power transfer load shedding.
10. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of

each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.

11. Labeling Instructions:
    a. Indoor Equipment: Engraved, laminated acrylic or melamine label. Unless otherwise indicated, provide a single line of text with 1/2-inch (13-mm) high letters on 1-1/2-inch (38-mm) high label; where 2 lines of text are required, use labels 2 inches (50 mm) high.

    b. Outdoor Equipment: Engraved, laminated acrylic or melamine label.

    c. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.

12. Equipment to Be Labeled:
    a. Panelboards, electrical cabinets, and enclosures.
    b. Access doors and panels for concealed electrical items.
    c. Motor-control centers.
    d. Disconnect switches.
    e. Enclosed circuit breakers.
    f. Motor starters.
    g. Contactors.
    h. Remote-controlled switches, dimmer modules, and control devices.

3.02 INSTALLATION

1. Verify the identity of each item before installing identification products. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
2. Apply identification devices to surfaces that require finish after completing finish work.
3. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
4. Attach non-adhesive signs and plastic labels with screws and auxiliary hardware appropriate to the location and substrate.
5. System Identification Color Banding for Raceways and Cables: Each color band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-

m) maximum intervals in congested areas.

6. Color-Coding for Phase and Voltage Level Identification, 600 V and Less: Use the colors listed below for ungrounded service, feeder, and branch-circuit conductors.
7. Color shall be factory applied or, for sizes larger than No. 10 AWG, field applied.
   a. Colors for 208/120-V Circuits:
      1. Phase A: Black.
      2. Phase B: Red.
      3. Phase C: Blue.
      4. Neutral: White
      5. Ground: Green

   b. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
8. Underground-Line Warning Tape: During backfilling of trenches install continuous underground-line warning tape directly above line at 12 inches (150 to 200 mm) below finished grade. Use multiple tapes where width of multiple lines installed in a common trench or concrete envelope exceeds 16 inches (400 mm) overall.
9. Painted Identification: Prepare surface and apply paint according to Division 9 painting Sections.

**END OF SECTION**

SECTION 16120

CONDUCTORS & CABLES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

1. This Section include the following.
   a. Building wires and cables rated 600 V or less
   b. Connectors, splices, and terminations rated 600 V or less.
   c. Sleeves and sleeve seals for cables.
2. This Section include the following.
   a. Building wires and cables rated 600 V or less
   b. Connectors, splices, and terminations rated 600 V or less.

1.03 DEFINITIONS

1. EPDM: Ethylene-propylene-diene terpolymer rubber.
2. NBR: Acrylonitrile-butadiene rubber.

1.04 SUBMITTALS

1. Product Data: For each type of product indicated.
2. Field quality-control test reports.

1.05 QUALITY ASSURANCE

1. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
2. Comply with NFPA 70.

1.06 COORDINATION

1. Set sleeves in cast-in-place concrete, masonry walls, and other structural components

as they are constructed.

## PART 2 - PRODUCTS

### 2.01 CONDUCTORS AND CABLES

1. Conductors shall be annealed copper with conductivity of no less than 98% pure copper.
2. Aluminum conductors are not permitted.
3. Copper Conductors: Comply with NEMA WC 70.
4. Conductor Insulation: Comply with NEMA WC 70 for Types THHN-THWN XHHW and SO.

### 2.02 CONNECTORS AND SPLICES

Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type and class for application and service indicated.

### 2.03 SLEEVE SEALS

1. Description: Modular sealing devices, designed for field assembly, to fill annular space between sleeve and conduit.
   a. Sealing Elements: EPDM interlocking links shaped to fit surface of conduit. Include type and number required for materials and size of raceway.
   b. Pressure Plates: Plastic Carbon steel. Include two for each sealing element.
   c. Connecting Bolts and Nuts: Carbon steel with corrosion-resistant coating of length required to secure pressure plates to sealing elements. Include one for each sealing element.

## PART 3 – EXECUTION

### 3.01 CONDUCTOR MATERIAL APPLICATIONS

1. Feeders: Solid for No. 10 AWG and smaller; stranded for No 8 AWG and larger, except as indicated below.
   a. Use standard conductors for control circuits.
   b. Use conductor not smaller than 14 AWG for control circuits.

c. Use 10AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet (25 m).
d. Use 10 AWG conductors for 20 ampere, 277 volt branch circuits longer than 200 feet (160 m).

3.02 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

1. Service Entrance: Type THHN_THWN, single conductor in raceway Type XHHW, single conductor in raceway.
2. Exposed Feeders: Type THHN-THWN, single conductors in raceway.
3. Feeders Concealed in Ceilings, Walls, Partitions, below raised floors and Crawlspaces: Type THHN-THWN, single conductors in raceway.
4. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.
5. Exposed Branch Circuits, Including in Crawlspaces: Type THHN-THWN, single conductor in raceway or MC Cable in sizes #6 AWG and smaller.
6. Branch Circuits Concealed in Ceilings, Walls and Partitions: Type THHN-THWN single conductors in raceway or type MC Cable in sizes #6 AWG and smaller.
7. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway or PVC coated type MC Cable in sizes #6 and smaller (in concrete slabs only).
8. Branch Circuits Installed below Raised Flooring: Type THHN-THWN, single conductors in raceway or type MC Cable in sizes #6 AWG and smaller.
9. Class 1 Control Circuits: Type THHN-THWN, in raceway.
10. Class 2 Control Circuits: Type THHN-THWN , in raceway.

3.03 INSTALLATION OF CONDUCTORS AND CABLES

1. Conceal cables in finished walls, ceiling, and floors, unless otherwise indicated.
2. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
3. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

4. Support cables according to Division 16 Section "Hangers and Supports for Electrical Systems."
5. Identify and color-code conductors and cables according to Division 16 Section "Electrical Identification."
6. Feeders and Branch Circuits Larger than 6 AWG: Copper, stranded conductor, 600 volt insulation, THHN/THWN, or XHHW. With the exception of motor feeders, 600 volt aluminum wire in sizes 1/0 and larger may be substituted for copper feeders if ampacity is equal or greater than copper and voltage drop is equal to or less than copper.
7. Use no wire smaller than 12 AWG for power and lighting circuits, and no wire smaller than 16 AWG for control wiring.
8. Utilize 10 AWG conductor for 20 ampere, 120 volt branch circuit homeruns longer than 75 feet (23m), and for 20 ampere, 277 volt branch circuit homeruns longer than 200 feet (61m).

3.04 CONNECTIONS

1. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
2. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
3. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches (150 mm) of slack.

3.05 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

1. Coordinate sleeve selection and application with selection and application of firestopping.
2. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
3. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
4. Rectangular Sleeve Minimum Metal Thickness:
    a. For sleeve rectangle perimeter less than 50 inches (1270 mm) and no side greater than 16 inches (400 mm), thickness shall be 0.052 inch (1.3 mm).

b. For sleeve rectangle perimeter equal to, or greater than, 50 inches (1270 mm) and 1 or more sides equal to, or greater than, 16 inches (400 mm), thickness shall be 0.138 inch (3.5 mm).

5. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
6. Cut sleeves to length for mounting flush with both wall surfaces.
7. Extend sleeves installed in floors 2 inches (50 mm) above finished floor level.
8. Size pipe sleeves to provide 1/4-inch (6.4-mm) annular clear space between sleeve and conduit unless sleeve seal is to be installed.
9. Seal space outside of sleeves with grout for penetrations of concrete and masonry and with approved joint compound for gypsum board assemblies.
10. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and cable, using joint sealant appropriate for size, depth, and location of joint according to Division 7.
11. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at cable penetrations. Install sleeves and seal with firestop materials according to Division 7.
12. Roof-Penetration Sleeves: Seal penetration of individual cables with flexible boot-type flashing units applied in coordination with roofing work.
13. Aboveground Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Size sleeves to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.
14. Underground Exterior-Wall Penetrations: Install cast-iron "wall pipes" for sleeves. Size sleeves to allow for 1-inch (25-mm) annular clear space between cable and sleeve for installing mechanical sleeve seals.

## 3.06 SLEEVE-SEAL INSTALLATION

1. Install to seal underground exterior-wall penetrations.
2. Use type and number of sealing elements recommended by manufacturer for cable material and size. Position cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.07 FIRESTOPPING

1. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistant rating of assembly.

3.08 FIELD QUALITY CONTROL

1. Tests and Inspections:
    a. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors, for compliance with requirements.
    b. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
2. Remove and replace malfunctioning units and retest as specified above.

**END OF SECTION**

SECTION 16130

RACEWAYS AND BOXES
GENERAL

## PART 1 - GENERAL

### 1.01 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

### 1.02 SUMMARY

This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

### 1.03 DEFINITIONS

1. EMT: Electrical metallic tubing.
2. FMC: Flexible metal conduit.
3. IMC: Intermediate metal conduit.
4. LFMC: Liquidtight flexible metal conduit.
5. RGSC: Rigid galvanized steel conduit.
6. RNC: Rigid nonmetallic conduit.

### 1.04 SUBMITTALS

Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

### 1.05 QUALITY ASSURANCE

1. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
2. Comply with NFPA 70.

## PART 2 - PRODUCTS

## 2.01 METAL CONDUIT AND TUBING

1. Rigid Steel Conduit: ANSI C80.1.
2. IMC: ANSI C80.6.
3. EMT: ANSI C80.3
4. FMC: Zinc-coated steel.
5. LFMC: Flexible steel conduit with PVC jacket.
6. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.
    a. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886.
    b. Fittings for EMT: Steel compression type. Use of die cast fittings is not permitted.

7. Joint Compound for Rigid Steel Conduit or IMC: Listed for use in cable connector assemblies, and compounded for use to lubricate and protect threaded raceway joints from corrosion and enhance their conductivity.

## 2.02 METAL WIREWAYS

1. Description: Sheet metal sized and shaped as indicated, NEMA 250, Type 1, unless otherwise indicated.
2. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
3. Wireway Covers: Screw-cover type or Flanged-and-gasketed type as required.
4. Finish: Manufacturer's standard enamel finish.

## 2.03 BOXES, ENCLOSURES, AND CABINETS

1. Sheet Metal Outlet and Device Boxes: NEMA OS 1.
2. Cast-Metal Outlet and Device Boxes: NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.
3. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

4. Cast-Metal Access, Pull, and Junction Boxes: NEMA FB 1, galvanized, cast iron with gasketed cover.
5. Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous-hinge cover with flush latch, unless otherwise indicated.
    a. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
6. Cabinets:
    a. NEMA 250, Type 1, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
    b. Hinged door in front cover with flush latch and concealed hinge.
    c. Key latch to match panelboards.
    d. Metal barriers to separate wiring of different systems and voltage.
    e. Accessory feet where required for freestanding equipment.

## 2.04 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

1. Description: Comply with SCTE 77.
    a. Configuration: Units shall be designed for flush burial and have closed bottom, unless otherwise indicated.
    b. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.
    c. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
    d. Cover Legend: Molded lettering, for each service.
    e. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
    f. Handholes 24 inches wide by 36 inches long (300 mm wide by 600 mm long) and larger shall have inserts for cable racks and pulling-in irons installed before concrete is poured.
2. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel or fiberglass or a combination of the two.
    a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work

include, but are not limited to, the following:

b. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

c. Basis-of-Design Product: Subject to compliance with requirements, provide Jensen Precast or a comparable product by one of the following:

1. Armorcast Products Company.
2. Carson Industries LLC.
3. CDR Systems Corporation.
4. NewBasis.

## 2.05 SLEEVES FOR RACEWAYS

1. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
2. Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.052- or 0.138-inch (1.3- or 3.5-mm) thickness as indicated and of length to suit application.
3. Coordinate sleeve selection and application with selection and application of firestopping specified in Division 7 Section "Through-Penetration Firestop Systems."

## 2.06 SLEEVE SEALS

1. Basis-of-Design Product: Subject to compliance with requirements, provide Advance Products & Systems, Inc. or a comparable product by one of the following:
   a. Calpico, Inc.
   b. Metraflex Co.
   c. Pipeline Seal and Insulator, Inc.

2. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and cable.
   a. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
   b. Pressure Plates: Carbon steel. Include two for each sealing element.
   c. Connecting Bolts and Nuts: Carbon steel with corrosion-resistant coating of

length required to secure pressure plates to sealing elements. Include one for each sealing element.

PART 3 – EXECUTION

3.01 RACEWAY APPLICATION

1. Outdoors: Apply raceway products as specified below, unless otherwise indicated:
    a. Exposed Conduit: Rigid galvanized steel conduit or IMC.
    b. Concealed Conduit, Aboveground: Rigid galvanized steel conduit, IMC, or EMT.
    c. Underground Conduit: RNC, Type EPC-80 PVC, direct buried.
    d. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
    e. Boxes and Enclosures, Aboveground: NEMA 250, Type 4X.
    f. Application of Handholes and Boxes for Underground Wiring:
        1. Handholes and Pull Boxes in Driveway, Parking Lot, and Off-Roadway Locations, Subject to Occasional, Nondeliberate Loading by Heavy Vehicles: Polymer concrete, SCTE 77, Tier 15 structural load rating.
        2. Handholes and Pull Boxes in Sidewalk and Similar Applications with a Safety Factor for Nondeliberate Loading by Vehicles: Polymer-concrete units SCTE 77, Tier 8 structural load rating.
        3. Handholes and Pull Boxes Subject to Light-Duty Pedestrian Traffic Only: Fiberglass-reinforced polyester resin, structurally tested according to SCTE 77 with 3000-lbf (13 345-N) vertical loading.
2. Comply with the following indoor applications, unless otherwise indicated:
    a. Exposed, Not Subject to Physical Damage: EMT.
    b. Exposed, Not Subject to Severe Physical Damage: EMT.
    c. Exposed and Subject to Physical Damage: Rigid galvanized steel conduit. Includes raceways in the following locations:
        1. Loading dock.
        2. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
    d. Concealed in Ceilings and Interior Walls and Partitions: EMT.

e. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.

f. Damp or Wet Locations: Rigid galvanized steel conduit, IMC, or Sch 80 PVC where allowed by code or local jurisdiction.

g. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4X, stainless steel in damp or wet locations.

3. Minimum Raceway Size: 3/4-inch (24-mm) trade size for homeruns and conduits below grade or slab on grade.
4. Raceway Fittings: Compatible with raceways and suitable for use and location.
    a. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
5. All conduits larger than 1" shall be furnished with grounding type busing with equipment grounding conductor solidly connected at both ends.

## 3.02 INSTALLATION

1. Comply with NECA 1 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter. Raceway and boxes located as shown on Drawings, and at other locations where required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway and boxes are shown in approximate locations unless dimensioned. Provide raceway as required to complete wiring system. Sizes shall meet or exceed NEC requirements. Raceway routing is shown for reference only. Route as required for a complete raceway system.
2. Where wiring devices are shown to be installed at existing wall locations, provide flush mount wiring devices with raceways concealed inside existing walls unless otherwise noted. Provide all work required to repair and patch existing wall as required for installation of new raceways and wiring devices.
3. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
4. Complete raceway installation before starting conductor installation.
5. Arrange stub-ups so curved portions of bends are not visible above the finished slab.

6. Install no more than the equivalent of three 90-degree bends in any conduit run between boxes except for communications conduits. Provide no more than the equivalent of two (2) 90 degree bends between boxes.
7. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated except as follows:
    a. Mechanical, Electrical, Telecommunications and elevator machine rooms.
    b. Any variance shall be obtained from the Architect.
8. Raceways Embedded in Slabs above grade:
    a. Run conduit larger than 1-inch (27-mm) trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support.
    b. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
    c. Change from Type EPC-40-PVC to PVC coated rigid steel conduit, before the elbow and rising above the floor.
9. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
10. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors, including conductors smaller than No. 4 AWG.
11. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire.
12. Install raceway sealing fittings at suitable, approved, and accessible locations and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings at the following points:
    a. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
    b. Where otherwise required by NFPA 70.
13. Route raceways, concealed or exposed parallel and perpendicular to walls and building structural components.
14. Flexible Conduit Connections: Use maximum of 72 inches (1830 mm) of flexible

conduit for recessed and semi-recessed lighting fixtures, maximum 36 inches (915 mm) for connection to equipment subject to vibration, noise transmission, or movement; and for transformers and motors.

a. Use LFMC in damp or wet locations.

15. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.
16. Route conduit through roof openings for piping and ductwork or through suitable roof jack with pitch pocket. Coordinate location with roofing installation.
17. Cut conduit square using saw or pipecutter; de-burr cut ends.
18. Bring conduit to shoulder of fittings; fasten securely.
19. Use conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes.
20. Use conduit bodies to make sharp changes in direction, as around beams. Use hydraulic one-shot bender to fabricate bends in metal conduit larger than 2-inch (50mm) trade size.

## 3.03 BOX APPLICATIONS

1. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall.
2. Set wall mounted boxes at elevations to accommodate mounting heights indicated. Comply with ADA where required.
3. Adjust box location up to 10 feet (3m) prior to rough-in if required to accommodate intended purpose.
4. Orient boxes to accommodate wiring devices oriented as specified in Section 16140.
5. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.
6. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches (150mm) from ceiling access panel or from removable recessed luminaire.
7. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
8. Do not install flush mounting box back-to-back in walls; provide minimum 6 inches (150 mm) separation. Provide minimum 24 inches (600 mm) separation in acoustic

and fire rated walls.

9. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.
10. Use stamped steel bridges to fasten flush mounting outlet box between studs.
11. Use adjustable steel channel fasteners for hung ceiling outlet box.
12. Do not fasten boxes to ceiling support wires or other piping systems.
13. Support boxes independently of conduit.
14. Use gang box where more than one device is mounted together. Do not use sectional box.
15. Use gang box with plaster right for single device outlets.
16. Do not use boxes smaller than 4-inches square.

## 3.04 INSTALLATION OF UNDERGROUND CONDUIT

1. Direct-Buried Conduit:
    a. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Division 2 Section "Earthwork" for pipe less than 6 inches (150 mm) in nominal diameter.
    b. Install backfill as specified in Division 2 Section "Earthwork."
    c. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches (300 mm) of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Division 2 Section "Earthwork."
    d. Install manufactured Schedule 80 conduit elbows and risers for transitions from below grade or slab on grade to above grade.
        1. Couple steel conduits to ducts with adapters designed for this purpose and encase coupling with 3 inches (75 mm) of concrete.

    e. Conduits located in areas subject to vehicular traffic, such as driveways, parking lots, fire access lanes, etc. shall be concrete encased.
        1. Concrete jacket shall be 2500 PSI compressive strength in 28 days.

2. Provide a minimum of 3” of concrete on all sides of conduit.

3. Provide 1-1/2” separation between ducts of same system and 3” between ducts of different systems.

f. All underground service entrance conduits shall be installed, inspected, and approved by the local utility. Coordinate all requirements with the latest edition of the utility service installation manual.

## 3.05 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

1. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
2. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch (12.5-mm) sieve to No. 4 (4.75-mm) sieve and compacted to same density as adjacent undisturbed earth.
3. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch (25 mm) above finished grade.
4. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables, but short enough to preserve adequate working clearances in the enclosure.
5. Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

## 3.06 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

1. Coordinate sleeve selection and application with selection and application of firestopping specified in Division 7.
2. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
3. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.

4. Rectangular Sleeve Minimum Metal Thickness:
    a. For sleeve cross-section rectangle perimeter less than 50 inches (1270 mm) and no side greater than 16 inches (400 mm), thickness shall be 0.052 inch (1.3 mm).
    b. For sleeve cross-section rectangle perimeter equal to, or greater than, 50 inches (1270 mm) and 1 or more sides equal to, or greater than, 16 inches (400 mm), thickness shall be 0.138 inch (3.5 mm).

5. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
6. Cut sleeves to length for mounting flush with both surfaces of walls.
7. Extend sleeves installed in floors 2 inches (50 mm) above finished floor level.
8. Size pipe sleeves to provide 1/4-inch (6.4-mm) annular clear space between sleeve and raceway unless sleeve seal is to be installed or unless seismic criteria require different clearance.
9. Seal space outside of sleeves with grout for penetrations of concrete and masonry and with approved joint compound for gypsum board assemblies.
10. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway, using joint sealant appropriate for size, depth, and location of joint. Refer to Division 7.
11. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway penetrations. Install sleeves and seal with firestop materials. Comply with Division 7.
12. Aboveground, Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.
13. Underground, Exterior-Wall Penetrations: Install cast-iron "wall pipes" for sleeves. Size sleeves to allow for 1-inch (25-mm) annular clear space between raceway and sleeve for installing mechanical sleeve seals.

## 3.07 SLEEVE-SEAL INSTALLATION

1. Install to seal underground, exterior wall penetrations.
2. Use type and number of sealing elements recommended by manufacturer for raceway material and size. Position raceway in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.08 FIRESTOPPING

1. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly. Firestopping materials and installation requirements are specified in Division 7.

3.09 PROTECTION

1. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.
    a. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
    b. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

b. Use suitable caps to protect installed conduit against entrance of dirt and moisture.

**END OF SECTION**

SECTION 16140

WIRING DEVICES

## PART 1 - GENERAL

### 1.01 SUMMARY

1. This Section includes the following:
   a. Receptacles, receptacles with integral GFCI, and associated device plates.
   b. Twist-locking receptacles.
   c. Receptacles with integral surge suppression units.
   d. Wall-box motion sensors.
   e. Isolated-ground receptacles.
   f. Snap switches.
   g. Wall-switch.
   h. Cord and plug sets.

### 1.02 DEFINITIONS

1. EMI: Electromagnetic interference.
2. GFCI: Ground-fault circuit interrupter.
3. Pigtail: Short lead used to connect a device to a branch-circuit conductor.
4. RFI: Radio-frequency interference.
5. TVSS: Transient voltage surge suppressor.

### 1.03 SUBMITTALS

1. Product Data: For each type of product indicated.

### 1.04 QUALITY ASSURANCE

1. Source Limitations: Obtain each type of wiring device and associated wall plate through one source from a single manufacturer. Insofar as they are available, obtain all wiring devices and associated wall plates from a single manufacturer and one source.
2. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
3. Comply with NFPA 70.

## PART 2 - PRODUCTS

2.03 STRAIGHT BLADE RECEPTACLES

1. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.
    a. Products: Subject to compliance with requirements, provide one of the following, or approved equal:
        i. Cooper; 6350 (single), 6352 (duplex).
        ii. Hubbell; HBL2162 (duplex).
        iii. Leviton; 16341 (single), 16362 (duplex).
        iv. Pass & Seymour; 26361 (single), 26362 (duplex).
2. Isolated-Ground, Duplex Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.
3. Products: Subject to compliance with requirements, provide one of the following, or approved equal:
    a. Hubbell; CR 1G2162.
    b. Leviton; 163621G.
    c. Pass & Seymour; 1G6362-HG.
    d. Cooper; 1G8362
4. Description: Straight blade; equipment grounding contacts shall be connected only to the green grounding screw terminal of the device and with inherent electrical isolation from mounting strap. Isolation shall be integral to receptacle construction and not dependent on removable parts.

2.04 GFCI RECEPTACLES

1. General Description: Straight blade, non-feed-through type. Comply with NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.
2. Duplex GFCI Convenience Receptacles, 125 V, 20 A:
    a. Products: Subject to compliance with requirements, provide one of the following, or approved equal:
        a. Cooper; GF20.
        b. Pass & Seymour; 2084.
        c. Leviton; 8898-HG

2.05 HAZARDOUS (CLASSIFIED) LOCATION RECEPTACLES

1. Wiring Devices for Hazardous (Classified) Locations: Comply with NEMA FB 11 and UL 1010.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following, or approved equal:
    a. Cooper Crouse-Hinds.
    b. EGS/Appleton Electric.
    c. Killark; a division of Hubbell 1nc.

2.06 TWIST-LOCKING RECEPTACLES

1. Single Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration L5-20R, and UL 498.
2. Products: Subject to compliance with requirements, provide one of the following, or approved equal:
    a. Cooper; L520R.
    b. Hubbell; HBL2310.
    c. Leviton; 2310.
    d. Pass & Seymour; L520-R.
3. Products: Subject to compliance with requirements, provide one of the following, or approved equal:
    a. Hubbell; 1G2310.
    b. Leviton; 2310-1G.
4. Description: Comply with NEMA WD 1, NEMA WD 6 configuration L5-20R, and UL 498. Equipment grounding contacts shall be connected only to the green grounding screw terminal of the device and with inherent electrical isolation from mounting strap. Isolation shall be integral to receptacle construction and not dependent on removable parts.

2.07 CORD AND PLUG SETS

1. Description: Match voltage and current ratings and number of conductors to requirements of equipment being connected.
    a. Cord: Rubber-insulated, stranded-copper conductors, with Type SOW-A jacket; with green-insulated grounding conductor and equipment-rating ampacity plus a minimum of 30 percent.
    b. Plug: Nylon body and integral cable-clamping jaws. Match cord and receptacle

type for connection.

2.08 SNAP SWITCHES

1. Comply with NEMA WD 1 and UL 20.
2. Switches, 120/277 V, 20 A:
    a. Products: Subject to compliance with requirements, provide one of the following, or approved equal:
        i. Cooper; DECB120 (single pole), DECB220 (two pole), DECB320 (three way).
        ii. Hubbell; 2121 (single pole), 2122 (two pole), 2123 (three way).
        iii. Leviton; 5621 (single pole), 5622 (two pole), 5623 (three way).
        iv. Pass & Seymour; 2621 (single pole), 2622 (two pole), 2623 (three way).
3. Single-Pole, Double-Throw, Momentary Contact, Center-Off Switches, 120/277 V, 20 A; for use with mechanically held lighting contactors.
    a. Products: Subject to compliance with requirements, provide one of the following, or approved equal:
        i. Cooper; 1995.
        ii. Hubbell; HBL1557.
        iii. Leviton; 1257.
        iv. Pass & Seymour; 1251.

2.09 WALL PLATES

1. Single and combination types to match corresponding wiring devices.

a. Plate-Securing Screws: Metal with head color to match plate finish.
b. Material for Finished Spaces: Satin-finished stainless steel, 0.04-inch- (1-mm-) thick,
c. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in "wet locations."

2. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant, die-cast aluminum with lockable cover.

## 2.10 POKE-THROUGH ASSEMBLIES

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following, or approved equal:
   a. Hubbell Incorporated; Wiring Device-Kellems.
   b. Pass & Seymour/Legrand; Wiring Devices & Accessories.
   c. Square D/ Schneider Electric.
   d. Thomas & Betts Corporation.
   e. Wiremold Company (The).
2. Description: Factory-fabricated and -wired assembly of below-floor junction box with multichannel, through-floor raceway/firestop unit and detachable matching floor service outlet assembly.
   a. Service Outlet Assembly: Flush type with two simplex receptacles and space for two RJ-45 jacks.
   b. Size: Selected to fit cored holes in floor and matched to floor thickness.
   c. Fire Rating: Unit is listed and labeled for fire rating of floor-ceiling assembly.
   d. Closure Plug: Arranged to close unused cored openings and reestablish fire rating of floor.
   e. Wiring Raceways and Compartments: For a minimum of four No. 12 AWG conductors and a minimum of four, 4-pair, Category 5e voice and data communication cables.

## 2.11 FINISHES

1. Color: Wiring device catalog numbers in Section Text do not designate device color.
   a. Wiring Devices Connected to Normal Power System: As selected by Architect, unless otherwise indicated or required by NFPA 70 or device listing.

b. TVSS Devices: Blue.

c. Isolated-Ground Receptacles: As specified above, with orange triangle on face.

PART 3 - EXECUTION

3.00 INSTALLATION

1. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.
2. Coordination with Other Trades:
    a. Take steps to ensure that devices and their boxes are protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.
    b. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
    c. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
    d. Install wiring devices after all wall preparation, including painting, is complete.
3. Conductors:
    a. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
    b. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
    c. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
    d. Existing Conductors:
        i. Cut back and pigtail, or replace all damaged conductors.
        ii. Straighten conductors that remain and remove corrosion and foreign matter.
        iii. Pig tailing existing conductors is permitted provided the outlet box is large enough.
4. Device Installation:
    a. Replace all devices that have been in temporary use during construction or that's

how signs that they were installed before building finishing operations were complete.

b. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.

c. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.

d. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.

e. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, 2/3 to 3/4 of the way around terminal screw.

f. Use a torque screwdriver when a torque is recommended or required by the manufacturer.

g. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.

h. Tighten unused terminal screws on the device.

i. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.

j. Mounting heights shall be as follows unless noted:

k. Receptacles: 18" A.F.F. measured to bottom.

l. Switches: 44" A.F.F. measured to bottom.

5. Receptacle Orientation:

   a. Install ground pin of vertically mounted receptacles down, and on horizontally mounted receptacles to the left.

   b. Install hospital-grade receptacles in patient-care areas with the ground pin or neutral blade at the top.

6. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

7. Dimmers:

   a. Install dimmers within terms of their listing.

   b. Verify that dimmers used for fan speed control are listed for that application.

   c. Install unshared neutral conductors on line and load side of dimmers according to manufacturers' device listing conditions in the written instructions.

8. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.
9. Adjust locations of floor service outlets and service poles to suit arrangement of partitions and furnishings.

## 3.01 IDENTIFICATION

1. Comply with Division 16 Section "Electrical Identification."
    a. Receptacles: Identify panelboard and circuit number from which served on back of device plate.

## 3.02 FIELD QUALITY CONTROL

1. Perform tests and inspections and prepare test reports.
    a. Test Instruments: Use instruments that comply with UL 1436.
    b. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated LED indicators of measurement.
2. Tests for Convenience Receptacles:
    a. Line Voltage: Acceptable range is 105 to 132 V.
    b. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is not acceptable.
    c. Ground Impedance: Values of up to 2 ohms are acceptable.
    d. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
    e. Using the test plug, verify that the device and its outlet box are securely mounted.
    f. The tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.

**END OF SECTION**

SECTION 46 07 53

PRE-PACKAGED WASTEWATER TREATMENT PLANT

1.01 PRE-PACKAGED WWTP

1. Although the PURESTREAM prefabricated steel sewage treatment plant is a complete factory fabricated place shipped to your ready to be set on the foundation pad; there are certain important details that must be taken care of by the contractor before and after the plant arrives at the job site. The tankage may be shipped in several pieces and require field erection.

1.02 SECTION EXCAVATION:

1. After your plant delivery date has been determined make sure you have the proper drawings to prepare the excavation and tank foundation pad, if required. The size of the excavation should be at least three feet wider and longer than the tank overall dimensions to allow for anchoring and touchup painting prior to back filling.
2. Pile dirt far enough away from the excavation site to allow trucks and cranes to operate safely from either side.
3. Care should be taken to see that the bottom elevation of the excavation is accurate and level and that the concrete pad is smooth and level. This is important in order to provide a uniform bearing over the entire tank bottom and to ensure the proper flow of liquids through the plant. Errors in grade or pad surface cannot be easily corrected after the plant has been set.
4. The foundation pad must be level within ½ inch across the width and along the length to maintain the proper water level in the plant.
5. The tie down arrangement shown on the pad drawing is for alignment only and will not prevent flotation when the plant is empty. If groundwater problems exist, consult the project engineer. The tank must be filled with water immediately after installation.

1.03 PRE PLANT DELIVERY CHECK OUT

1. In most cases the PURESTREAM plant will come directly to the jobsite by lowboy trailer. It is the responsibility of the contractor to remove the steek tank from the trailer and set it on the pad unless otherwise specified. The following are a few final details to check out before the plant arrives:

2. Ensure that road access to the plant site is adequate for the tank size and adequate clearance is provided for a lowboy trailer. Check the excavation and the pad to see that it is clear of all mud, water or debris and that the excavation is clear of all dirt piles around the adjacent area to allow for truck and crane operation.
3. Sizing of the crane should be based on both the weight of the heaviest piece of tankage and site conditions. Be sure you have a crane with sufficient capacity to lift and boom the tank over and onto the base pad. The steel tanks have lifting gussets located along each side of the tanks for use with a four-leg cable sling with a minimum ten-foot legs or spreader bar to prevent undue stress on lifting gussets. Cables and clevis should be supplied by the contractor.
4. PURESTREAM will not be responsible for damage to the tank due to improper cable or clevis configuration.

1.04 UNPACKING ELECTROMECHANICAL EQUIPMENT:

1. If the blower motor units and/or the electrical control panel are not going to be mounted IMMEDIATELY, they MUST be stored in a dry location and protected from possible construction hazards. The electrical control panel is WEATHERPROOF, not WATERPROOF, therefore, if stored unprotect, damage to the controls may occur. PURESTREAM will not be responsible for damage to electromechanical equipment from improper storage.

1.05 SETTING PLANT:

1. When the truck arrives, direct the driver to position the trailer if possible so that the hopper end of the tank will be placed at the discharge end of the foundation pad.
2. Carefully rig the tank with lifting slings and position it properly onto the pad in alignment with the anchors.
3. Check to see that the tank is level and the inlet and outlet are in the proper position and elevation before releasing slings. After tank is anchored to pad it should be rechecked to see that it is not more than one inch out of level in any plane.
4. Inspect tankage for equipment/pipe assembly tie downs. For shipping purposes, pipe assemblies and/or equipment mounted in the tankage may be tied down to prevent damage. Remove any such wire after tank installation and prior to filling tank with liquid.

