

# **REQUEST FOR PROPOSALS**

## **(COMPETITIVE SEALED PROPOSALS)**

### **Maintenance Building Sewer System Upgrade**

RFP No:  
**HHSC 21-0035**  
(advertised as 21-0001)

for

**Hawaii Health Systems Corporation  
West Hawaii Region  
Kona Community Hospital**

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<http://www.kch.hhsc.org/Procurement/default.aspx>  
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 a new HVAC system and minor renovation services in the basement floor of Kona Community Hospital's ("KCH") Special Services Building ("SSB"). Renovation services include but are not limited to: replacing entire HVAC system, replacing ceiling grid and tiles, painting of walls, procuring and installing a movable wall room divider and installing carpet in conference rooms.

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 ACCELERATED 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   | September 2, 2020                          |
| 1A  | Pre-Proposal Conference at Kona Community Hospital<br>Tour of Hospital Facilities.<br>Reservation form (Appendix G) and signed Confidentiality Agreement (Appendix H) must be received no later than Wednesday, Sept 16, 2020<br><b>This meeting is MANDATORY for all Offerors.</b><br>See Appendix F for Agenda. | Thu, Sept 17, 2020<br>8:30am – 10:00am HST |
| 2.  | Closing Date for Receipt of Questions   | Thu, Sept 24, 2020<br>2:00pm HST           |
| 3.  | Addendum for HHSC Response to OFFEROR's Questions   | Thu, Oct 1, 2020                           |
| 4.  | <b>Closing Date for Receipt of Proposals</b>  | <b>Wed, Oct 13, 2020<br/>2:00pm HST</b>    |
| 5.  | Mandatory Requirements Evaluation   | Oct 14, 2020                               |
| 6.  | Proposal Evaluations  | Oct 20, 2020                               |
| 7.  | Proposal Discussions (optional)   |  |
| 8.  | Best and Final Offers (optional)  |  |
| 9.  | Contractor Selection/Award Notification (on/about)  | Oct 21, 2020                               |
| 10. | Contract Execution Period   | Oct 26-29, 2020                            |
| 11. | Contract Tentative Award Date   | Nov 2, 2020                                |

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:

Anna Chiotti-White, RCEO  
West Hawaii Region  
Hawaii Health Systems Corporation  
79-1019 Haukapila Street  
Kealahou, 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 OFFICER**

The Issuing Officer or her designee is responsible for administering/facilitating all requirements of the RFP solicitation process and is the **sole point of contact** for OFFEROR from date of public announcement of the RFP until the selection of the successful OFFEROR. The Issuing Officer will also serve as the Contract Manager responsible for contractual actions throughout the term of the contract. The Issuing Officer is:

Yvonne S. Taylor, Sr. Contracts Manager  
West Hawaii Region  
Email [ytaylor@hhsc.org](mailto:ytaylor@hhsc.org)  
Direct (808) 322-4442  
Fax (808) 322-4488  
  
*Or in Yvonne’s absence:*  
  
Michelle Gray, Contracts Assistant  
Email [mgray@hhsc.org](mailto:mgray@hhsc.org)  
Direct (808) 322-5830

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 400 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  
West Hawaii Region  
Email [ytaylor@hhsc.org](mailto:ytaylor@hhsc.org)  
Direct (808) 322-4442  
Fax (808) 322-4488  
  
*Or in Yvonne's absence:*  
  
Michelle Gray, Contracts Assistant  
Email [mgray@hhsc.org](mailto:mgray@hhsc.org)  
Direct (808) 322-5830

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 matter, including requests to revise the General or Special Conditions, must be made in writing and should be received by the Issuing Officer, Yvonne Taylor, 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

## SECTION 2 SCOPE OF SERVICES

### 2.0 SCOPE OF SERVICES

## PROJECT PARAMETERS and SCOPE OF SERVICES

The KCH maintenance department resides in a 2 story approximately 70 year old residential building that was converted approximately 2 years ago to offices and storage areas. The building is Makai of the main hospital building. Previously the building had been used only for storage. After the building was occupied, the sanitary system at the maintenance cottage began to have continual back-ups. After investigation it was determined that the sanitary was fed into a cesspool and not into the hospital's waste treatment plant. We also found that the line connecting into the cesspool was plugged, however we were able to dig up this line and clear the plug. Due to State of Hawaii regulations, the cesspool needs to be filled and the sanitary system needs to be fed into the existing waste water treatment plant. Due to the slope between the building and the treatment plant, a lift station will be needed.



A specification manual 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, and refurbishment in accordance with the Contract Documents prepared by the Architect and 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 will be the Contractor's responsibility. Rubbish removal must be completed at the end of every construction day. It is imperative that the Contractor maintain a clean and efficient worksite. Contractor must provide his own dumpsters, both regular rubbish and metal waste as required and is responsible for the timely pick up when a dumpster is full. Dumpsters shall be located near the maintenance building, exact location to be agreed up by both KCH and Contractor.
3. Contractor shall visit the site to verify that he has familiarized himself with the jobsite regarding staging, site and building 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 Owner 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 Architect, Architect's consultants, other consultants or vendors contracted by the Owner for this specific project.
6. Contractor shall communicate with the Construction Supervisor, Architect and Architects' consultants utilizing telephone, email, file storage/sharing for issue tracking, submittal tracking, cost tracking, requests for information, etc..
7. Contractor shall maintain a detailed and accurate shop drawing and product submittal control system 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.

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

### **Pre-Construction Phase**

1. Verify with Construction Supervisor the proper sequence of work.
2. Work with engineer and/or building department for permitting issues. Engineering Contractor will apply for permit and permit, when issued, will be picked up by Contractor.
3. Commit sub-contractors.
4. Develop construction schedule and present to HHSC for approval.
5. Obtain required levels and types of insurance. Provide copies to the Contracts Department.
6. Preview OFCI equipment to ensure all items are on-site.
7. Each employee who will be onsite must provide proof of a negative COVID-19 test prior to starting work. Test must be taken within 72 hours of starting work.

### **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) Coordinate all subcontractors to ensure that the project schedule is met.
  - d) Develop and implement a quality control system for all General Contractor activities.



- e) Coordinate and review for compliance all shop drawings and items submitted by subcontractors prior to submission to the Architect. Establish and maintain on site a complete file of all shop drawings and items submitted.
- f) Coordinate with Construction Supervisor as necessary to provide coordination with trades, job schedules, storage, deliveries, etc. and ensure Owner's project completion dates are on schedule.
- g) Conduct weekly Owner Architect Contractor ("OAC") meetings with the team members, prepare and distribute meeting minutes following each meeting.
- h) KCH standard working hours are Monday through Friday 7:00am through 3:30pm.
- i) While required by KCH, every employee on the job site must have temperature taken by the KCH COVID-19 screener prior to starting work each day. COVID-19 requirements are subject to change. Changes to procedures will be communicated to CONTRACTOR.

## 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 Owner and/or the Architect 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.
- 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. Submit reports to Michelle Gray, [mgray@hhsc.org](mailto:mgray@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, and deliver all such documents to Owner 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 Owner 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 HHSC.

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 Pre-Bid meeting and documented in writing via Addendum to the RFP. **The Pre-Bid meeting is mandatory for all OFFERORS.***



## **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. Loose bound 3 ring binders or binder clips are preferred. Please let Contracts Manager know if you would like to have your binders returned after the RFP's closing.

#### **3.1.1 MANDATORY PROPOSAL TABS**

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

| Mandatory Tabs |  |
|----------------|--|
| 1.             | PROPOSAL TRANSMITTAL COVER LETTER  |
| 2.             | TECHNICAL SECTION  |
|                | SUMMARY  |
|                | MANDATORY QUESTIONS  |
| 3.             | PRICE  |
|                | OFFER SUMMARY w/ OFFER DETAILS   |
|                | REQUIREMENTS (see section 3.9)   |
| 4.             | REQUIRED DOCUMENTATION/COMPLIANCE DOCUMENTS                              |
|                | W-9  |
|                | VENDOR TERMS AND CONDITIONS (if any)                                     |
|                | CONFIDENTIALITY AGREEMENT (Exhibit H)                                    |
|                | GENERAL EXCISE LICENSE (copy)  |
|                | GENERAL CONTRACTOR LICENSE (copy)  |
|                | LETTER FROM SURETY COMMITTING TO PROVIDE<br>PAYMENT AND PERFORMANCE BOND |
| 5.             | PROPOSAL SUBMISSION CHECKLIST  |

Figure 6. Mandatory Proposal Tabs

Relevant material should be placed in the appropriate tabbed area. Greyed in areas in the Mandatory Proposal Tabs (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). Alternate proposals will not be accepted. The Issuing Officer must receive one (1) original, three (3) copies OR one (1) copy in electronic format (electronic is preferred) of the proposal no later than the "Closing Date for Receipt of Proposals", identified in Figure 1. **Proposals received after this time/date may be rejected.** The original shall be clearly marked "ORIGINAL" and copies shall be clearly marked "COPY". All items submitted must be clearly labeled, marked or titled with the following information at a minimum:

RFP # HHSC 21-0035  
Maintenance Building Sewer System Upgrade  
Your\_Company\_Name

Figure 7. Mandatory Proposal Item Identification

Mail or deliver proposals to the following address:

Yvonne S. Taylor, Sr. Contracts Manager  
West Hawaii Region  
Hawaii Health Systems Corporation  
79-1019 Haukapila Street  
Kealahou, HI 96750

Figure 8. Address for Proposal Submittals

Proposals transmitted via email shall have the following information in the subject line:

RFP #HHSC 21-0035 Maintenance Building Sewer System Upgrade

The outside cover of the package containing the proposal should be marked, as follows:

Proposal Submitted in Response to  
RFP # HHSC 21-0035  
Maintenance Building Sewer System Upgrade

Figure 9. Mandatory Proposal Package Marking

### 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 all contractor, sub-contractor and project details (Exhibit 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 *THIS SECTION IS DELETED.*

#### 3.7.3 MANDATORY QUESTIONS

See Exhibit E (Mandatory Questions) and insert the questions and answers in this section.

#### 3.7.4 PERSONNEL

See Exhibit I (Subcontractors Table) and insert the completed form in this section.

### **3.8 PRICE PROPOSAL**

Provide price summary and details.

#### **3.8.1 PRICE**

Price shall be a fixed fee for all work described in drawing package dated June 2020 and specification manual dated June 2020.

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.
- 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. Should you have an alternate solution submit it.
- 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.

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 TERM'S AND CONDITIONS (IF ANY)
- C. CONFIDENTIALITY AGREEMENT (EXHIBIT H)
- D. GENERAL EXCISE LICENSE (COPY)
- E. GENERAL CONTRACTOR'S LICENSE (COPY)
- F. 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

## **SECTION 4 EVALUATIONS**

### **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 10. 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:                                  |
|                          |        | SUMMARY AND DETAILS  |
| 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 11. 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; GENERAL CONDITIONS and any 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 Mr. Lee:

(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 – Maintenance Building Sewer System Upgrade, RFP # HHSC 21-0035**, 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 #:     |  |
| Facsimile #:      |  | Hawaii GET Lic. ID #: |  |
| E-mail address:   |  |                       |  |

(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**

|                          |                          |  |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Proposal Received “On-Time”  |
| <input type="checkbox"/> | <input type="checkbox"/> | One (1) Original & Three (3) Copies of Proposals or one (1) e-mail |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>Proposal Transmittal Cover Letter:</b>                          |
| <input type="checkbox"/> | <input type="checkbox"/> | i. Official Business Letterhead                                    |
| <input type="checkbox"/> | <input type="checkbox"/> | ii. Authorized Signature   |
| <input type="checkbox"/> | <input type="checkbox"/> | iii. Required Information  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>Technical Proposal</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | i. Summary   |
| <input type="checkbox"/> | <input type="checkbox"/> | ii. Mandatory Questions  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>Price</b>   |
| <input type="checkbox"/> | <input type="checkbox"/> | i. Summary and Offer   |
| <input type="checkbox"/> | <input type="checkbox"/> | ii. Non Applicable Proposal Requirement(s)                         |
| <input type="checkbox"/> | <input type="checkbox"/> | iii. Non Acceptance of any RFP Requirement(s)                      |
| <input type="checkbox"/> | <input type="checkbox"/> | iv. HHSC Furnished Items   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>Required Documentation/Compliance Documents</b>                 |
| <input type="checkbox"/> | <input type="checkbox"/> | i. W-9   |
| <input type="checkbox"/> | <input type="checkbox"/> | ii. General Excise License (copy)                                  |
| <input type="checkbox"/> | <input type="checkbox"/> | iii. General Contractor's License (copy)                           |
| <input type="checkbox"/> | <input type="checkbox"/> | iv. Confidentiality Agreement                                      |
| <input type="checkbox"/> | <input type="checkbox"/> | v. Vendor's terms and conditions (if applicable)                   |
| <input type="checkbox"/> | <input type="checkbox"/> | vi. Surety Company's letter of commitment                          |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>Proposal Submission Checklist</b>                               |

## APPENDIX C

SAMPLE

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

AGREEMENT #: SAMPLE  
SAMPLE

**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, Kealahakua, 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 3.