5. BEFORE BACK FILLING: Check to see that the following things are done:
6. See that the tank has been securely anchored to the pad on both sides.
7. IMPORTANT NOTE: The tie down arrangement shown on the drawing is for alignment only and will not prevent flotation when the plant is empty. If ground water problems exist, consult the project engineer. The tank must be filled with water immediately after installation. PURESTREAM will not be responsible for tank flotation or damage due to ground water.
8. If tankage is anchored to the pad by welding re-bar to the tank side walls, these walls must be carefully checked for burnt through and repaired if required. After inspection the welds must be cleaned, primed and painted.
9. Check and tighten all drain plugs on the plant. Drain plugs are located on the end walls of the tank near the bottom and in most cases near the bottom of dividing walls.
10. Touch up all scratches or other damage to tank protective coating. Refer to field touchup instructions located in the back of this section.
11. Locate the magnesium anodes that were shipped with the tank. Uncoil the ten-foot wire leads. The anodes are wired to be solderless lugs mounted at the top rim of the tank around the tank perimeter. The purpose of the anodes is to protect the tank from electrolytic actin of the earth against metal. When only two anodes are shipped, one should be mounted on each side of the tank at opposite corners. They may be installed before the back filling or after back is within four or five feet from finish grade. They should be buried about five feet from the tank and about five feet from finish grade. Protective care is necessary during back filling to prevent damage to the anode. Before the back filling each anode should be doused with five gallons of water.

1.06 ELECTRICAL CHARACTERISTICS:

1. The plant has been built per the electrical characteristics shown below. Make sure that there has been no change in the power supply since the plant was ordered
    a. 230 Volt, THREE phase, 60 cycle, 4 Wire, power supply. See Neema O&M for power supply and a total of H.P. motor requirements.
2. A disconnect switch mounted within site, adjacent to the plant site, and wiring from this switch to the electrical control panel or an adjacent to the plant must be furnished and installed in accordance with the local electrical codes. If the plant electrical control

panel and blower motor units are mounted directly on the top of the plant wiring and conduit will be factory installed to make the electrical connections between the electrical control panel, the blower units and accessory equipment. The electrical contractor must make electrical connections to the proper terminals in the electrical control panel and at the accessory equipment.

3. If the plant electrical control panel and blower motor units are not mounted director on top of the plant the electrical contractor must make electrical connections between the electrical control panel and the blower motor conduit box in accordance with local electrical codes. Tank mounted pumps, float switches, and electrical accessories will be wired to junction boxes adjected to the equipment. The electrical contractor must also make the electrical connections between these junction boxes and the electrical control panel.
4. All electrical installations and connections must be made and ready for inspection before the factory representative arrives for startup.
5. If three phase service is used, it is important that proper blower motor rotation as indicated by the arrows on the motor, is maintained. Improper rotation will cause damage to the blower as water is pumped back from the plant. Failure to check for proper rotation will result in voiding of blower warranty.

1.07 BACK FILLING:

1. Back fill material should be as free as possible from rocks, trash, and caustic material. Extreme caution must be used to avoid deflecting or pre-stressing tank walls by excessive loads or backfill, or by using heavy equipment too close to the tank walls.

1.08 SEWER LINE CONNECTION:

1. Connect inlet and outlet sewer lines. Grout rings are normally provided on the outside of tank end walls. Fill these rings all around the sewer lines with cement group mixed with Embeco Grout or an approved equal product, making sure the pipe is sealed completely to keep out all mud and surface water.

1.09 GRADING:

1. Great care should be taken in grading around your PURESTREAM plant. The finish grade should be at least six inches below the top of the plant and the ground should slope away from all four sides of the plant. It is absolutely necessary to keep all surface waters

and mud from entering the plant in any way. If ground slope is not crushed stone walkway around the plant will help the appearance and maintenance of the plant. All other soil should be sodded or seeded to prevent erosion. Anything done to prevent or control the surface water or mud from entering the plant is a great step toward preventative maintenance and a properly operating sewage treatment plant.

1.10 FINAL ASSEMBLY:

1. The PURESTREAM prefabricated steel sewage treatment plant is shipped from the factory complete with all internal piping including diffusers complete and ready for operation. Road and shipping clearance restrict the shipment of tank mounted equipment.

1.11 TANK MOUNTED ELECTRICAL CONTROL PANEL AND BLOWER MOTOR UNIT:

1. Open the blower housing. The housing contains the necessary items of hardware and parts to complete the assembly of the plant. Install the rubber hose connector between the pipe coming from the bottom of the housing and the pipe coming out of the plant from the air header, leaving the clamps loose and adjusting the connector to give equal coverage of both pipes. Install the bolts and nuts with flat and lock washers provided through housing mounting holes into the blower base plate on the tank and tighten securely after aligning the rubber connector to a straight position. Check to see that there are no kinks or sharp twist in the connector before tightening the house clamps. Find the location of the pressure relief valve (Located in the blower discharge piping after the discharge silencer) and install using a pipe wrench to tighten securely.)

2. When dual blowers are used, locate one housing over the right-hand position looking at the plant from the inlet end toward the outlet. (Same side as valves for diffuser drops.) Place second housing on the opposite side of the tank.
3. Other loose items or accessories cartons should be removed from the truck and placed in a safe dry location until ready for installation at the plant. The truck driver has a copy of the packing list showing the equipment that was shipped with the plant. This should be checked to see if all equipment was received before signing manifest.

1.12 REMOTE MOUNTED ELECTRICAL CONTROL PANEL, BLOWER MOTOR UNITS:

1. When the electrical control panel and the lower motor units are mounted remotely from

the plant a suitable concrete foundation pad should be provided for mounting the equipment.

2. The pad should be large enough to allow for opening the blower housings (if housing is provided) and control panel door.
3. This equipment should be positioned on the pad and mounting holes for each piece of equipment marked. Remove the equipment and drill holes in the concrete pad for properly sized expansion type concrete anchors.
4. Relocate the equipment and bolt it in place.
5. The blower housing (or separate crate when blower housing is not provided) contains the blower accessories including the rubber sleeves with hose clamps, (one required per blower motor unit) and the pressure relief valve.
6. Referring to the remote blower motor unit drawing install, the blower discharge piping as shown on the drawings.
7. In dual blower applications the pressure relief valve must be installed in a common line between the two blower motor units.
8. Piping between the blowers and the air connection on the tank should, as a minimum, be the same size as this air connection. Avoid restrictions within this piping.

1.13 ELECTRICAL CONTROL PANEL:

1. All controls are pre-wired inside a lockable weatherproof control panel. On plants where the electrical control panel is tank mounted this unit must be set and bolted in place on the plant. It is normally located adjacent to the blower housing. Be sure to check the blower rotation before starting the plant. Single phase motors are pre-wired and checked for rotation at the factory but three phase motors must be checked in the field after power service has been connected.
2. Rotation may be reversed by changing any two of the three leads to the blower motor circuit breaker in the control panel. Rotation arrows are provided on the blowers.
3. SURGE (EQUALIZATION) TANK:

    a. A surge tank is designed to equalize the flow to the sewage treatment plant. It will normally consist of an integral tank with duplex submersible pumps., a flow control device, float switches and a blower motor unit. The influent raw sewage will be pumped into the flow control device. This device will allow the

average daily flow to enter the aeration tank of the treatment plant and the excess flow to be re-circulated back to the surge tank.

4. The electrical controls for the surge tank are included in the electrical control panel. Electrical connections between the electrical control panel, the float switches and blower motor unit should be as described in the previous section of these instructions. The blower motor unit should be installed as previously described. Check the rotation of three phase pumps as outlined in the previous section.
5. In order to prevent damage during shipping the surge pumps and float switches are shipped un-mounted. The surge pumps are equipped with compression ("Dresser") couplings to facilitate field installation. Unbolt the compression coupling from the inlet pipes to the flow control device and screw the pump discharge pipe into the threaded surge pump-discharge connection. Position the surge pumps in the surge tank as shown on the drawings and reinstall the compression coupling.
6. A float switch bracket located near the top of the surge tank is provided for mounting the float switches. Position the lowest float switch (Pumps "off" float switch.) so that the weight is approximately one foot off the tank bottom. Using the cord grips supplied, attach each float switch cable to the float switch bracket. Connect the remaining float switches (two each - if a high-water alarm if not supplied, three if a high-water alarm is supplied.) in the same manner at the elevations required for correct pump operation. In no case should the first float switch be installed at an elevation below the surge pump suction. Doing so would allow the pumps to run dry and damage the pumps.
7. It is important that the surge tank have its own blower motor unit to supply air to its diffusers. Due to the differences in operating water level between the plant's aeration compartment and the surge tank the majority of a common air supply would go to the surge tank and interfere with the operation of the aeration tank.

## 1.14 FIELD TOUCHUP, PAINTED SURFACES

1. Surface Preparation:
    a. The surface should be clean, dry and free of contaminants. Clean any chipped, rusted or flaking areas as required. Hand or pole sand surfaces to be re-coated, feathering the edges of repair.
2. Application:
    a. Apply the proper coating at the specified dry film thickness (D.F.T.), normally

8 to 10 mils inside and outside, by brush or roller. It may be necessary to apply more than one coat to achieve the specified D.F.T.. If this is the case allow for proper drying times prior for re-coating.

b. Please note that all epoxy coating will chalk and fade with exposure to UV light. The touchup areas may not match the color and the gloss depending on the length of exposure but will eventually blend in over time.

**END OF SECTION**

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# APPENDIX K

# WWTS DRAWINGS

See following pages

# KONA COMMUNITY HOSPITAL
# WASTEWATER TREATMENT SYSTEM UPGRADE

## NORTH KONA, ISLAND OF HAWAII, HAWAII

## TMK: (3) 7-9-010 : 081


ENGINEERING PARTNERS

455 E. Lanikaula St.
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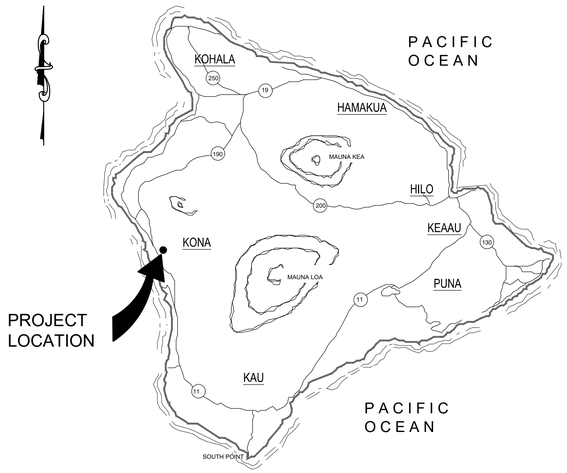
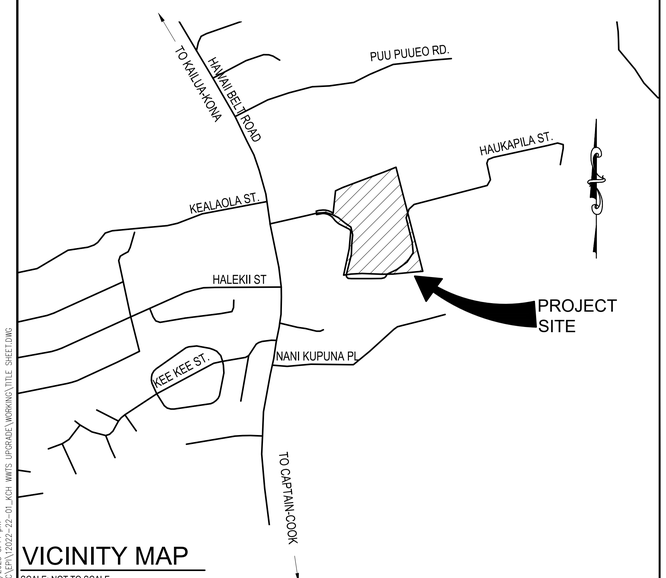
Hawai`i | Las Vegas

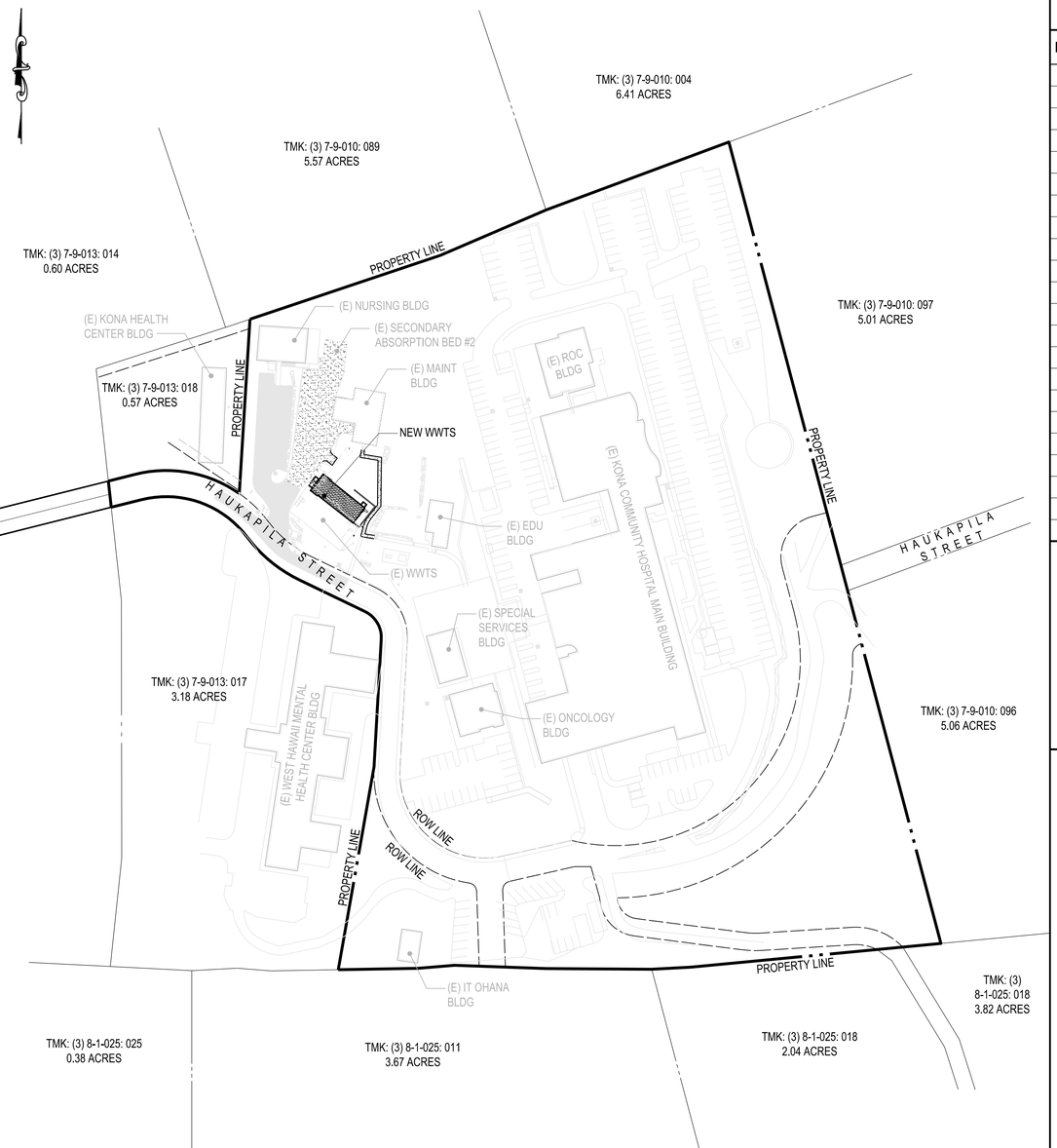

BIG ISLAND MAP (ISLAND OF HAWAI`I)

SCALE: NOT TO SCALE




VICINITY MAP

SCALE: NOT TO SCALE




PLOT PLAN

SCALE: 1" = 80'

## DRAWING INDEX



## PROJECT TEAM:


OWNER:
HAWAII HEALTH SYSTEMS CORP
3675 KILAUEA AVE, HONOLULU, HI, 96816

FACILITY POINT OF CONTACT
ROBERT HOLLANDSWORTH
M: (808) 557-2799, D: (808) 322-4555
79-1019 HAUKAPILA STREET, KEALAKEKUA, HI, 96750

ENGINEERING CONSULTANT
LAND SURVEYING, CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL
ENGINEERING PARTNERS, INC
(808) 933-7900
455 E. LANIKAULA ST., HILO, HAWAII 96720


## APPROVALS:

CLAYTON MCGHAN, MHA, REGIONAL CHIEF EXECUTIVE DATE

YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/26
No. 9361-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

TITLE SHEET

DATE: OCTOBER 2025
REV. REV. REV.

KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT SYSTEM UPGRADE
NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

| DRAWN BY: | DESIGNED BY: |
|---|---|
| AEG | MV/RDC |
| CHECKED BY: | QC'D BY: |
| TN | YWF |

JOB NO.
12022-22-01

DWG. NO.
T-001

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# CIVIL GENERAL NOTES

## GENERAL CONSTRUCTION NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION", DATED SEPTEMBER 1984, "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", DATED SEPTEMBER 1986, AS AMENDED, OF THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF HAWAII, THE "HAWAII STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION", DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, 2005, AND AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, 3RD EDITION WITH 2010 INTERIM REVISIONS (AASHTO CONSTRUCTION SPECIFICATIONS), UNLESS INDICATED OTHERWISE IN THE PLANS, THESE NOTES, OR THE SPECIAL PROVISIONS. IN THE EVENT OF CONFLICTING PROVISIONS IN THE AASHTO CONSTRUCTION SPECIFICATIONS AND THE STATE STANDARD SPECIFICATIONS, THE STATE STANDARD SPECIFICATIONS SHALL APPLY.

2. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLAN OR NOT, AND SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SAME IN THE EVENT OF DAMAGES DUE TO HIS CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE RESPECTIVE UTILITY COMPANIES.

3. THE CONTRACTOR SHALL MAINTAIN VEHICULAR AND PEDESTRIAN ACCESS TO EXISTING FACILITIES AT ALL TIMES AND SHALL SCHEDULE AND EXECUTE HIS WORK IN SUCH A MANNER AS TO AVOID INTERRUPTION OF NORMAL ACTIVITIES AT THE EXISTING FACILITIES. THE CONTRACTOR SHALL PROVIDE EARLY NOTIFICATION OF AND OBTAIN APPROVAL FOR ANY ANTICIPATED INTERRUPTIONS. CONTRACTOR SHALL SUBMIT A CONSTRUCTION PHASING PLAN FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. TEMPORARY SAFE PEDESTRIAN PASSAGEWAYS AROUND OR THROUGH A CONSTRUCTION SITE SHALL COMPLY WITH ADAAG SECTIONS 206.1 AND 402.1.

4. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE CURRENT VERSION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AND TO THE SATISFACTION OF THE ENGINEER.

5. EXCEPT DURING ACTUAL WORKING HOURS, ALL SIGNS WHICH DO NOT PERTAIN TO THE CONSTRUCTION ACTIVITY, SUCH AS "MEN WORKING" AND "FLAGMAN AHEAD" SHALL BE COVERED OR LAID DOWN. HOWEVER ALL SIGNS NECESSARY FOR THE SAFETY OF THE PUBLIC SHALL BE MAINTAINED.

6. NO CONSTRUCTION EQUIPMENT SHALL BE PARKED WITHIN THE ROAD RIGHT-OF-WAY IN SUCH A MANNER THAT THE EQUIPMENT WILL OBSTRUCT THE NORMAL MOVEMENT AND SIGHT DISTANCE OF THE DRIVING MOTORIST, EXCEPT DURING ACTUAL WORKING HOURS.

7. ALL EXISTING PAVEMENTS, WALKS, UTILITIES, AND OTHER FACILITIES WHETHER SHOWN ON THE PLANS OR NOT, WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE RECONSTRUCTED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE TO THE ORIGINAL UNDAMAGED CONDITION.

8. NO TRENCHING SHALL BE LEFT OPEN FOR MORE THAN FIVE (5) WORKING DAYS. CONTRACTOR SHALL PROPERLY BARRICADE ALL OPEN TRENCHES DURING ALL PHASES OF CONSTRUCTION.

9. EXISTING CONDITIONS ARE SHOWN TO THE BEST OF OUR KNOWLEDGE. DISCREPANCIES SHALL BE PROMPTLY REPORTED TO THE OWNER AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.

10. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES, WHICH MAY BE AFFECTED BY HIS WORK. INTERFERENCE WITH THE STRUCTURE SHALL BE PROMPTLY REPORTED TO THE OWNER AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.

11. SHOULD A DISCREPANCY OCCUR ON THE DRAWINGS BETWEEN ANY PROJECT SPECIAL NOTES/ SPECIAL DETAILS, AND THE TYPICAL SPECS/TYPICAL DETAILS, SAID SPECIAL NOTES/SPECIAL DETAILS SHALL TAKE PRECEDENCE.

## GRADING NOTES

1. ALL GRADING WORK SHALL CONFORM TO CHAPTER 10 OF THE HAWAII COUNTY CODE. SHOULD A GRADING PERMIT BE REQUIRED, NO WORK SHALL COMMENCE UNTIL THE DEPARTMENT OF PUBLIC WORKS APPROVES A GRADING PERMIT.

2. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS RESULTING FROM HIS WORK. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE OWNER SHALL BE PAYABLE BY THE CONTRACTOR.

3. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND SURROUNDING AREAS FREE FROM DUST NUISANCES. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL RULES OF THE STATE DEPARTMENT OF HEALTH, HAR 11-60.1. FUGITIVE DUST.

4. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 55, WATER POLLUTION CONTROL AND CHAPTER 54, WATER QUALITY STANDARDS, AND TO THE EROSION AND SEDIMENTATION CONTROL STANDARDS AND GUIDELINES OF THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF HAWAII.

5. THE CONTRACTOR SHALL SOD OR PLANT ALL SLOPES AND EXPOSED AREAS IMMEDIATELY AFTER THE GRADING WORK HAS BEEN COMPLETED.

6. THE CONTRACTOR SHALL INFORM THE DEPARTMENT OF PUBLIC WORKS OF THE LOCATIONS OF THE DISPOSAL AND/OR BORROW SITE(S) REQUIRED FOR THIS PROJECT WHEN AN APPLICATION FOR A GRADING PERMIT IS MADE. THE DISPOSAL AND/OR BORROW SITE(S) MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.

7. NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS ANYTIME WITHOUT PRIOR APPROVAL FROM THE OWNER. GRADING WORK ON NORMAL WORKING DAYS SHALL BE BETWEEN THE HOURS OF 7:00AM TO 3:30PM.

8. THE CONTRACTOR SHALL VERIFY ALL LINES, LEVELS, ELEVATIONS, AND IMPROVEMENTS INDICATED ON THE DRAWINGS BEFORE ANY CLEARING, EXCAVATION OR CONSTRUCTION BEGINS. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ANY CHANGE SHALL BE MADE IN ACCORDANCE WITH HIS INSTRUCTION. STARTING OF CLEARING AND GRUBBING OPERATIONS SHALL BE CONSTRUED TO MEAN THAT THE CONTRACTOR AGREES THAT THE EXISTING GRADES AND IMPROVEMENTS ARE ESSENTIALLY CORRECT AS SHOWN. THE CONTRACTOR SHALL NOT BE ENTITLED TO EXTRA PAYMENT IF EXISTING GRADES AND IMPROVEMENTS ARE IN ERROR AFTER HIS VERIFICATION THEREOF, OR IF HE FAILS TO REPORT THE DISCREPANCIES BEFORE PROCEEDING WITH ANY WORK WHETHER WITHIN AREA AFFECTED OR NOT.

9. THE CONTRACTOR SHALL REMOVE ALL VEGETATION, ORGANIC DEBRIS, TRASH, LARGE BOULDERS, MUCK/MUD AND ANY DELETERIOUS MATERIALS BEFORE THE PLACING OF FILLS ON A NATURAL GROUND SURFACE. THE REMOVED MATERIALS SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE HAWAII COUNTY REGULATIONS.

10. THE EXPOSED GROUND SURFACES SHALL BE PROOF-ROLLED WITH A HEAVY DOZER (D-8 OR LARGER) AS A GENERAL CHECK FOR NEAR SURFACE VOIDS, LOOSE POCKETS, OR BURIED DEBRIS.

11. UNLESS OTHERWISE APPROVED BY A GEOTECHNICAL ENGINEER LICENSED IN STATE OF HAWAII, PERMANENT CUT SLOPES IN LOOSE CLINKER, BROKEN ROCK OR ROCK SOIL MIX SHALL NOT BE STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL (2H:1V). CUT SLOPES IN ASH SOIL OR LOOSELY COMPACTED SOIL SHALL BE NO STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3H:1V). NEAR VERTICAL CUT SLOPE IN SOLID ROCK SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER.

12. FILL SLOPES SHALL NOT BE BUILT STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL (2H:1V). THE FACE OF ALL FILL SLOPES SHALL BE OVERFILLED AND CUT BACK OR CONTINUOUSLY COMPACTED WITH HEAVY EQUIPMENT AS THE SLOPE PROGRESSES.

13. EXISTING SLOPE (STEEPER THAN 15% GRADE) SHALL BE BENCHED AND KEYED PRIOR TO PLACING FILL MATERIAL. BENCHING SHALL BE LEVEL OR WITH A SLIGHT NEGATIVE GRADE (SLOPING DOWN TOWARD HILLSIDE). OVEREXCAVATE A 5' DEEP BY 5'WIDE MINIMUM CONTINUOUS KEY INTO THE EXISTING GRADE AT THE TOE OF PROPOSED SLOPE CONSTRUCTION (DAYLIGHT ELEVATION). NEW FILL SLOPES SHALL BE OVER-BUILT IN HORIZONTAL COMPACTED LAYERS AND CUT BACK TO THE DESIGN SLOPE.

14. UNLESS OTHERWISE NOTED, STRUCTURAL FILL AND BACKFILL BENEATH BUILDING PAD AND PAVEMENT AREAS AND TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF THE MAXIMUM DRY DENSITY PER ASTM D1557.

15. GENERAL FILL IN AREAS OUTSIDE OF STRUCTURAL FILL SHALL BE COMPACTED TO A MINIMUM 85% COMPACTION OF THE MAXIMUM DRY DENSITY.

16. WHEN COMPACTION TESTING IS NOT SPECIFIED, COMPACTION OF FILLS AND BACKFILL SHALL BE OBSERVED AND CERTIFIED BY A GEOTECHNICAL ENGINEER / TECHNICIAN OR SHALL BE DONE BY MAKING A MINIMUM OF EIGHT (8) PASSES PER 8-INCH LIFT WITH A D-8 DOZER OR EQUIVALENT AND UNTIL AN UNYIELDING SURFACE IS ACHIEVED.

17. ESTIMATED EARTHWORK QUANTITIES

    TOTAL RAW CUT = 158.85 C.Y.
    TOTAL RAW FILL = 3.96 C.Y.

    TOTAL AREA TO BE GRADED = 4,426.59 SQFT

    NOTES:

    1. THE QUANTITIES SHOWN ARE FOR GRADING PERMIT PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE THE EXACT QUANTITIES FOR BIDDING PURPOSES.
    2. NO ADJUSTMENT FACTOR IS APPLIED TO THE RAW CUT/FILL QUANTITIES.
    3. EARTHWORK QUANTITIES SHOWN WERE TAKEN FROM ROUGH GRADES AS DESIGNED TO FINISH GRADE.
    4. CONTRACTOR/BIDDER SHALL NOT USE THE EARTHWORK QUANTITIES SHOWN ABOVE FOR BIDDING PURPOSES. REGARDLESS OF THE CUT AND FILL EARTHWORK QUANTITIES SHOWN ABOVE, THE CONTRACTOR IS RESPONSIBLE TO IMPORT OR EXPORT ALL NECESSARY MATERIALS TO COMPLETE THE GRADING WORK AT NO ADDITIONAL COST TO THE OWNER.

## SOLID WASTE NOTES

1. ALL WASTES GENERATED BY CONSTRUCTION INCLUDING GRUBBING EXCESS ARE PROHIBITED AT ALL TRANSFER STATIONS ISLAND WIDE. CONSTRUCTION WASTES MAY BE DELIVERED DIRECTLY TO THE SOUTH HILO OR WEST HAWAI'I SANITARY LANDFILLS.
2. HAZARDOUS MATERIALS ARE ONLY ACCEPTED AT THE WEST HAWAI'I SANITARY LANDFILL.
3. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A "NOTICE OF AUTHORIZATION TO DISPOSE" PRIOR TO THE DISPOSAL OF ANY CONSTRUCTION AND DEMOLITION DEBRIS.
4. IF MORE THAN 50 CUBIC YARDS OF WASTE WILL BE DELIVERED TO THE LANDFILL, THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE SCALE HOUSE 72 HOURS PRIOR TO ARRIVAL.
5. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY LABOR, EQUIPMENT, MATERIALS AND SUPPLIES TO PROPERLY LANDFILL HIS WASTE.
6. A SOLID WASTE MANAGEMENT PLAN HAS BEEN PREPARED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE TO REVIEW THIS PLAN AND NOTIFY THE ENGINEER IF ANY REVISIONS ARE NECESSARY.
7. IF DEMOLITION WILL OCCUR, THE CONTRACTOR IS RESPONSIBLE TO PREPARE AND SUBMIT A SOLID WASTE DEMOLITION DIVERSION REPORT TO THE COUNTY OF HAWAI'I DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.

## CONCRETE NOTES (FOR SITE CONCRETE ONLY)

1. ALL CONCRETE UNLESS OTHERWISE NOTED SHALL BE REGULAR WEIGHT HARD ROCK TYPE (150 LB/CU. FT.)
2. ALL PHASES OF WORK PERTAINING TO THE CONCRETE CONSTRUCTION SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) WITH MODIFICATION AS NOTED IN THE DRAWINGS OR SPECIFICATIONS.
3. SCHEDULE OF CONCRETE 28-DAY STRENGTH AND TYPES:

| LOCATION OF STRUCTURE | STRENGTH |
|---|---|
| DRIVEWAYS & WWTP CONCRETE PAD | 3,000 PSI |
| SIDEWALK | 2,500 PSI |
| ALL OTHER CONCRETE | 2,500 PSI |

4. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150 TYPE II.
5. AGGREGATE FOR HARDROCK CONCRETE SHALL CONFORM TO ALL REQUIREMENTS AND TESTS OF ASTM C-33 AND PROJECT SPECIFICATIONS.
6. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND SHALL BE SUBMITTED TO THE ENGINEER FOR HIS REVIEW.
7. CONCRETE MIXING OPERATION, ETC. SHALL CONFORM TO ASTM C-94.
8. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI STANDARD 301 AND PROJECT SPECIFICATIONS.
9. UNLESS OTHERWISE NOTED ON THE PLANS, MINIMUM CLEAR COVERAGE OF NEW CONCRETE OVER OUTER REINFORCING BARS SHALL BE AS FOLLOWS:

    A. CONCRETE POURED DIRECTLY AGAINST EARTH _____ 3" CLEAR TO REINFORCING

    B. WALL FACES:
    EXPOSED TO EARTH WITH FORMED SURFACES OR EXPOSED TO WEATHER _____ 1-1/2" CLEAR FOR #5 BARS AND SMALLER 2" CLEAR FOR #6 BARS AND LARGER

    INTERIOR FACES _____ 3/4" CLEAR

10. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
11. PROJECTING CORNERS OF BEAMS, WALLS, COLUMNS, EQUIPMENT PADS, ETC. SHALL BE FORMED WITH 3/4" CHAMFER, UNLESS OTHERWISE NOTED ON ARCHITECTURAL DRAWINGS.
12. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED EXCEPT AS SHOWN. NOTIFY THE ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS.
13. CONDUIT OR PIPE SIZE (O.D.) THAT IS BURIED IN ANY CONCRETE SLABS SHALL NOT EXCEED 25 PERCENT OF SLAB THICKNESS AND SHALL BE PLACED BETWEEN THE TOP AND BOTTOM REINFORCING UNLESS SPECIFICALLY DETAILED OTHERWISE. CONCENTRATIONS OF CONDUITS OR PIPES SHALL BE AVOIDED EXCEPT WHERE DETAILED OPENINGS ARE PROVIDED.
14. THE CONCRETE SLAB THICKNESS SHALL BE MAINTAINED AS A MINIMUM UNLESS OTHERWISE SHOWN.
15. PROVIDE TWO-WEEK SCHEDULES SHOWING EXPECTED CONCRETE POUR LOCATIONS AND TIMES. NOTIFY ENGINEER AND SPECIAL INSPECTOR 48 HOURS PRIOR TO ANY CONCRETE POUR IF DIFFERENT THAN ON THE TWO-WEEK SCHEDULE.

## REINFORCING STEEL NOTES (FOR SITE CONCRETE ONLY)

1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318), THE CRSI "MANUAL OF STANDARD PRACTICE", AND THE "ACI DETAILING MANUAL - 1994" (SP-66) AS MODIFIED BY THE PROJECT DRAWINGS AND SPECIFICATIONS.
2. REINFORCING BARS SHALL CONFORM TO ASTM A-615 GRADE 60 REQUIREMENTS. #4 AND SMALLER BARS MAY BE GRADE 40 UNLESS OTHERWISE NOTED.
3. ANCHOR BOLTS, DOWELS AND OTHER EMBEDDED ITEMS ARE TO BE SECURELY TIED IN PLACE BEFORE CONCRETE IS POURED.
4. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
5. REINFORCING SPLICES SHALL BE MADE ONLY WHERE INDICATED ON THE DRAWINGS.
6. DOWELS BETWEEN FOOTING AND WALL OR COLUMNS SHALL BE THE SAME GRADE, SIZE, SPACING, AND NUMBER AS THE VERTICAL REINFORCING RESPECTIVELY, UNLESS OTHERWISE NOTED.
7. WELDING OF REINFORCING STEEL IS NOT PERMITTED UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
8. CONTRACTOR SHALL SUBMIT REINFORCING BAR LAYOUTS AND DETAILS FOR THE ENGINEER'S REVIEW PRIOR TO FABRICATION. FABRICATE FROM REVIEWED DRAWINGS ONLY.

## WASTEWATER COLLECTION SYSTEM GENERAL REQUIREMENTS

GENERAL REQUIREMENTS

1. THE GENERAL REQUIREMENTS AND COVENANTS OF THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF HAWAI'I (JULY 1972): THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (APPLICABLE NON-WASTEWATER SECTIONS, SEPTEMBER 1986), THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, DEPARTMENT OF PUBLIC WORKS, COUNTY OF HAWAI'I (APPLICABLE NON-WASTEWATER SECTIONS, SEPTEMBER 1984), WASTEWATER SYSTEM DESIGN STANDARDS, CITY AND COUNTY OF HONOLULU (JULY 2017), WASTEWATER SYSTEM STANDARD DETAILS, CITY AND COUNTY OF HONOLULU (JULY 2017) AND THE COUNTY OF HAWAI'I, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, WASTEWATER DIVISION (WWD) STANDARD DETAILS (WW-1 THRU WW-9, CURRENT VERSIONS) SHALL BE APPLICABLE AND INCORPORATED HEREIN UNLESS OTHERWISE NOTED.
2. SURVEY CONTROL AND LAYOUT, WHEN REQUIRED, SHALL BE PERFORMED BY, OR UNDER THE DIRECT SUPERVISION OF, A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF HAWAI'I.
3. THE CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL ASSOCIATED CHARGES AND FEES AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.
    A. THE CONTRACTOR SHALL PROCURE AND CONFORM TO A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FROM THE STATE OF HAWAI'I, DEPARTMENT OF HEALTH, CLEAN WATER BRANCH FOR ANY PROJECT WHERE CONSTRUCTION ACTIVITIES WILL DISTURB ONE (1) ACRE OR MORE OF TOTAL LAND AREA OR WHERE DEWATERING IS REQUIRED.
    B. ALL STORMWATER POLLUTION PREVENTION MEASURES SHALL BE INSTALLED SO AS TO PREVENT STORMWATER RUNOFF, CONSTRUCTION WATER, FUELS, CHEMICALS, OR OTHER LIQUIDS BEING DIRECTED INTO OR ONTO ANY SANITARY SEWER FACILITIES WITHIN THE PROJECT LIMITS. BEST MANAGEMENT PRACTICES (BMPS) MAY INCLUDE, BUT SHALL NOT BE LIMITED TO, USE OF RAINSTOPPER MANHOLE INSERTS.
6. A MINIMUM HORIZONTAL SEPARATION OF 8 FEET BETWEEN WATER AND SEWER LINES ARE REQUIRED. IF NOT POSSIBLE, SECTION 2.4.12.B OF THE "WASTEWATER SYSTEM DESIGN STANDARDS, CITY AND COUNTY OF HONOLULU, JULY 2017" APPLIES.
7. A MINIMUM OF 18 INCHES OF CLEARANCE AT WATER AND SEWER MAIN CROSSINGS WITH SEWER UNDERNEATH THE WATER IS REQUIRED. IF NOT POSSIBLE, SECTION 2.4.12.B OF THE WASTEWATER SYSTEM DESIGN STANDARDS, CITY AND COUNTY OF HONOLULU, JULY 2017" APPLIES.
8. LOCATIONS AND DESCRIPTIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEY. THE ENGINEER AND UTILITY PROVIDERS DO NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF SUCH RECORDS. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS, SIZES, MATERIALS AND DEPTHS OF ALL EXISTING UTILITIES WHERE PROPOSED FACILITIES CROSS.
9. THE CONTRACTOR SHALL FIELD VERIFY EXISTING SANITARY SEWER LOCATIONS, ELEVATIONS, AND MATERIALS WITHIN THE PROJECT LIMITS PRIOR TO CONSTRUCTION. POT-HOLING MAY BE REQUIRED FOR SUCH VERIFICATION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXPOSING POTENTIAL UTILITY CONFLICTS FAR ENOUGH AHEAD OF CONSTRUCTION TO MAKE NECESSARY LINE AND GRADE MODIFICATIONS WITHOUT DELAYING THE WORK.
11. ALL EXISTING UTILITIES EXCEPT THOSE SPECIFICALLY DESIGNATED FOR ABANDONMENT OR REMOVAL ON THE APPROVED PLANS, INCLUDING WASTEWATER LINE(S), WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE PROTECTED AND REPAIRED BY THE CONTRACTOR IF DAMAGED DURING CONSTRUCTION. THE CONTRACTOR SHALL LEAVE EXISTING FACILITIES IN AN EQUAL TO OR BETTER THAN ORIGINAL CONDITION. THE CONTRACTOR SHALL PAY ALL ASSOCIATED EXPENSES. IN THE EVENT OF DAMAGE TO EXISTING UTILITY FACILITIES OTHER THAN SANITARY SEWER, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY SERVICE PROVIDER. IN THE EVENT OF DAMAGE TO EXISTING SANITARY SEWER FACILITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY BRIAN LAMB AT (808) 325-3260.
12. EXPOSED ENDS OF SEWER LINES THAT ARE ABANDONED OR TO BE ABANDONED IN PLACE SHALL BE CAPPED OR PLUGGED WITH CONCRETE FOR A MINIMUM LENGTH EQUAL TO TWO TIMES THE DIAMETER OF THE ABANDONED PIPE AND INTERFERING PORTIONS REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK, UNLESS OTHERWISE SPECIFIED.
13. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL SANITARY SEWER STRUCTURES AND MANHOLES AT ALL TIMES.
14. BYPASSING OR SPILLING OF SEWAGE TO THE GROUND, DRAINAGE SYSTEM OR STATE WATERS IS PROHIBITED. IN SUCH CASES, THE CONTRACTOR SHALL IMMEDIATELY CALL THE BRIAN LAMB AT (808) 325-3260, TAKE IMMEDIATE ACTION TO CONTAIN THE SEWAGE, AND PAY PENALTIES, INCLUDING LEGAL FEES AND OTHER COSTS RELATED TO THE BYPASS AND/OR SPILL.
15. THE CONTRACTOR SHALL BE OR HAVE IN PERSON ON THE JOB SITE OR BE REPRESENTED BY A RESPONSIBLE AGENT WITH AUTHORITY TO ACT FOR THE CONTRACTOR IN CONNECTION WITH THIS PROJECT AT ALL TIMES.

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YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/26
No. 9361-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

CIVIL NOTES

DATE: OCTOBER 2025
REV.
REV.
REV.

KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT SYSTEM UPGRADE
NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

| DRAWN BY: | DESIGNED BY: |
|---|---|
| AEG | MV/RDC |
| CHECKED BY: | QC'D BY: |
| TN | YWF |

JOB NO. 12022-22-01

DWG. NO. C-001

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# CIVIL GENERAL NOTES

## WASTEWATER COLLECTION SYSTEM GENERAL REQUIREMENTS

GENERAL REQUIREMENTS (CONTINUATION)

16. THE CONTRACTOR SHALL, AT ALL TIMES DURING THE WORK, KEEP THE PREMISES CLEAN AND ORDERLY. PUBLIC STREETS AND RIGHT-OF-WAYS SHALL BE KEPT CLEAN OF MUD, DUST AND DEBRIS. THE CONTRACTOR SHALL ADEQUATELY WATER DISTURBED AREAS ON-SITE FOR DUST ABATEMENT, AS NEEDED. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ALL DAMAGE CAUSED BY THE EQUIPMENT AND LEAVE THE PROJECT FREE OF RUBBISH AND EXCESS MATERIALS OF ANY KIND. DROPPING OR WASHING DEBRIS OR RUBBISH OF ANY KIND INTO THE SANITARY SEWER SYSTEM IS PROHIBITED.

EXISTING CONDITION ASSESSMENT

1. THE CONTRACTOR SHALL KEEP ALL PROJECT ACTIVITIES WITHIN THE PROJECT AREA. IN THE EVENT THAT A PREVIOUSLY UNKNOWN ARCHAEOLOGICAL FEATURE, HISTORIC PROPERTY , OR HUMAN REMAINS (INCLUDING HUMAN SKELETAL REMAINS, CREMATIONS, CEREMONIAL OBJECTS, FUNERARY OBJECTS, BURIAL GOODS, ETC.) ARE EXPOSED BY CONSTRUCTION, THE CONTRACTOR SHALL CEASE WORK IN THE VICINITY IMMEDIATELY AND NOTIFY KCH, STATE OF HAWAI'I HISTORIC PRESERVATION DIVISION (SHPD), THE APPROPRIATE MEDICAL EXAMINER OR CORONER, AND THE APPROPRIATE POLICE DEPARTMENT, OF THE DISCOVERY. THE CONTRACTOR SHALL PROTECT THE AREA OF THE REMAINS WITH AN APPROPRIATE MATERIAL. THE CONTRACTOR SHALL COOPERATE WITH THE POLICE OR DEPARTMENT OF LAND AND NATURAL RESOURCES IN THE INVESTIGATION, RECORDING, PRESERVATION, AND SALVAGE.

GENERAL REQUIREMENTS

1. SEWER MAIN PIPE AND FITTINGS:

GRAVITY MAIN

A. ALL SANITARY SEWER PIPE AND FITTINGS SHALL BE PVC SDR-26 BELL AND SPIGOT IN CONFORMANCE WITH THE LATEST VERSION OF ASTM D3034, UNLESS OTHERWISE NOTED ON THE APPROVED PLANS.

B. LAYING OF PIPE SHALL COMMENCE AT THE LOWEST POINT, THE BELL END FACING UPSTREAM, REGARDLESS OF THE STATIONING SHOWN ON THE PLANS. PIPE SHALL BE FITTED TOGETHER AND MATCHED WITH GASKETS PROPERLY SEATED SO THAT WHEN LAID IT WILL FORM A UNIFORM AND SMOOTH INVERT.

C. REFER TO THE DRAWINGS FOR DETAILED REQUIREMENTS FOR ALL CONNECTIONS TO EXISTING SANITARY SEWER PIPE. DETAILS SHALL BE PROVIDED TO AND APPROVED BY WWD.

D. THE INTERIOR OF THE SEWER PIPE SHALL BE CLEARED OF ALL DEBRIS AND FOREIGN MATERIALS AS THE WORK PROGRESSES. BEFORE LEAVING THE WORKPLACE FOR THE NIGHT, EXPOSED ENDS OF SEWER PIPE SHALL BE CLOSED WITH TEMPORARY COVERS TO PREVENT EARTH AND DEBRIS FROM ENTERING THE PIPE.

E. BECAUSE OF THE NATURE OF PLASTIC PIPE AND FITTINGS, THE CONTRACTOR IS CAUTIONED TO EXERCISE CARE IN HANDLING, LOADING, UNLOADING, AND STORING TO AVOID DAMAGE.

I. KEEP PIPE AND GASKETS CLEAN, AND AWAY FROM OIL, GREASE, EXCESSIVE HEAT AND ELECTRIC MOTORS, WHICH PRODUCE OZONE, AND PROTECTED FROM DIRECT SUNLIGHT AND TEMPERATURE CHANGES IN PROLONGED EXPOSURE TO AVOID CRACKING.

II. HEAVY IMPACT MAY CAUSE A SLIGHT LONGITUDINAL INDENTATION ON THE OUTSIDE OF THE PIPE AND A CRACK ON THE INSIDE. THIS WILL RESULT IN A SPLIT AS SOON AS THE PIPE IS PLACED UNDER LOADING. ANY PIPE THAT HAS BEEN IMPACTED SHALL BE EXAMINE CLOSELY FOR THIS TYPE OF DAMAGE.

FORCE MAIN

A. FORCE MAIN PIPING SHALL BE POLYVINYL CHLORIDE (PVC), CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR (CCFRPM) OR HIGH DENSITY POLYETHYLENE (HDPE), UNLESS OTHERWISE APPROVED.

B. HDPE PIPE SHALL UTILIZE BUTT-FUSED JOINTS. APPROVED MECHANICAL JOINTS MAY BE USED FOR CONNECTION OF HDPE PIPING TO EXISTING DISSIMILAR PIPING (DUCTILE IRON, CAST IRON, AND REINFORCED CONCRETE PRESSURE PIPE). ELECTRO-FUSION JOINTS MAY BE UTILIZED WHEN AUTHORIZED BY THE WASTEWATER DIVISION. PLASTIC WELDING OF JOINTS SHALL NOT BE ALLOWED.

C. HDPE FORCE MAINS FOR SANITARY SEWER SERVICE SHALL BE DARK GREEN IN COLOR.

D. THRUST BLOCKS OR OTHER JOINT RESTRAINING SYSTEMS APPROVED BY WWD, SHALL BE PROVIDED FOR ALL FITTINGS SUCH AS TEES, PLUGS, CAPS, BENDS, OFFSETS, REDUCERS, AND VALVES AS WELL AS ALL OTHER PIPELINE APPURTENANCES THAT ARE SUBJECT TO UNBALANCED THRUSTS. DESIGN OF THRUST BLOCKS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE WATER SYSTEM STANDARDS, DEPARTMENT OF WATER SUPPLY, COUNTY OF HAWAI'I, STATE OF HAWAI'I.

E. FORCE MAINS SHALL BE DESIGNED WITH A CONTINUOUS UPWARD SLOPE TO ELIMINATE HIGH OR LOW POINTS IN THE PIPING AND THE NEED FOR INSTALLATION OF GAS RELIEF VALVES OR BLOW OFFS. DESIGNS INCORPORATING HIGH OR LOW POINTS IN THE FORCE MAIN SHALL NOT BE ALLOWED UNLESS SPECIFICALLY AUTHORIZED IN WRITING BY WPS.

F. IN THE EVENT THAT HIGH POINTS IN THE FORCE MAIN ARE AUTHORIZED BY WPS, COMBINED AIR AND VACUUM RELIEF VALVES SHALL BE INSTALLED ON THE HIGH POINTS. SUCH VALVES SHALL BE INSTALLED IN REINFORCED CONCRETE VAULTS. VAULTS SHALL BE VENTED AND DRAINED TO AN ADJACENT SEWER SYSTEM WITH DRAINAGE OF THE VAULT TO THE SEWER SYSTEM TO THE MAXIMUM EXTENT POSSIBLE. IN THE VENT THAT THE LOW POINTS IN THE FORCE MAIN ARE APPROVED BY WPS, BLOW OFFS MAY BE REQUIRED. BLOW OFFS SHALL CONSIST OF A VALVE CONNECTION ON THE FORCE MAIN AND PIPING TO A GRAVITY SEWER MANHOLE OR A MANHOLE WHERE A PUMP CAN BE USED TO DRAIN THE FORCE MAIN DESIGNED BY THE ENGINEER FOR THE SPECIFIC APPLICATION AND APPROVED BY WPS.

G. DESIGN VELOCITY SHALL RANGE BETWEEN 3 AND 6 FEET PER SECOND UNLESS OTHERWISE APPROVED BY WPS. MAXIMUM FORCE MAIN VELOCITY AT PEAK CONDITION SHALL NOT EXCEED 8 FEET PER SECOND IN ANY CASE.

H. ALL COMBINED AIR AND VACUUM RELIEF VALVES SHALL BE 316 STAINLESS STEEL VENT-O-MAT SERIES RGX PROVIDED WITH ISOLATION VALVES TO ALLOW MAINTENANCE AND REPAIR OF AIR RELIEF VALVE DURING PERIODS WHEN THE FORCE MAIN IS ACTIVE.

I. METALLIC TRACER TAPE SHALL BE INSTALLED ABOVE ALL BURIED PIPING. TRACER TAPE SHALL BE ACID AND ALKALI-RESISTANT, GREEN OR YELLOW, 6-INCES (MINIMUM) WIDTH, 9-MIL (MINIMUM) THICKNESS AND BE REINFORCED FOR INCREASED BREAKING STRENGTH. METALLIC TRACER TAPE SHALL BE THORTEC DETECTABLE WARNING TAPE OR APPROVED EQUAL AND SHALL HAVE WORDING SIMILAR TO "CAUTION - SEWER LINE BURIED BELOW." TRACER TAPE SHALL BE INSTALLED AT A DEPTH OF APPROXIMATELY 12-INCES FROM GRADE (MINIMUM COVERAGE OF 6-INCHES REQUIRED). TAPE SHALL BE PLACED ON COMPACTED BACKFILL AND SHALL BE LAID IN CONTINUOUS LENGTHS WITH WORDING FACING UPWARDS.

J. PRIOR TO EXCAVATION WITHIN 6 FEET OF ACTIVE FORCE MAINS, THE CONTRACTOR SHALL PURCHASE AND HAVE ON-SITE THE FOLLOWING REPAIR ITEMS TO BE USED IN THE EVENT OF DAMAGE TO THE EXISTING LINES DURING EXCAVATION WORK:

I. TWO (2) EACH STAINLESS STEEL PIPE REPAIR CLAMPS OF APPROPRIATE SIZE AND PRESSURE RATING FOR EACH TYPE OF EXISTING FORCE MAIN WHERE THE EXCAVATION IS TAKING PLACE.

II. TWO (2) EACH "DRESSER" TYPE COUPLINGS OF THE APPROPRIATE SIZE AND PRESSURE RATING FOR EACH TYPE OF EXISTING FORCE MAIN WHERE THE EXCAVATION IS TAKING PLACE.

III. ONE (1) EACH PIPE LENGTH OF THE APPROPRIATE SIZE AND PRESSURE RATING FOR EACH TYPE OF EXISTING FORCE MAIN WHERE THE EXCAVATION IS TAKING PLACE. AS AN ALTERNATIVE, THE CONTRACTOR MAY PROVIDE PIPING OF DIFFERENT MATERIAL (PVC, HDPE, CAST IRON, OR DUCTILE IRON) PROVIDED THAT SUFFICIENT WPS APPROVED ADAPTERS ALSO AVAILABLE AT SITE.

2. TRENCH, PIPE BEDDING, AND BACKFILL:

A. CONTRACTOR SHALL HAVE APPROPRIATE EQUIPMENT ON-SITE TO PRODUCE A DRY, FIRM, SMOOTH, UNDISTURBED SUBGRADE AT THE TRENCH BOTTOM THAT IS TRUE TO LINE AND GRADE. THE TRENCH BOTTOM SHALL BE FREE OF LOOSE MATERIALS OR TOOTH GROOVES FOR THE ENTIRE TRENCH WIDTH PRIOR TO PLACING PIPE BEDDING MATERIAL.

B. THE CONTRACTOR SHALL FURNISH AND INSTALL SUFFICIENT TRENCH BOXES, SHORING, SHEETING, OR BRACING TO ENSURE THE SAFETY OF WORKMEN AND THE PUBLIC, PROTECT THE WORK, AND PROTECT EXISTING FACILITIES.

I. SHORING, SHEETING, AND BRACING SHALL COMPLY WITH OSHA RULES, ORDERS AND REGULATIONS.

II. WHERE REQUIRED BY OSHA, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE DRAWINGS AND/OR CALCULATIONS FOR SPECIALLY DESIGN BRACING AND SHORING, PREPARED AND STAMPED BY A HAWAI'I REGISTERED PROFESSIONAL ENGINEER, TO THE WPS A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE ADEQUACY OF ALL SHEETING, SHORING AND BRACING AND COMPLIANCE WITH THE LAW. FAILURE OF THE INSPECTOR TO SUSPEND THE WORK OR NOTIFY THE CONTRACTOR OF ANY INADEQUACY OF SHEETING, SHORING, BRACING OR NONCOMPLIANCE WITH THE LAW SHALL NOT RELIEVE THE CONTRACTOR OF THIS RESPONSIBILITY.

III. THE CONTRACTOR SHALL FURNISH AND MAINTAIN SHORING, SHEETING AND BRACING UNTIL AFTER THE PIPELINE AND APPURTENANCES HAVE BEEN INSTALLED AND THE INSPECTOR HAS APPROVED THE PLACEMENTS OF SUFFICIENT BACKFILL. THE CONTRACTOR SHALL PROVIDE ADEQUATE SAFETY MEASURE TO ALLOW FOR ACCESS BY THE INSPECTOR OR TESTING PERSONNEL TO PERFORM COMPACTION TESTING AND INSPECTION OF THE LIFTS OF BACKFILL IN PLACE.

C. NO TRENCHES IN ROADS OR DRIVEWAYS SHALL BE LEFT OPEN OVERNIGHT. ALL SUCH TRENCHES SHALL BE PLATED OR CLOSED AND NORMAL TRAFFIC FLOW RESTORED BEFORE THE END OF EACH WORK DAY.

I. THE STEEL TRENCH PLATES SHALL BE CAPABLE OF SUPPORTING HS-20 LOADING.

II. THE PLATES MUST EXTEND BEYOND THE EDGE OF THE TRENCH WALL FAR ENOUGH TO ADEQUATELY SUPPORT HS-20 TRAFFIC LOADS. IN NO CASE SHALL THE PLATES EXTEND LESS THAN TWELVE (12) INCHES BEYOND THE TRENCH WALL.

III. EACH PLATE MUST BE FULLY SUPPORTED AROUND ITS' PERIMETER TO PREVENT WOBBLING OR ROCKING.

IV. THE PLATES SHALL BE SECURED TO PREVENT ANY MOVEMENT.

V. TRENCHES AND EXCAVATIONS BENEATH THE PLATES SHALL BE ADEQUATELY SHORED AND BRACED TO WITHSTAND HS-20 TRAFFIC LOADS.

VI. TEMPORARY PAVING OR COLD-MIX ASPHALTIC CONCRETE (CUTBACK) SHALL BE PLACED AND CONTINUOUSLY MAINTAINED AROUND ALL OUTSIDE EDGES OF THE TRENCH PLATES UNTIL THEY ARE REMOVED.

D. TRENCHES SHALL BE PROPERLY BACKFILLED AND COMPACTED AS SHOWN ON THE APPROVED PLANS.

E. PIPE BEDDING SHALL BE CLASS B 3/4" AGGREGATE BASE COURSE PLACED WITHIN THE DRY TRENCH NOT LESS THAN 4 INCHES BUT NOT MORE THAN 5 INCHES IN COMPACTED THICKNESS. BEDDING SHALL BE COMPACTED TO 95 PERCENT MAXIMUM DRY DENSITY, UNLESS OTHERWISE NOTED ON PLANS, TO AVOID STRESS CONCENTRATIONS AND ASSOCIATED IRREGULAR PIPE DEFORMATIONS. RECESSES CONSTRUCTED IN THE BEDDING, FOLLOWED BY HAND COMPACTION OF BACKFILL AROUND THE BELLS, WILL PROVIDE CONTINUOUS LONGITUDINAL SUPPORT AND UNIFORM BEARING BELOW THE PIPE JOINTS.

F. THE REMAINDER OF THE PIPE EMBEDMENT SHALL ALSO BE CLASS B COURSE, PROPERLY PLACED, IN LIFTS NOT TO EXCEED 6", AROUND THE PIPE HAUNCHES AND EXTENDING TO A MINIMUM OF 12" COMPACTED THICKNESS OVER THE TOP OF THE PIPE. PIPE ZONE EMBEDMENT SHALL BE COMPACTED TO 95 PERCENT MAXIMUM DRY DENSITY, UNLESS OTHERWISE NOTED ON PLANS, TO PROVIDE ADEQUATE SIDE SUPPORT AND ENSURE THE PIPE'S FULL STRENGTH IS ACHIEVED WHILE AVOIDING PIPE DEFLECTION, VERTICAL AND LATERAL DISPLACEMENT.

G. CONTROLLED LOW-STRENGTH MATERIAL (CLSM) SHALL BE USED AS THE FINAL TRENCH BACKFILL UNLESS OTHERWISE NOTED ON THE PLAN OR APPROVED BY WPS ENGINEER.

H. COMPACTION TESTING FOR BASE COURSE MATERIAL SHALL BE PERFORMED BY AN INDEPENDENT TESTING AND QUALITY CONTROL LABORATORY. COMPACTION TESTING SHALL BE A MINIMUM OF ONE (1) TEST PER 150 LINEAL FEE OR A FRACTION THEREOF ON ALTERNATING SIDES OF THE PIPE OR STRUCTURE. THE ENGINEER RESERVES THE RIGHT TO INCREASE OR DECREASE THE FREQUENCY OF COMPACTION TESTING TO MATCH FIELD CONDITIONS. TEST RESULTS SHALL BE SUBMITTED TO WPS ENGINEER FOR AS PART OF THE FINAL ACCEPTANCE.

3. SEWER MANHOLES AND APPURTENANCES:

A. ALL PRECAST CONCRETE SEWER MANHOLES SHALL CONFORM TO THE LATEST VERSION OF ASTM C478.

B. ALL SEWER MANHOLE BASE, SECTION, CONE, FLAT TOP, BENCHES, AND CHANNELS SHALL INCLUDE A CONCRETE WATERPROOFING, PROTECTION, AND IMPROVEMENT ADMIXTURE. ADMIXTURE SHALL BE XYPEX ADMIX C-1000 OR APPROVED EQUAL PRODUCT. DOSAGE SHALL BE PER MANUFACTURER'S INSTRUCTIONS AND SHALL NOT BE LESS THAN 3% OF WEIGHT OF THE PORTLAND CEMENT FRACTION OF THE MIX.

C. ALL DROP SEWER MANHOLES, TRANSITIONAL SEWER MANHOLE (RECEIVING MANHOLE AND THE NEXT TWO MANHOLES DOWNSTREAM FROM THE DISCHARGE OF A FORCE MAIN), AND SEWER MANHOLES WITH CONNECTING PIPES GREATER THAN OR EQUAL TO 12 INCHES NOMINAL DIAMETER SHALL ALSO BE LINED WITH A PVC LINER, DURA-PLATE OR AN APPROVED EQUAL PRODUCT.

D. ALL CONSTRUCTED (CAST-IN-PLACE) SEWER MANHOLE BENCHES AND CHANNELS SHALL BE COATED USING XYPEX MEGAMIX I OR AN APPROVED EQUAL PRODUCT.

E. SEWER MANHOLE CHANNELS, INCLUDING THOSE AT CONNECTIONS TO EXISTING MANHOLES, SHALL PROVIDE SMOOTH TRANSITION BETWEEN INLET AND OUTLET SEWERS. THE ANGLE BETWEEN THE INLET AND OUTLET SHALL BE A MINIMUM OF 90 DEGREES.

F. UNLESS OTHERWISE APPROVED OR NOTED, ALL MANHOLES FOR CONNECTING SEWER LINES LESS THAN OR EQUAL TO 12-INCH NOMINAL DIAMETER SHALL BE PROVIDED WITH "ECCENTRIC" CONE SECTIONS WITH TYPE SA FRAMES AND COVERS (STD. DETAIL S-22).

G. UNLESS OTHERWISE APPROVED OR NOTED, ALL MANHOLES WITH CONNECTING SEWER LINES GREATER THAN 12-INCH NOMINAL DIAMETER OR LESS THAN 5' DEEP SHALL BE PROVIDED WITH A FRAME AND COVER WITH A MINIMUM 48" CLEAR OPENING. THE 52-INCH COVER SHALL HAVE A SIMILAR 25-5/16-INCH COVER INSTALLED FOR ROUTINE MAINTENANCE AND INSPECTION. THE SMALLER COVER SHALL BE PROVIDED WITH RECESSED STAINLESS STEEL BOLTS TO ALLOW SECURING. PERMANENT ALIGNMENT MARKS (MATCH MARKS) SHALL BE PROVIDED FOR THE BOLTS TO FACILITATE REINSTALLATION OF THE COVER. THE FRAME AND COVER SHALL BE AN ECCENTRIC CONFIGURATION, D&L FOUNDRY & SUPPLY, MODEL A-1428 OR APPROVED EQUAL.

H. A FLEXIBLE PIPE TO MANHOLE CONNECTOR SHALL BE USED WHENEVER A PIPE PENETRATES INTO A PRECAST CONCRETE MANHOLE OR STRUCTURE. CONNECTIONS SHALL BE WATER-TIGHT AND SHALL PROVIDE FOR SMOOTH FLOW INTO AND THROUGH THE MANHOLE WITH NO PONDING.

I. NEW SEWER PIPE CONNECTIONS TO NEW MANHOLES SHALL BE WITH AN APPROVED CAST-IN-PLACE MANHOLE PIPE ADAPTER (A-LOK, ECONOSCEAL OR APPROVED EQUAL PRODUCT).

J. EXISTING SEWER PIPE CONNECTIONS TO NEW MANHOLES SHALL BE WITH AN APPROVED MANHOLE PIPE ADAPTER(A-LOK FIELD SLEEVE OR APPROVED EQUAL PRODUCT).

K. SEWER PIPE CONNECTIONS TO EXISTING MANHOLES SHALL BE WITH AN APPROVED MANHOLE PIPE ADAPTER (A-LOK FIELD SLEEVE OR APPROVED EQUAL PRODUCT). OPENINGS FOR NEW CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE-DRILLED AND SURFACE ROUGHENED. SMALL CHIPPING HAMMERS OR SIMILAR LIGHT TOOLS MAY BE USED TO ENLARGE EXISTING OPENINGS OR SHAPE CHANNELS IN EXISTING MANHOLES. USE OF PNEUMATIC JACKHAMMERS OR OTHER HEAVY TOOLS WHICH COULD DAMAGE OR CRACK THE MANHOLE BASE IS PROHIBITED.

L. ONE HAND GRAB RUNG AT THE TOP OF THE MANHOLE SHALL BE STAINLESS STEEL TYPE "SA" PER DPW STANDARD DETAIL S-42. SEWER MANHOLE RUNGS SHALL BE TYPE "SP" COPOLYMER POLYPROPYLENE PLASTIC, BOWCO INDUSTRIES INC./MEADOW BURKE PART NO. 93810R IN ACCORDANCE WITH WASTEWATER STANDARD DETAIL WW-7.

M. RUNGS AND ECCENTRIC CONES OR COVERS SHALL NOT BE ALIGNED ABOVE FLOW LINES. THEY SHALL BE PLACED ON THE SIDE OF THE MANHOLE WITH THE LARGEST SHELF.

N. SEWER MANHOLES LOCATED IN UNPAVED AREAS SHALL BE PROVIDED A REINFORCED 3000 PSI CLASS "A" CONCRETE COLLAR. THE REINFORCED CONCRETE COLLAR SHALL BE A MINIMUM OF 12" THICK, AND EXTEND A MINIMUM 12" BEYOND THE FRAME AND COVER. REINFORCEMENT SHALL CONSIST OF AT LEAST ONE (1) #4 BAR PLACED AT LEAST 3" CLEAR FROM THE EDGE OF CONCRETE AND WRAPPED AROUND THE MANHOLE TOP SECTION (WITH AT LEAST 15" LAP), CENTERED VERTICALLY IN THE COLLAR.

O. ALL MANHOLE SECTIONS SHALL BE JOINED USING RAM-NEK RN103 OR APPROVED EQUAL.

4. SEWER LINE ACCEPTANCE TESTS:

A. THE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL MATERIALS, EQUIPMENT, AND FACILITIES NECESSARY FOR ALL TESTING ALL UTILITY BACKFILL, PIPE AND STRUCTURES IN ACCORDANCE WITH THESE PLANS AND COUNTY STANDARD SPECIFICATIONS AND REQUIREMENTS.

B. ALL NEWLY INSTALLED SEWER MAINS AND LATERALS ARE SUBJECT TO LEAKAGE TESTING AND CCTV INSPECTION PRIOR TO FINAL ACCEPTANCE AS DIRECTED BY THE WPS.

C. LEAKAGE TESTING SHALL BE ACCOMPLISHED WITH SECTION 21.3 D OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1986. ALL COSTS FOR TESTING SHALL BE BORNE BY THE CONTRACTOR.

D. DEFLECTION TESTING WHEN REQUIRED BY WPS, SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SECTION 21.3 E OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1986. ALL COSTS FOR SUCH TESTING SHALL BE BORNE BY THE CONTRACTOR.

E. AN INITIAL CCTV INSPECTION WILL BE PERFORMED BY THE COUNTY AT NO COST TO THE CONTRACTOR SUBJECT TO THE CONDITIONS BELOW.

I. THE CONTRACTOR SHALL OBTAIN A COP OF THE SEWER LINE ACCEPTANCE TEST CRITERIA FROM WPS PRIOR TO REQUESTING OR SCHEDULING A CCTV INSPECTION.

II. THE CONTRACTOR SHALL ASSIST THE COUNTY IN THE PERFORMANCE OF THE CCTV INSPECTION, SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL REQUIREMENTS DURING CCTV INSPECTION, AND SHALL BE RESPONSIBLE FOR CLEANING AND REMOVING ALL DIRT, GRIT, ROCK, DEBRIS, AND FOREIGN MATERIALS FROM THE PIPES AND MANHOLES PRIOR TO CCTV INSPECTION. IN THE EVENT THAT PIPES ARE FOUND TO HAVE BEEN INADEQUATELY CLEANED, THE COUNTY WILL TERMINATE THE CCTV INSPECTION. THE COST OF SUBSEQUENT CCTV INSPECTION(S) WILL BE CHARGED TO THE CONTRACTOR.

III. THE CONTRACTOR SHALL HAVE A SUPERVISORY REPRESENTATIVE PRESENT DURING PERFORMANCE OF THE CCTV INSPECTION.

IV. IF THE CCTV INSPECTION REVEALS CONDITIONS SUCH AS DENTS, OUT-OF-ROUND, AND ETC. THE WORK SHALL BE CONSIDERED DEFECTS AND SUBJECT TO REPAIR.