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:

Mr. Roy Gillespie, Director of Facilities  
Kona Community Hospital  
79-1019 Haukapila Street  
Kealahou, HI 96750  
Telephone 808-322-4495 Email: rgillespie@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, Kealahou, 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 of 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: James Y. Lee

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.

SAMPLE



## 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.

## ATTACHMENT 3

### 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 according to the milestone table below.

| Milestone | Milestone Pymt Amount | Description                                  | Milestone Acceptance Criteria  | Schedule                                     | Subject to Liquidated Damages (Clause 9 of General Conditions)        |
|-----------|-----------------------|--|--|--|---|
| 1         | 25%                   | Materials Procurement                        | Signed Contract and Properly completed and submitted invoice   | Upon Contract Award                          | No  |
| 2         | 25%                   | 50% Project Completion                       | Written approval from Director of Facilities<br><br>Properly completed and submitted invoice.                  | TBD  | No  |
| 3         | 40%                   | Substantial Completion                       | Written approval from Director of Facilities<br><br>Properly completed and submitted invoice.                  | TBD  | No  |
| 4         | 10%                   | Punch list completion and project acceptance | Acceptance by Kona Community Hospital, Director of Facilities<br><br>Properly completed and submitted invoice. | Upon project completion and KCH acceptance . | Yes (\$250.00 per calendar day over the agreed upon completion date.) |

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 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, milestone 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:

Mr. Roy Gillespie, Director of Facilities  
Kona Community Hospital  
79-1019 Haukapila Street  
Kealahou, HI 96750  
Telephone 808-322-4495  
Email: rgillespie@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)

Document can be located at :

<https://kch.hhsc.org/procurement/>.

## **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 sewer systems in the past 3 years? If yes, provide details of applicable projects. |          |
|  | Does your company have experience with the following healthcare procedures and/or policies:  |          |
|  | - Infection Control  |          |
|  | - Fire Safety  |          |
|  | 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?   |          |

## EXHIBIT E Mandatory Questions

|  |  |           |
|--|--|-----------|
|  | Company Name & Address:<br>Contact Name & Information:   |           |
|  | QUESTION   | COMMENTS  |
|  | What does your company offer its employees by way of job education?  |           |
|  | 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 supervisor or lead carpenter on site or will the project be managed from a different location?   |          |
|  | - 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 general 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?  |          |
|  | How familiar are you with special requirements for Hospital construction? State the concerns applicable to this project and how OFFEROR proposes to minimize risk associated with the concerns. |          |
|  | Provide an overview of your plan to achieve and maintain negative air pressure in active work areas throughout the project.   |          |
|  | What potential project risks or issues are anticipated and how will they be addressed in order to minimize risk?  |          |
|  | 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 deposit requirements, if any.   |          |
|  | D. References  |          |
|  | Provide a brief description of three (3) past and/or present contracts 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 Sewer Upgrade project?   |          |

21-0035 Maint Bldg Sewer Sys Upgrade - mandatory questions FINAL

Kona Community Hospital

August 27, 2020



## EXHIBIT E

### Mandatory Questions

## APPENDIX F

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

| General Information  |   |   |
|--|---|---|
| Date   | Thursday, September 17, 2020  |   |
| Location   | Kona Community Hospital<br><b>Maintenance Cottage<br/>Conference Room</b><br>79-1019 Haukapila Street<br>Kealahkekua, HI 96750<br>Map is below  |   |
| Point of Contact   | Contracts Management<br>Yvonne Taylor, Sr. Contracts Manager<br>West Hawaii Region<br>Email <a href="mailto:ytaylor@hhsc.org">ytaylor@hhsc.org</a><br>Direct (808) 322-4442<br>Fax (808) 322-4488<br><br>OR | Contracts Management<br>Michelle Gray, Contracts Asst II<br>West Hawaii Region<br>Email <a href="mailto:mgray@hhsc.org">mgray@hhsc.org</a><br>Direct (808) 322-5830<br>Fax (808) 322-4488 |
| Agenda   |   |   |
| 8:20 am – 8:30 am  | Check in through the north door for Visitor Badges. Vendors must have a signed confidentiality agreement, either already submitted or brought to the meeting.   |   |
| 8:30 am to 9:15 am   | Briefing  |   |
| 9:15 am to 10:00 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:                | HHSC 21-0035  |
| RFP Title:             | Kona Community Hospital – Maintenance Building Sewer 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        |                      |               |                     | <input type="checkbox"/>            |
| 2        |                      |               |                     | <input type="checkbox"/>            |

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 CONFIDENTIALITY 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 I

### SUBCONTRACTOR TABLE

\*Any changes with your subcontractor must be requested in writing to the Hospital Technical Representative prior to starting that phase of work.

| TRADE | COMPANY NAME | COMPANY ADDRESS | LICENSE NUMBER | YEARS IN BUSINESS |
|-------|--------------|-----------------|----------------|-------------------|
|       |              |                 |                |                   |
|       |              |                 |                |                   |
|       |              |                 |                |                   |
|       |              |                 |                |                   |
|       |              |                 |                |                   |
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|       |              |                 |                |                   |
|       |              |                 |                |                   |

## **APPENDIX J**

### **DRAWINGS**

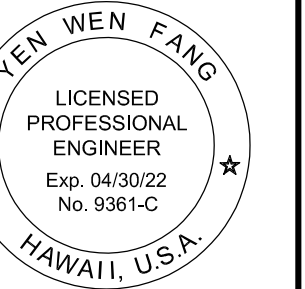
See following pages



SEWER SYSTEM IMPROVEMENTS  
FOR  
KONA COMMUNITY HOSPITAL MAINTENANCE BUILDING  
NORTH KONA, ISLAND OF HAWAII, HAWAII  
TMK: (3) 7-9-010 : 081



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OR UNDER MY SUPERVISION,  
INSTRUCTION OF THIS PROJECT  
BE UNDER MY OBSERVATION.

*Yu Chen Fang*  
SIGNATURE

[illegible]

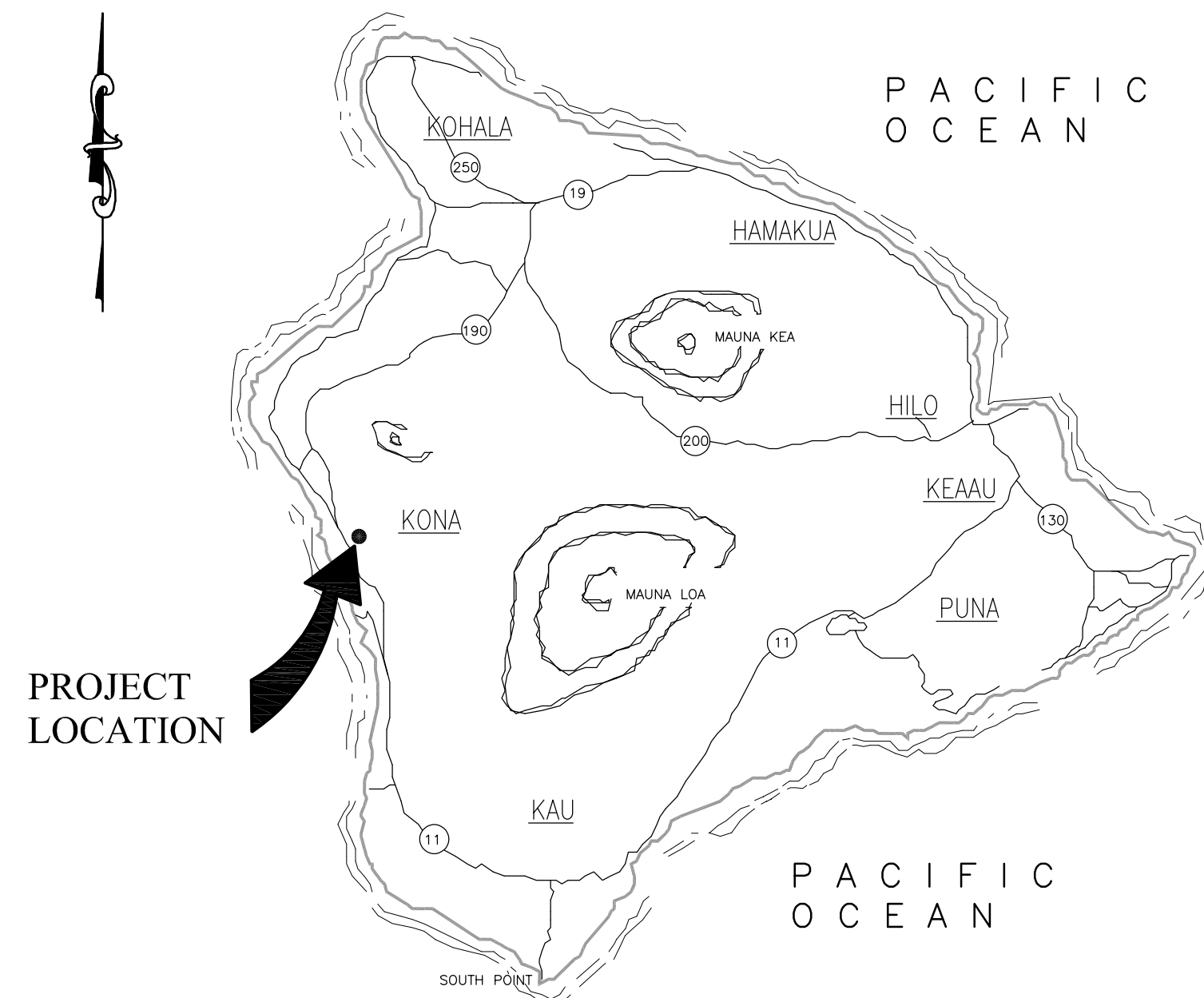
PROJECT TEAM:

OWNER:  
HAWAII HEALTH SYSTEMS CORP  
3675 KILAUEA AVE, HONOLULU, HI, 96816

FACILITY POINT OF CONTACT  
ROY GILLESPIE  
(419) 231-0992  
79-1019 HAUKAPILA STREET, KEALAKEKUA, HI, 96750

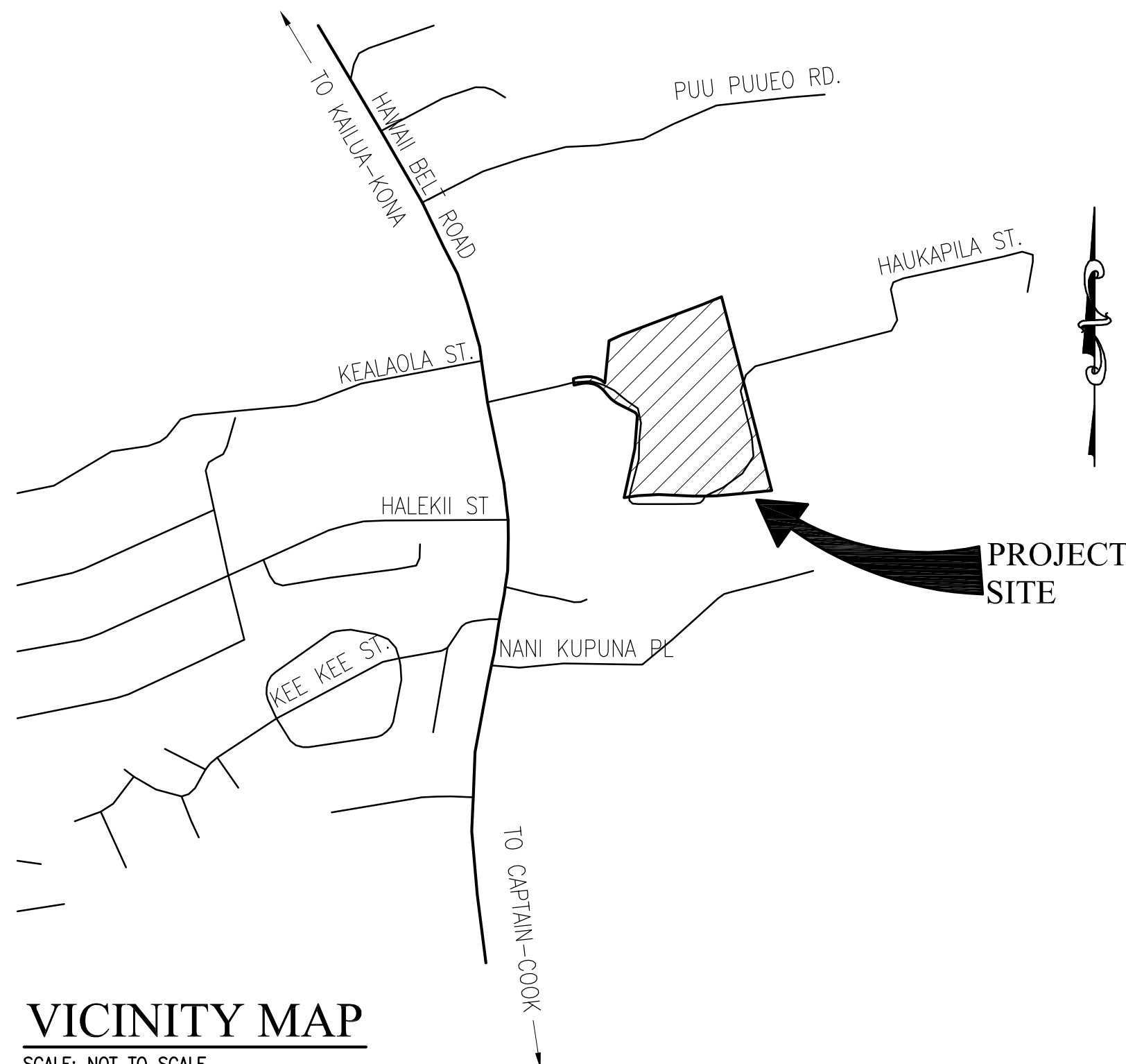
ENGINEERING CONSULTANT  
LAND SURVEYING, CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL

ENGINEERING PARTNERS, INC  
(808) 933-7900  
455 E. LANIKAULA ST., HILO, HAWAII 96720



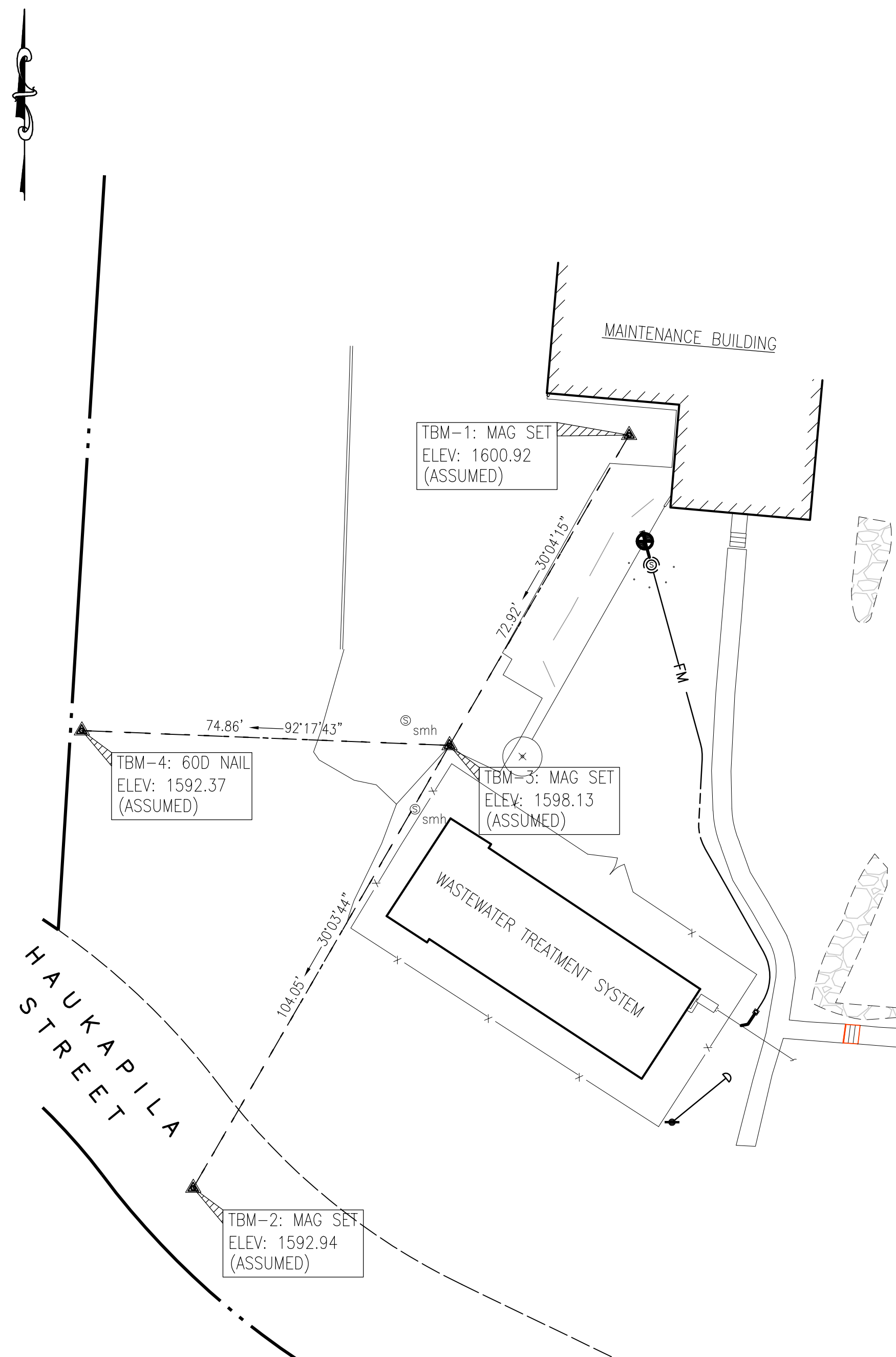
## BIG ISLAND MAP (ISLAND OF HAWAII)

SCALE: NOT TO SCALE



VICINITY MAP

SCALE: NOT TO SCALE



## PLOT PLAN

SCALE: 1" = 20'

# TABLE SHEET

1000

REV. 

---

KONA COMMUNITY HOSPITAL  
MAINTENANCE BUILDING  
PORTION OF HONUA'INO 4TH  
NORTH KONA, HAWAII  
TMK: (3) 7-9-010 : 081

DRAWN BY: DESIGNED BY:

|            |          |
|------------|----------|
| HECKED BY: | QC'D BY: |
|------------|----------|

JOB NO.  
022-20-01

|        |
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| G. NO. |
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PAGE NO. OF 7

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\\KLCD\PROJECTS\2020 PROJECTS\12022-20-01 KCH MANT BLDG SEWER UPGRADE\4-DWG\DWG\1-C-X.DWG

## CIVIL NOTES

### GENERAL CONSTRUCTION NOTES

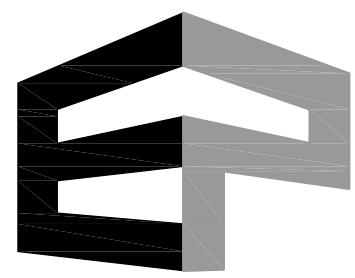
1. All work shall be done in accordance with the "Standard Details for Public Works Construction", dated May 2013, "Standard Specifications for Public Works Construction", dated September 1986, as amended, of the Department of Public Works, County of Hawaii, the "Hawaii Standard Specification for Road 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 prosecute 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. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.

### EROSION / TEMPORARY DUST CONTROL NOTES

1. During construction, preventive measures shall be used to control foreseeable dust, erosion or sedimentation problems which may arise as the job progresses.
2. Drainage systems as shown on the construction plans shall be constructed as early as practically possible.
3. The contractor shall conduct his grading operations so that excavation, embankment and imported material shall be damped with water during his grading operations at all times.
4. Water truck and/or temporary sprinklers shall be available on the jobsite at all times to ensure bare earth does not create dust problems. However, dust control watering shall not be excessive so that runoff will not be generated from watering.
5. Fugitive dust and solid waste disposal during grubbing and grading activities shall meet requirements of Administrative Rules, Title 11, Chapter 60, Air Pollution Control and Chapter 58, Solid Waste Management Control.

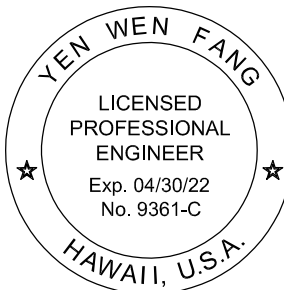
### SOLID WASTE NOTES

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.



**ENGINEERING  
PARTNERS**

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CONSTRUCTION OF THIS PROJECT  
WILL BE UNDER MY OBSERVATION.

*Yen Wen Fang*  
SIGNATURE

### CIVIL NOTES & OVERALL SITE PLAN

|       |            |      |      |      |
|-------|------------|------|------|------|
| DATE: | JUNE, 2020 | REV. | REV. | REV. |
| REV.  |            | REV. | REV. | REV. |

SEWER SYSTEM IMPROVEMENTS FOR:  
**KONA COMMUNITY HOSPITAL  
MAINTENANCE BUILDING**  
PORTION OF HONUA'INO 4TH  
NORTH KONA, HAWAII  
TMK: (3) 7-9-010 : 081

|           |              |
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| DRAWN BY: | DESIGNED BY: |
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| CHECKED BY: | QC'D BY: |
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JOB NO.  
12022-20-01

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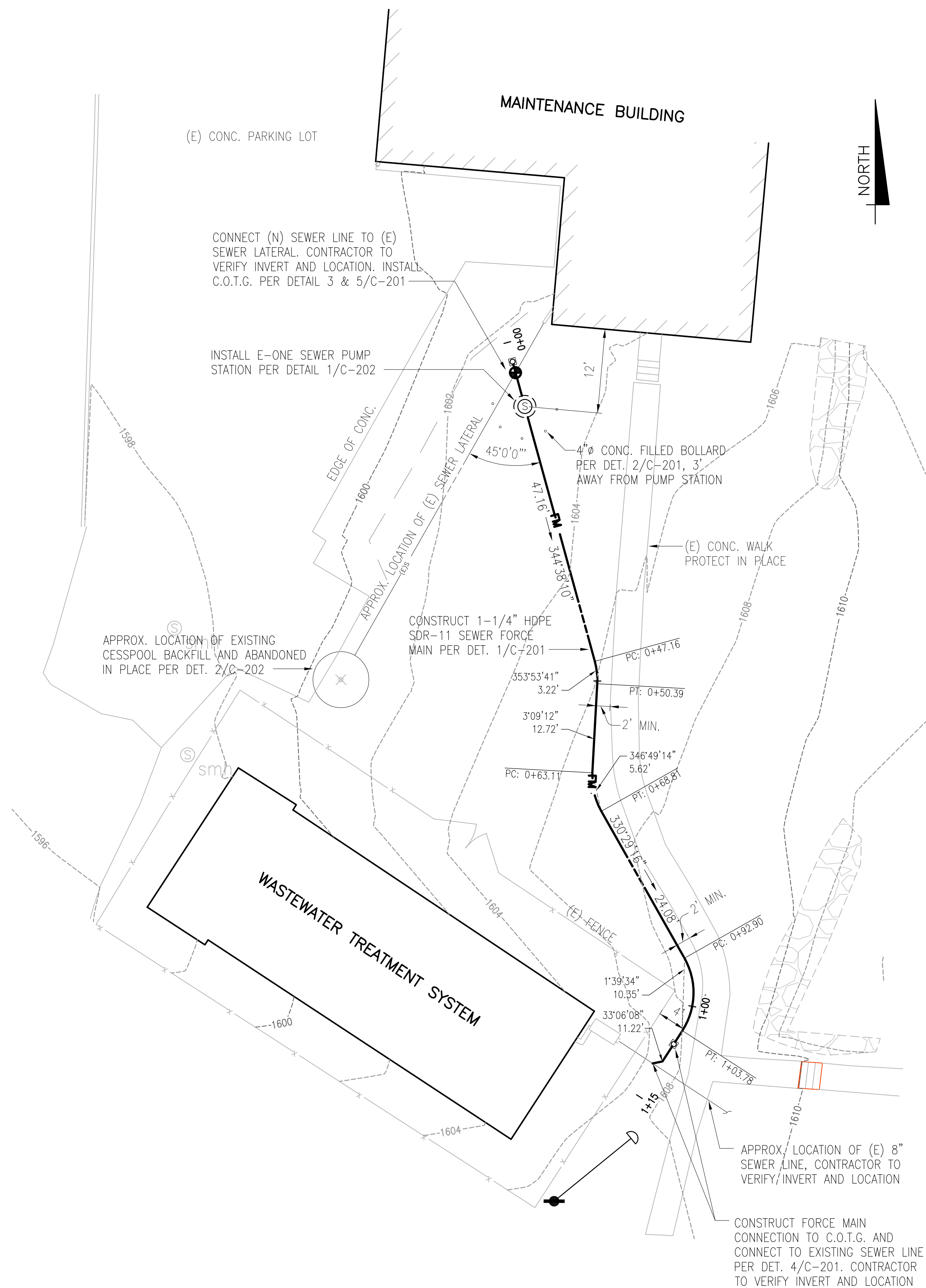
**C-001**