V. IF THE CCTV INSPECTION REVEALS PIPE SAGS EXCEEDING THE SEWER LINE ACCEPTANCE TEST CRITERIA BELOW THEY SHALL BE CONSIDERED DEFECTS SUBJECT TO CORRECTION OR A DEDUCTIVE PAYMENT FOR THE ENTIRE RUN OF THE PIPING FROM STRUCTURE-TO-STRUCTURE ACCORDING TO THE FOLLOWING TABLE:

SAG TOLERANCES

| PIPE SLOPE | NOM. PIPE SIZE | COMPLIES W/SPECIFICATIONS | 50% PAYMENT OF BID AMOUNT | RECONSTRUCTION REQUIRED |
|---|---|---|---|---|
| <0.4% | 6" | <1/2" | 1/2" - 1" | >1" |
| | 8" | <1/2" | 1/2" - 1" | >1" |
| | 10" | <1" | 1" - 1-1/2" | >1-1/2" |
| | 12" | <1" | 1" - 1-1/2" | >1-1/2" |
| | >12" | <1" | 1" - 1-1/2" | >1-1/2" |
| 0.4% to 0.7% | 6" | <1/2" | 1/2" - 1-1/2" | >1-1/2" |
| | 8" | <1/2" | 1/2" - 1-1/2" | >1-1/2" |
| | 10" | <1" | 1" - 2" | 2" |
| | 12" | <1" | 1" - 2" | 2" |
| | >12" | <1" | 1" - 2" | 2" |
| >0.7% | 6" | <1" | 1" - 1-1/2" | >1-1/2" |
| | 8" | <1" | 1" - 2" | 2" |
| | 10" | <1-1/2" | 1-1/2" - 2" | 2" |
| | 12" | <1-1/2" | 1-1/2" - 2-1/2" | >2-1/2" |
| | >12" | <1-1/2" | 1-1/2" - 3" | 3" |

VI. CCTV INSPECTIONS WILL BE RECORDED. IN THE EVENT THAT THE CONTRACTOR REQUESTS A COPY OF THE CCTV INSPECTION, THE CONTRACTOR WILL BE CHARGED FOR THE COPY AT A RATE OF $25.00.

5. FINAL PROJECT SUBMITTALS:

A. "AS-BUILT" PLANS AND CERTIFIED EASEMENTS RECORDED WITH THE BUREAU OF CONVEYANCES, IF APPLICABLE ARE REQUIRED FOR FINAL CONTRACT ACCEPTANCE OF SEWER CONSTRUCTION BY WWD. UPON FINAL PROJECT INSPECTION AND DECLARATION OF SATISFACTORY COMPLETION BY THE WASTEWATER DIVISION CHIEF, SUBMIT TO WWD ONE (1) SET OF FIELD RECORD DRAWINGS AND ONE (1) SET OF "AS-BUILT" PLANS ONE (1) ELECTRONIC SET IN AUTOCAD 2009 OR NEWER VERSION AND ONE (1) ELECTRONIC SET IN ADOBE PDF FORMAT.

B. IT IS MANDATORY THAT THE "AS-BUILT" PLANS SHOW CORRECTLY IDENTIFIED PROPERTY TMK NUMBERS, LOCATION OF SEWER MANHOLES, LATERALS, CLEANOUTS AND ALL OTHER MAJOR COMPONENTS OF THE WASTEWATER COLLECTION SYSTEM INCLUDING RIM AND INVERT ELEVATIONS AT ALL SEWER MANHOLES, LATERAL CONNECTIONS AT THE MAIN, AND LATERAL ELEVATIONS AT THE CLEANOUT. SUBMITTED DOCUMENTATION SHALL BE CERTIFIED BY A HAWAI'I LICENSED PROFESSIONAL LAND SURVEYOR ATTESTING TO THE ACCURACY OF LOCATIONS AND ELEVATIONS OF ALL MAJOR COMPONENTS OF THE WASTEWATER COLLECTION SYSTEM AS SHOWN ON THE AS-BUILT PLANS.

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HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

CIVIL NOTES

DATE: OCTOBER 2025
REV.
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REV.

KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT SYSTEM UPGRADE
NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

| DRAWN BY: | DESIGNED BY: |
|---|---|
| AEG | MV/RDC |
| CHECKED BY: | QC'D BY: |
| TN | YWF |

JOB NO. 12022-22-01

DWG. NO. C-002

SHEET NO. 3 OF 15

10/27/2025, 3:20 pm
D:\PROJECTS\12022-22-01 KCH WWTS UPGRADE\WORKING\C-001 CIVIL NOTES.DWG

NORTH

## DEMOLITION NOTES

(50) DEMOLISH AND REMOVE EXIST. CHAINLINK FENCE AND APPURTENANCES.

(51) DEMOLISH AND REMOVE PORTION OF EXIST. CONC. DRIVEWAY

(52) DEMOLISH AND REMOVE EXIST. CONC. WALKWAY

(53) DEMOLISH AND REMOVE EXIST. 1 1/4" HDPE FORCEMAIN

(54) DEMOLISH AND REMOVE EXIST. TREE

(55) DEMOLISH AND REMOVE EXIST. SIGN

## LEGEND

NEW AC PAVEMENT

NEW CONCRETE PAVEMENT

EXISTING CMU WALL

UTILITY LINES TO BE REMOVED

1595 EXISTING CONTOURS

EASEMENT

RIGHT OF WAY

SANITARY SEWER MANHOLE

COTG

POWER POLE WITH ANCHOR

TMK: (3) 7-9-010: 089

PROPERTY LINE

251° 28' 00" — 230.14'

(E) WATERLINE EASEMENT

PROPERTY LINE

(E) NURSING BLDG.

(E) SECONDARY ABSORPTION BED #2

(E) SMH (TYP.)

(E) 6" SEWERLINE

(E) CRM WALL

(E) KONA HEALTH CENTER BLDG.

TMK: (3) 7-9-013: 018

(E) A.C. PARKING LOT FOR NURSING BLDG.

(E) CONCRETE PARKING LOT

(E) MAINTENANCE BLDG.

(E) PRIMARY ABSORPTION BED #1

(E) WATERLINE EASEMENT

31.77'
255° 55' 00"

30.28'
173° 47' 00"

280° 27' 29" — 121.46'

35.92'
255° 55' 00"

(E) SUMP PUMP

(E) 1 1/4" HDPE FORCEMAIN

(E) DRAINAGE INLET

(E) CESSPOOL ABANDONED IN PLACE

CONC. SIDEWALK

BAMBOO

HAUKAPILA STREET

(E) RIGHT OF WAY LINE

R=165.00'

(E) 50,000 GPD WASTEWATER TREATMENT SYSTEM TOP OF TANK GRATE = 1604.5'

(E) CRM WALL

ABOVEGROUND FORCEMAIN BY OTHERS

(E) EDU COTTAGE

128.42'
109° 27' 30"

R=146.21'

R=116.21'

(E) GRINDER

(E) CONC. WALKWAY

(E) CONC. WALKWAY

(E) COOLING SYSTEM

77.74'
129° 22' 30"

LOT 2
TMK: (3) 7-9-013: 017

(E) POWER POLE AND ANCHOR

TO EXIST. UIC BACKUP

FROM EXIST. 8" INFLUENT

83.57'
115° 45' 00"

36.67'
169° 30' 00"

(E) WEST HAWAII MENTAL HEALTH CENTER BLDG

(E) SPECIAL SERVICES BLDG

A EXISTING AND DEMOLITION PLAN
SCALE: 1" = 20'
0 20' 40'

ENGINEERING PARTNERS
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YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/26
No. 9361-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

EXISTING AND DEMOLITION PLAN AND DETAILS

DATE: OCTOBER 2025
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KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT SYSTEM UPGRADE
NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

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JOB NO. 12022-22-01

DWG. NO. C-101

SHEET NO. 4 OF 15

10/22/2025, 5:15 pm
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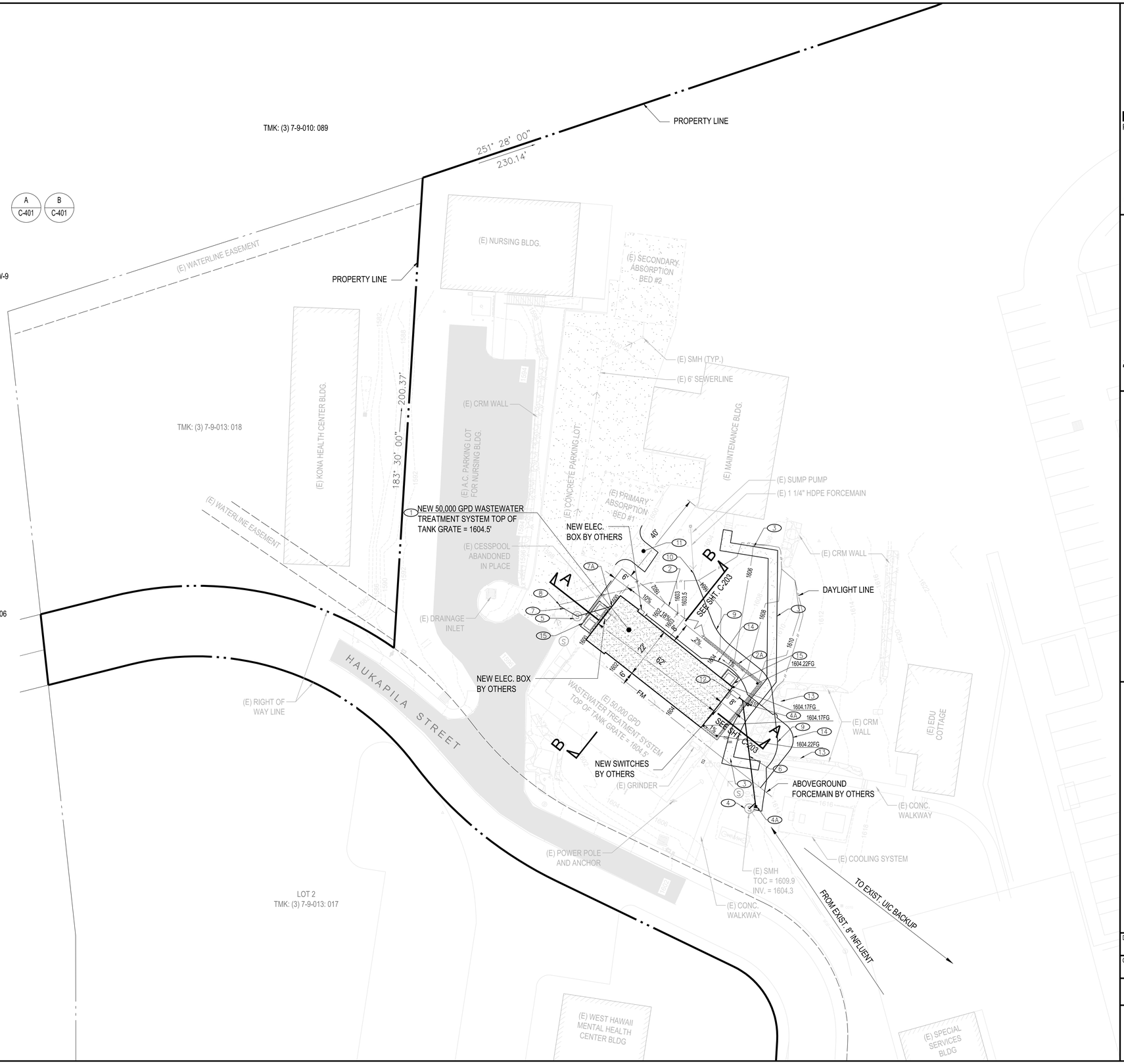
NORTH

## CONSTRUCTION NOTES

1. CONSTRUCT 50,000 GPD WASTEWATER TREATMENT SYSTEM PER MANUFACTURER'S SPECIFICATIONS
2. CONSTRUCT CHAINLINK FENCE AND DOUBLE SWING GATE TO MATCH EXISTING. REFER TO DETAIL A/C-401 B/C-401
2A. CONSTRUCT CMU RETAINING WALL AND CHAINLINK. REFER TO PLAN & PROFILE ON SHEET C-205
3. CONSTRUCT CONCRETE WALKWAY. REFER TO PLAN & PROFILE ON SHEET C-204
4. CONSTRUCT SEWER MANHOLE OVER EXISTING 8" LINE PER DPW STD. DET. S-13 AND WWD STD. DET. WW-9 TO CHANNELIZE TO SPLIT FLOW W/ STOP GATE. COORDINATE W/ KONA HOSPITAL MAINTENTENANCE DEPARTMENT BEFORE COMMENCEMENT OF WORK.
4A. INSTALL 6" PVC CLEANOUT TO GRADE. REFER TO DETAIL C/C-401
5. CONSTRUCT SEWER MANHOLE PER DPW STD. DET. S-13
6. CONSTRUCT 8" PVC SDR26 SEWERLINE. REFER TO DETAIL D/C-401
7. CONSTRUCT 6" PVC SDR26 SEWERLINE. REFER TO DETAIL D/C-401
7A. CONSTRUCT 6" D.I. SEWERLINE
8. INSTALL WYE 6X6 PVC WYE FITTING TO CONNECT TO EXIST. 6" PVC SEWERLINE. COORDINATE W/ KONA HOSPITAL MAINTENTENANCE DEPARTMENT BEFORE COMMENCEMENT OF WORK.
9. CONSTRUCT 1 1/4" HDPE FORCEMAIN
10. CONNECT TO EXISTING FORCEMAIN. COORDINATE W/ KONA HOSPITAL MAINTENTENANCE DEPARTMENT BEFORE COMMENCEMENT OF WORK.
11. CONSTRUCT 10' WIDE CONC. DRVWY. PER DETAIL A/C-402
12. INSTALL GRINDER TO MATCH EXISTING. REFER TO PLAN & PROFILE AND GRINDER DETAIL ON SHEET C-206
13. RECONSTRUCT EXISTING ROCKWALL TO MATCH EXISTING OR BETTER
14. ABOVEGROUND FORCEMAIN BY OTHERS
15. CONSTRUCT CONCRETE EQUIPMENT PAD PER DETAIL E/C-402
    LENGTH AND WIDTH OF CONCRETE PAD SHALL BE PROVIDED BY EQUIPMENT MANUFACTURER

## LEGEND

- NEW AC PAVEMENT
- NEW CONCRETE PAVEMENT
- 1590 — NEW FINISH GRADE CONTOURS
- 1590 — EXISTING CONTOURS
- DAYLIGHT LINE/LIMIT OF GRADING




A SITE AND GRADING PLAN
SCALE: 1" = 20'
0 20' 40'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SITE AND GRADING PLAN AND DETAILS

| DATE: | REV. | REV. | REV. |
|---|---|---|---|
| OCTOBER 2025 | | | |

KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT SYSTEM UPGRADE
NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

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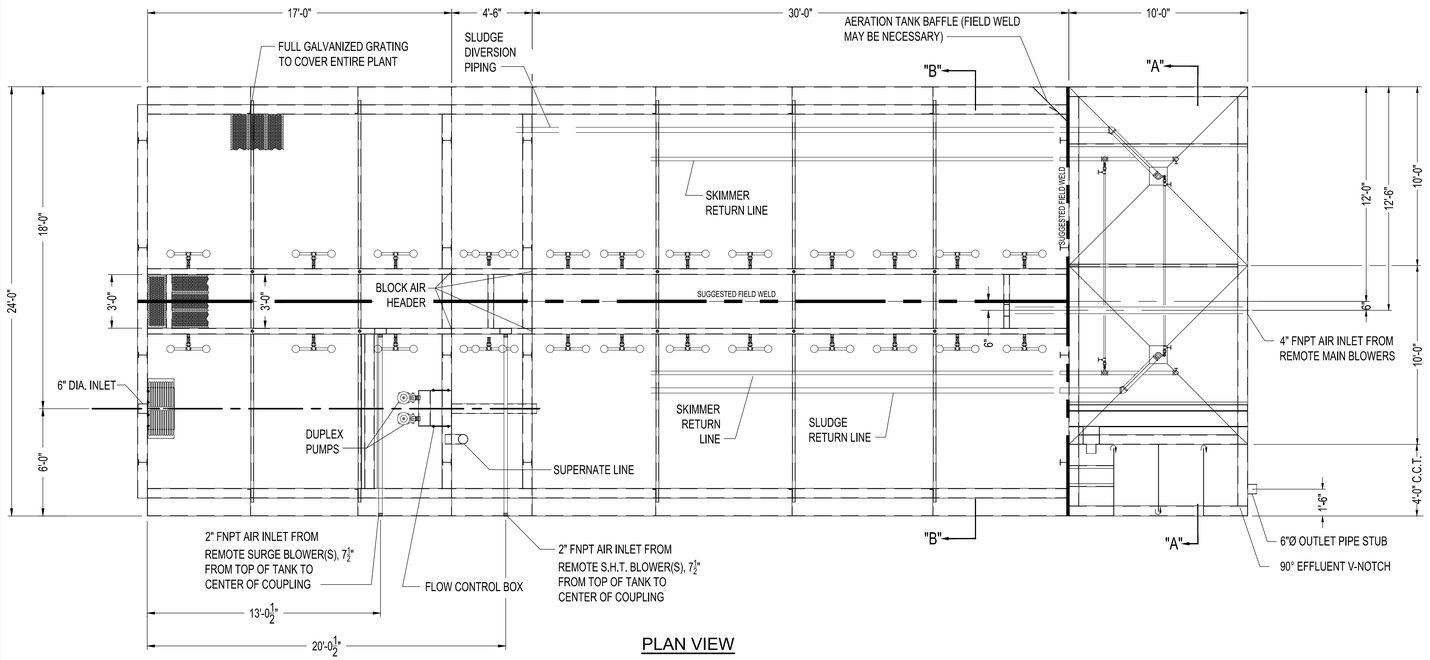
JOB NO. 12022-22-01

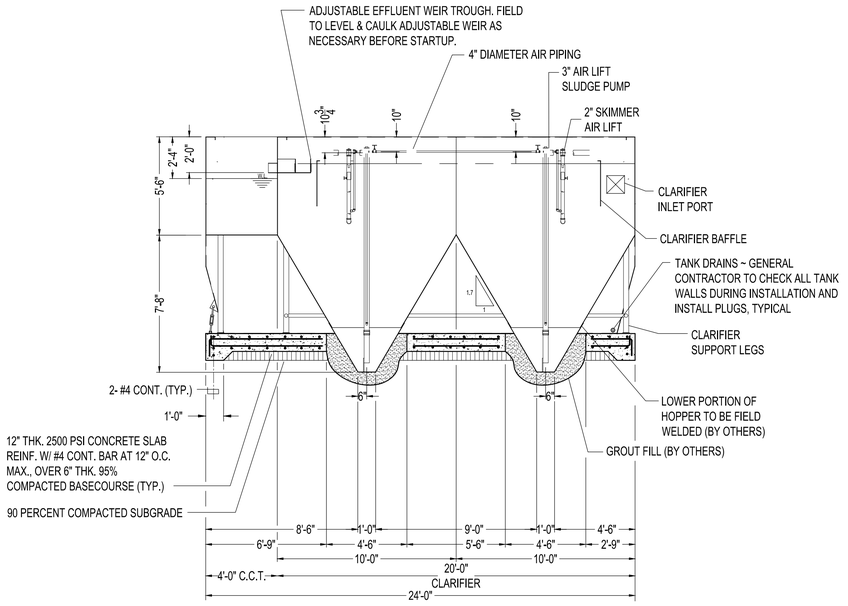
DWG. NO. C-201

SHEET NO. 5 OF 15

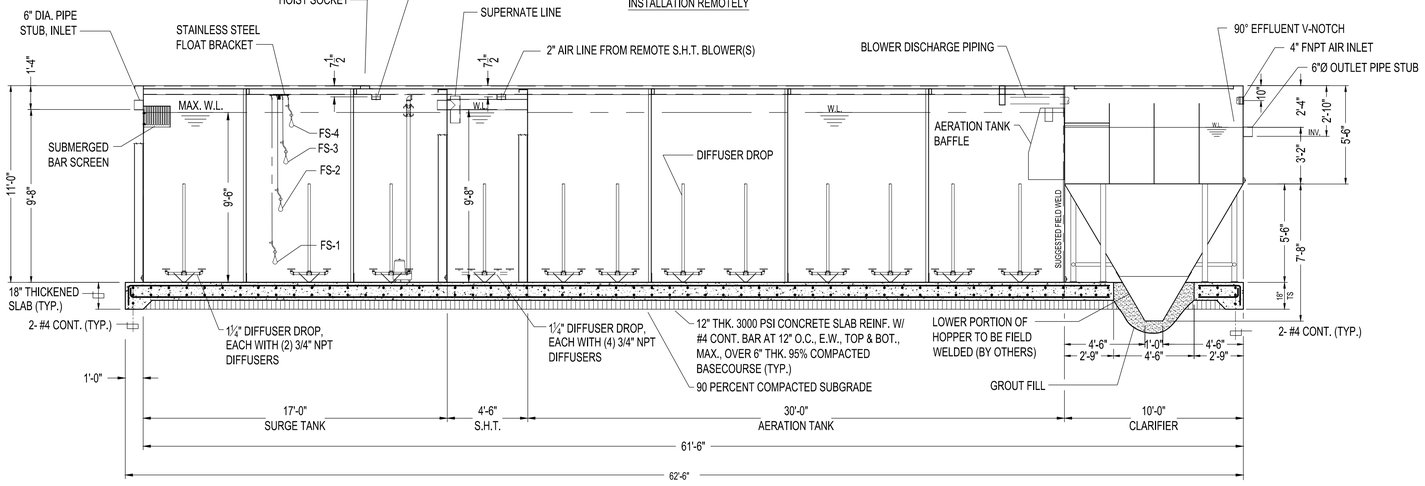
10/22/2025 5:16 pm
I:\DOC\EPV\12022-22-01_KCH WWTS_UPGRADE_WORKING\C-201 SITE & GRADING PLAN.DWG




PLAN VIEW




SECTION "A-A"




SECTION THRU TANK

FLOAT SWITCH SCHEDULE

| | |
|---|---|
| FS-1 | PUMPS OFF |
| FS-2 | PUMP #1 ON |
| FS-3 | DUPLEX PUMPS ON |
| FS-4 | HIGH WATER ALARM |

PROTECTION AGAINST CORROSION

AFTER COMPLETE WELDING AND FABRICATION OF THE TANK, THE FOLLOWING WILL OCCUR:

SURFACE PREPARATION:
ALL SURFACES SHALL RECEIVE A SSPC-10 NEAR WHITE METAL FINISH OBTAINING A 1.5 TO 3.0 MIL SURFACE PROFILE.

PAINT:
INTERIOR AND EXTERIOR APPLICATION THICKNESS SHALL BE 8 TO 10 MILS D.F.T. OF TNEMEC 46H-413 COAL TAR EPOXY OR EQUAL.

COLOR: BLACKFINISH: SATIN

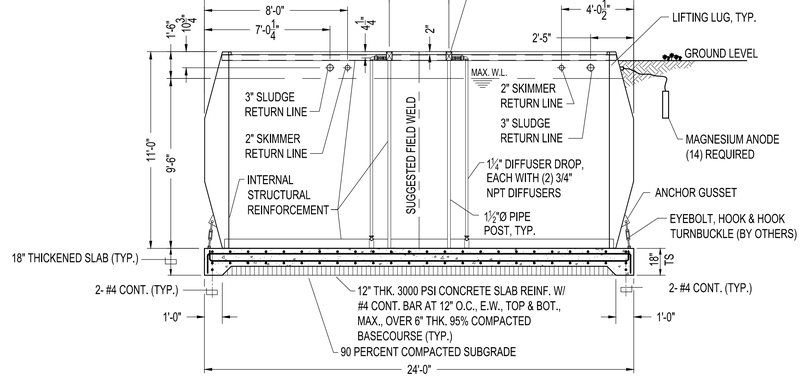


| MODEL NUMBER | DISIGN FLOW VOLUME GALLON | AERATION TANK VOLUME GALLON | CLARIFIER VOLUME GALLON | SLUDGE TANK VOLUME GALLON | SURGE TANK VOLUME GALLON | C.C.T. VOLUME GALLON | MAIN BLOWERS | | SURGE/S.H.T./SPARE BLOWERS | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | CFM | H.P. | CFM | H.P. |
| PT-50 | 50,000 | 50,000 | 8,333 | 7,596 | 25,500 | 1,042 | 250 | 10 | 66 | 3 |

NOTES:
1. PLANT TO BE SHIPPED WITH BLOWER MOTOR UNITS, CONTROL PANEL, HANDRAIL, CHLORINATOR, GRATING AND MAGNESIUM ANODES LOOSE FOR FIELD INSTALLATION BY OTHERS.

2. FLOAT SWITCH ELEVATION SHALL BE DETERMINED BY OTHERS. LS-2 (WIDE ANGLE FLOAT) MUST BE A MIN. OF 15" ABOVE LS-1 (OFF SWITCH)

NOTE:
THIS TANK STRUCTURE IS REINFORCED TO WITHSTAND NORMAL PRESSURES FROM THE SOIL AND FROM THE INTERIOR HYDROSTATIC LOAD ON ABOVE GRADE INSTALLATIONS. IF THERE IS A GROUND WATER PROBLEM, NOTIFY YOUR ENGINEER AND PURESTREAM IMMEDIATELY. PURESTREAM WILL NOT BE RESPONSIBLE FOR DAMAGE TO THE TANK STRUCTURE OR EQUIPMENT DUE TO GROUND WATER.




SECTION "B-B"

## TANK TO BE SHIPPED IN SEVERAL SECTIONS

FABRICATOR TO DETERMINE FIELD WELD LOCATION

NOTE: ALL FIELD WELDED AREAS TO BE PREPARED AS PER SSPC-2SP2 AND COATED WITH TWO COATS OF TNEMEC 46H-413 COAL TAR EPOXY PAINT OR EQUAL FOR A TOTAL FILM THICKNESS OF 10-12 MILS PRIOR TO BACKFILLING.

A WASTEWATER TREATMENT PLANT
NO SCALE

ENGINEERING PARTNERS
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YEN WEN FANG
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No. 9361-C
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SIGNATURE

WASTEWATER TREATMENT PLANT

DATE: OCTOBER 2025 REV. REV. REV. REV. REV. REV.

KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT SYSTEM UPGRADE
NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

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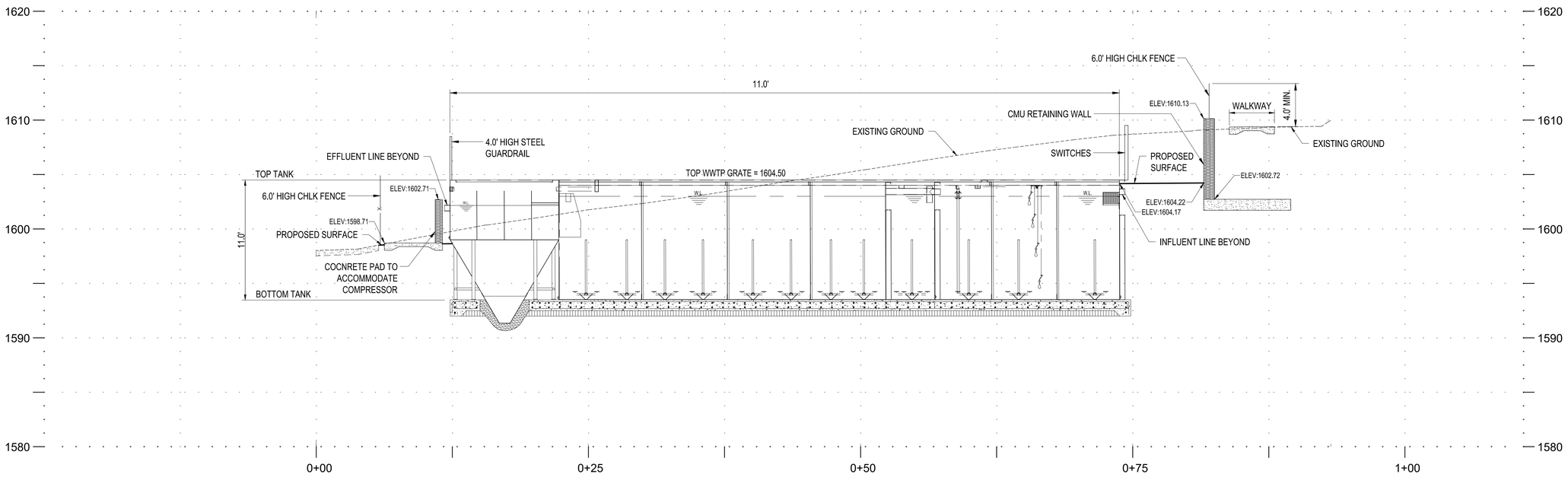
JOB NO. 12022-22-01

DWG. NO. C-202

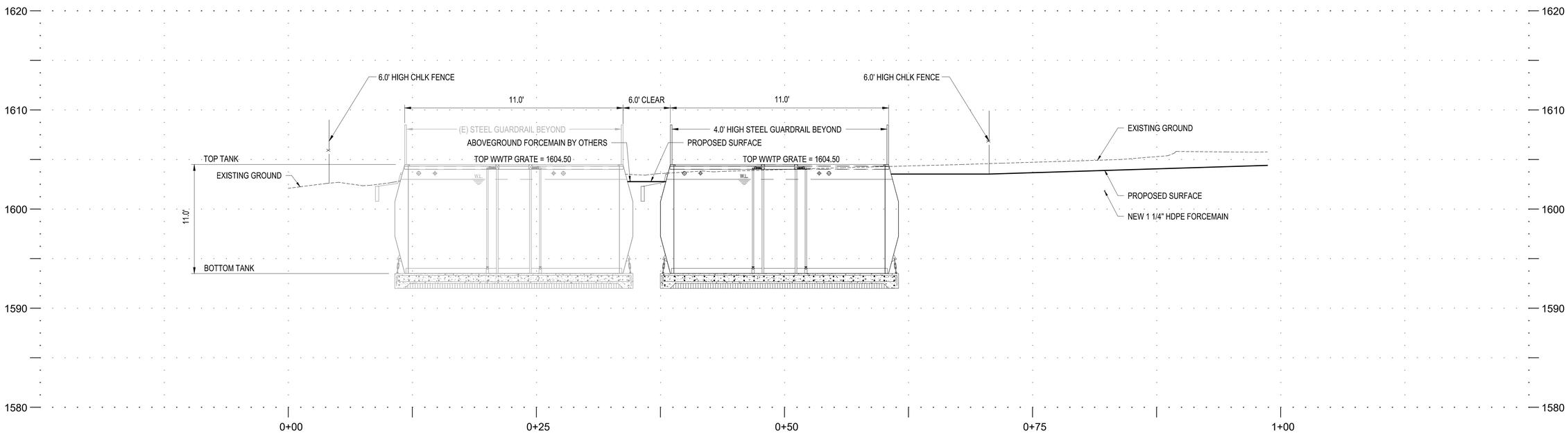
SHEET NO. 6 OF 15

10/22/2025, 5:17 pm
O:\RDC\EPI\12022-22-01 KCH WWTS UPGRADE\ WORKING\C-201 SITE & GRADING PLAN.DWG




A SECTION A-A

SCALE: 1" = 5'




B SECTION B-B

SCALE: 1" = 5'

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SIGNATURE

SECTION A-A
SECTION B-B

DATE: OCTOBER 2025
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KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT
SYSTEM UPGRADE
NORTH KONA, HAWAI`I
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JOB NO.
12022-22-01

DWG. NO.
C-203

SHEET NO. 7 OF 15

10/22/2025 5:22 pm
Z:\KONA\DATA\12022-22-01_KCH WWTS UPGRADE\WORKING\C-203 SECTIONS.DWG

NORTH

STACKED ROCK SLOPE
WALKWAY INT. STA:0+27.36 1606.62FS
ALIGNMENT ALONG CONCRETE WALKWAY
DAYLIGHT LINE
COTG INV.=1609.89'
WALKWAY INT. STA:0+81.01 1610.47FS
STACKED ROCK SLOPE
TOP SLOPE STA:0+84.70 1610.51FS
TOP SLOPE STA:0+77.32 1610.43FS
PUMP
PUMP
(E) COOLING SYSTEM
(E) CONC. WALKWAY
END OF CONC. WALKWAY STA:1+33.97
BOT. STEP STA:1+32.81 1608.95FS
0°36'33" 53.65'
8.3%
0%
1%
BOT. SLOPE STA:0+31.08
STA:0+18.66
TOP SLOPE STA:0+23.64
(E) MAINTENANCE BLDG.
START CONC. WALKWAY STA:-0+00.00 1605.15FS
LANDING STA:0+10.75 1606.62FS
11.6%
20.49'
279°12'31"
9°32'17"
18.63'
WALKWAY INT. STA:0+06.87 1605.08FS
DAYLIGHT LINE
38°34'36"
16.90'
38°12'21" 30.07'
1+00
5.6%
BOT. SLOPE STA:1+16.39 1610.67FS
BOT. SLOPE STA:1+27.97 1608.90FS
BOT. SLOPE STA:1+24.57 1608.75FS
279°21'36"
19.18'
14°47'40"
8.24'
(E) SMH
(E) CONC. WALKWAY
308°34'36" 33.62'
FINISH GRADE
SWITCHES
FINISH GRADE
INV. 6" INLET = 1603.17
EXPOSED 1" WATER LINE
WALKWAY INT. STA:1+20.26 1608.70FS
128°12'21" 10.71'
8" PIPE INV.=1603.66'
8" PIPE INV.=1602.94'
NEW 50,000 GPD WASTEWATER TREATMENT SYSTEM TOP OF TANK GRATE = 1604.5'