SHEET NO.      OF 7

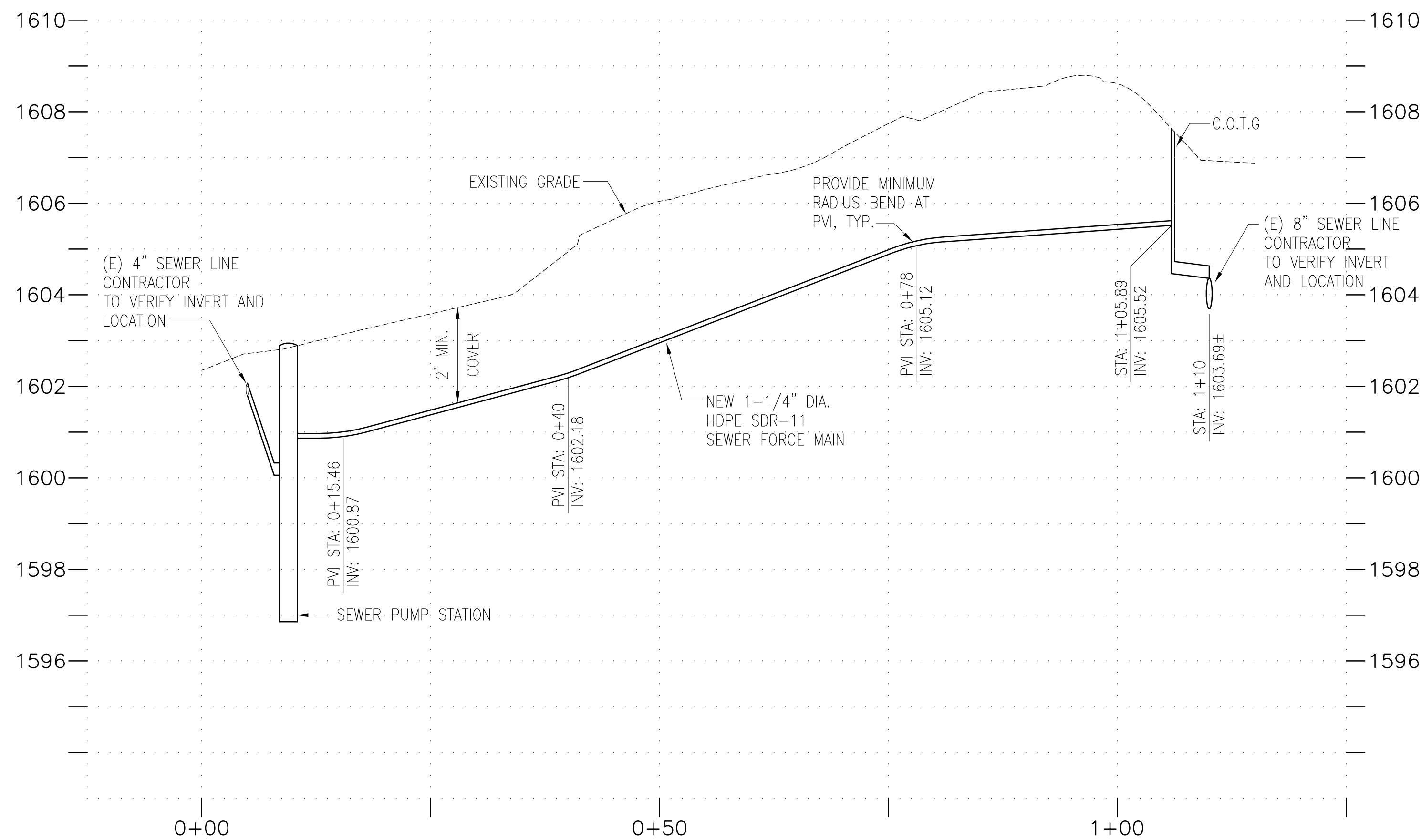


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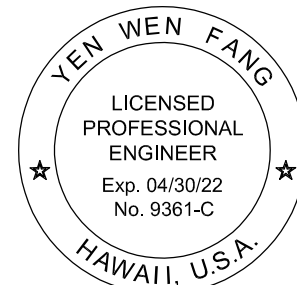
**A** **SITE PLAN**  
SCALE: 1" = 10'



**B** **FORCE MAIN PROFILE**  
SCALE: 1" = 10'  
VERT. SCALE: 1" = 2'



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ME OR UNDER MY SUPERVISION.  
CONSTRUCTION OF THIS PROJECT  
WILL BE UNDER MY OBSERVATION.

*Yen Wen Fang*  
SIGNATURE

**SITE PLAN & FORCE  
MAIN PROFILE**

|       |            |      |      |      |
|-------|------------|------|------|------|
| DATE: | JUNE, 2020 | REV. | REV. | REV. |
| REV.  |            | REV. |      | REV. |

SEWER SYSTEM IMPROVEMENTS FOR:  
**KONA COMMUNITY HOSPITAL  
MAINTENANCE BUILDING**  
PORTION OF HONUA'INO 4TH  
NORTH KONA, HAWAII  
TMK: (3) 7-9-010 : 081

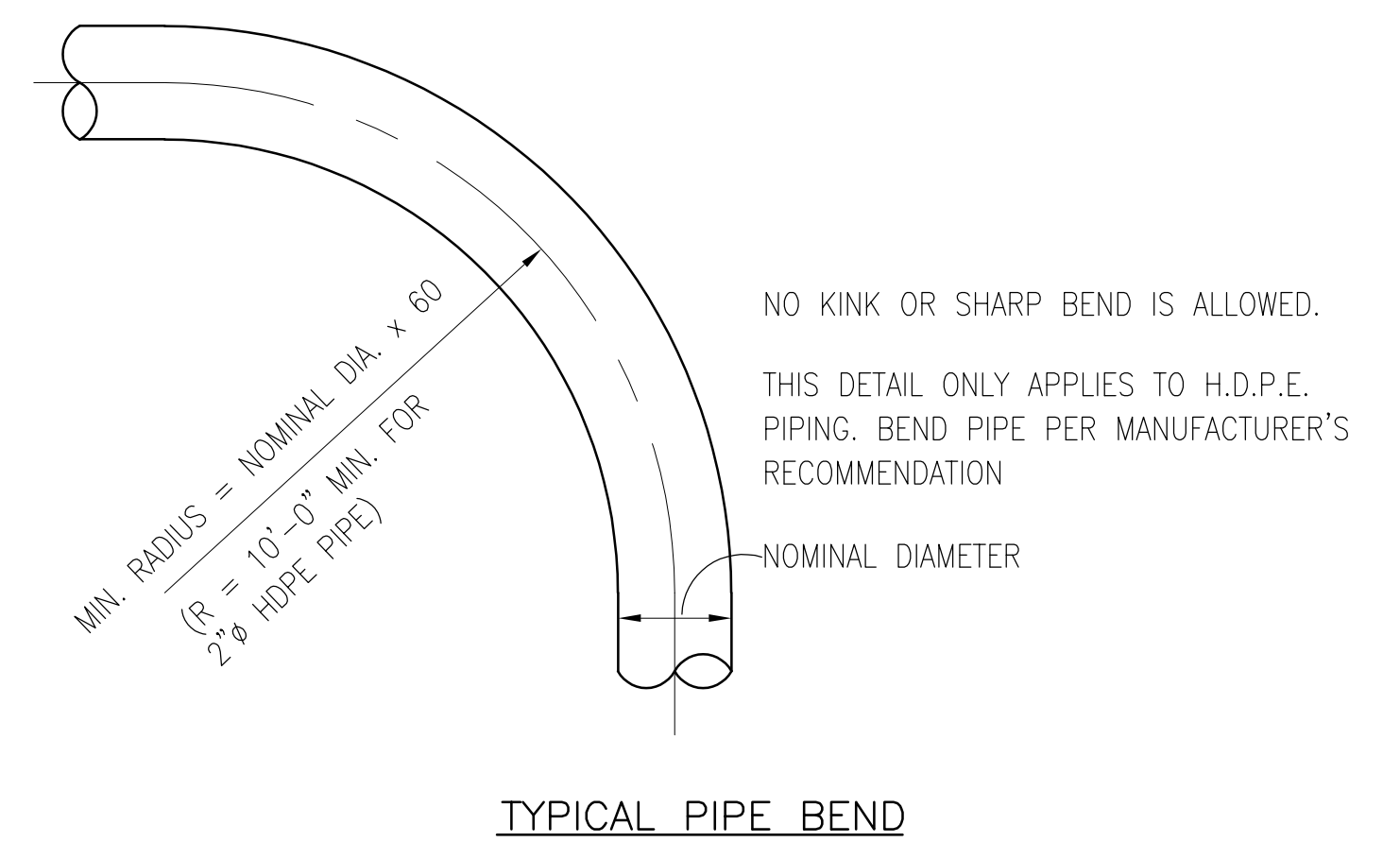
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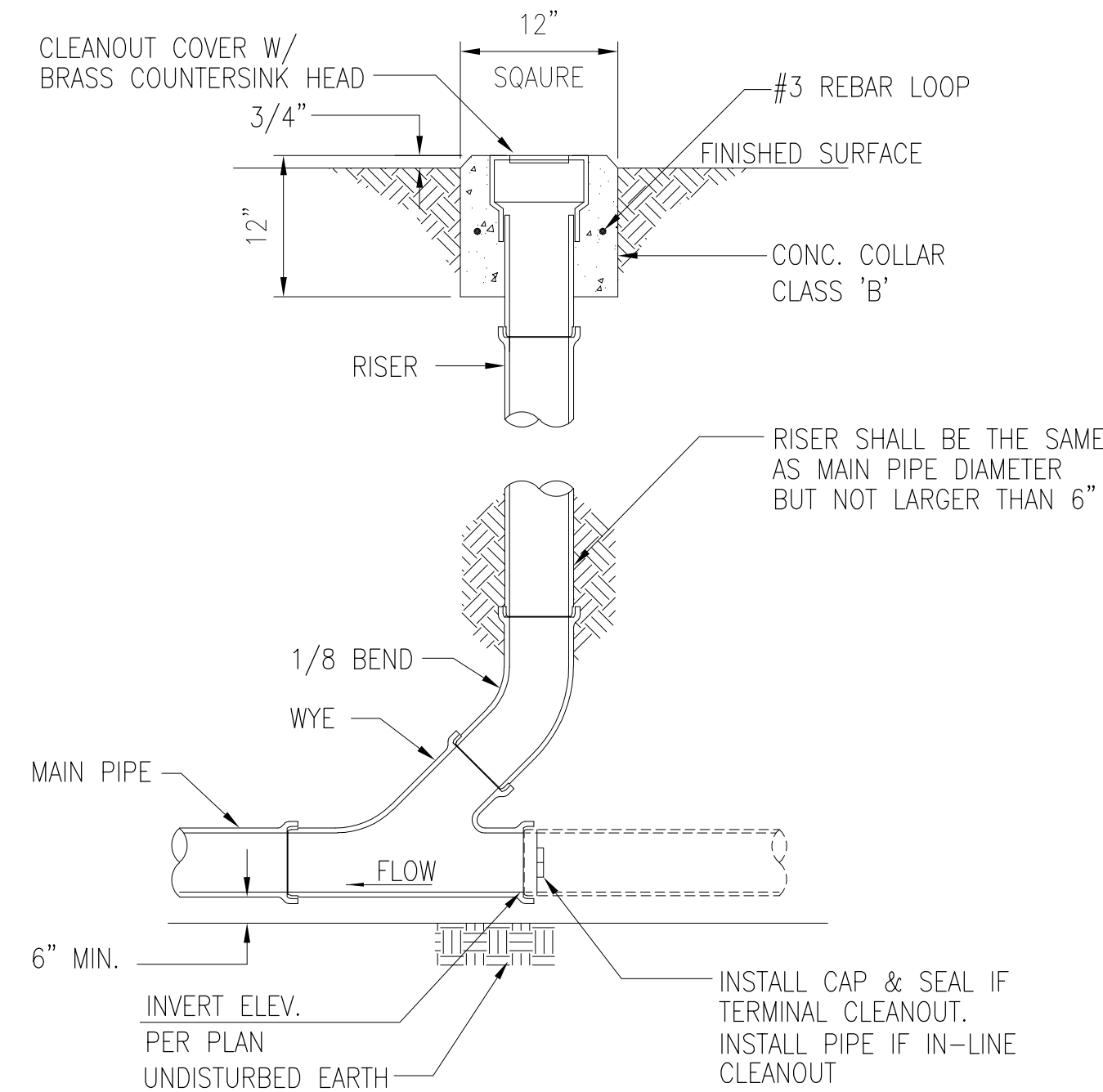
SHEET NO. OF 7



**TRENCH SECTION VIEW**

The diagram illustrates a cross-section of a trench with the following layers and dimensions from top to bottom:

- Top Layer:** 6" TOP SOIL AS REQ.
- Backfill Layer:** TRENCH BACKFILL (SEE NOTE 1), 12" MIN.
- Sand Layer:** 12" MIN. OF #4 SAND
- Force Main:** 1-1/4" FORCE MAIN (indicated by a circle with a dot)
- Bottom Layer:** 4" MIN.
- Side Layer:** #4 SAND (indicated by a vertical dimension on the left side)
- Horizontal Dimensions:** 6" MIN. (indicated by two horizontal dimensions across the trench width)
- Vertical Dimensions:** VARIES (indicated by a vertical dimension on the left side)



TYPICAL C.O.T.G. CONSTRUCTION

- 1** **FORCE MAIN DETAIL**  
SCALE: NOT TO SCALE

Technical drawing of a 4" galvanized steel pole assembly. The drawing shows a cross-section of the pole with a 48" total height. The top 36" is the pole itself, and the bottom 12" is the concrete footing. The footing is 12" in diameter and contains 12" of gravel. The pole is filled with concrete and has a slope to drain. The footing is made of Class C concrete (2500 PSI) and has a minimum 4" concrete around the pole. The pole is painted yellow and has a slope to drain.

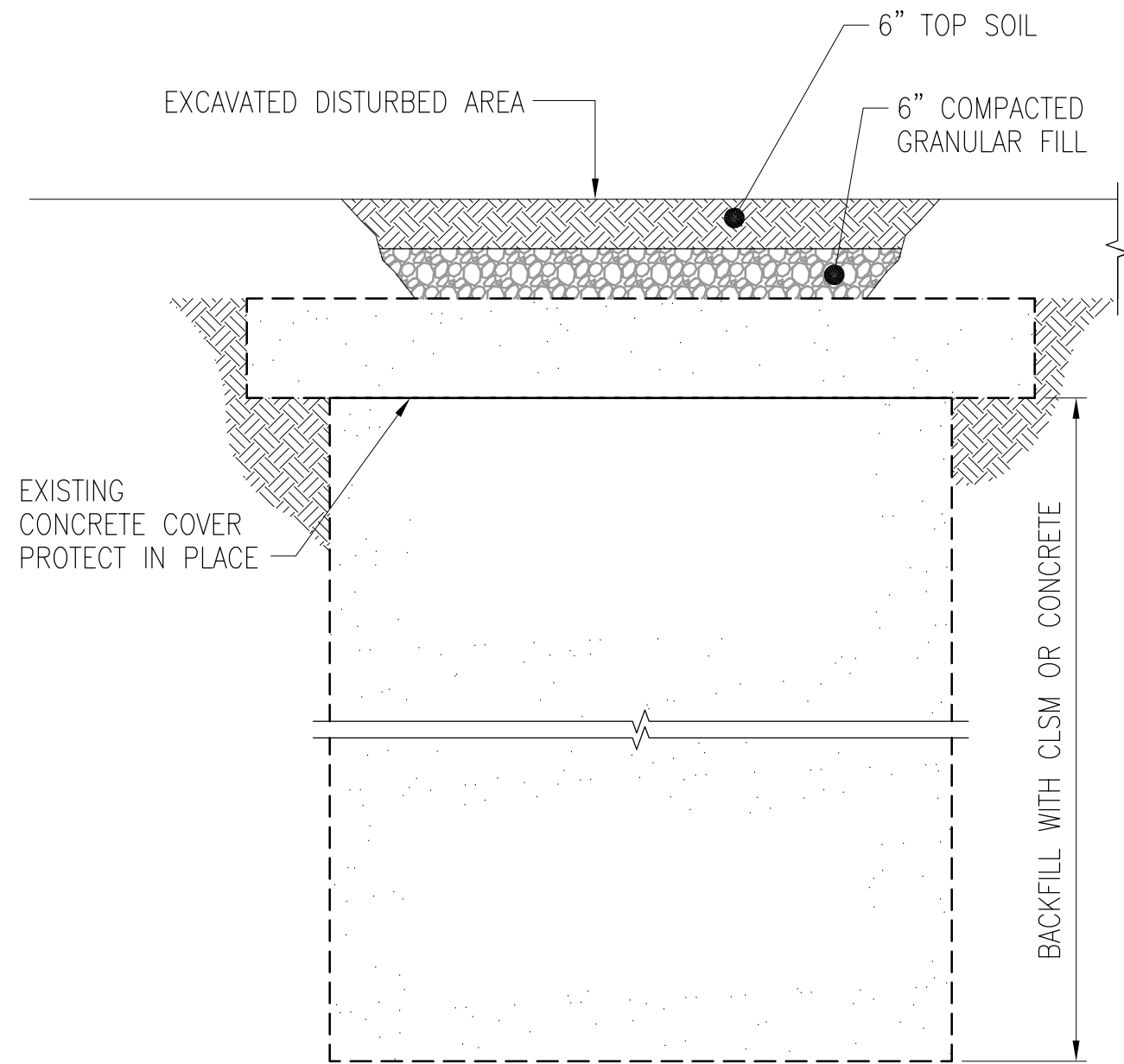
Labels and dimensions:

- 48"
- 36"
- 12" DIA.
- 12" MIN. GRAVEL
- MINIMUM 4" CONCRETE AROUND POLE
- EMBED 4" GALV. STEEL PIPE, SCHD. 40 - 36" DEEP CLASS C (2500 PSI) CONC. POLE FOOTING
- SLOPE TO DRAIN
- 4" GALV. STEEL PIPE, SCHD. 40 FILLED WITH CONC. AND PAINTED YELLOW (SEE RAILING PAINT NOTES ON SHT. C-001, FOR BALANCE OF INFORMATION)
- SLOPE TOP OF CONCRETE

## 2 BOLLARD DETAIL

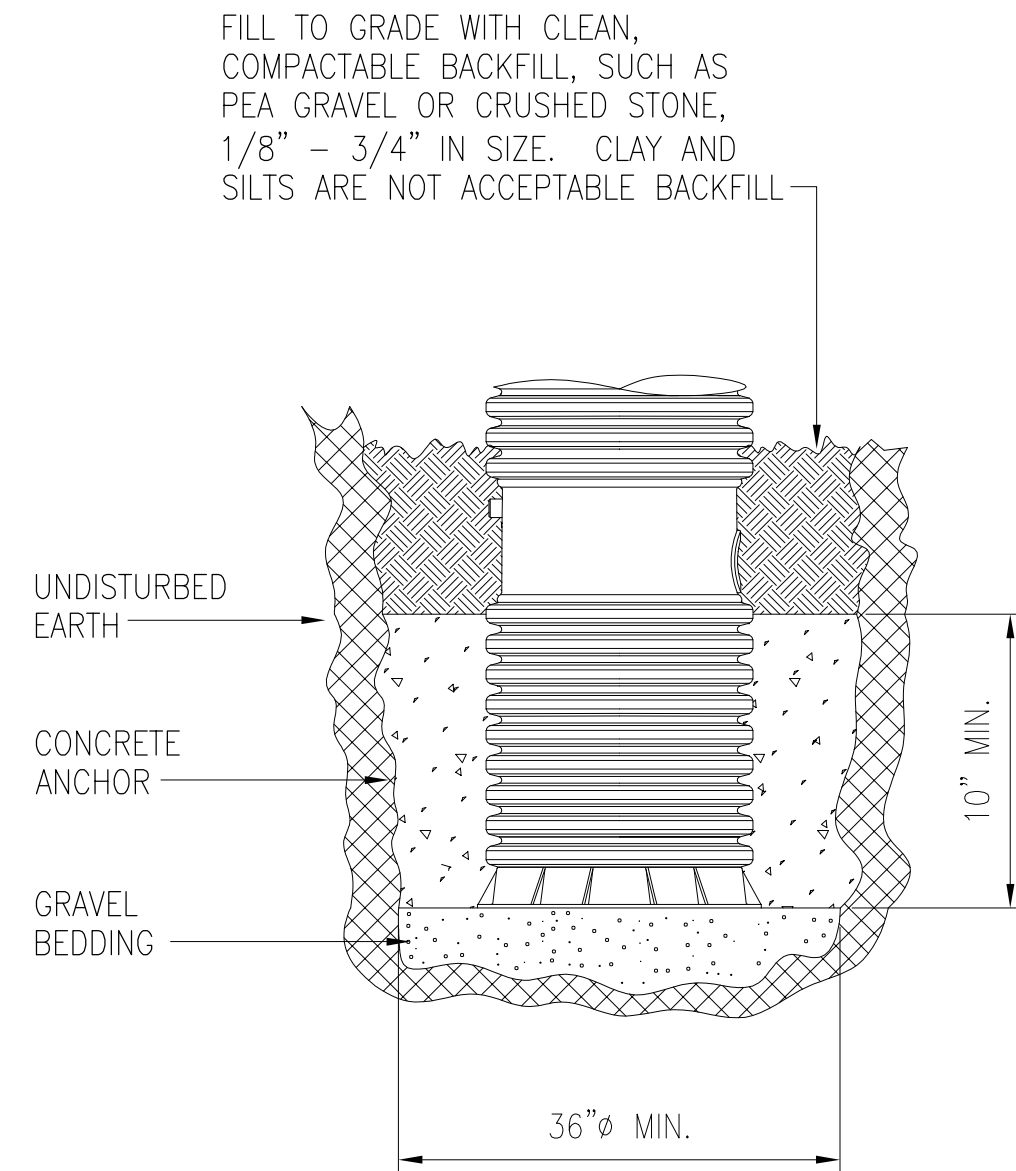
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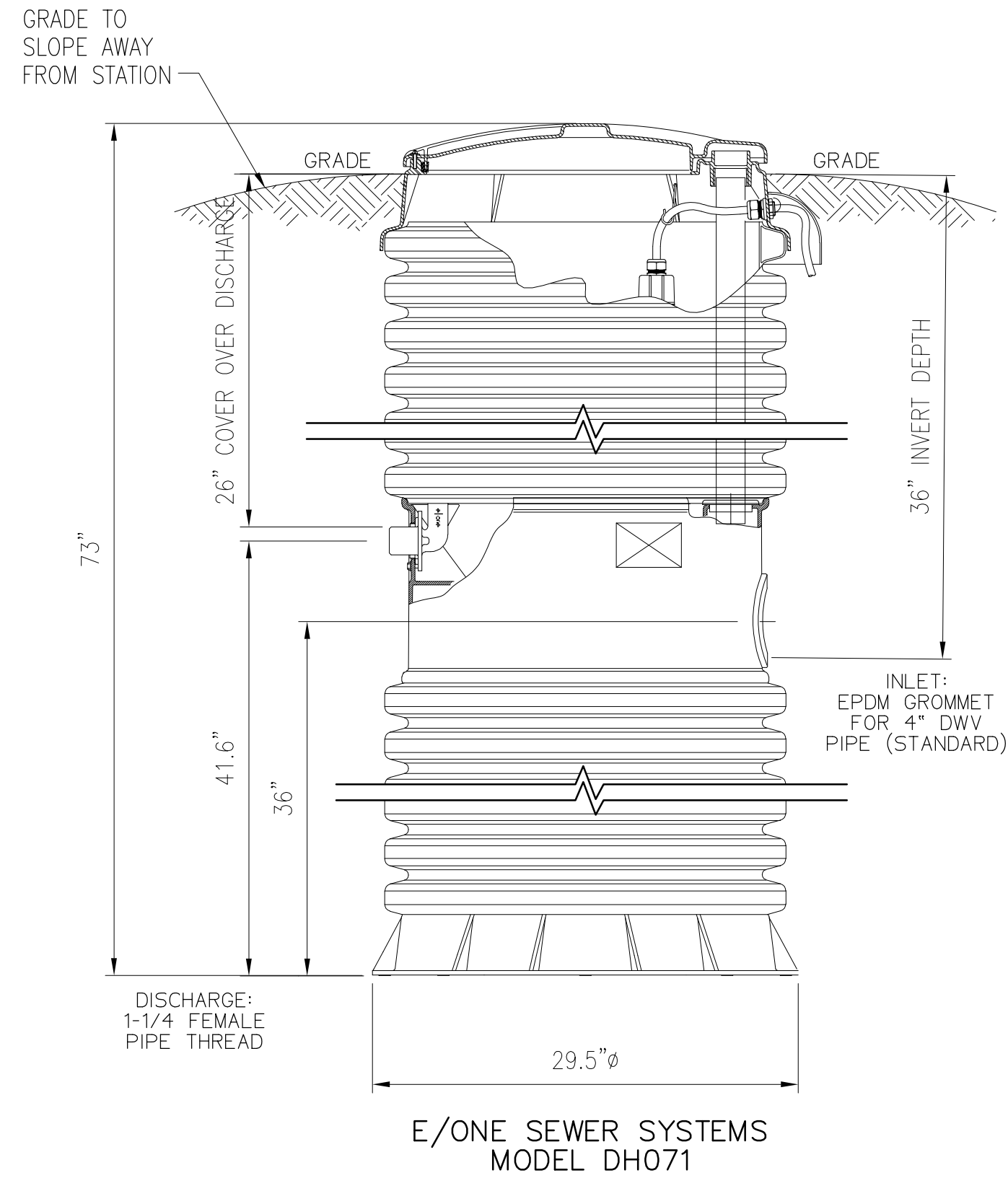
- NOTE:
1. REMOVE ANY SOLID WASTE INSIDE CESSPOOL AND PUMP CLEAN BEFORE BACKFILLING.
  2. WHEN BACKFILLING BELOW WATER LEVEL, BACKFILL SLOWLY WITH SMALL QUANTITIES TO AVOID SPLASHING LIQUID ONTO THE GROUND SURFACE.
  3. CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD 5 WORKING DAYS PRIOR TO BACKFILLING WORK. THE ENGINEER OF RECORD OR A REPRESENTATIVE SHALL BE ONSITE DURING THE BACKFILLING WORK. NO BACKFILL SHALL BE PLACED PRIOR TO THE ARRIVAL OF THE INSPECTOR.