PLAN

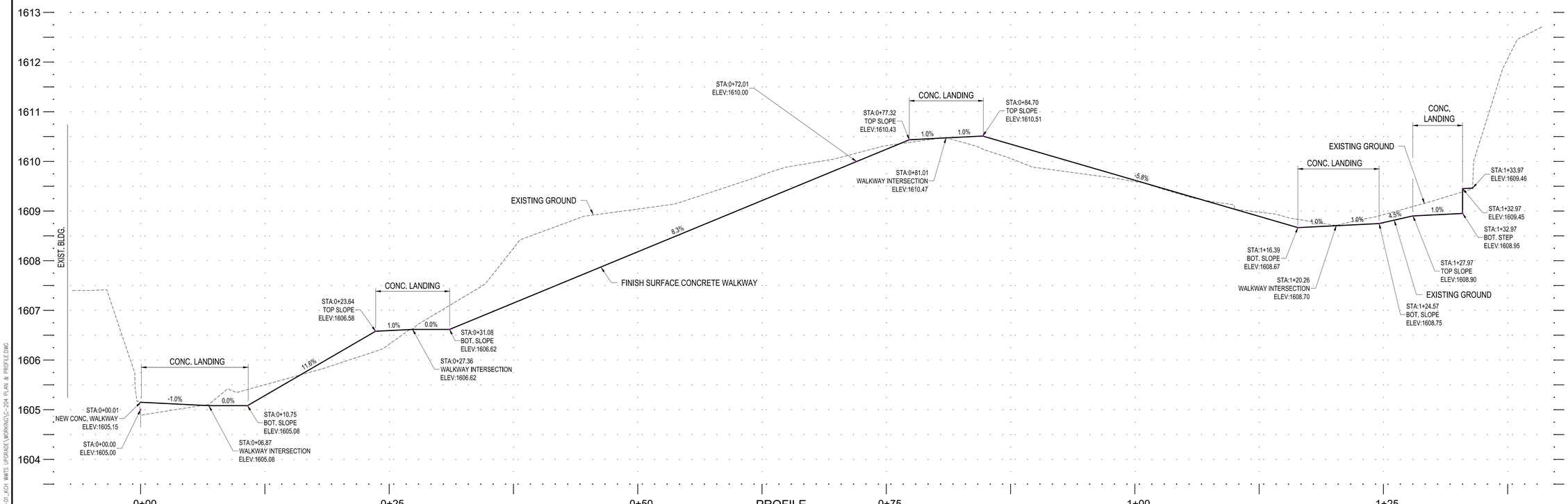
## CONSTRUCTION NOTE

SEE CONCRETE WALKWAY DETAIL ON SHEET C-401 & C-402

### LEGEND

- NEW CONCRETE WALKWAY PAVEMENT
- 1590 NEW FINISH GRADE CONTOURS
- 1590 EXISTING CONTOURS
- // DAYLIGHT LINE/LIMIT OF GRADING

A CONCRETE WALKWAY PLAN
SCALE: 1" = 5'
0 5' 10'




PROFILE

B CONCRETE WALKWAY PROFILE
SCALE: 1" = 5'
0 5' 10'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No. 9361-C
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CONCRETE WALKWAY PLAN & PROFILE

DATE: OCTOBER 2025
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KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT SYSTEM UPGRADE
NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

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JOB NO. 12022-22-01

DWG. NO. C-204

SHEET NO. 8 OF 15

10/22/2025 3:26 pm
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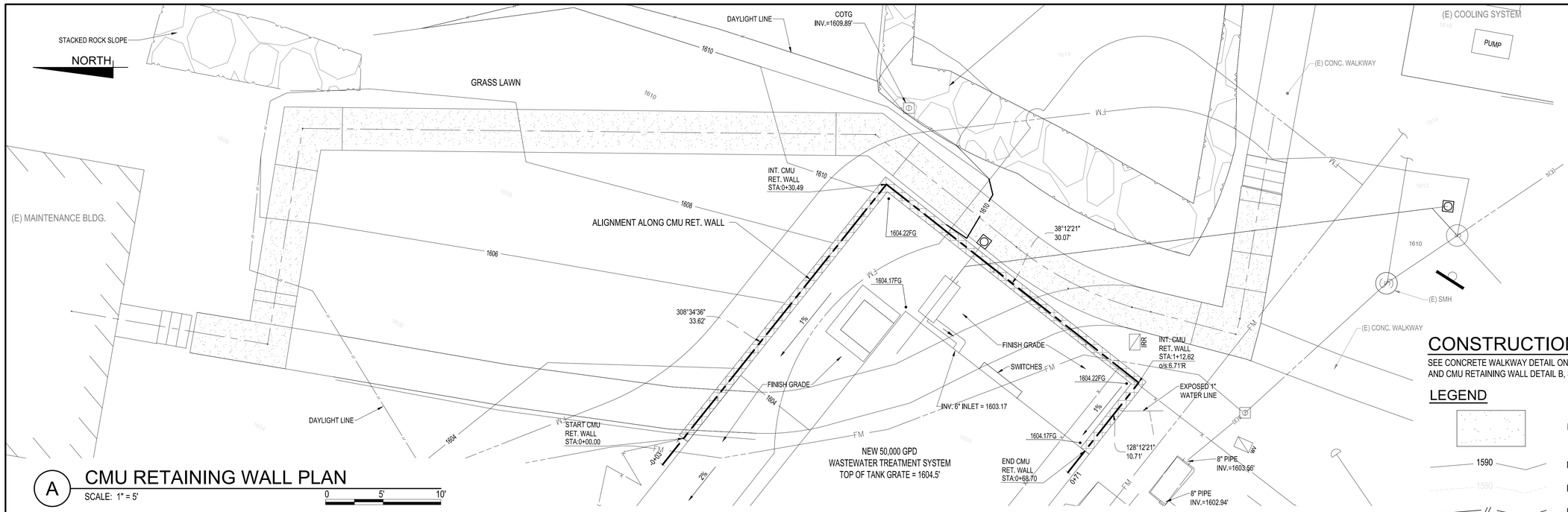



## A CMU RETAINING WALL PLAN

SCALE: 1" = 5'

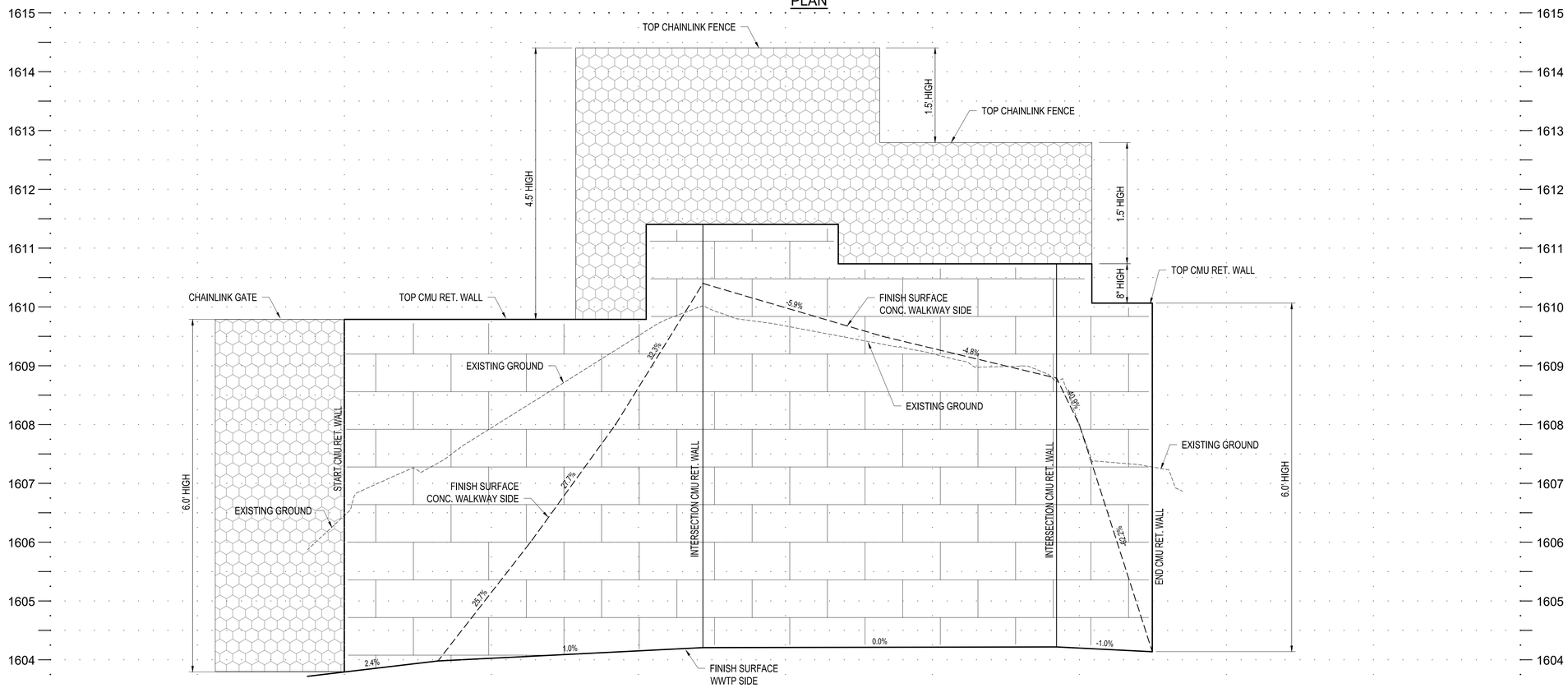
0 5' 10'

## CONSTRUCTION NOTE

SEE CONCRETE WALKWAY DETAIL ON SHEET C-401 & C-402
AND CMU RETAINING WALL DETAIL B, SHEET C-402

## LEGEND

- NEW CONCRETE WALKWAY PAVEMENT
- 1590 — NEW FINISH GRADE CONTOURS
- 1590 — EXISTING CONTOURS
- // — DAYLIGHT LINE/LIMIT OF GRADING




## B CMU RETAINING WALL PROFILE

SCALE: 1" = 5'

0 5' 10'

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CMU RETAINING WALL PLAN & PROFILE

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REV. REV.

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JOB NO. 12022-22-01

DWG. NO. C-205

SHEET NO. 9 OF 15

10/22/2025 3:26 pm
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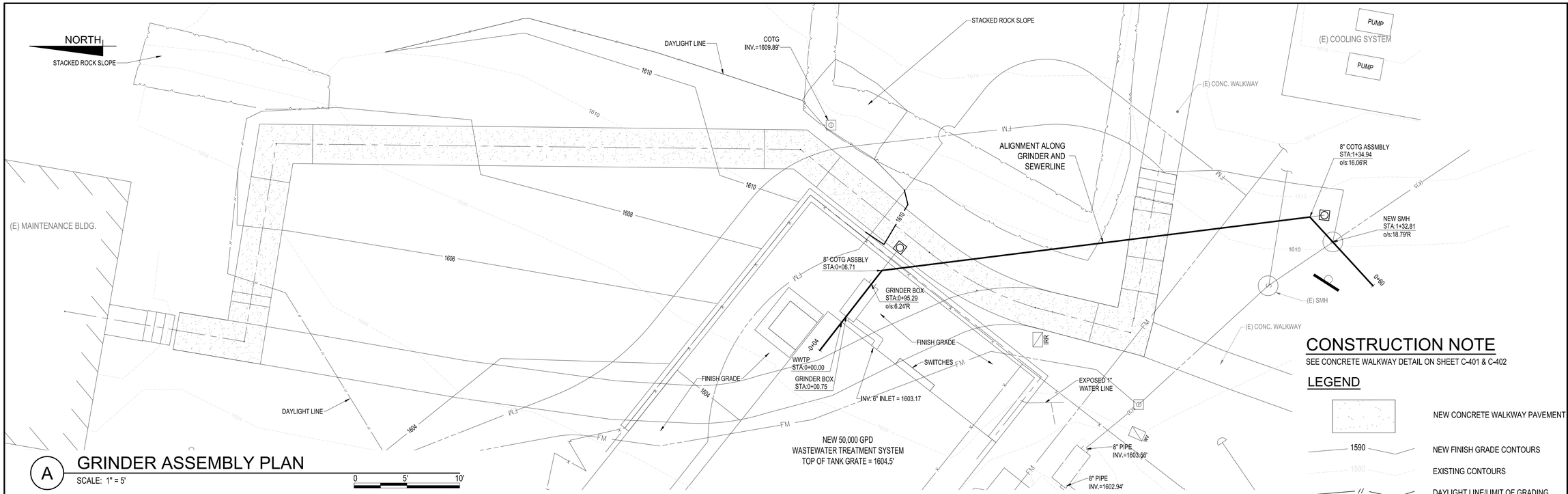
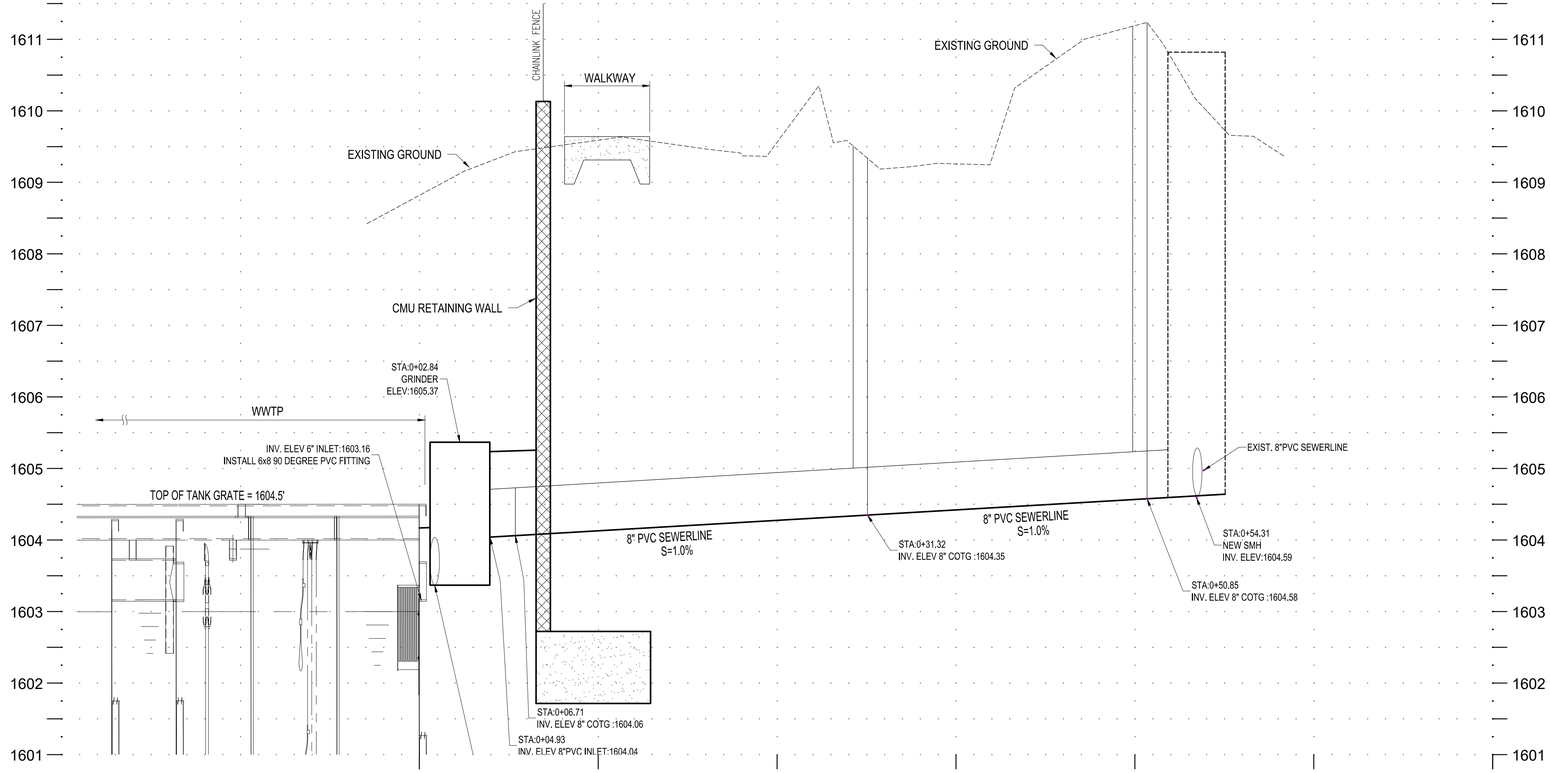



A GRINDER ASSEMBLY PLAN

SCALE: 1" = 5'

0 5' 10'

PLAN




B GRINDER ASSEMBLY PROFILE

SCALE: 1" = 5'

0 5' 10'

PROFILE - GRINDER ASSEMBLY

## CONSTRUCTION NOTE

SEE CONCRETE WALKWAY DETAIL ON SHEET C-401 & C-402

## LEGEND

NEW CONCRETE WALKWAY PAVEMENT

1590 NEW FINISH GRADE CONTOURS

1590 EXISTING CONTOURS

DAYLIGHT LINE/LIMIT OF GRADING

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GRINDER ASSEMBLY PLAN & PROFILE

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KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT
SYSTEM UPGRADE
NORTH KONA, HAWAI`I
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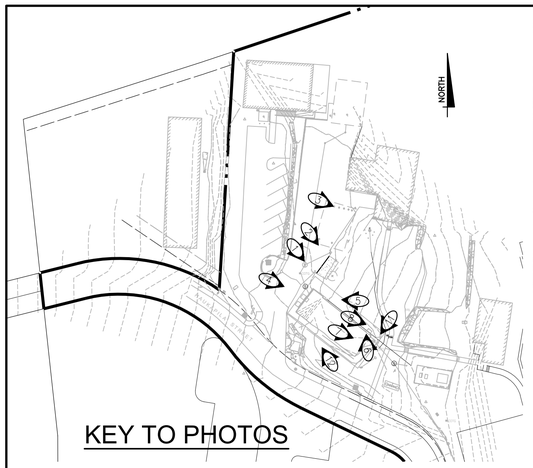
JOB NO. 12022-22-01

DWG. NO. C-206

SHEET NO. 10 OF 15

10/22/2025 3:26 pm
G:\My Drive\12022-22-01_KCH WWTS UPGRADES\WORKING\C-204 PLAN & PROFILE.DWG




KEY TO PHOTOS

PHOTO 1

PHOTO 2

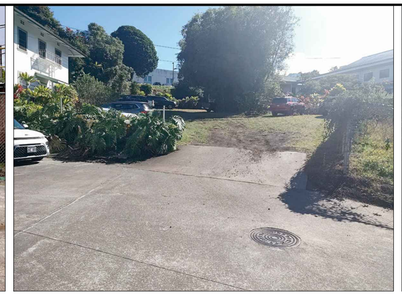


PHOTO 3


PHOTO 4

PHOTO 5

PHOTO 6

PHOTO 7

PHOTO 8

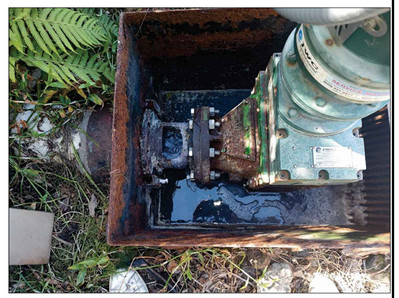


PHOTO 9

PHOTO 10

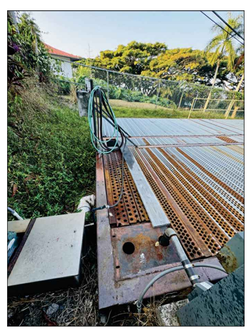
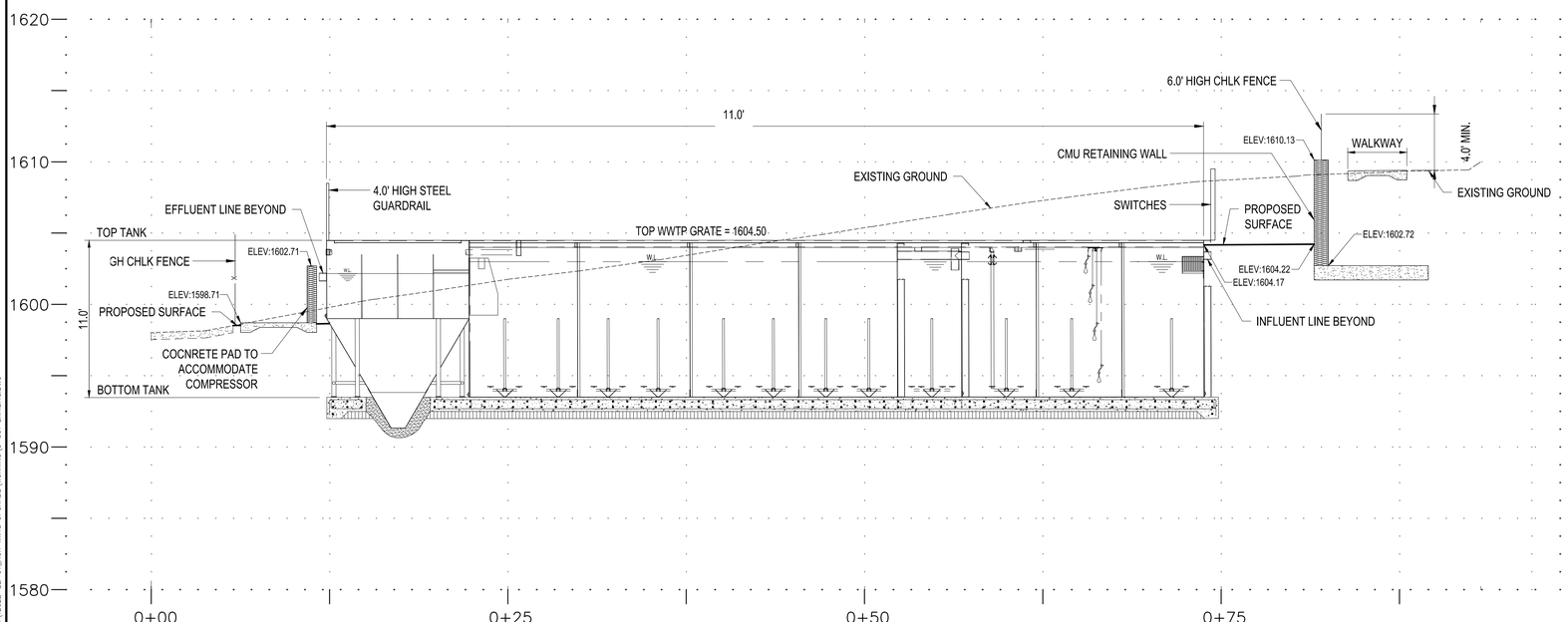


PHOTO 11

PHOTO 12




PROFILE - EXISTING WWTP

ENGINEERING PARTNERS
455 E. Lanikaula St.
Hilo Hawai`i 96720
Main (808) 933-7900 www.epinc.pro
Hawai`i | Las Vegas

YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/26
No. 9361-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

EXHIBITS

DATE: OCTOBER 2025
REV.
REV.
REV.
REV.

KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT SYSTEM UPGRADE
NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

| DRAWN BY: | DESIGNED BY: |
|---|---|
| AEG | MV/RDC |
| CHECKED BY: | QC'D BY: |
| TN | YWF |

JOB NO. 12022-22-01

DWG. NO. C-301

SHEET NO. 11 OF 15

10/22/2025 3:27 pm
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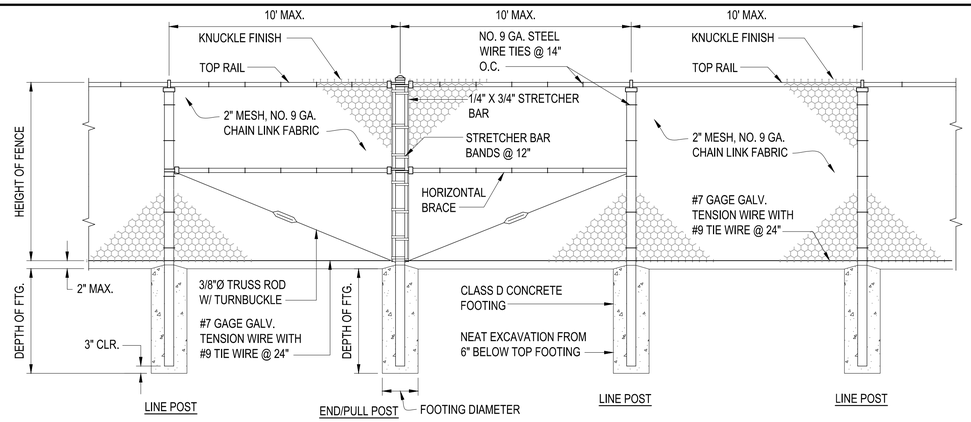
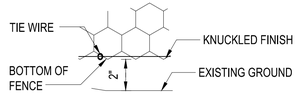



## CHAIN LINK FENCE

| FENCES (3 FEET TO 6 FEET HEIGHT) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| HEIGHT OF FENCE | LINE POST | | END, CORNER, & PULL POST | | BRACE | | TOP RAIL | |
| | OD INCH | Wt lbs/ft | OD INCH | Wt lbs/ft | OD INCH | Wt lbs/ft | OD INCH | Wt lbs/ft |
| 3'-0" | 1-7/8" | 2.72 | 1-7/8" | 2.72 | 1-5/8" | 2.57 | 1-3/8" | 1.68 |
| 4'-0" | 1-7/8" | 2.72 | 1-7/8" | 2.72 | 1-5/8" | 2.57 | 1-3/8" | 1.68 |
| 5'-0" | 1-7/8" | 2.72 | 1-7/8" | 2.72 | 1-5/8" | 2.57 | 1-5/8" | 2.27 |
| 6'-0" | 2-3/8" | 3.65 | 2-3/8" | 3.65 | 1-5/8" | 2.57 | 1-5/8" | 2.27 |




## BOTTOM OF FENCE DETAIL

NOTES

1. CHAIN LINK FABRIC, FITTINGS, AND HARDWARE SHALL CONFORM TO AASHTO M181
2. TENSION WIRE SHALL HAVE A MINIMUM OF TWO ONCES OF ZINC COATING PER SQUARE FEET
3. ZINC COARTING SHALL CONFORM TO AASHTO M111 OR AASHTO M232 (ASTM A123 OR ASTM A153)

| FENCES (3 FEET TO 6 FEET HEIGHT) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| HEIGHT OF FENCE | SOIL TYPE: SAND & GRAVEL MINIMUM DEPTH OF FOOTING | | SOIL TYPE: STIFF CLAY MINIMUM DEPTH OF FOOTING | | SOIL TYPE: ROCK MINIMUM DEPTH OF FOOTING | | MINIMUM FOOTING DIAMETER | |
| | LINE POST | CORNER, PULL, END, AND GATE POST | LINE POST | CORNER, PULL, END, AND GATE POST | LINE POST | CORNER, PULL, END, AND GATE POST | LINE POST | CORNER, PULL, END, AND GATE POST |
| 3'-0" | 3'-6" | 3'-6" | 2'-6" | 2'-6" | 1'-0" | 1'-0" | 0'-8" | 0'-8" |
| 4'-0" | 3'-6" | 3'-6" | 2'-6" | 2'-6" | 1'-0" | 1'-0" | 0'-8" | 0'-8" |
| 5'-0" | 4'-0" | 4'-0" | 3'-0" | 3'-0" | 1'-6" | 1'-6" | 0'-8" | 0'-8" |
| 6'-0" | 4'-0" | 4'-0" | 3'-0" | 3'-0" | 1'-6" | 1'-6" | 0'-8" | 0'-8" |

## B CHAIN LINK FENCE DETAIL

NO SCALE

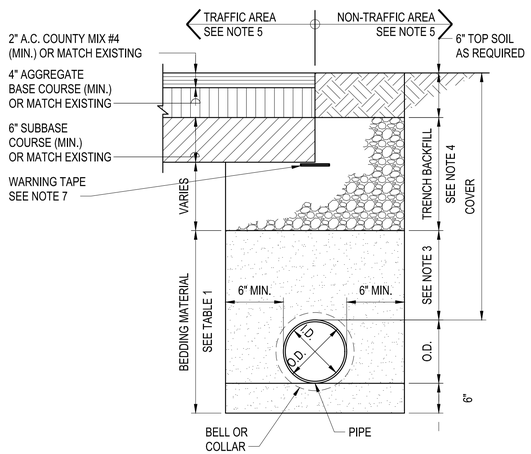
NOTES:

1. THIS TRENCH SECTION APPLIES TO FLEXIBLE PIPES INCLUDING SEWER, STORM DRAIN, AND WATER PIPES. FLEXIBLE PIPE MATERIAL INCLUDES COPPER, CMP, PVC, ABS, AND HDPE.
2. THIS TRENCH SECTION APPLIES TO PIPING WITHIN PRIVATE PROPERTIES ONLY.
3. BEDDING MATERIAL ABOVE PIPE SHALL BE 12" HIGH FOR GRANULAR MATERIAL AND 6" HIGH FOR CONCRETE, NO. 10 OR NO. 67 GRANULAR BEDDING SHALL BE COMPACTED BY MAKING TWO PASSES PER LIFT WITH A VIBRATORY PLATE COMPACTOR. BEDDING MATERIAL FOR PIPES 2'Ø OR LARGER SHALL BE 3/4" BASE COURSE COMPACTED TO 95% MAX. DRY DENSITY.
4. TRENCH BACKFILL SHALL BE 3" MINUS GRANULAR BACKFILL OR SUITABLE NATIVE MATERIAL NO LARGER THAN 6". TRENCH BACKFILL SHALL BE COMPACTED TO 95% MAX. DRY DENSITY.
5. TRAFFIC AREA SHALL INCLUDE BUT NOT BE LIMITED TO PAVED OR UNPAVED ROADWAY, SHOULDER, DRIVEWAY, CARTPATH, PARKING, LOADING ZONE, STORAGE AREA AND AREAS NOT PROTECTED FROM TRAFFIC LOAD. NON-TRAFFIC AREA SHALL BE PROTECTED FROM TRAFFIC LOAD BY MEANS OF CONCRETE CURBS, GUARDRAILS, BARRICADE, AND AREAS INACCESSIBLE BY VEHICLES.
6. BEDDING MATERIAL FOR COPPER PIPE SHALL BE #4 SAND OR CONCRETE ONLY.
7. MIN. 6" WIDE WARNING TAPE IDENTIFYING THE BURIED UTILITY SHALL BE PLACED CONTINUOUSLY ALONG THE LENGTH OF THE PIPE JUST BELOW THE SUBBASE OR 12" BELOW THE SURFACE FOR UNPAVED AREAS. FOR METALLIC PIPE, TAPE SHALL BE NON-METALLIC. FOR NON-METALLIC PIPE, TAPE SHALL BE DETECTABLE BY STANDARD, NON-DESTRUCTIVE PIPE DETECTION METHODS.