**2 CESSPOOL ABANDONING DETAIL**  
SCALE: NOT TO SCALE



ELECTRICAL NOTE:  
PROVIDE NEW 208V/1PH-240V/1PH  
STEP-UP TRANSFORMER, FURNISHED AS  
PART OF PUMP PACKAGE. VERIFY  
TRANSFORMER RATING WITH MANUFACTURER.

**1 LIFT STATION DETAIL**  
SCALE: NOT TO SCALE



CIVIL DETAILS

|       |            |      |   |
|-------|------------|------|---|
| DATE: | JUNE, 2020 | REV. | △ |
| REV.  | △          | REV. | △ |
| REV.  | △          | REV. | △ |

SEWER SYSTEM IMPROVEMENTS FOR:  
**KONA COMMUNITY HOSPITAL  
MAINTENANCE BUILDING**  
PORTION OF HONUA'INO 4TH  
NORTH KONA, HAWAII  
TMK: (3) 7-9-010 : 081

DRAWN BY: DESIGNED BY:

CHECKED BY: QC'D BY:

JOB NO.  
12022-20-01

DWG. NO.

**C-202**

SHEET NO. OF 7



07/07/2020 12:13 pm  
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## GENERAL ELECTRICAL SPECIFICATIONS

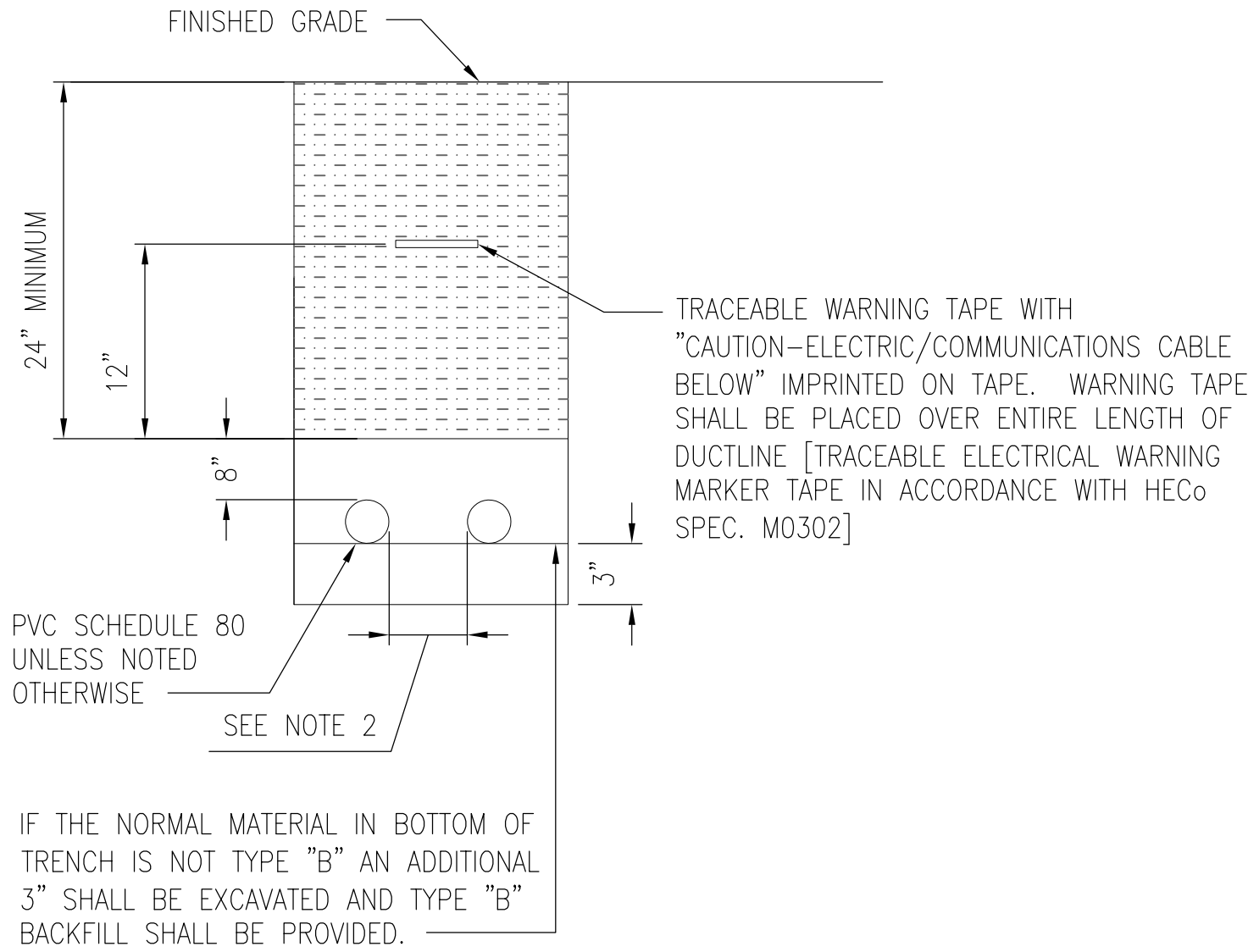
- DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK.
- THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE. INSTALL CONDUIT RUNS AS SPECIFIED WITH SCHEMATIC REPRESENTATION INDICATED ON THE DRAWINGS AND AS SPECIFIED.
- WHERE CONDUITS ARE SHOWN AS "HOME RUNS" ON THE CONTRACT DRAWINGS, OR STATED TO BE FURNISHED, BUT NOT EXPLICITLY SHOWN AS PART OF THE SCOPE OF WORK, THE CONTRACTOR SHALL PROVIDE ALL CONDUITS, FITTINGS, BOXES, WIRING, CONDUIT SEALS, ETC., AS REQUIRED FOR COMPLETION OF THE RACEWAY SYSTEM IN COMPLIANCE WITH THE NEC AND THE CONTRACT DOCUMENTS.
- MODIFY CONDUIT RUNS TO SUIT FIELD CONDITIONS, AS ACCEPTED BY THE OWNER'S REPRESENTATIVE.
- FINAL CONNECTIONS & ROUGH-IN REQUIREMENTS 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.
- CONTRACTOR SHALL REVIEW ARCHITECTURAL, STRUCTURAL, MECHANICAL AND OTHER DRAWINGS PRIOR TO BID.
- CONTRACTOR SHALL VISIT SITE PRIOR TO BID AND VERIFY THAT CONDITIONS ARE AS INDICATED. CONTRACTOR SHALL REPORT DISCREPANCIES TO THE ARCHITECT AND INCLUDE IN ITS BID ALL COSTS REQUIRED TO MAKE HIS WORK MEET EXISTING CONDITIONS.
- WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE AND NATIONAL CODES AND ORDINANCES.
- ALL ELECTRICAL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY U.L. OR OTHER RECOGNIZED TESTING FACILITY.
- PROVIDE PERMITS AND INSPECTIONS REQUIRED.
- GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.
- PROVIDE RECORD DRAWINGS TO THE OWNER'S REPRESENTATIVE. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS, REROUTINGS, ETC.
- VERIFY EXACT LOCATION AND ELECTRICAL CHARACTERISTICS OF EQUIPMENT TO BE FURNISHED BY OTHER DISCIPLINES PRIOR TO ROUGH-IN.
- SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
- CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS OR EQUIPMENT.
- SYSTEMS SHALL BE COMPLETE, OPERABLE AND READY FOR CONTINUOUS OPERATION. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC., SHALL BE CONNECTED AND OPERABLE.
- PRESENT SUBMITTAL DATA AT ONE TIME BOUND IN PDF FORMAT OR PER THE OWNER'S REQUIREMENTS. SUBMITTALS SHALL BE INDEXED IN A NEAT AND ORDERLY MANNER. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. SUBMITTALS SHALL INCLUDE ALL EQUIPMENT SPECIFIED UNDER THIS PROJECT. SHOULD CONTRACTOR FAIL TO PROVIDE SUBMITTALS, CONTRACTOR PROCEEDS AT ITS OWN RISK AND ANY COST FOR CORRECTIVE WORK WILL BE BORNE BY THE CONTRACTOR.
- PENETRATIONS OF FIRE RATED WALLS OR FLOORS BY PIPE SHALL BE SEALED BY A FIRESTOPPING SYSTEM UL LISTED FOR THE APPLICATION. INSTALL PENETRATION SEAL MATERIALS IN ACCORDANCE WITH PRINTED INSTRUCTIONS OF THE UL FIRE RESISTANCE DIRECTORY AND MANUFACTURERS INSTRUCTIONS. FIRESTOPPING SYSTEM SHALL BE EQUAL TO 3M FIRE BARRIER. FIRESTOPPING MATERIAL SHALL BE CAULK OR PUTTY TYPE. FIRESTOP ALL PENETRATIONS THROUGH FIRE RATED WALLS AS REQUIRED TO PRESERVE THE FIRE RATING OF THE STRUCTURE.

## CONDUIT AND WIRE

- WIRE SHALL BE COPPER, 75°C RATED FOR GENERAL USE. FOR HID FIXTURES AND WIRING WITHIN 3 INCHES OF FLUORESCENT BALLASTS WIRE SHALL BE COPPER, MINIMUM 90°C RATED. SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30°C AMBIENT TEMPERATURE. CONDUCTOR AMPACITY SHALL BE DERATED FOR HIGHER AMBIENT INSTALLATIONS. 600 VOLT STABLOY 8030 SERIES ALLOY ALUMINUM WIRE AND CABLE (OR EQUAL) IN SIZES 1/0 AND LARGER MAY BE SUBSTITUTED FOR COPPER ON SERVICES AND FEEDERS IF AMPACITY IS EQUAL TO OR GREATER THAN COPPER AND VOLTAGE DROP IS EQUAL TO OR LESS THAN COPPER. SUBMIT CALCULATIONS TO ENGINEER PRIOR TO SUBSTITUTION.
- ALL EMPTY RACEWAY SYSTEMS SHALL HAVE A #12 PULLWIRE OR EQUAL AND SHALL BE IDENTIFIED AT ALL JUNCTION, PULL AND TERMINATION POINTS, USING PERMANENT METALLIC TAGS. TAG SHALL INDICATE INTENDED USE OF CONDUIT, ORIGINATION AND TERMINATION POINTS OF EACH INDIVIDUAL CONDUIT. STUB CONDUIT OUT 6" INTO AN ACCESSIBLE AREA. CAP OPEN ENDS NOT TERMINATED IN A JUNCTION BOX.
- ALL GROUNDED AND UNGROUNDED SERVICE ENTRANCE CONDUCTORS SHALL BE INSULATED.
- NON-METALLIC AND FLEXIBLE METAL CONDUITS SHALL HAVE A CODE SIZED COPPER GROUNDING CONDUCTOR. INCREASE CONDUIT SIZE AS REQUIRED.
- PROVIDE SEPARATE NEUTRAL CONDUCTOR FOR EACH ARC-FAULT OR GROUND FAULT CIRCUIT.
- FINAL CONNECTIONS TO MOTORS, TRANSFORMERS AND OTHER VIBRATING EQUIPMENT SHALL BE WITH SEAL-TITE FLEX (3'-0" MAXIMUM LENGTH) AND APPROVED FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.
- ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC RACEWAYS. RACEWAYS IN SLAB-ON-GRADE OR BELOW GRADE SHALL BE SCHEDULE 40 PVC. TRANSITIONS FROM BELOW TO ABOVE GRADE SHALL BE WITH SCHEDULE 80 PVC OR APPROVED EQUAL PROTECTION. EMT FITTINGS SHALL BE STEEL. CONNECTORS SHALL BE INSULATED THROAT TYPE. TYPE MC CABLE MAY BE USED FOR BRANCH CIRCUITS #8 AWG AND SMALLER AND WHERE ALLOWED BY NEC 330.
- WIRE TERMINATION PROVISIONS FOR PANELBOARDS, CIRCUIT BREAKERS, SAFETY SWITCHES, AND ALL OTHER ELECTRICAL APPARATUS SHALL BE LISTED AS SUITABLE FOR 75°C.

## ELECTRICAL SYMBOLS

|  |   |  |                                |
|--|---|--|--------------------------------|
|  | ELECTRICAL DEMOLITION. REMOVE EQUIPMENT AND APPURTENANCES IN THEIR ENTIRETY U.N.O. COORDINATE WORK RESTRICTIONS PRIOR TO DEMOLITION.                        |  | SURFACE MOUNTED PANELBOARD     |
|  | HOMERUN CONDUIT - STROKES INDICATE QUANTITY OF CONDUCTORS   |  | FLUSH MOUNTED PANELBOARD       |
|  | CONDUIT/WIRE CONCEALED IN WALL OR ABOVE CEILING EXCEPT IN EXPOSED STRUCTURE AREAS 1/2"-2 #12 & 1 #12 GND THWN U.N.O.  |  | METER                          |
|  | CONDUIT AND/OR WIRE BELOW FLOOR OR GRADE 3/4"-2 #12 & 1 #12 GND THWN UNLESS NOTED   |  | JUNCTION BOX                   |
|  | EXISTING CONDUIT AND/OR CONDUCTORS TO REMAIN (SHOWN LIGHT)  |  | COMBINATION METER/MAIN         |
|  | SWITCH BANK (IDENTIFIED WITH UPPERCASE)   |  | SINGLE METER WITH CT,          |
|  | WALL MOUNTED DUPLEX RECEPTACLE @ +18" TO CENTER U.N.O.<br>= GFCI RECEPTACLE<br>= DOUBLE DUPLEX RECEPTACLE<br>= 1/2 SWITCHED (BOTTOM HALF) DUPLEX RECEPTACLE |  | CIRCUIT BREAKER                |
|  |   |  | TRANSFORMER                    |
|  |   |  | GROUND BUS & GROUND ELECTRODES |



BACKFILL:  
TYPE "A"  
NON-CONTAMINATED NATIVE SOIL MATERIAL WHICH DOES NOT CONTAIN MORE THAN 50% GRAVEL, AND ALSO, DOES NOT CONTAIN HARD LUMPS OF EARTH 3 INCHES IN GREATEST DIMENSION, ROCKS LARGER THAN 3 INCHES IN LARGEST DIMENSION, HIGHLY PLASTIC CLAY, POORLY-GRADED SAND AND GRAVEL (CLASSIFIED AS SP AND GP USING THE UNITED SOIL CLASSIFICATION SYSTEM), ORGANICS, DEBRIS, OR OTHER UNSUITABLE OR DELETERIOUS MATERIALS.

SELECT GRANULAR MATERIAL PASSING A ONE (1) INCH SIEVE  
TYPE "B" : SUCH AS THREE-QUARTERS (3/4) INCH AGGREGATE BASE COURSE GRAVEL, S4C OR MATERIAL THAT IS FREE OF ORGANICS DEBRIS OR HIGHLY-PLASTIC CLAY AND MEETS THE FOLLOWING GRADATION:

| SIEVE SIZE | PERCENT PASSING BY WEIGHT |
|------------|---------------------------|
| 1"         | 100                       |
| 3/4"       | 90-100                    |
| NO. 4      | 35-100                    |
| NO. 40     | 10-30                     |
| NO. 200    | 3-15                      |

### NOTES:

- WHERE TRENCH ENCOUNTERS EXISTING CONCRETE OR ASPHALT CONCRETE, SURFACE SHALL BE SAWCUT. BACKFILL, COMPACT AND PATCH SURFACE TO MATCH ADJACENT AREA.
- PROVIDE 3" SEPARATION BETWEEN DUCTS OF SAME SYSTEM AND 12" SEPARATION BETWEEN ELECTRICAL DUCTS AND DUCTS OF DIFFERENT SYSTEMS.

## TYPICAL DUCT SECTION DIRECT BURIED

NO SCALE

## ELECTRICAL ABBREVIATIONS

|       |   |
|-------|---|
| +18"  | INDICATES MOUNTING HEIGHTS ARE TO CENTERLINE OF DEVICE AFF OR AFG |
| AT    | AMP TRIP  |
| ATS   | AUTOMATIC TRANSFER SWITCH   |
| MTS   | MANUAL TRANSFER SWITCH  |
| C     | CONDUIT   |
| CONT  | CONTINUATION  |
| CU    | COPPER  |
| GFCI  | GROUND FAULT CIRCUIT INTERRUPTER WITH DEDICATED NEUTRAL           |
| GND   | GROUND  |
| HELCO | ELECTRICAL UTILITY COMPANY  |
| LO    | LUGS ONLY (SEE ALSO MLO)  |
| MCB   | MAIN CIRCUIT BREAKER  |
| MLO   | MAIN LUGS ONLY  |
| NEC   | NATIONAL ELECTRICAL CODE, AS ADOPTED BY THE AHJ                   |
| P     | POLE  |
| PH    | PHASE   |
| PNL   | INDICATES PANEL   |
| S/N   | SOLID NEUTRAL   |
| TYP   | TYPICAL   |
| UPS   | UNINTERRUPTIBLE POWER SYSTEM                                      |
| WP    | WEATHER-PROOF (NEMA 3R)   |
| UNO   | UNLESS NOTED OTHERWISE  |
| (D)   | DEMOLITION  |
| (E)   | EXISTING  |
| (N)   | NEW   |
| (R)   | RELOCATE/RELOCATED  |

## HAWAII COUNTY ENERGY CODE 2015 IECC, HAWAII REVISED STATUTES HRS 107-24 TO 28 & HAWAII ADMINISTRATIVE RULES CHAPTER HAR 3-181.1

### COMMERCIAL BUILDING ENERGY EFFICIENCY STANDARDS

I CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THIS PROJECTS DESIGN SUBSTANTIALLY CONFORMS TO THE BUILDING ENERGY EFFICIENCY STANDARDS PERTAINING TO THE COMMERCIAL PROVISIONS FOR ELECTRICAL & LIGHTING SYSTEMS (C405. & C408) OF THE 2015 IECC WITH AMENDMENTS PER HAR 3-181.1:

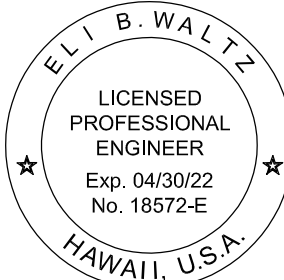
| COMPLIANCE METHOD                          |   |     |     |
|--|---|-----|-----|
| X  | 2015 IECC AS AMENDED. MANDATORY AND PRESCRIPTIVE                    |     |     |
|  | 2015 IECC AS AMENDED. MANDATORY AND TOTAL BUILDING PERFORMANCE      |     |     |
|  | ASHRAE STANDARD 90.1-2013. MANDATORY AND PRESCRIPTIVE               |     |     |
|  | ASHRAE STANDARD 90.1-2013. MANDATORY AND TOTAL BUILDING PERFORMANCE |     |     |
| INFORMATION IN CONSTRUCTION DOCUMENTS      |   | YES | N/A |
| INTERIOR LIGHTING                          |   |     |     |
| OCCUPANT SENSOR CONTROLS                   | C405.2.1  |     | X   |
| TIME SWITCH CONTROLS                       | C405.2.2  |     | X   |
| DAYLIGHT RESPONSIVE CONTROLS               | C405.2.3  |     | X   |
| DAYLIGHT ZONES ON PLANS                    | C405.2.3.2 & C405.2.3.3   |     | X   |
| GUEST ROOM CONTROLS                        | C405.2.4  |     | X   |
| INTERIOR LIGHTING FIXTURE SCHEDULE         |   |     | X   |
| INPUT POWER FOR INTERIOR LIGHTING FIXTURES | C405.4.1  |     | X   |
| INTERIOR LIGHTING FIXTURE LOCATIONS        | C403.2.8  |     | X   |
| LIGHTING CONTROL FUNCTIONAL PERFORMANCE    |   |     | X   |
| TESTING REQUIREMENT                        | C408.3  |     | X   |
| EXTERIOR LIGHTING                          |   |     |     |
| EXTERIOR LIGHTING CONTROLS                 | C405.2.5  |     | X   |
| EXTERIOR LIGHTING FIXTURE SCHEDULE         |   |     | X   |
| INPUT POWER FOR EXTERIOR LIGHTING FIXTURES |   |     | X   |
| EXTERIOR LIGHTING FIXTURE LOCATIONS        |   |     | X   |
| ELECTRICAL                                 |   |     |     |
| ELECTRICAL TRANSFORMER EFFICIENCY          | C405.7  |     | X   |
| TENANT SUBMETERING                         | C405.10   |     | X   |

### NOTES:

SIGNATURE:   
DATE: 06/12/2020  
NAME: ELI B. WALTZ  
TITLE: ELECTRICAL ENGINEER  
LICENSE NO.:18572-E



455 E. Lanikoula St.  
Hilo Hawai'i 96720  
Main (808) 933-7900  
www.epinc.pro  
Hawai'i | Las Vegas



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

## ELECTRICAL SYMBOLS, IECC & ABBREVIATIONS

SEWER SYSTEM IMPROVEMENTS FOR:  
KONA COMMUNITY HOSPITAL  
MAINTENANCE BUILDING  
PORTION OF HONUAUO 4TH  
NORTH KONA, HAWAII  
TMK: (3) 7-9-010 : 081

|                   |                    |
|-------------------|--------------------|
| DRAWN BY:<br>KD   | DESIGNED BY:<br>EW |
| CHECKED BY:<br>EW | QC'D BY:<br>EW     |

JOB NO.  
12022-20-01

DWG. NO.  
E-001

SHEET NO. 6 OF 7

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO START OF WORK AND NOTIFY PROJECT ENGINEER OF ANY DISCREPANCIES.
2. REFER TO CIVIL DRAWINGS FOR PUMP AND ALARM SYSTEM SPECIFICATIONS.