TABLE 1: BEDDING MATERIAL

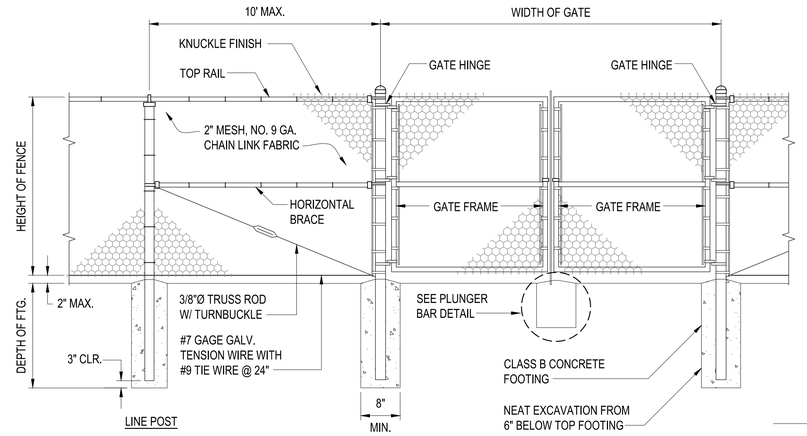
| DEPTH OF COVER IN FT. | TRAFFIC AREA | NON-TRAFFIC AREA |
|---|---|---|
| 6" < COVER < 12" | NOT ALLOWED | ALLOWED FOR 6"Ø PIPE OR SMALLER ONLY WITH NO. 10 CRUSHED ROCK (SEE NOTE 3) |
| 12" < COVER < 18" | ALLOWED FOR 6"Ø PIPE OR SMALLER ONLY WITH CLASS "C" CONCRETE | NO. 10 CRUSHED ROCK (#4 SAND) (SEE NOTE 3) |
| 18" < COVER < 24" | CLASS "C" CONCRETE | NO. 10 OR NO. 67 CRUSHED ROCK (SEE NOTE 3) |
| COVER > 24" | NO. 10 OR NO. 67 CRUSHED ROCK | NO. 10 OR NO. 67 CRUSHED ROCK (SEE NOTE 3) |

(FOR PRIVATE UTILITY PIPING ONLY)




## D FLEXIBLE PIPE TRENCH SECTION

SCALE: NOT TO SCALE




## DOUBLE SWING CHAIN LINK GATE

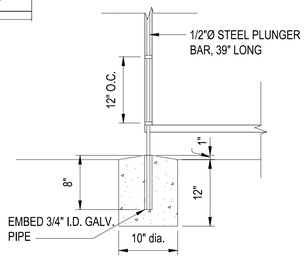
| GATES (3 FEET TO 6 FEET HEIGHT) | | | | |
|---|---|---|---|---|
| GRATE FRAMES | | GATE OPENING | GATE POSTS | |
| OD INCH | Wt lbs/ft | | OD INCH | Wt lbs/ft |
| 1-7/8 | 2.72 | SINGLE TO 6' OR DOUBLE TO 12' | 3 | 5.79 |
| 1-7/8 | 2.72 | SINGLE OVER 6' TO 13' OR DOUBLE OVER 12' TO 26' INCLUSIVE | 4 | 9.11 |
| 1-7/8 | 2.72 | SINGLE OVER 13' TO 18' OR DOUBLE OVER 26' TO 36' INCLUSIVE | 6-5/8 | 18.97 |
| 1-7/8 | 2.72 | SINGLE OVER 18' OR DOUBLE OVER 36' | 8-5/8 | 24.70 |

NOTES

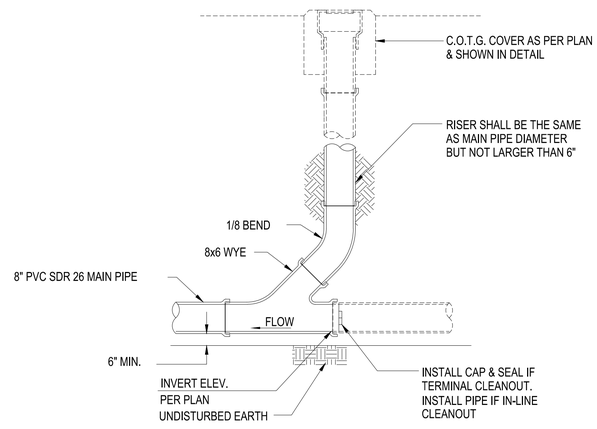
1. CHAIN LINK FABRIC, FITTINGS, AND HARDWARE SHALL CONFORM TO AASHTO M181
2. TENSION WIRE SHALL HAVE A MINIMUM OF TWO ONCES OF ZINC COATING PER SQUARE FEET
3. GATE FRAMES SHALL BE MITERED AND WELDED AT CORNERS
4. GATE FORK LATCH AND LOCK, SHALL BE CONSIDERED AS INCIDENTAL TO CHAIN LINK FENCE GATE.
5. ZINC COARTING SHALL CONFORM TO AASHTO M111 OR AASHTO M232 (ASTM A123 OR ASTM A153)

## A CHAIN LINK FENCE GATE DETAIL

NO SCALE



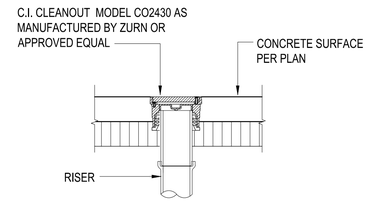

## PLUNGER BAR DETAIL



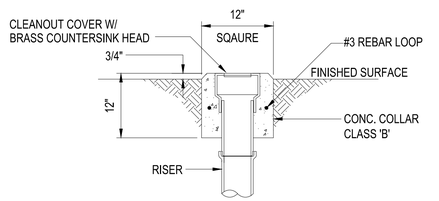

## TYPICAL C.O.T.G. CONSTRUCTION

## C CLEANOUT TO GRADE (C.O.T.G.)

SCALE: NOT TO SCALE




## NON-TRAFFIC RATED C.O.T.G. COVER IN CONC. WALKWAYS




## NON-TRAFFIC RATED C.O.T.G. COVER IN LAWN AREAS

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YEN WEN FANG
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Exp. 04/30/26
No. 9361-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

CIVIL DETAILS

| DATE: | REV. | REV. | REV. |
|---|---|---|---|
| OCTOBER 2025 | | | |

KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT SYSTEM UPGRADE
NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

| DRAWN BY: | DESIGNED BY: |
|---|---|
| AEG | MV/RDC |
| CHECKED BY: | QC'D BY: |
| TN | YWF |

JOB NO. 12022-22-01

DWG. NO. C-401

SHEET NO. 12 OF 15

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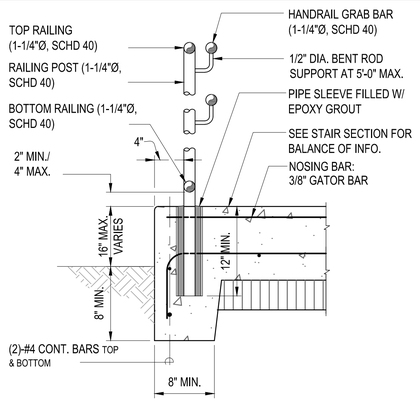
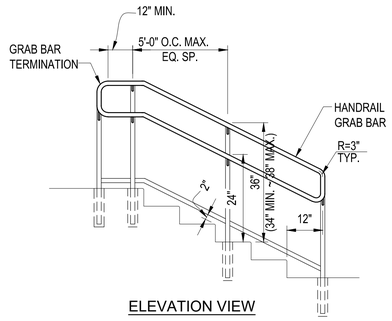
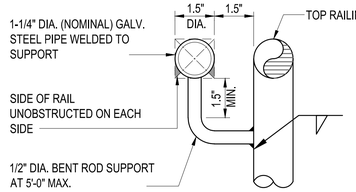



RAILING POST EMBEDMENT

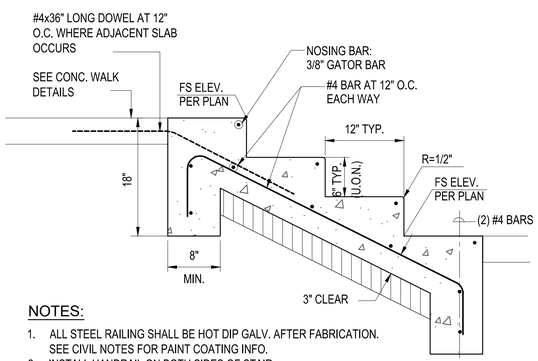



ELEVATION VIEW




1. ALL STEEL RAILING SHALL BE HOT DIP GALV. AFTER FABRICATION. SEE CIVIL NOTES FOR PAINT COATING INFO.
2. INSTALL HANDRAIL ON BOTH SIDES OF STAIR
3. POST, TOP RAILING, & BOTTOM RAILING, MAY BE SUBSTITUTED WITH 1-1/2" x 1-1/2" SQUARE HSS

PIPE GRAB BAR




NOTES:

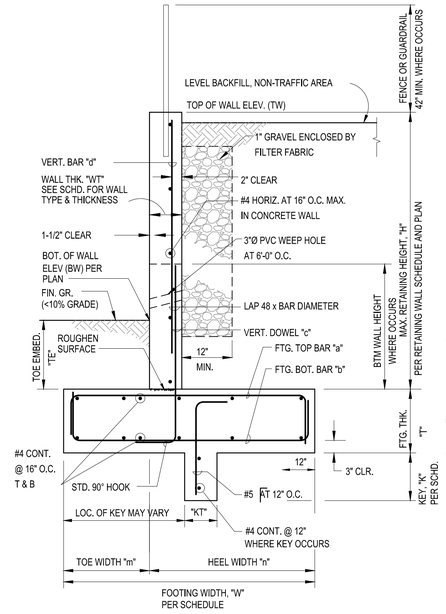
1. ALL STEEL RAILING SHALL BE HOT DIP GALV. AFTER FABRICATION. SEE CIVIL NOTES FOR PAINT COATING INFO.
2. INSTALL HANDRAIL ON BOTH SIDES OF STAIR
3. POST, TOP RAILING, & BOTTOM RAILING, MAY BE SUBSTITUTED WITH 1-1/2" x 1-1/2" SQUARE HSS

STAIR'S SECTION

F CONCRETE STAIRS
SCALE: NOT TO SCALE

RETAINING WALL SCHEDULE

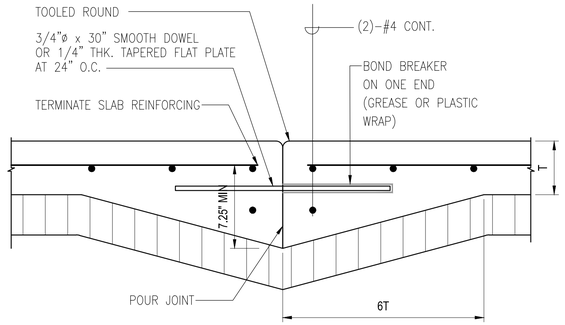
| MAXIMUM RETAINING HEIGHT "H" | FOOTING | | | | | | | | WALL | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WIDTH "W" | TOE WIDTH "m" | HEEL WIDTH "n" | FTG. THK. "T" | KEY THK. "KT" | KEY DEPTH "K" | TOP BAR "a" | BTM. BAR "b" | WALL THK. "WT" | VERT. DOWEL "c" | VERT. BAR "d" | |
| 10'-0" | 8'-0" | 2'-0" | 6'-0" | 16" | 12" | 24" | #5 AT 8"O.C. | #6 AT 8"O.C. | 10" CONC. | #6@6" | #5@12" | BTM RC WALL UP TO 4'-0" HIGH |
| 8'-0" | 5'-6" | 1'-0" | 4'-6" | 12" | 12" | 16" | #5 AT 8"O.C. | #5 AT 8"O.C. | 8" CMU/ 10"CONC. | #5@8" | #5@16" | BTM RC WALL UP TO 4'-0" HIGH |
| 6'-0" | 4'-3" | 1'-0" | 3'-3" | 16" | 12" | 12" | #6 AT 8"O.C. | #5 AT 8"O.C. | 8"/12" CMU | #6@24" | #4@24" | 12" CMU UPTO 3'-4" HIGH |
| 4'-0" OR LOWER | 3'-4" | 1'-0" | 2'-4" | 14" | 6" | 6" | #4 AT 6"O.C. | #4 AT 6"O.C. | 8" CMU. | #5@24" | #5@24" | |



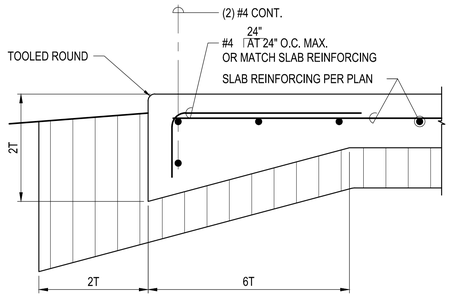

DESIGN ASSUMPTIONS

1. The Retaining Wall design was based on the following assumed soil design parameters as stated below, in the absence of a soils investigation report.
   - Allowable Soil Bearing Pressure = 2000 PSF
   - Allowable Passive Earth Resistance = 250 PCF
   - Frictional Resistance = 0.40X Dead Load
   - Equivalent Active Soil Pressure = 45 PCF
2. Additional Lateral Loads are also considered in the design:
   - Traffic Surcharge Load at Heel = 0 PSF
   - Seismic Kh = 0.2
   - Water Saturation behind wall = 0 feet high
3. Special Inspection is required for all CMU and Concrete Retaining Walls.
4. Minimum Steel Yield Strength, Fy = 60 KSI for #5 and larger, Fy = 40 KSI for #4 and smaller.
5. Minimum Masonry Compressive Strength, Fm = 1500 PSI.
6. Grout Strength, f'c = 2000 PSI
   All CMU walls are fully grouted.
7. Minimum Concrete Compressive Strength, f'c = 3000 PSI
8. Footing shall be poured against weathered basaltic rock or compacted subgrade.

B SITE RETAINING WALL - LEVEL BACK, NON-TRAFFIC AREA
SCALE: NOT TO SCALE

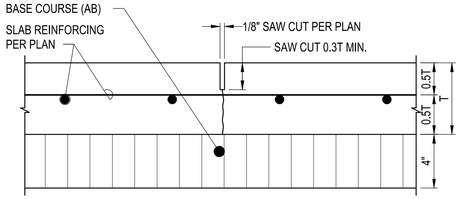



CONC. PAV'T CONST. JOINT (CJ)




CONCRETE PAVEMENT EDGE

A CONCRETE DRIVEWAY
SCALE: NOT TO SCALE




NOTES:

UNLESS OTHERWISE NOTED, MINIMUM THICKNESS OF CONCRETE PAVEMENT, T, SHALL BE 6 INCHES.

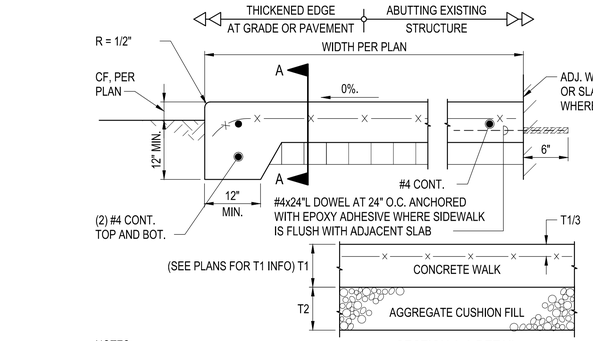
U.O.N. MINIMUM CONCRETE COMPRESSIVE STRENGTH, F'c, SHALL BE 3,000 PSI.

U.O.N. MINIMUM CONCRETE PAVEMENT REINFORCING SHALL BE #4 BARS AT 24" O.C., MIN. fy = 40 KSI.

COMPACTION OF THE SUBGRADE, SUBBASE, AND A.B. MUST BE OBSERVED AND CERTIFIED BY THE GEOTECHNICAL ENGINEER. WHERE THERE IS NO GEOTECHNICAL ENGINEER AVAILABLE, COMPACTION MAY BE DONE BY MAKING A MINIMUM OF EIGHT (8) PASSES WITH A D-9 DOZER OR EQUIVALENT.

CCJ SHALL BE CUT IN A SQUARE PATTERN WITH MAXIMUM SPACING AS FOLLOWS: (T = 4", 8' O.C.), (T = 5:, 10' O.C.), (T = 6", 12' O.C.)

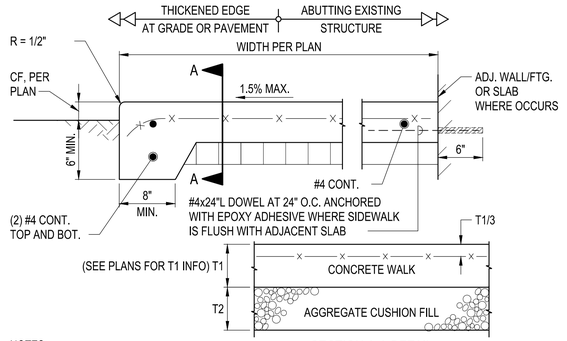
CRACK CONTROL JOINT (CCJ)




SECTION A-A DETAIL

NOTES:
U.O.N. MINIMUM REQUIREMENTS SHALL BE:
1. CONCRETE SHALL BE CLASS "B". T1 = 5"
2. AGGREGATE CUSHION FILL SHALL BE ASTM C33 NO. 67. T2 = 4"
3. REINFORCING SHALL BE GALVANIZED 6"x6" 10/10 (6"x6" W1.4xW1.4) WWM.
4. #4 BARS MAY BE SUBSTITUTED WITH 3/8" GATORBAR

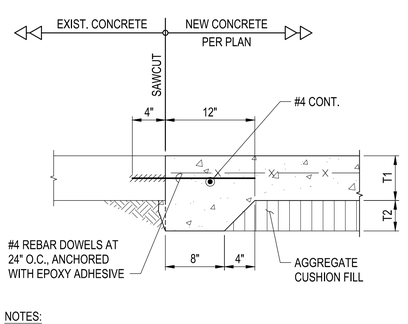
E TYPICAL CONCRETE EQUIPMENT PAD
SCALE: NOT TO SCALE




SECTION A-A DETAIL

NOTES:
U.O.N. MINIMUM REQUIREMENTS SHALL BE:
1. CONCRETE SHALL BE CLASS "B". T1 = 4"
2. AGGREGATE CUSHION FILL SHALL BE ASTM C33 NO. 67. T2 = 4"
3. REINFORCING SHALL BE GALVANIZED 6"x6" 10/10 (6"x6" W1.4xW1.4) WWM.
4. #4 BARS MAY BE SUBSTITUTED WITH 3/8" GATORBAR

D TYPICAL CONCRETE WALK DETAIL
SCALE: NOT TO SCALE




NOTES:
U.O.N. MINIMUM REQUIREMENTS SHALL BE:
1. CONCRETE SHALL BE CLASS "B", T1 => 4"
2. AGGREGATE CUSHION FILL SHALL BE ASTM C33 NO. 67. T2 => 4"
3. REINFORCING SHALL BE GALVANIZED 6"x6" 10/10 (6"x6" W1.4xW1.4) WWM.
4. EPOXY ADHESIVE SHALL BE SIMPSON SET-XP OR APPROVED EQUAL

C NEW CONCRETE TO EXIST. CONCRETE
SCALE: NOT TO SCALE

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Exp. 04/30/26
No. 9361-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

CIVIL DETAILS

DATE: OCTOBER 2025
REV.
REV.
REV.

KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT
SYSTEM UPGRADE
NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

| DRAWN BY: | DESIGNED BY: |
|---|---|
| AEG | MV/RDC |
| CHECKED BY: | QC'D BY: |
| TN | YWF |

JOB NO. 12022-22-01

DWG. NO. C-402

SHEET NO. 13 OF 15

10/22/2025, 3:28 pm
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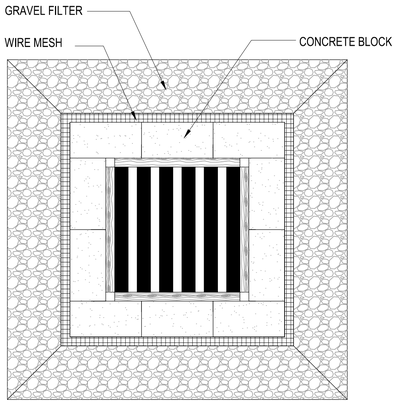


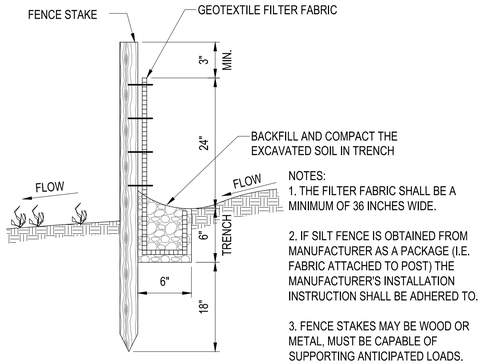


## 4 SILT FENCE DETAIL
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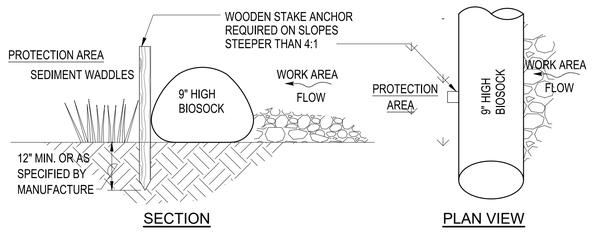
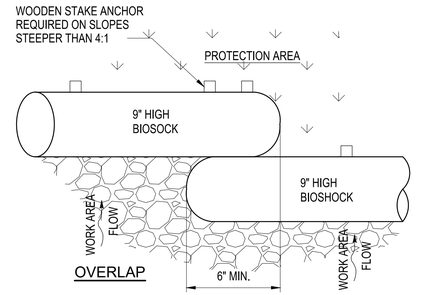



*WOOD ANCHOR STAKES SHALL HAVE A NOMINAL CLASSIFICATION OF 3/4" BY 3/4" AND MINIMUM LENGTH OR 24 INCHES. DO NOT USE REBAR OR OTHER METAL RODS

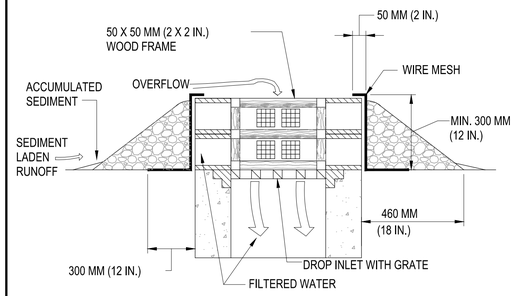
NOTE
PRODUCT SHOWN IS A PRODUCT OF HAWAII BIOSOCKS. PRODUCT MAY BE A PRODUCT OF HAWAII BIOSOCKS OR APPROVED EQUAL



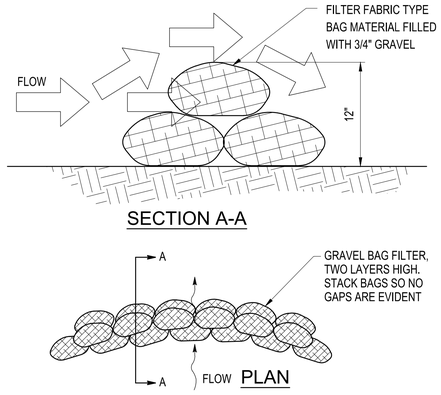

WOODEN STAKE ANCHOR SPACING

| SLOPE GRADIENT | ANCHOR SPACING |
|---|---|
| <4:1 | NOT REQUIRED |
| 4:1 TO 3:1 | 10' ON CENTER |
| >3:1 TO 2:1 | 5' T0 10' ON CENTER |
| >2:1 | 5' ON CENTER |

## 1 TYPICAL BIOSOCK INSTALLATION
SCALE: NOT TO SCALE



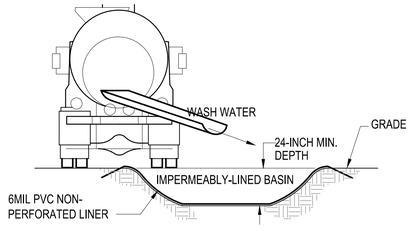

## DRYWELL AND GRATED INLET PROTECTION
## 7
SCALE: NOT TO SCALE

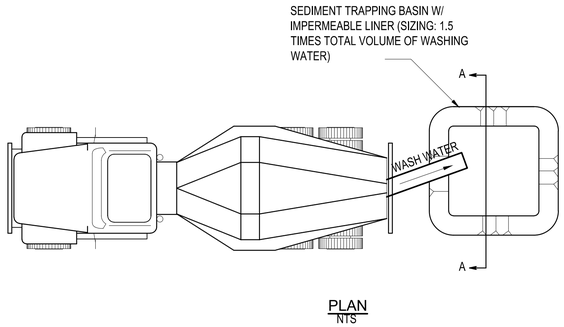



## 5 GRAVEL BAG FILTER
SCALE: NOT TO SCALE

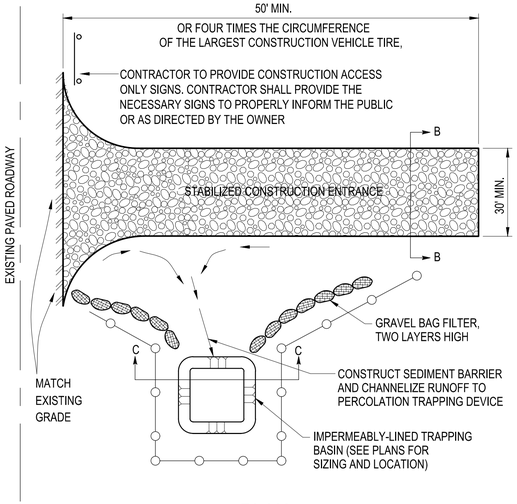


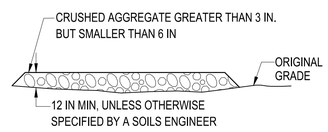

## 6 STAKED SEDIMENT WADDLE
SCALE: NOT TO SCALE

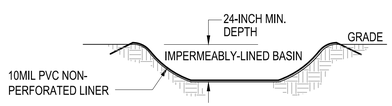



## CONCRETE TRUCK DRUM/CHUTE WASH WATER SEDIMENT BASIN
## 3
SCALE: NOT TO SCALE




DRY SWEEP VEHICLES TO PREVENT TRACKING DEBRIS ONTO PAVEMENT

## STABILIZED CONST. ENTRANCE
## 2
SCALE: NOT TO SCALE

ENGINEERING PARTNERS
455 E. Lanikaula St.
Hilo Hawai`i 96720
Main (808) 933-7900 www.epinc.pro
Hawai`i | Las Vegas

YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/26
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NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

| DRAWN BY: | DESIGNED BY: |
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| AEG | RDC |
| CHECKED BY: | QC'D BY: |
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JOB NO. 12022-22-01

DWG. NO. C-501

SHEET NO. 14 OF 15

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## SITE SPECIFIC CONSTRUCTION BMP CONTROL MEASURES

CONSTRUCTION ACTIVITIES

SITE IMPROVEMENT FOR THE CONSTRUCTION OF CONEN'S FREIGHT TRANSPORT. INFRASTRUCTURE TO SUPPORT THE PROPOSED IMPROVEMENTS INCLUDES AC PAVING, UTILITY CONSTRUCTION, AND SITE GRADING.

ALL CONSTRUCTION ACTIVITY WILL INCORPORATE THESE BMPS WITHOUT MODIFICATION. CONSTRUCTION SITE MANAGER WILL CONDUCT A SITE INSPECTION DAILY FOR ANY POTENTIAL POLLUTION SOURCES. ALL EQUIPMENT STORED ONSITE SHALL BE IN GOOD WORKING ORDER WITH NO FUEL, OIL, TRANSMISSION FLUID, OR HYDRAULIC LEAKS. ANY EQUIPMENT FOUND TO BE FAULTY SHALL BE REPAIRED IMMEDIATELY WITH NECESSARY BMP PRECAUTIONS TAKEN TO PREVENT AND CONTAIN STORM WATER CONTAMINATION. EQUIPMENT WHICH CANNOT BE REPAIRED WITHIN THE SAME WORKING DAY, SHALL BE REMOVED FROM THE SITE TO AN APPROPRIATE REPAIR FACILITY.

CONSTRUCTION EQUIPMENT INCLUDES; DOZER, EXCAVATOR, LOADER, DUMP TRUCKS, CONCRETE TRUCKS, DRUM ROLLER/COMPACTOR, ETC.

QUALITY OF DISCHARGE

THE EXISTING SOIL IS OPIHAKAO-URBAN LAND COMPLEX. THE SITE IS MOSTLY PAVED THAT HAS POOR VEGETAL COVER. THERE ARE STORM WATER MANAGEMENT FACILITIES EXIST ON THE SITE. DISCHARGE DURING CONSTRUCTION WILL BE CONTROLLED BY BIOSOCKS, AND GRAVEL BAG FILTERS.

CONTROL FOR LAND DISTURBANCES

THE GENERAL CONTRACTOR SHALL COMPLY WITH THE SPECIAL CONDITIONS FOR LAND DISTURBANCES (FROM HAR, CHAPTER 11-55, APPENDIX C). REFER TO THE "NOTES ON CONTROLS FOR LAND DISTURBANCES" ON THIS SHEET.

EROSION AND SEDIMENT CONTROL REQUIREMENTS

THE CONTRACTOR SHALL HAVE THE COUNTY APPROVED GRADING PERMIT AVAILABLE FOR INSPECTION 30 DAYS BEFORE THE START OF CONSTRUCTION ACTIVITIES.

POTENTIAL POLLUTANTS

REMOVED VEGETATION AND OTHER DEBRIS WILL BE DISPOSED OF AT THE EAST HAWAII SANITARY LANDFILL. DEBRIS WILL BE TEMPORARILY STORED IN THE STOCKPILE AND STORAGE AREA AS SHOWN ON THE PLANS. THE STOCKPILE AND EQUIPMENT/VEHICLE STORAGE AREA IS PROTECTED BY STACKED GRAVEL BAG FILTERS.

NO FUEL, OIL, OR HYDRAULIC FLUID SHALL BE STORED ONSITE. FUELING OR FIELD MAINTENANCE OF EQUIPMENT SHALL BE PERFORMED WITHIN VEHICLE STORAGE AREA. THE VEHICLE STORAGE AREA IS PROTECTED WITH A GRAVEL BAG CONTAINMENT BERM. DRIP PANS WILL BE PLACED UNDER VEHICLES ONSITE WHILE NOT IN USE. IN THE EVENT OF A SPILL OR LEAK FROM EQUIPMENT, THE FLOW OF FUEL WILL BE STOPPED AND ALL SOURCES OF IGNITION WILL BE REMOVED. THE SPILL WILL BE CONTAINED BY PLACING SAND BAGS AROUND THE SPILL AREA. THE CONTAMINATED EARTH WILL BE PLACED IN CONTAINERS. IN THE CASE OF PONDING FUEL, A HAZARDOUS MATERIALS VACUUM TRUCK WILL REMOVE THE FUEL.

DISTURBED AREAS WILL BE PROTECTED WITH BIOSOCKS, AND GRAVEL BAG FILTERS.

PRODUCT SPECIFICATIONS FOR BMPS

FILTER FABRIC SHALL BE: 8.0 OZ./SQ. YD. GEOTEXTILE
GRAVEL FILTER SHALL BE: 3/4" FOR GRAVEL FILTER BAGS

CONSTRUCTION SCHEDULE

| | |
|---|---|
| CONTRACTOR SELECTION DATE: | TBD |
| CONSTRUCTION WILL BEGIN: | TBD |
| CONSTRUCTION WILL END: | TBD |

BMPS WILL BE IMPLEMENTED FROM THE FIRST DAY OF CONSTRUCTION AND WILL BE REMOVED WHEN ALL CIVIL WORK ITEMS ARE COMPLETE AND VEGETATION COVER IS REESTABLISHED.

ALL MAJOR CONSTRUCTION ACTIVITIES WILL PROCEED IN A LOGICAL SEQUENCE. MAJOR CONSTRUCTION ACTIVITIES WILL BE CONCURRENT WHEN APPROPRIATE.

CONSTRUCTION TIMETABLE

| | |
|---|---|
| SITE GRADING | 2 MONTHS |
| UTILITY INSTALLATION | 2 MONTHS |
| A.C. PAVEMENT | 3 MONTHS |

THE FOLLOWING BMPS WILL BE IMPLEMENTED THE FIRST DAY OF CONSTRUCTION

STABILIZED CONSTRUCTION ENTRANCE

VEHICLE/EQUIPMENT WASH W/ SEDIMENT BASIN W/ IMPERMEABLE LINER

VEHICLE/EQUIPMENT STORAGE AREA

GRAVEL BAG FILTERS OR BIOSOCK

## NOTES ON CONTROLS FOR LAND DISTURBANCES

HAR CHAPTER 11-55 APPENDIX C REQUIREMENTS

THE FOLLOWING SPECIAL CONDITIONS APPLY TO ALL LAND DISTURBANCE WORK CONDUCTED UNDER THIS GENERAL PERMIT:

(A) CONSTRUCTION MANAGEMENT TECHNIQUES

(1) CLEARING AND GRUBBING SHALL BE HELD TO THE MINIMUM NECESSARY FOR GRADING AND EQUIPMENT OPERATION.

(2) CONSTRUCTION SHALL BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF THE CLEARED SURFACE AREA.

(3) CONSTRUCTION SHALL BE STAGED OR PHASED FOR LARGE PROJECTS. AREAS OF ONE PHASE SHALL BE STABILIZED BEFORE ANOTHER PHASE IS INITIATED. STABILIZATION SHALL BE ACCOMPLISHED BY TEMPORARILY OR PERMANENTLY PROTECTING THE DISTURBED SOIL SURFACE FROM RAINFALL IMPACTS AND RUNOFF.

(4) EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN. THESE MEASURES SHALL BE PROPERLY CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

(5) ALL CONTROL MEASURES SHALL BE CHECKED AND REPAIRED AS NECESSARY, FOR EXAMPLE, WEEKLY IN DRY PERIODS AND WITHIN 24 HOURS AFTER ANY RAINFALL OF 0.5 INCHES OR GREATER WITHIN A 24-HOUR PERIOD. DURING PROLONGED RAINFALL, DAILY CHECKING IS NECESSARY. THE PERMITTEE SHALL MAINTAIN RECORDS OF CHECKS AND REPAIRS.

(6) THE PERMITTEE SHALL MAINTAIN RECORDS OF THE DURATION AND ESTIMATED VOLUME OF STORM WATER DISCHARGE(S).

(7) A SPECIFIC INDIVIDUAL SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH PROJECT SITE.

(B) VEGETATION CONTROLS

(1) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN TWENTY CALENDAR DAYS PRIOR TO LAND DISTURBANCE.

(2) TEMPORARY SOIL STABILIZATION WITH APPROPRIATE VEGETATION SHALL BE APPLIED ON AREAS THAT WILL REMAIN UNFINISHED FOR MORE THAN THIRTY CALENDAR DAYS.

(3) PERMANENT SOIL STABILIZATION WITH PERENNIAL VEGETATION OR PAVEMENT SHALL BE APPLIED AS SOON AS PRACTICAL AFTER FINAL GRADING. IRRIGATION AND MAINTENANCE OF THE PERENNIAL VEGETATION SHALL BE PROVIDED FOR UNTIL THE VEGETATION TAKES ROOT.

(C) STRUCTURAL CONTROLS

(1) STORM WATER FLOWING TOWARD THE CONSTRUCTION AREA SHALL BE DIVERTED BY USING APPROPRIATE CONTROL MEASURES, AS PRACTICAL.

(2) EROSION CONTROL MEASURES SHALL BE DESIGNED ACCORDING TO THE SIZE OF DISTURBED OR DRAINAGE AREAS TO DETAIN RUNOFF AND TRAP SEDIMENT.

(3) WATER MUST BE DISCHARGED IN A MANNER THAT THE DISCHARGE SHALL NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE BASIC WATER QUALITY CRITERIA AS SPECIFIED IN SECTION 11-54-04.

## BMP CONSTRUCTION NOTES

(ORDER OF PRECEDENCE FOR INSTALLATION)

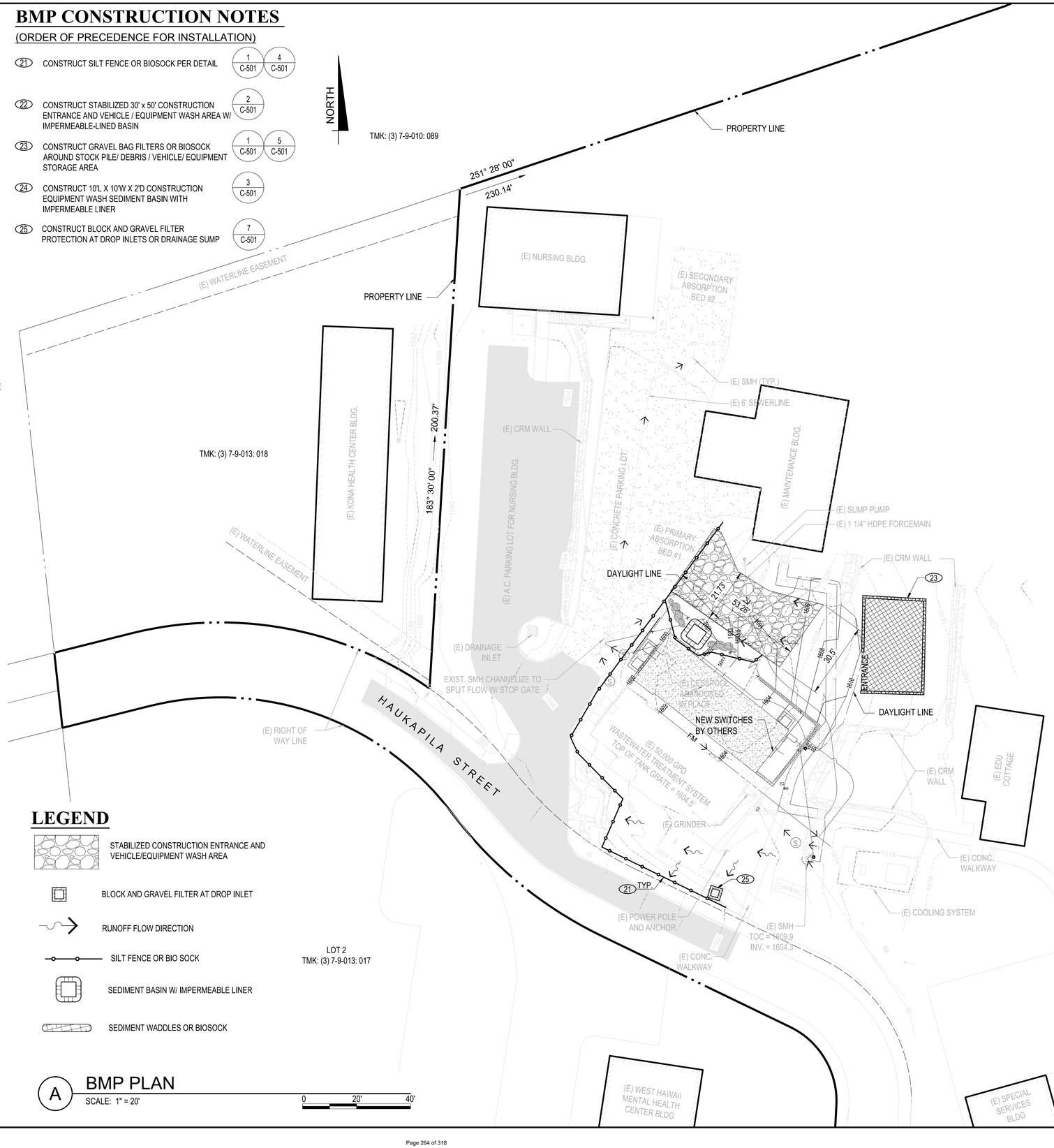
21 CONSTRUCT SILT FENCE OR BIOSOCK PER DETAIL — 1/C-501, 4/C-501

22 CONSTRUCT STABILIZED 30' x 50' CONSTRUCTION ENTRANCE AND VEHICLE / EQUIPMENT WASH AREA W/ IMPERMEABLE-LINED BASIN — 2/C-501

23 CONSTRUCT GRAVEL BAG FILTERS OR BIOSOCK AROUND STOCK PILE/ DEBRIS / VEHICLE/ EQUIPMENT STORAGE AREA — 1/C-501, 5/C-501

24 CONSTRUCT 10'L X 10'W X 2'D CONSTRUCTION EQUIPMENT WASH SEDIMENT BASIN WITH IMPERMEABLE LINER — 3/C-501

25 CONSTRUCT BLOCK AND GRAVEL FILTER PROTECTION AT DROP INLETS OR DRAINAGE SUMP — 7/C-501




## LEGEND

STABILIZED CONSTRUCTION ENTRANCE AND VEHICLE/EQUIPMENT WASH AREA

BLOCK AND GRAVEL FILTER AT DROP INLET

RUNOFF FLOW DIRECTION

SILT FENCE OR BIO SOCK

SEDIMENT BASIN W/ IMPERMEABLE LINER

SEDIMENT WADDLES OR BIOSOCK

A BMP PLAN
SCALE: 1" = 20'
0 20' 40'


ENGINEERING PARTNERS
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SIGNATURE

BMP PLAN

DATE: OCTOBER 2025
REV. REV. REV.
REV. REV. REV.

KONA COMMUNITY HOSPITAL
WASTEWATER TREATMENT SYSTEM UPGRADE
NORTH KONA, HAWAI`I
TMK: (3) 7-9-010 : 081

| DRAWN BY: | DESIGNED BY: |
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| AEG | RDC |
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| OH | YWF |

JOB NO. 12022-22-01

DWG. NO. C-502

SHEET NO. 15 OF 15

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# APPENDIX L

## CONTRACTORS HANDBOOK

See following pages.

# Contractor Guidelines

KONA
COMMUNITY HOSPITAL

Care You Can Count On

# Table of Contents

# Table of Contents

# Introduction

This Contractor Guidelines Booklet is designed for contractors and sub-contractors who provide services to Kona Community Hospital.

This booklet provides requirements and expectations of the contractors and sub-contractors that are contracted to perform work in the hospital.

Contractors and sub-contractors working in the hospital must successfully complete all requirements listed in the booklet prior to any project work beginning on-site at Kona Community Hospital.

Each General / Primary Contractor is responsible for any of their Sub-contractors activities and is expected to ensure compliance with all applicable regulatory or compliance guidelines set out in this booklet.

Failure to comply with the requirements of this booklet may result in the halting of the project and/or termination of the contract.

To ask questions about the booklet or its contents or to obtain additional copies please contact:

KCH Maintenance at 808-322-4592

# Important Phone Numbers

| | |
|---|---|
| Human Resources | 322-4458 |
| Employee Health | 322-4478 |
| Infection Prevention | 322-4478 |
| Facility Director | 322-4495 |
| Maintenance Clerk | 322-4592 |
| Risk Manager | 322-6976 |
| Hospital Supervisor | 322-4594 |
| Patient Access (Admitting) | 322-5803 |
| Security | 322-4525 |
| Maintenance Supervisor | 322-4566 |
| Housekeeping | 322-4521 |
| ICU Manager | 322-5824 |
| Emergency Room Manager | 322-4484 |
| Medical/Surgical Manager | 322-4477 |
| Surgical Services (OR) Manager | 322-6909 |
| First Floor Acute Manager | 322-4407 |
| Behavior Health Manager | 322-4573 |
| Obstetrics Manager | 322-4598 |
| Imaging Manager | 322-5872 |
| Pharmacy Manager | 322-4402 |
| Clinical Labs Manager | 322-4422 |
| Dietary Manager | 322-4415 |
| Administration (CEO, CNE) | 322-6970 |
| IT Department | 322-5887 |
| Contracts Management | 322-4442 |

# Human Resource Requirements

Contact Human Resources to schedule an appointment to pick up and review documents listed below:

- Read the Contractor Guideline booklet. Return **Contractor Guidelines Confirmation of Understanding** to Human Resources.
- **Drug Screening:** Each contractor / sub-contractor will have to complete a five panel drug screen within six months of the project start date. Negative drug screening results are to be submitted to Human Resources. Additionally, if management has a reasonable individualized suspicion that a contractor is currently violating the Hospital Drug Free workplace policy, a urine drug screen may be requested. Arrangements to complete a drug screening can be made through Human Resources at a fee of $17.00 per person. Contact Human Resources to schedule an appointment (page 4).
- **State and Federal Criminal History Record Check:** Each contractor / sub-contractor will have to complete a State and Federal criminal background check within six months of project start date. Background check results are to be submitted to Human Resources. Persons with any criminal charges pending or with any felony convictions shall not be eligible to work in the Hospital. Arrangements to complete a background check can be made through Human Resources at a fee of $50.00 per person. Contact Human Resources to schedule an appointment (page 4).
- Complete **Request for State Federal Criminal History Record Check** form
- Complete and return the **Acknowledgement and Understanding.**
- Camera Surveillance and Image Recording form. Initial, sign, and date **Appendix A**. Policy is for your records.

# Employee Health Requirements

Contact Employee Health / Infection Control to review documents listed below: All documents can be picked up at Human Resources.

- Complete the following forms:

  **-Contractor Health Evaluation**

  **-Immunization Declination Requirements for Maintenance and Construction Contractors**

- Submit a completed two-step Tuberculosis test. Arrangements to complete a TB test can be made through your primary care physician or contact the Hawaii Department of Health at 808-322-1522.

- Completion of an annual influenza vaccine (or declination form) during the flu season of October through March.


# Request for Records and Documentation

Contractor will cooperate with and make available to Kona Community Hospital any records and documentation required by such authorities within eight (8) hours upon request. Kona Community Hospital will make such requests during normal business hours.

## Confidentiality

At Kona Community Hospital, privacy of patients is valued and protected by law. Although contractor employees will never have reason to use private health information, they may come into contact with documents and computer screens, or overhear conversations that contain private information. Please remember that this information is protected and private and should not be discussed or shared.

Not all areas of the hospital are open to the public for reasons of safety or privacy. If contractors are required to work in clinical areas they must observe specific HIPPA security/confidentially rules.

## General Safety

Kona Community Hospital is committed to the safety of employees, students, visitors, and patients. All employees, including contractor employees, are expected to take safety seriously and follow good safety practices. If there is any doubt regarding the safety of a job or task, notify the Facilities Director.

If you are feeling ill stay home. You are more prone to germs from others and more likely to spread your germs to patients who are already sick and have little defenses left to use against them. You will get better faster and you won't get anyone else sick either.

Kona Community Hospital has adopted and follows a safety plan designed to provide a safe environment. The goal of this plan is to create a workplace that is free from hazards and where risks of injuries to employees, patients, visitors, and contractors is at a minimum.

Since safety is a team effort, everyone working at Kona Community Hospital must look out for themselves and each other by watching for unsafe practices and correcting or reporting them if encountered.

## Contractor Check-In

Upon the daily arrival of a contractor to Kona Community Hospital, the contractor is required to check-in and sign-in at the Maintenance Office. Contractors must also check-out and sign-out daily at the Maintenance Office. Hours of normal operations are 0600 to 1430 Mondays thru Fridays. Any off shift , holiday and weekend work requires prior approval and 48 hours notice arranged with the Facilities Director. Arrangements for card access to project areas requires 48 hours notice.

## Identification Badges and Basic Security

All contractor employees must wear a KCH badge (permanent / temporary). Badges are issued from HR after all HR and Employee Health requirements are completed. Badges are signed out and back in daily through the Maintenance Department. The badge must be worn above the waist. Contractor employees without badges will be asked to check in at the Maintenance Department. Off shift, holiday and weekend arrangements will be made with the Maintenance Clerk and approval of the Facilities Director to have the badges sent to Patient Access to be signed in and returned at end of shift.

## Parking

Parking at Kona Community Hospital is at a premium. Contractors must park in areas designated by the facility.

## Smoking and Tobacco Use

Kona Community Hospital is a Smoke and Tobacco Free Campus. Use of tobacco products including cigarettes, chew and electronic cigarettes is not allowed on campus.

## Personal Appearance

- A shirt displaying the contractor's name is preferred. Long work pants or jeans and covered shoes are required
- Identification badge must be worn above the waist.
- Not allowed are slippers, shorts and sleeveless shirts with holes, and / or offensive language and / or artwork.

## Appropriate Behavior

Kona Community Hospital promotes a healthy work environment and expects appropriate behavior by everyone on campus.

Reports of inappropriate behavior will be investigated and disciplinary action may result.

Whistling, inappropriate language and any other gesture that is perceived to be offensive to Kona Community Hospital employees and guests will not be tolerated and will be cause for dismissal.

All contractors are responsible for adhering to these guidelines and must report inappropriate actions to the Nursing Supervisor, Facilities Director, or Risk Manager.

## Workplace Violence Prevention

Violence, threat of violence, intimidation, harassment or coercion is not tolerated on the KCH campus.

Contractor employees are responsible for adhering to these guidelines and for reporting disruptive or violent behavior to Security, Nursing Supervisor, Facilities Director or the Risk Manager.

## Interacting with Patients and Hospital Staff

The employees of Kona Community Hospital are proud of their facilities and are always careful to ensure the comfort and welfare of patients, visitors and co-workers. Even if only temporarily, contractor employees will become part of the KCH work force and may even be viewed as KCH employees by patients, guests or visitors.

All contact with patients, staff and visitors must demonstrate respect for the individual. Any action or words that suggest bias or prejudice are not appropriate.

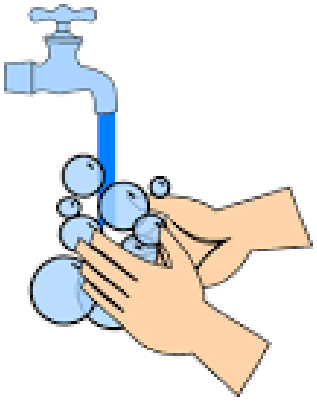
## Healthcare Personal Protective Equipment Requirements

Personal protective equipment (PPE) is provided in an assortment of sizes and includes the following examples: gloves, isolation gown, mask, face shield, shoe covers and jumpsuits. Observe sterile work zone requirements and restrictions. Do not enter sterile corridors or rooms without appropriate attire required (ie. Scrubs, hats, booties, face mask, etc.) Do not wear this clothing out of the sterile area and re-enter, if you have exited area replace with clean PPE's prior to re-entry into area. You must coordinate with unit manager if you are unsure of appropriate attire or procedure required.

# Hand-washing and Disinfection

In the Hospital setting any surfaces (phones, elevator buttons, tool handles etc.) can become a breeding ground for germs. Anyone that comes into contact with these surfaces can then transmit the germs to other areas in the hospital and potentially to our vulnerable patients. Every year thousands of people die from infections acquired at the hospital. The best defense against germs is hand washing; frequent hand washing in a healthcare setting will keep patients, staff and you safe from potential life threatening germs and spread of disease. KCH has alcohol hand washing stations throughout the facility for your convenience; to use just apply the foam/gel to your hands and rub until dry. If you like the traditional soap and water method please remember to scrub your hands for at least 20 seconds and use a paper towel to dry your hands and another one to turn off the faucet. Hand washing is expected during the following activities:

- When entering and exiting the facility and construction locations
- Before and after working on hospital equipment/locations
- When entering and exiting patient care areas
- Before applying and immediately after removing personal protective equipment.
- After removing gloves
- After using the restroom
- Before eating meals

# Clothing and Construction Personal Protective Equipment

While working at KCH, your personal protective equipment protects you as a worker, but also alerts our patients and staff to potential hazards in the area. To maintain the healing environment, please ensure all clothing is clean and dust free and is in a respectful condition.

While working at KCH the following OSHA guidelines must be followed:

- 29 CFR 1926 Construction Industry
- 1926 Subpart C, General safety and health provisions
- 1926.28, Personal protective equipment
- -1926 Subpart E, Personal protective and life saving equipment
  - 1926.95, Criteria for personal protective equipment
- 1926.96, Occupational foot protection
- 1926.100, Head protection
- 1926.101, Hearing protection
- 1926.102, Eye and face protection
- 1926.103, Respiratory protection
- 1926.104, Safety belts, lifelines, and lanyards
- 1926.105, Safety nets
- 1926.106, Working over or near water
- 1926.107, Definitions applicable to this subpart
- 1926 Subpart M, Fall protection [related topic page]
- 1926.500, Scope, application, and definitions applicable to this subpart

## Clothing and Construction Personal Protective Equipment

- 1926.501, Duty to have fall protection
- 1926.502, Fall protection systems criteria and practices
- 1926.503, Training requirements
- 1926 Subpart P, Excavations [related topic page]
- 1926.651, Specific excavation requirements
- 1926.652, Requirements for protective systems

## First Aid

Contractors must provide adequately stocked first aid kits on their job sites for use by their employees and any injury requiring more than on site first aid must be reported to the Facilities Director as soon as possible.

## Entering Patient Rooms

Non– healthcare contract workers may enter patient rooms only after making arrangements with the Facilities Director and the Maintenance Supervisor. They will coordinate with the nursing staff as applicable.

## Patients on Special Precautions

Sometimes there are patients who are on special precautions such as Contact, Droplet, Airborne, GI Contact, and Neutropenic. If so, color coded signage will be posted outside their door. **You must wear** specific personal protective equipment to protect yourself, other patients and staff from potential infections. **YOU MUST** coordinate entry and exit from these rooms with the unit manager. Wear all required protective equipment (gloves, gown and/or mask) prior to entering rooms and remove all equipment before you leave the room. Most importantly be sure to perform good hand washing upon exiting the room. (Images of these signs are located on pages **33 - 35)**

Contractor employees must be aware that patients with suppressed immune systems may be found just about anywhere in the buildings. To these individuals, a simple virus could be very serious. For this reason all employees, contractor and staff, are expected to observe basic infection control procedures.

Contractor employees must protect patients by following standard precautions at all times. These include hand washing, wearing of gloves, gowns, masks, and shoe covers as appropriate. The Hospital Maintenance Department, or nursing staff will assist you in selecting the appropriate personal protection.

## Designated Entrance and Exit Routes

The Facilities Director shall define entrance and exit routes for contractors that provide the least amount of interference with activities in that area. These routes must accommodate the safe transport of construction equipment/debris, construction workers, staff, patients, and guests. No egress can be blocked or restricted without the approval and coordination with the Facilities Director. Any routes blocking egress must have signage and alternative egress pathways incorporated.

## Workplace Set-up

All work areas must be marked off with cones, tape, barriers, or other traffic diverters. More than 50 percent of the width of a hallway may never be blocked without making arrangements with the Facilities Director.

No impairments to the fire alarm, fire suppression, or egress routes can be made unless approved by the Facilities Director three working days in advance.

Tools and materials must be safely secured or packaged when unattended. Items must not be left in a way that could injure staff, patient(s), or visitor(s).

Tools and materials must also be safeguarded in such a manner to minimize the risk to everyone. The responsibility for safeguarding all materials/equipment from theft is the responsibility of every individual.

Patients, staff, and public areas must be protected from dust, dirt, and other construction-related contamination. The use of non-combustible dust barriers and air filtration systems with HEPA filters may be required. Transport of tools, equipment and construction debris must be done in a way to minimize dust and dirt. **All transported materials must be covered and secured at all times.**

## Traffic Control

When a project includes motorized and pedestrian traffic control the Facilities Director and Contractor will determine the safest routes and procedures to facilitate this traffic. Whistles and other devices used to control traffic shall be used respectfully, and for the purpose of traffic control only. **Three (3) days notice must be give prior to restriction of any roadway at KCH & must be coordinated through the Facilities Director and KCH Security Department.**

# Housekeeping & Waste Disposal

Contractor employees are expected to maintain an orderly and safe jobsite. Daily cleanup of the jobsites is required. Temporary storage of construction waste can not exceed 50 Cubic feet of materials.

**Keep floors and walkways clear by cleaning up spilled liquids, and keeping cords and other obstacles out of the way of pedestrian traffic.** Continually sweep and mop as necessary per requirements in the infection control risk assessment/permit. Remove construction debris daily in the following manner: during transport of materials, both in and out of the facility ensure they are properly secured and covered, ensure all dump carts (including wheels) are cleaned up prior to entering patient care areas. Transport of materials in and out of work areas should occur at the beginning and end of shifts whenever possible. **NEVER** clean up an unidentified spill; notify housekeeping immediately if you believe there may be a hazardous (body fluid) or chemical spill.

All entry ways need sticky mats, sticky mats need to be changed frequently and upon the discovery that the sticky mats are no longer sticky. Contractors are responsible for their own waste hauling receptacles. Reference Hawaii County waste hauling guidelines and separation of solid wastes. Contractors are responsible for removing and disposing of their hazardous waste via a certified hazardous waste hauler. A manifest is required for disposal and evidence to KCH the waste was disposed of properly.

# Hot Work Permits

Any work that involves use of an open flame, such as torch smoldering, welding, grinding or cutting requires a Hot Work Permit. To obtain a hot work permit the welding/cutting equipment and the individuals performing the work must be on the job site. A serviceable 10 pound ABC fire extinguisher must be at each location. Please contact the Facilities Director to request a Hot Work Permit. Example of permit is located on page 43-44.

An individual will be dispatched to issue the permit.

**Torches**: No Liquefied Petroleum Gas , Mapp Gas or oxygen acetylene bottles over 5 lbs of volume are allowed in the facility.

Smoke detectors will require a manufacturers cover to be applied during work & cover will be removed after the project is completed for the day. A Interim Life Safety Deficiency Form must be created. See attached form and policy on pages 46 - 47.

**Fire Sprinkler Heads:** Must be protected when working within 4 feet of a head. Contact the Facilities Director.

If the fire sprinkler is impaired an Interim Safety Life Measure (page 46 - 47) must be created.

**Smoke detectors:** The following procedures apply;

1. Use a zip lock bag and cut the bottom of the bag off.
2. Use blue painter's tape to secure the bottom of the zip lock bag to the base of smoke detector. **Bag must be dated and contractors name listed.**
3. At the start of each shift the zip lock bag is closed and at the end of the shift the bag either removed or the zip lock is opened.

**NOTE: Hot Work Permits CAN NOT be issued if fire suppression systems are not functional. If hot work must be performed a fire watch is required.**

***A fire watch is defined as:***

1. The assignment of a person or persons to the area for the express purpose of notifying the Fire Department, the building occupants, or both, of an emergency.
2. Preventing a fire from happening.
3. Extinguishing small fires.
4. Protecting the public from fire or life safety dangers.

This/ these personnel must be specially trained in fire prevention techniques, and they should understand the particular fire safety situation. All fire watch(es) must be coordinated prior to the event with the Facilities Director.

**Fire Blankets/Welding Pads/Smoke Eaters:** May be required depending on the area that work is being performed in.

## Infection Control Permits

Infection Control is taken very seriously and applies to all areas of the KCH facility. It applies both to how construction projects affect our patients as well as how our patients and the environment affect you. To ensure we are providing a safe healing environment for our patients and staff the following requirements shall be strictly followed:

You will be required to obtain an Infection Control Permit from Maintenance prior to performing construction related tasks within all patient care, laboratory or any other areas where the services rendered are directly related to patient care. There are four types of construction that are associated with four risk levels. This information defines the criteria for an Infection Control Permit.

You may **not** begin your work until the appropriate authorization has been completed and the permit is posted at/near the entrance of the worksite. Posting of this permit is required over the construction period. Please see Facilities Director to determine if a permit is required for your tasks.

All Infection Control requirements will be followed at all times as defined by the Infection Control Permit. Daily Infection Control compliance surveys will be completed by KCH maintenance staff. If at any time contractors are not meeting infection control risk assessment/permit requirements the job site can be shut down until the proper requirements are satisfactorily met. Repeat offenses can result in KCH stopping contractors work on the project. Example of Infection Control Risk Assessment and permit can be viewed on pages 37 - 40.

***Dust Containment:***

Negative Air Machines with HEPA filters are required in all construction areas.

- Sticky mats must be placed outside of the construction area and changed frequently.
- Plastic zip wall and/or temporary barriers must be in place prior to start of project.
- Coveralls must be worn over any soiled/contaminated clothing.
- Dusty or contaminated shoes must be covered with paper booties.
- Appropriate PPE and/or jumpsuits/scrubs will be used when entering "clean or sterile" work areas such as OR suites.
- All negative air exhaust shall be exhausted outside of the building unless circumstances deem this impossible/unreasonable. Discharge of exhaust air within the facility is a last resort and must be pre-approved by the Facilities & Infection Prevention Directors.
- Discharge of negative air exhaust into the hospital HVAC system is strictly prohibited.
- You may inspect ceiling spaces by removing one 2x2 tile or one 2x4 tile. If multiple tiles removed or any work is completed a containment unit (ie: Aire Guardian) and ladder permit (example page 42) must be in place. You are responsible for immediate clean up of any debris resulting in tile removal.

***Dust Contamination:***

- HEPA filters and pre-filters will be supplied by the contractor. A written log must be kept with the contractor owned air scrubber. Pre filters must be changed when visually dirty and at the beginning of each new project.
- Discharge of exhaust is required and must be pre-approved by the Facilities and Infection Control Directors.


## Fire and Smoke Barrier Penetration Permits

All fire and smoke barriers must be sealed as specified in the construction documents. When working within KCH any cutting, opening, or otherwise penetrating **ANY** wall requires a wall penetration permit (Example on page 41) from the Maintenance Department. Never penetrate any walls without coordinating with the Facilities Director to obtain a permit.

# Dig Permits

Prior to beginning excavation, a utility line locator firm shall be employed to physically locate the utility lines in order to avoid unplanned outages that can result from accidental damage.

**No Digging may take place with out the direct involvement of the Facilities Director.**

To begin a project that requires digging, call the utility line locater that is responsible for your work area to ask for the location and voltage of underground utility lines and tell them where and when you are working in that area.

Advise co-workers before you start digging and mark on your blueprints or plan the exact location of the utility lines. Then place warning signs along the route, if they are not already posted.

Protect your self by working with another person who can be a spotter or signaler, and can call for assistance in an emergency. Always keep equipment, workers, materials well outside the minimum safety distance.

If a power line has been severed, have someone call the KCH Maintenance Department immediately to shut off the electricity. If you are sitting on earth-moving or other riding equipment, stay on the equipment—don't attempt to jump off unless the machine is on fire and your life is in immediate danger.

Move the equipment away from the power source if it is at all possible. Keep others away from the accident, don't let anyone attempt to attach a winch line or approach the machinery in any way.

## Security of Doors

Every individual is responsible for ensuring the job site and facility is secure.

- Do not allow another person to "tailgate" through badge entry door. If that person should have access they will have badge access.
- Do not leave doors unlocked or prop open locked doors.
- Ensure all doors are again secured when you exit.

## Weekly Safety Meeting

All contractors are required to have a weekly safety meeting and documentation of meeting highlighting different OSHA standards and guidelines. The presenter needs to have the 30 hour OSHA safety training and provide documentation to KCH of completion prior to commencement of work.


## Ladder Safety

Contractors must follow OSHA guidelines 3124-12R-2003.
Example of permit on page 42

## Electrical Safety

All power tools must be UL approved and have a three prong grounded plug. Two prong plugs are not permitted. No three receptacle cord adaptors are allowed. Limit extension cords. No plug strip to plug strip power extenders. Manage cords safely in corridors and use approved cord covers. No extension cords or power tool cords can be repaired with electrical tape if frayed. A new cord or cord end must be installed. Lock out / Tag out procedures shall be followed per OSHA guidelines 23 CPR 1910.147. Consult with Facilities Director for KCH specific guidelines. Lock out / Tag out is not only applicable to electric work it is also applicable to plumbing, medgas, vacuums, reheat, steam, and chilled water systems.

## Red Receptacle Outlets

Red receptacle outlets are located throughout KCH and are not to be used by contractors.

These red receptacle outlets are connected to the emergency power systems and will provide power even during an outage. Red receptacle outlets are not to be used for non-emergencies. Never unplug equipment from red receptacle outlets as they are used for critical patient care equipment only.

## Emergency Preparedness

Kona Community Hospital requires that all employees and contractor employees must be familiar with the basic requirements of the Emergency Plans before they begin work.

## Reporting an Emergency

To report an emergency at Kona Community Hospital please call the Hospital Operator at 322-9311 or dial 0 from hospital phone.

## Emergency Response

In the event that emergency procedures are announced (Page Codes) check immediately with your Supervisor or the nearest KCH staff member to ask what is expected in this situation. You may be asked to leave the area.

## Page Codes

Kona Community Hospital uses a color code system to notify employees, vendors and contractor employees of emergency situations. These codes will be given verbally over the public address system. These codes are:

*For example, if there is a fire, there will be a page over the public address system stating: "Code Red" followed by the location.*

If employees wait until an emergency is actually occurring before attempting to determine what is expected of them they may be too late because time is a very valuable commodity during an emergency.

| | |
|---|---|
| **Code Black** | **Severe Weather** |
| **Code Blue** | **Cardiac Arrest/Medical Emergency** |
| **Code Gray** | **Security Assistance** |
| **Code Green** | **Bomb Threat** |
| **Code Orange** | **Hazmat/ Bioterrorism** |
| **Code Pink** | **Infant Abduction** |
| **Code Red** | **Fire** |
| **Code Silver** | **Adult Elopement** |
| **Code Active Shooter** | **Active Shooter** |
| **Code Triage** | **Disaster Activation** |

# Code Red—Fire Plan

Everyone working in Kona Community Hospital must always be aware of the locations of the nearest fire alarm pull station, the nearest fire extinguisher and the nearest exit.

When the fire alarm sounds everyone needs to leave the building.

## R.A.C.E

### *R - Rescue*

Rescue anyone in danger. Protecting of life is paramount.

### *A - Activate*

Activate the nearest fire alarm station by pulling down the lever.

Dial # 40 on telephone handset and announce loudly 3 times "Code Red and location of fire (example code red electrical room first floor)". Assist others who may need assistance.

### *C - Confine*

Close all doors, windows or openings in the room or corridor area where smoke and/or fire are present to isolate the condition.

Remember that smoke is also very dangerous, many victims of fires succumb to smoke.

If a closed door is hot, this may mean that there is fire on the other side. DO NOT OPEN a hot door.

***E - Extinguish:*** Secure fire extinguishers for use.

Fire extinguishers may be used only for small fires that are getting started, do not attempt to use a fire extinguisher on a fire that is too large or dangerous.

Only the respiratory therapy department or nursing may turn off medical gasses.

If you elect to extinguish the fire remember:

When using a fire extinguisher, remember the word "P.A.S.S". Each letter represents a step for using the fire extinguisher.

**P– Pull** the pin from the fire extinguisher.

**A– Aim** the hose at the base of the fire.

**S- Squeeze** the handle (lasts 20 seconds)

**S- Sweep** from side to side.

***Evacuation—General Guidelines***

- ♠ Keep Calm
- ♠ Leave lights on
- ♠ Do not use elevators ( unless directed by Fire Dept.)
- ♠ Do not use telephones (unless directed by Fire Dept.)
- ♠ Keep all corridors clear at all times.
- ♠ Do not block the fire extinguishers or fire hoses.
- ♠ Do not block or lock any designated exits
- ♠ Know the location of fire extinguishers and pull stations.

***Fire Safety General Guidelines—<u>DO</u>***

- ♠ Obtain a Hot Work Permit prior to performing any hot work, including welding, soldering, torch cutting, or any work using an open flame.
- ♠ Participate in fire drills.
- ♠ Follow Interim Life Safety Measures (ILSM's) implemented due to construction. Refer to attached policy (page 46)
- ♠ Place ceiling tiles back in place when completed with above ceiling.
- ♠ Protect penetrations through fire rated walls in accordance with UL System requirements.

***Fire Safety General Guidelines—<u>DON'T</u>***

- ♠ Do not remove or tamper with any fire protection or life safety equipment, including: smoke detectors, fire alarm speaker/strobes, fire alarm pull stations, fire sprinklers, and fire extinguishers
- ♠ Do not prop open fire rated or smoke barrier doors, especially stairwell doors.
- ♠ Do not tamper with the latch on fire rated doors (to prevent the door from latching).
- ♠ Do not store equipment or supplies in the corridor or the stairwells.
- ♠ Do not block any exit or egress.

## Hazardous Materials

Materials in use in Kona Community Hospital:

Hazardous Materials are present and in use at KCH. These chemicals may include flammables, toxics, corrosives, biohazards or radioactive. Safety Data Sheets (SDS) for these chemicals are available through the SDS line located on a label affixed to every KCH phone.

Read all warning labels carefully. If the warning label is missing from a suspected hazardous chemical, notify a Supervisor or the Facilities Director.

Chemicals Brought by Contractor:

Safety Data Sheets (SDS) must be submitted to the Facilities Director for approval. All chemicals must be labeled in accordance with 29 CFR 1910.1200 (Hazard Communication).

Hazardous Material Spills:

If you discover a spill believed to be hazardous or questionable, contact:

- Housekeeping at 322-4521.

In addition, notify your supervisor and the Facilities Director.

## Exposure to Human Blood or Body Fluids

The OSHA Blood Borne Pathogen Standard (1992) is to protect workers that have a reasonable anticipated risk of an occupational blood or body fluid exposure on their job. Typically contractors do not fall into this category however anyone working with in a healthcare facility can be at risk for blood and body fluid exposure. Some of the potential blood borne disease includes HIV and Hepatitis.

Needles and other sharp instruments are used throughout KCH and patient blood and body fluids are transported throughout the campus. Our expectation is that these are contained appropriately; however, exposures can still occur and KCH has developed a plan of action to address any exposure that does occur.

Contractors experiencing an exposure such as being pricked by a "sharp" or splashed (eyes, mouth, or skin) by body fluids while on the KCH campus, should immediately stop what you are doing and wash the area thoroughly with soap and water. Proceed directly to the KCH Emergency Department for a post exposure work up. Time is very important with exposure injuries so **DO NOT DELAY** in reporting injury and seeking evaluation in the Emergency Room. The incident must also be reported to your supervisor by the end of the shift.

## Noise and Vibration

Noise and vibration can have severe impact on our patients and their ability to heal, staff ability to provide safe and proper care and KCH's ability to provide a harm free work environment for our employees.

All construction activities resulting in potential harmful noise levels will be pre authorized by the Facilities Director and communicated prior to the beginning work with unit managers that may be impacted by the noise/vibrations. If excessive noise levels are reported the construction work will be halted and alternative construction methods or noise barriers will be required.

## Medical Equipment

Medical Equipment such as ventilators and heart monitors are found throughout KCH.

Only authorized individuals may operate or change settings on medical equipment. Contractor employees involved in construction are not authorized to operate, move, or change settings on any medical equipment. All issues regarding medical equipment must be referred to nursing staff or the Facilities Director. **Never unplug equipment that is plugged into a RED outlet.**

## Utility Systems

Kona Community Hospital depends on uninterrupted delivery of utilities to operate equipment that is crucial to daily operations. Any utility shutdown must be coordinated with the Facilities Director to avoid interruption of any utility service. **NO contractor shall turn off any valve, circuit or switch.**

## English Proficiency Guidelines

For safety and general information purposes, contract workers with limited English proficiency shall be assigned within close proximity to contract workers that have a fluency in English.

## Confined Space

Many workplaces contain spaces that are considered "confined" because their configurations hinder the activities of employees who must enter, work in, and exit them. A confined space has limited or restricted means for entry or exit, and it is not designed for continuous human occupancy. Confined spaces include, but are not limited to underground vaults, tanks, storage bins, manholes, pits, silos, process vessels, and pipelines. Contractors must follow the OSHA guideline standard for Confined Space 1940.146 subpart A, B, C, D, E and F. A confined entry permit must be approved by the Facilities Director, as well as, 48 hours prior notice of the confined space being entered.

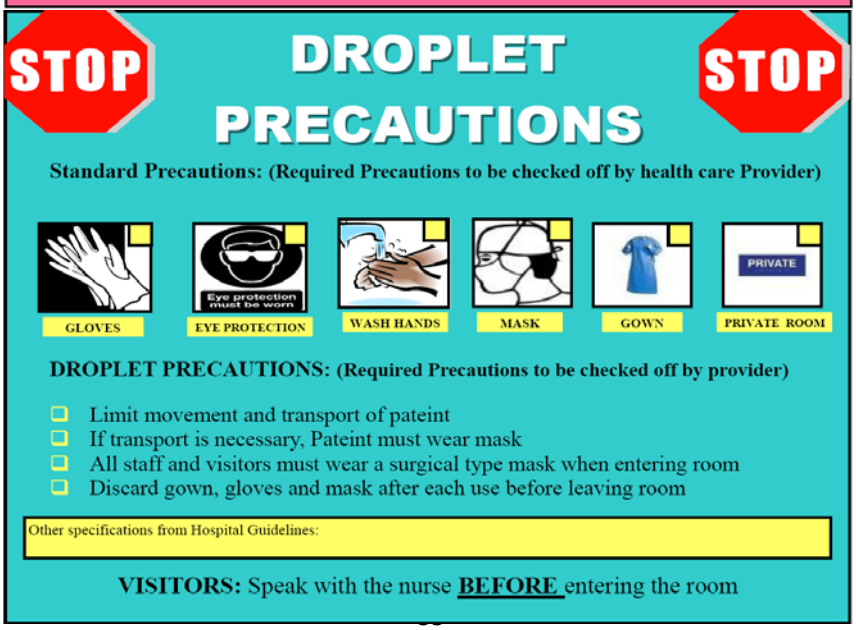
## Signage

Kona Community Hospital maintains signage in the buildings. Construction or renovation contractors, however, must ensure that proper signage remains posted as facilities are modified or new construction is added.

## Infection Control Containment Systems

Containment units such as Aire Guardian, Hepacart and Zip Wall Systems are the responsibility of the contractor to procure and maintain. The plastic vinyl sheeting used on the containment units must be flame resistant and UL labeled to support flammability standards. The contractor is responsible for the proper use, setup, and the disinfection of the cubes daily and more frequently if needed and required by the infection control risk assessment/permit. Primary filtration on HEPA units must be replaced as needed when observed to be clogged or dirty. HEPA filters are to be changed every 2 years or as needed. Record keeping is required on filter change outs.

The following five Infection Control Isolation Signs are used in the facility to indicate serious and potentially infectious conditions. Personal Protective Equipment and specific disinfection procedures are REQUIRED to enter/exit these areas safely. You MUST work with nursing on appropriate procedures prior to entering these rooms.

# CONTACT GI PRECAUTIONS

**Standard Precautions**: (Required Precautions to be checked off by health care provider)


GLOVES

EYE PROTECTION


WASH HANDS


MASK


GOWN

PRIVATE ROOM

**Contact Precautions:** (Required Precautions to be checked off by health care provider)

- ☐ Limit movement and transport of patient
- ☐ If transport is necessary, patient must wear clean gown & wash hands
- ☐ Wear gown & gloves when entering room, mask if risk of splashing
- ☐ Change gloves and gown after contact with infective materials
- ☐ Discard gown, gloves, and mask before leaving room
- ☐ **WASH HANDS WITH SOAP & WATER, ALCOHOL GEL INEFFECTIVE**

Other Specifications from Hospital Guidelines:

**VISITORS:** Speak with the nurse **BEFORE** entering the room

# AIRBORNE Precautions

**Standard Precautions: (Required Precautions to be checked off by health care Provider)**


GLOVES

EYE PROTECTION


WASH HANDS


N-95 Respirator Or use PAPR


GOWN

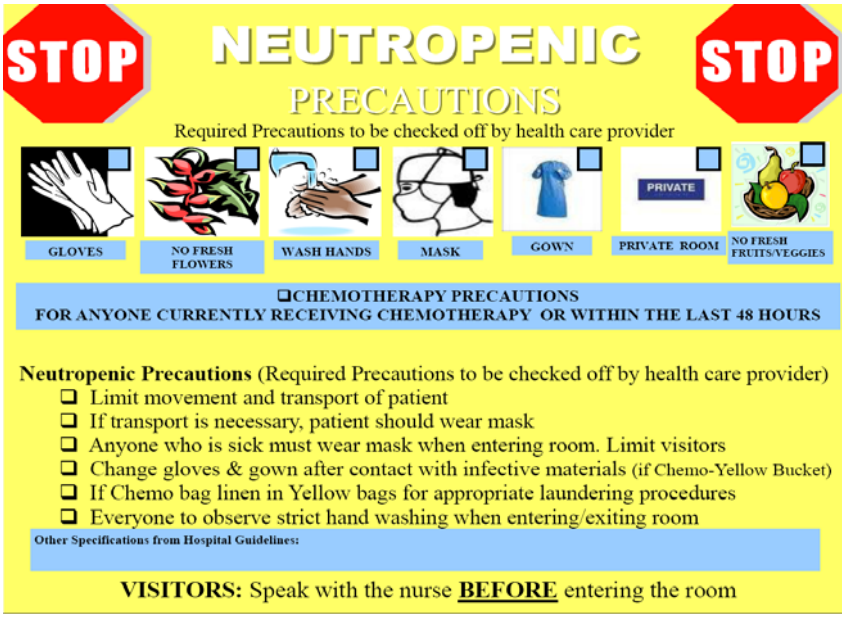
NEGATIVE PRESSURE Keep Door Closed

**AIRBORNE PRECAUTIONS: (Required Precautions to be checked off by provider)**

- ☐ **Staff must wear respiratory protection (N-95 Respirator or PAPR)**
- ☐ **If you have not been fitted with N-95 or PAPR Respirators DO NOT ENTER**
- ☐ **Limit movement and transport of patient**
- ☐ **If transport necessary, patient must wear surgical mask**
- ☐ **Limit visitors & family to those that are immune or have already been exposed**

Other specifications from Hospital Guidelines:

**VISITORS:** Speak with the nurse **BEFORE** entering the room


STOP
NEUTROPENIC
PRECAUTIONS
STOP
Required Precautions to be checked off by health care provider
PRIVATE
GLOVES
NO FRESH FLOWERS
WASH HANDS
MASK
GOWN
PRIVATE ROOM
NO FRESH FRUITS/VEGGIES
❑CHEMOTHERAPY PRECAUTIONS
FOR ANYONE CURRENTLY RECEIVING CHEMOTHERAPY OR WITHIN THE LAST 48 HOURS
Neutropenic Precautions (Required Precautions to be checked off by health care provider)
❑ Limit movement and transport of patient
❑ If transport is necessary, patient should wear mask
❑ Anyone who is sick must wear mask when entering room. Limit visitors
❑ Change gloves & gown after contact with infective materials (if Chemo-Yellow Bucket)
❑ If Chemo bag linen in Yellow bags for appropriate laundering procedures
❑ Everyone to observe strict hand washing when entering/exiting room
Other Specifications from Hospital Guidelines:
VISITORS: Speak with the nurse BEFORE entering the room

# Notes

# INFECTION CONTROL RISK ASSESSMENT
## Matrix of Precautions for
## Construction and Renovation

**STEP ONE:**
**Using the following table identify: Type of Construction Project Activity--Type A-D**

| | |
|---|---|
| **Type A** | **Inspection and Non-invasive Activities**<br>Includes, but not limited to:<br>Removal of ceiling tiles for visual inspection-limited to 1 tile per 50 square feet. Painting, but not sanding; and wall covering, electrical trim work, minor plumbing, and activities that do not generate dust, require cutting of walls or access to ceilings other than for visual inspection. |
| **Type B** | **Small Scale, Short Duration Activities that Create Minimal Dust**<br>Includes, but not limited to:<br>Installation of telephone and computer cabling; access to chase spaces; and cutting of walls or ceiling where dust migration can be controlled. |
| **Type C** | **Work that Generates a Moderate to High Level of Dust or Requires Demolition or Removal of Any Fixed-Building Components or Assemblies**<br>Includes, but not limited to:<br>Sanding of walls for painting or wall covering; removal of floor coverings, ceiling tiles, and casework; new wall construction; minor duct work or electrical work above ceilings; major cabling activities and any activity that cannot be completed within a single work shift. |
| **Type D** | **Major Demolition and Construction Projects**<br>Includes, but not limited to:<br>Activities that require consecutive work shifts;<br>Requires heavy demolition or removal of a complete cabling system; and new construction. |

**STEP TWO:**

**Using the following tables identify:** **Patient Risk Groups** that will be affected. If more than one group select the higher risk group.

| LOW RISK | MEDIUM RISK | HIGH RISK | HIGHEST RISK |
|---|---|---|---|
| Office Areas | Cardiology<br>Echo–Cardiography<br>Endoscopy<br>Nuclear Med<br>Rehab Therapy<br>Radiology/MRI<br>Respiratory Therapy | Critical Care<br>Emergency Dept<br>Labor & Delivery<br>Newborn Nursery<br>Laboratory<br>Surgery<br>Pharmacy<br>Pediatrics<br>Post Anesthesia Care Unit<br>Surgical Units | Any area caring for Immuno compromised<br>Burn Units<br>Cardiac Cath Lab<br>Oncology<br>Central Sterile Supply<br>Intensive Care Units<br>Medical Units<br>Negative pressure isolation rooms<br>Operating rooms<br>C-Section rooms |

**STEP THREE:**

**Match:**

**Construction Project Type** – A, B, C or D

**Patient Risk Groups** – Low, Medium, High or Highest

**Class of Precautions**

I, II, III, or IV will determine the level of infection control activities required for your construction project.

**Class I-IV** or **Color-coded Precautions**

**IC Matrix—Class of Precautions**
**Construction Project by Patient Risk**

| PATIENT RISK GROUP | CONSTRUCTION PROJECT TYPE | | | |
|---|---|---|---|---|
| | **Type A** | **Type B** | **Type C** | **Type D** |
| **LOW** Risk | I | II | II | III/IV |
| **MEDIUM** Risk | I | II | III | IV |
| **HIGH** Risk | I | II | III/IV | IV |
| **HIGHEST** Risk | II | III/IV | III/IV | IV |

| | During Construction Project | Upon Completion of Project |
|---|---|---|
| Class I | Execute work by methods to minimize dust from construction operations. Immediately replace a ceiling tile displaced for visual inspection. | |
| Class II | Provide active means to prevent airborne dust from dispersing into air. Water mist work area to control dust while cutting. Seal unused doors with duct tape. Isolate & seal air vents. Place sticky mat at entrance & exit of work area. Remove or isolate HVAC system in areas where work is being performed. | Wipe all surfaces with disinfectant. Contain construction waste & transport in tightly covered containers. Wet mop &/or vacuum with a HEPA filtered vacuum prior to leaving work area. Clean & disinfect containment units. Remove isolation of HVAC system in areas that work is being performed. |
| Class III | Isolate HVAC to prevent contamination of duct system. Construct critical barriers (sheet rock, plywood, zip wall) sealing area or implement containment unit with HEPA filtration prior to start of project. Maintain negative air pressure at work site with HEPA air-filtration. Contain construction waste & equipment before transport in tightly covered containers. Cover transport container or carts & tape covering, unless solid cover. | Do not remove barriers from area until completed project is inspected by Maintenance or Infection Control & is thoroughly cleaned by Environmental Services. Remove barrier material carefully after wiped with disinfectant to minimize the spread of construction dirt & debris. Vacuum area with HEPA filtered vacuum. Wet mop area with disinfectant. Remove isolation of HVAC system in work areas. Disinfect containment units. |
| Class IV | Isolate HVAC to prevent contamination of duct system. Construct critical barriers (sheet rock, plywood, zip wall) sealing area or implement containment unit with HEPA filtration prior to start of project. Maintain negative air pressure at work Site with HEPA air-filtration. Seal holes pipes/conduits & punctures properly. Construct anteroom all workers pass through to be vacuumed off using HEPA vacuum before exiting area, or they must wear jumpsuits that are removed each time they exit work site. Shoe covers required when entering work site & must be changed each time worker exits area. Do not remove barriers from area until completed project is inspected by Maintenance or Infection Control & thoroughly cleaned by Environmental Services. | Remove barrier material carefully after wiped with disinfectant to minimize the spreading of construction dirt & debris. Contain construction waste & transport in tightly covered containers. Cover transport receptacle or cart & tape covering, unless solid cover. Vacuum work area with HEPA filtered vacuum & wet mop area with disinfectant. Remove isolation of HVAC system in areas where work is being performed. Clean & disinfect containment units. |

## INFECTION CONTROL CONSTRUCTION PERMIT

| | |
|---|---|
| **Location of Construction:** | **Permit No.:** _____ |
| **Project Coordinator:** | **Project Start Date:** |
| **Contractor Performing Work:** | **Est. Time of Completion:** |
| **Supervisor:** **Telephone:** | **Permit Expiration Date:** |

| YES | NO | CONSTRUCTION ACTIVITY | YES | NO | RISK GROUP |
|---|---|---|---|---|---|
| | | TYPE A Inspection, non-invasive | | | GROUP 1 Low Risk |
| | | TYPE B Small scale short duration minimal dust | | | GROUP 2 Medium Risk |
| | | TYPE C Mod/high dust, multiple shifts demolition. | | | GROUP 3 Medium/High Risk |
| | | TYPE D Major demolition construction multiple shift | | | GROUP 4: Highest Risk |

| | |
|---|---|
| **CLASS I** | Minimize dust from construction operations. Immediately replace ceiling tiles displaced for visual inspection. Minor demolition for remodeling. |
| **CLASS II** | Provides active means to prevent airborne dust from dispersing into air. Water mist work surfaces to control dust while cutting. Seal unused doors. Block off & seal air vents. Wipe surfaces with disinfectant. Contain construction waste for transport in tightly covered containers. Wet mop &/or vacuum with HEPA filtered vacuum prior to leaving area. Place sticky mat at entrance & exit. Isolate HVAC to prevent contamination of duct system. Construct containment barriers. Clean containment cubicles daily. |
| **CLASS III** **Date:** _ **Initial:** _ | Block HVAC prevent contamination of duct system. Construct containment barriers. Negative air pressure & HEPA air-filtration. Do not remove barrier until project inspected & cleaned . Vacuum with HEPA filters & wet mop with disinfectant. Remove barrier minimizing spread of dirt & debris. Contain waste before transport in tightly covered carts & tape covering if not secure. Clean containment units & disinfect daily. |
| **CLASS IV** **Date:** _ **Initial:** _ | Block HVAC prevent contamination of duct system. Construct containment barriers. Negative air pressure & HEPA air-filtration. Seal holes, pipes, conduits, & punctures. Construct anteroom all workers pass through to be vacuumed off with HEPA vacuum prior to exiting, or can wear jumpsuit that is removed each time they exit work site. When entering work site shoe Covers required. Barriers remain up until project is inspected & thoroughly cleaned by ES. Vacuum area with HEPA filtered vacuum & wet mop with disinfectant. Remove barrier minimizing spread of dirt and debris. Contain waste before transport in tightly covered carts & tape covering if not secure. Clean containment units & disinfect daily. |

**Additional Requirements:**

| | |
|---|---|
| Date: Initials: | Exceptions and/or additions to this permit are noted by attached memoranda.<br>Date: Initials |
| Permit Requested By: Date: | Permit Authorized By: Date: |

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## FIRE OR SMOKE BARRIER PENETRATION PERMIT

Contractor _____In House Work _____Date Issued: _____

**Penetration Permit is required for work that will, or has potential to; disrupt the integrity of any floor, wall or ceiling which serves as a smoke or fire barrier by drilling, cutting, boring, destruction or other means. PERMIT must be completed if a Work Permit has been requested which includes penetration.**

**Permit MUST be signed by the Facilities staff PRIOR to the ceiling tiles being replaced. Failure to return this signed permit may prohibit payment until you are in compliance with this policy.**

**This permit MUST be posted on the ladder or in the immediate area of work.**

**Briefly Describe Scope of Work and provide a time table:**

| Type of Penetration | Location | Purpose | Expected Complete Date |
|---|---|---|---|
| | | | |

| CRITERIA | CONSIDERATIONS | Accept |
|---|---|---|
| Is wall, ceiling or floor a fire or smoke barrier? | If not smoke/fire barrier, no permit is required | |
| Does current fire stopping exist or is this a new penetration? | Current fire stop material to be evaluated for integrity post re-penetration work | |
| Is the fire stop to be used approved by the hospital? | Only approve fire stop may be used. Fire Stop Approved for this project: | |
| Has documented training for the application of fire stop been done? | Any person applying fire stop MUST be trained on application | |
| Must review existing plans/ drawings for any concealed hazards? | Find energized sources, cables, wires, conduits, piping, gas lines. | |
| Are UL Specifications available? | Attach proper UL Specifications. | |

**TO BE COMPLETED BY FACILITY STAFF APPROVED DENIED**

**Facilities Representative**_____

**SPECIAL INSTRUCTIONS/CONDITIONS FOR PERMIT:**_____

**WORK APPROVED (Before Ceiling Tile Replacement)**

**Facilities Representative:**_____ **Date:**_____ **Print Name:**_____

**COMPLETED PERMIT MUST BE RETURNED TO FACILITIES & POSTED AT WORK SITE.**

**PORTABLE LADDER USE PERMIT**

**Note:** This permit, which mut be accessible during performance of the work, is to be used when performing work from a portable ladder where a fall exposure of 6 feet or greater exisits & an approved conventional fall protection system is not available or creates a greater hazard.

Project & Job Location: _____Issue Date:_____

**PORTABLE LADDER USE JUSTIFICATION**

**SELECT CONTROLS TO BE USED TO REDUCE FALL HAZARD**

Safety Monitor Assigned* 3 Point contact maintained during task

Secure ladder to fixed object Short Duration Task (less 10 mins)

Light Duty Task (material being handled weighs less than 5 lbs)

Use of special instructions (Describe):_____

Selection of Special Work Methods:_____

**APPROVALS**

Prepared By: Print:_____Sign:_____Date:_____

Approved By: Print:_____Sign:_____Date:_____

(Field Work Supervisor)

Approved By: Print:_____Sign:_____Date:_____

(Project Safety Representative)

# UF HOT WORK PERMIT

This Hot Work Permit is required for any operation involving open flames or producing heat and/or sparks and must be completed by a Competent Hot Work Supervisor (CHWS) and posted at the site. Hot Work includes, but is not limited to: Brazing, Torch Cutting, Grinding, Soldering, and Welding. **If the required precautions cannot be met, Hot Work is not permitted.**

| | | |
|---|---|---|
| HOT WORK DONE BY ☐ CONTRACTOR | | |
| DATE: | WO # | |
| BUILDING NAME, BLDG #, ROOM #, LOCATION | | |
| NATURE OF JOB | | |
| NAME OF HOT WORK OPERATOR | | |
| I verify the above location has been examined, the precautions checked on the Required Precautions Checklist have been taken to prevent fire, and permission is authorized for work. | | |
| NAME OF COMPETENT HOT WORK SUPERVISOR (CHWS)<br>Contact # _____ Fax # _____ | | |
| PERMIT REQUEST | DATE | TIME ⊙AM OPM |
| PERMIT EXPIRES | DATE | TIME ⊙AM OPM |
| SIGNATURE OF CHWS | | |
| EH&S Approval | | |

## REQUIRED PRECAUTIONS CHECKLIST

| |
|---|
| Approved |
| Expiration Date |
| Notes: |

☐ Available sprinklers, hose streams, and extinguishers are in service/operable.
☐ Hot work equipment in good repair.

**Requirements within 35ft of work**

☐ Flammable liquids, dust, lint and oil deposits removed.
☐ Explosive atmosphere in area eliminated.
☐ Floors swept clean of combustibles.
☐ Combustible floors wet down,
☐ Combustible floors wet down, covered with damp sand or fire-resistant sheets.
☐ Remove other combustibles where possible. Otherwise protect with fire-resistant tarpaulins, screens or shields.
☐ All wall and floor openings covered.
☐ Fire-resistant tarpaulins suspended beneath elevated hot work.

**Work on walls or ceilings/enclosed equipment**

☐ Construction is noncombustible and without combustible covering or insulation.
☐ Combustibles on other side of walls moved away.
☐ No danger exists by conduction of heat into another room or area
☐ Enclosed equipment cleaned of all combustibles.
☐ Containers purged of flammable liquids and vapors.

**Fire watch/hot work area monitoring.**

☐ Fire watch will be provided during and continuously for 30 minutes after work, including during any work breaks.
☐ Fire watch is supplied with suitable extinguishers.
☐ Fire watch is trained in use of this equipment and in sounding alarm.
☐ Fire watch may be required for adjoining areas, above and below.
☐ Hot work area inspected 30 minutes after job is completed.

**Other precautions Taken**

☐ Confined space entry permit required.
☐ Area is protected with smoke or heat detection.
☐ Ample ventilation to remove smoke/vapor from work area.
☐ Lockout/tagout required.
Comments:

**FAX TO EH&S @352-392-6367 PRIOR TO 8:00AM OF PERMIT REQUEST DATE**

**This Permit was developed for compliance with:**

EH&S HOT WORK SAFETY POLICY UFEHS-SAFE1-07/22/2003

# WARNING

## HOT WORK IN PROGRESS WATCH FOR FIRE

**PART 2**

**INSTRUCTIONS**

1. Person doing Hot Work: Indicate time started and post permit at Hot Work location.
After Hot Work, indicate time completed and leave permit posted for fire watch.
2. Fire Watch: Prior to leaving area, do final inspection and sign permit.
3. Return completed permit to Project Manager or Risk Management before leaving campus.

**HOT WORK BEING DONE BY:**

☐ EMPLOYEE_____
DEPARTMENT_____

☐ CONTRACTOR_____
SITE FOREMAN_____

☐ PROJECT MANAGER_____

**DATE**

**LOCATION / BUILDING & FLOOR**

**NATURE OF JOB**

**Required safety precautions have been done.**

**Signature of responsible person**

**Permission is given to do this work, provided required precautions have been done.**
**SIGNED: (EHS)**

**PERMIT EXPIRES:**
**DATE** **TIME**

**TIME STARTED:** **TIME FINISHED:**

**FIRE WATCH SIGNOFF**

**Work area and all adjacent areas to which sparks and heat might spread were inspected during the fire watch period and were found fire safe.**
**SIGNED:**_____

Rev.2/13/2004 wrw

**#**

**REQUIRED PRECAUTIONS CHECKLIST**

☐ Available sprinklers, hose streams and extinguishers are in service.
☐ Hot Work equipment in good repair.

**WITHIN 35 FEET OF WORK**

☐ Flammable liquids, dust, lint and oily deposits removed.
☐ Explosive atmosphere in area eliminated.
☐ Floors swept clean of combustibles.
☐ Combustible floors wet down, covered with damp sand, metal or fire-resistive tarpaulins.
☐ Remove other combustibles or protect with fire-resistive tarpaulins or metal shields.
☐ All wall and floor openings covered.
☐ Fire-resistive tarpaulins suspended beneath work to collect sparks.

**WORK ON WALLS OR CEILINGS**

☐ Construction noncombustible and without combustible covering.
☐ Combustibles moved away from other side of walls.

**WORK ON ENCLOSED EQUIPMENT**

☐ Equipment cleaned of all combustibles.
☐ Containers purged of flammable vapors.

**FIRE WATCH**

☐ Fire watch to be provided during and for 60 minutes after work.
☐ Fire watch to be provided for 4 hours after work
in areas without smoke detection.
☐ Supplied with suitable extinguishers
☐ Trained in the use of equipment and in sounding fire alarm.
☐ Fire watch may be required for adjoining areas above and below.

**OTHER PRECAUTIONS TAKEN**_____

# WARNING!

## HOT WORK IN PROGRESS

## WATCH FOR FIRE

**IN CASE OF AN EMERGENCY**

**CALL: CHHANY: 430-2588**

**ERIC:854-5583**

# WARNING!

| KONA COMMUNITY HOSPITAL<br>**Policies and Procedures** | **Category:**<br>**Administration** | **Policy No.:**<br>**123-2** |
|---|---|---|
| | | **Revised:**<br>**Oct 8, 2009** |
| | **Issued By:**<br>**Environment of Care** | **Effective Date:**<br>**April 17, 2002** |
| **Subject:**<br>**INTERIM LIFE SAFETY MEASURES** | **Approved By:**<br>Assistant Administrator | **Supersedes Policy:** |
| | | **Page:**<br>**1 of 1** |

## PURPOSE:

Interim Life Safety Measures (ILSMs) are required to temporarily compensate for the hazards posed by existing life safety code (LSC) deficiencies or construction activities. ILSM shall apply to all personnel, including construction workers.

## POLICY:

Each interim life safety measure must be documented. Implementation of ILSM must begin upon project development, and continuously be enforced through to project completion. Inspection, testing and monitoring and evaluation actions shall be reported monthly at the hospital safety committee meeting. ILSM consists of the actions listed below.

## PROCEDURES:

A. Ensure daily inspection of exits to provide free and unobstructed egress. Personnel shall receive training if alternative exits must be designated.

B. Ensure free and unobstructed access to emergency department or services, and for emergency forces.

C. Ensure that fire alarm, detection, and suppression systems are not impaired. Provide a temporary, but equivalent system when any fire system *is* impaired.
   1. Notify the Fire Department and alarm company when the alarm system in not working.
   2. Announce *every hour*: "interim safety measures are in place." After hours, the supervisor notifies all units that ILSMs are in place.

D. Ensure temporary partitions are smoke-tight and built on noncombustible materials.

E. Develop and enforcing smoking pollicies and procedures in excess of JCAHO standards. Smoking shall be prohibited in or adjacent to all construction areas.

F. Develop and enforce storage, housekeeping, and debris removal policies and procedures that reduce the flammable and combustible fire load to the lowest level necessary for daily operations.

G. Conduct at least two fire drills per shift, per quarter. When temporary systems are in place, inspect, test and document readiness of temporary systems daily.
   1. Visually inspect existing sprinklers and extra fire extinguishers daily.
   2. Inspect audible system battery-operated smoke detectors daily.

H. Increase hazard surveillance of buildings, grounds, and equipment with special attention to excavating, construction areas, storage, and field offices.

I. Train personnel when structural features of fire safety are compromised, such as compartmentation change.

J. Conduct organization-wide-safety-education programs to ensure awareness of any LSC deficiencies, construction hazards and ILSMs.

## Life Safety Deficiency - ILSM Decision Matrix

Location: _____ Deficiency: _____

Assessed By: _____ Assessment Date: _____ Date applicable ILSM initiated (if required): _____

Work Order Number: _____

| | Interim Life Safety Measures | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ILSM not required. Risk is considered manageable with existing conditions | Emergency forces notification | Fire watch initiated | Signage for alternate exits | Inspect exits on a daily basis | Provide temporary fire alarm and detection systems. Test temporary systems monthly. | Test temporary systems monthly. | Additional fire fighting equipment | Temporary construction barriers | Increased hazard surveillance | Enforce housekeeping, storage and debris removal practices that reduce the flammable and combustible load to the lowest feasible level | Conducting 2 fire drills per shift per quarter in affected areas | Provide education - awareness of building deficiencies, construction hazards, and temporary measures implemented and train those affected. |
| **Protection Deficiencies** | | | | | | | | | | | | | |
| Lacking a code compliant smoke barrier (small hole) | | | | | | | | | | | | | |
| Lacking a code compliant smoke barrier (large hole) | | | | | | | | | | | | | |
| Large penetrations in fire barriers | | | | | | | | | | | | | |
| Small penetrations in fire barriers | | | | | | | | | | | | | |
| Suspended ceilings do not prevent the passage of smoke in corridors | | | | | | | | | | | | | |
| Major renovation of an occupied floor | | | | | | | | | | | | | |
| Significantly modifying smoke or fire barrier walls | | | | | | | | | | | | | |
| Hazardous areas not properly protected | | | | | | | | | | | | | |
| **Exit Deficiencies** | | | | | | | | | | | | | |
| Blocking off an approved exit | | | | | | | | | | | | | |
| Egress path width reduced | | | | | | | | | | | | | |
| **Door Deficiencies** | | | | | | | | | | | | | |
| Door does not close or latch | | | | | | | | | | | | | |
| Door and frame not labeled | | | | | | | | | | | | | |
| Door does not prevent the passage of smoke | | | | | | | | | | | | | |
| **Fire Alarm and Sprinkler Deficiencies** | | | | | | | | | | | | | |
| Fire alarm (out-of-service more than 4 hours) | | | | | | | | | | | | | |
| Sprinkler (out-of-service more than 4 hours) | | | | | | | | | | | | | |
| Installing sprinkler system (1 zone out-of-service) | | | | | | | | | | | | | |
| Disconnecting alarm device (1 at a time) | | | | | | | | | | | | | |
| Blocked access to the fire department connection | | | | | | | | | | | | | |
| **Other Deficiencies** | | | | | | | | | | | | | |
| Blocked Hall | | | | | | | | | | | | | |
| Minimal Deficiency-corrected within 48 hours | | | | | | | | | | | | | |
| Notes: | | | | | | | | | | | | | |

KONA
COMMUNITY HOSPITAL
Care You Can Count On

Kona Community

Hospital

79-1019 Haukapila Street

Kealakekua, HI 96750

***Revised January 2016***

## Contractor Guidelines
## Confirmation of Understanding

By signing this page, I acknowledge that I:

a. Have read and understand the contents of the contractor Guidelines Booklet.

b. Responsible for my safety, and will abide by the safety rules of KCH and my employer.

Name (Print): _____

Signature: _____ Date: _____

Employer: _____

Project Name: _____

General Contractor: _____

# APPENDIX M

## PROPOSAL SCHEDULE

(see following pages)

## PROPOSAL SCHEDULE

**KONA COMMUNITY HOSPITAL WASTEWATER TREATMENT PLANT PROJECT**

KEALAKEKUA, KONA, HAWAI'I

The undersigned Bidder hereby proposes to furnish and pay for all materials, tools, transportation, equipment, labor, and other incidental work necessary to construct and complete in place the "KONA COMMUNITY HOSPITAL WASTEWATER TREATMENT PLANT SYSTEM UPGRADE" , Kealakekua, Kona, Hawaii, together with equipment and all necessary appurtenances and work incidental thereto in accordance with the true intent and meaning of the plans, proposal, general specifications, and detailed specifications made a part of these specifications.

Work Days and Work Hours for this project shall be Monday through Friday, eight (8) hours per day. The Contractor shall be responsible for payment of overtime charges.

| Item No. | Quantity | Unit | Description | Unit Price | Total |
|---|---|---|---|---|---|
| 1. | 1 | LS | Mobilization and Demobilization. (Not to Exceed 10% of the Total Sum Bid) | | $_____ |
| 2. | 5 | EA | Concrete testing by 3rd party firm including sampling (set of 4 cylinders) and laboratory work. | | $_____ |
| 3 | 5 | EA | Compaction test for aggregates and asphalt pavement by 3rd party firm including aggregate sampling and gradation analysis of materials. | | $_____ |
| 4. | 1 | LS | Demolition Work: to include demolition, hauling & disposal as required to construct new improvements. | | $_____ |

| Item No. | Quantity | Unit | Description | Unit Price | Total |
|---|---|---|---|---|---|
| 5. | 1 | LS | Grading Work, as required to construct new improvements, complete in place. | | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| 6. | 1 | LS | New 50,000-gallon Packaged Wastewater Treatment, in place complete. | | $_____ |
| 7. | 1 | LS | 6" SDR-26 PVC sewer pipe and fittings, including trench, pipe cushion, and all items necessary, in place complete. | | $_____ |
| 8. | 1 | LS | 8" SDR-26 PVC sewer pipe and fittings, including trench, pipe cushion, and all items necessary, in place complete. | | $_____ |
| 9. | 1 | LS | 12" DI Sewer line including trench, pipe and fittings, in place complete. | | $_____ |
| 10. | 1 | LS | Realignment of 1-1/4" HDPE force main piping from existing sewage pump station to new wastewater treatment plant, complete in place. | | $_____ |
| 11. | 1 | LS | Installation of new in-line Muffin Monster grinder unit or approved equal, complete in place. | | $_____ |
| 12. | 1 | LS | New CMU Retaining wall; as required to construct new improvements; complete and in place | | $_____ |
| 12. | 1 | LS | Reconstruction existing wall rock to match existing, complete in place. | | $_____ |
| 13. | 1 | LS | New sewer manhole over existing 8" sewer line complete in place. | | $_____ |
| 14. | 1 | LS | New Chain Link Fence and double swing gate; including new fence posts, mesh material & appurtenances, as required, in place complete. | | $_____ |
| 15. | 1 | LS | Electrical Work, in place complete. | | $_____ |
| 16. | 1 | LS | Record Drawings | | $_____ |
| 17. | 1 | LS | Site Restoration; asphalt; landscaping restoration including all incidentals and appurtenance complete in place. | | $_____ |
| 18. | 1 | FA | Water Pollution and Erosion control, including maintenance and removal of BMPs, as required by weather conditions | $15,000.00 | $ 15,000.00 |

| Item No. | Quantity | Unit | Description | Unit Price | Total |
|---|---|---|---|---|---|
| 19. | 1 | FA | Additional site restoration due to field realignment of unforeseen obstructions and unforeseen encroachment into asphalt concrete pavement, fences, and CMH/CRM walls; including all items necessary to restore the site to existing or better conditions, in place complete. | $25,000.00 | $25,000.00 |

| | |
|---|---|
| Total Sum Base Bid in Numbers | |
| Total Sum Base Bid in Words | |

| | |
|---|---|
| Company Name: | |