- ① REFER TO MANUFACTURER'S INSTALLATION REQUIREMENTS FOR NEW PUMP.
- ② PROVIDE NEW 208V/1PH-240V/1PH STEP-UP TRANSFORMER, FURNISHED AS PART OF PUMP PACKAGE. VERIFY TRANSFORMER RATING WITH MANUFACTURER.



EXISTING

PANEL: MC-B

DATE: 6/12/20 8:46 AM

JOB: 12022-20-01

VOLTAGE: 208 / 120

BUS: 225A

MAINS: M.L.O.

AIC RATING: EXISTING

3Ø 4W

CIRCUIT CODE: blank or

LOCATION: INTERIOR

MOUNTING: SURFACE

N: NON-CONTINUOUS

L: LONG-CONTINUOUS

R: DEMANDABLE RECEPTACLES

K: KITCHEN

NO. OF EQUIPMENT:

0

| ORD NO  | CODE | TRIP | POLE | LOAD DESIGNATION   |              |   |   |   |    | CONNECTED VA |    |   |   |   |         |    |     |     |   |         |        | LOAD DESIGNATION |                  |                      |                       |    |    | TRIP | POLE | CODE | ORD NO |  |  |  |
|---|------|------|------|--------------------|--------------|---|---|---|----|--------------|----|---|---|---|---------|----|-----|-----|---|---------|--------|------------------|------------------|----------------------|-----------------------|----|----|------|------|------|--------|--|--|--|
|   |      |      |      | DESCRIPTION        | (NOTE)       | M | R | L | ØA | ØB           | ØC | A | B | C | ØA      | ØB | ØC  | L   | R | M       | (NOTE) | DESCRIPTION      |                  |                      |                       |    |    |      |      |      |        |  |  |  |
| 1   | 20   | 1    |      | RM 11 RECEPT       |              |   |   |   | -  |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | SPARE                | 20                    | 1  | 2  |      |      |      |        |  |  |  |
| 3   | 20   | 1    |      | RM 12 RECEPT       |              |   |   |   | -  |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | SPARE                | 20                    | 1  | 4  |      |      |      |        |  |  |  |
| 5   | 20   | 1    |      | RM 13 RECEPT       |              |   |   |   |    |              |    | - | * |   | -       |    |     |     |   |         |        |                  |                  | SPARE                | 20                    | 1  | 6  |      |      |      |        |  |  |  |
| 7   | 20   | 1    |      | SPARE              |              |   |   |   | -  |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | SPARE                | 20                    | 1  | 8  |      |      |      |        |  |  |  |
| 9   | 20   | 1    |      | SPARE              |              |   |   |   |    | -            |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | PANEL RECEPT         | 20                    | 1  | 10 |      |      |      |        |  |  |  |
| 11  | 20   | 1    |      | SPARE              |              |   |   |   |    |              | -  |   | * |   | -       |    |     |     |   |         |        |                  |                  | SPARE                | 20                    | 1  | 12 |      |      |      |        |  |  |  |
| 13  | 20   | 1    |      | RM 11/ BATH LIGHTS |              |   |   |   | -  |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | GROUPS KEEPER RECEPT | 20                    | 1  | 14 |      |      |      |        |  |  |  |
| 15  | 20   | 1    |      | RM 12,13 LIGHTS    |              |   |   |   | -  |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | SPARE                | 20                    | 1  | 16 |      |      |      |        |  |  |  |
| 17  | 20   | 1    |      | SHOP LIGHTS        |              |   |   |   |    |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | EXTERIOR LIGHTS      | 20                    | 1  | 18 |      |      |      |        |  |  |  |
| 19  | 20   | 1    |      | LANA1 RECEPT       |              |   |   |   | -  |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | SPARE                | 20                    | 1  | 20 |      |      |      |        |  |  |  |
| 21  | 20   | 1    |      | LANA1 RECEPT       |              |   |   |   |    |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | SPARE                | 20                    | 1  | 22 |      |      |      |        |  |  |  |
| 23  | 30   |      |      | ACCU-1             |              |   |   |   |    |              |    | - | * |   | -       |    |     |     |   |         |        |                  |                  | WATER HEATER         | 30                    |    | 24 |      |      |      |        |  |  |  |
| 25  | 30   | 2    |      | -                  |              |   |   |   | -  |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  |                      |                       | 2  | 26 |      |      |      |        |  |  |  |
| 27  | 30   |      |      | ACCU-2             |              |   |   |   |    |              |    | - | * |   | -       |    | 960 |     |   |         |        | 1                | PUMP ALARM PANEL | 30                   |                       | 28 |    |      |      |      |        |  |  |  |
| 29  |      |      |      | --                 |              |   |   |   |    |              |    | - | * |   | -       |    |     | 960 |   |         |        | 1                | --               |                      |                       | 2  | 30 |      |      |      |        |  |  |  |
| 31  |      |      |      | SPACE              |              |   |   |   | -  |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | SPACE                |                       |    | 32 |      |      |      |        |  |  |  |
| 33  |      |      |      | SPACE              |              |   |   |   | -  |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | SPACE                |                       |    | 34 |      |      |      |        |  |  |  |
| 35  |      |      |      | SPACE              |              |   |   |   |    |              |    | - | * |   | -       |    |     |     |   |         |        |                  |                  | SPACE                |                       |    | 36 |      |      |      |        |  |  |  |
| 37  |      |      |      | SPACE              |              |   |   |   | -  |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | SPACE                |                       |    | 38 |      |      |      |        |  |  |  |
| 39  |      |      |      | SPACE              |              |   |   |   |    |              |    |   | * |   | -       |    |     |     |   |         |        |                  |                  | SPACE                |                       |    | 40 |      |      |      |        |  |  |  |
| 41  |      |      |      | SPACE              |              |   |   |   |    |              |    | - | * |   | -       |    |     |     |   |         |        |                  |                  | SPACE                |                       |    | 42 |      |      |      |        |  |  |  |
| PANEL NOTES:  |      |      |      |                    | PHASE TOTALS |   |   |   |    | ØA: 0        |    |   |   |   | ØB: 960 |    |     |     |   | ØC: 960 |        |                  |                  |                      | TOTAL CONNECTED VA    |    |    |      |      | 1920 |        |  |  |  |
| 1. PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE, MATCH MFR AND AIC RATING. |      |      |      |                    |              |   |   |   |    |              |    |   |   |   |         |    |     |     |   |         |        |                  |                  |                      | CONNECTED VA (CODE N) |    |    |      |      | 1920 |        |  |  |  |
|   |      |      |      |                    |              |   |   |   |    |              |    |   |   |   |         |    |     |     |   |         |        |                  |                  |                      | CONNECTED VA (CODE L) |    |    |      |      | 0    |        |  |  |  |
|   |      |      |      |                    |              |   |   |   |    |              |    |   |   |   |         |    |     |     |   |         |        |                  |                  |                      | CONNECTED VA (CODE R) |    |    |      |      | 0    |        |  |  |  |
|   |      |      |      |                    |              |   |   |   |    |              |    |   |   |   |         |    |     |     |   |         |        |                  |                  |                      | CONNECTED VA (CODE K) |    |    |      |      | 0    |        |  |  |  |
|   |      |      |      |                    |              |   |   |   |    |              |    |   |   |   |         |    |     |     |   |         |        |                  |                  |                      | PANEL CONNECTED KVA   |    |    |      |      | 1.9  |        |  |  |  |
| 42 CIRCUIT PANEL  |      |      |      |                    |              |   |   |   |    |              |    |   |   |   |         |    |     |     |   |         |        |                  |                  |                      | PANEL DEMAND KVA      |    |    |      |      | 1.9  |        |  |  |  |
|   |      |      |      |                    |              |   |   |   |    |              |    |   |   |   |         |    |     |     |   |         |        |                  |                  |                      | PANEL DEMAND AMPS     |    |    |      |      | 5.3  |        |  |  |  |
|   |      |      |      |                    |              |   |   |   |    |              |    |   |   |   |         |    |     |     |   |         |        |                  |                  |                      | HIGH Ø AMPS w/ DEMAND |    |    |      |      | 8.0  |        |  |  |  |



07/07/2020 12:14 pm  
\\MA\EO PROJECTS\2020 PROJECTS\2022-20-01 KCH MAINT BLDG SEWER UPGRADE\4-DWG\ELECTRICAL\E-X.DWG

## **APPENDIX K**

### **SPECIFICATIONS/PROJECT MANUAL**

See following pages



**KONA COMMUNITY HOSPITAL**  
**Maintenance Building Sewer System Improvements**  
**Kealahou, Island of Hawaii, Hawaii**

HAWAII HEALTH SYSTEMS  
Kona Community Hospital  
79-1019 Haukapila Street  
Kealahou, HI 96750

SPECIFICATIONS

CONSTRUCTION SUBMITTAL

JUNE 2020

**KONA COMMUNITY HOSPITAL**  
**HVAC Replacement for Sterile Processing Department**  
**Kealahou, Island of Hawaii, Hawaii**

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## **DIVISION 1 - GENRAL REQUIREMENTS**

### **SECTION 01100 - SUMMARY OF WORK**

#### **PART 1 - GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Contract description.
- B. Contract use of premises.
- C. WEST HAWAII FACILITIES DIRECTOR (WHFD) AND/OR PROJECT MANAGER furnished/WHFD AND/OR PROJECT MANAGER installed products.
- D. WHFD AND/OR PROJECT MANAGER furnished/contractor installed products.
- E. Hospital occupancy.

##### **1.02 CONTRACT DESCRIPTION**

- A. Abandonment and backfill of existing cesspool currently connected to the maintenance building.
- B. Construction of force main, including new underground utilities, new package sewer pump station, and connection to existing sewer line.
- C. Appurtenant electrical work.

##### **1.03 CONTRACTOR USE OF PREMISES**

- A. Limit the use of premises to allow for continued Hospital occupancy.
- B. Emergency Building Exits During Construction: Must remain open and unblocked at all times. Maintain access for staff, patients, and public. Egress must be maintained and way finding signage during construction.
- C. Construction Operations: Limited to areas noted on Drawings.
- D. Staging and Parking
  - 1. Staging area and limited contractor employee parking will be made available on site. Contractor and vendor parking is designated. Any new parking arrangements require prior approval by the WHFD AND/OR PROJECT MANAGER.
- E. Time Restrictions for Performing Work:
  - 1. General 6:00 am to 2:30 pm. Coordinate w/ WHFD AND/OR PROJECT MANAGER, work necessary outside these normal operating hours. Submit written notice a minimum three days in advance.

- F. Cooperate with Hospital to minimize conflict and to facilitate Hospital's operations. Coordinate operations with WHFD AND/OR PROJECT MANAGER.
- G. Access to adjacent floors must be approved in advance by the WHFD AND/OR PROJECT MANAGER. Submit written notice not less than seven days in advance of intended work on adjacent floors.
- H. Do not close or obstruct roadways without first consulting with the WHFD AND/OR PROJECT MANAGER. Conduct operations with minimum interference to public or private roadways.
- I. Maintain vital services (as defined by the WHFD AND/OR PROJECT MANAGER) with the minimum of interruption. Outages and interruptions must be approved in advance by the WHFD AND/OR PROJECT MANAGER. Submit written notices of outages and interruptions not less than seven days in advance.
- J. Contractor's personnel:
  - 1. It is preferred that contractors park off site and carpool to hospital.
  - 2. Contractor's personnel may use the hospital cafeteria.
  - 3. Smoking is not permitted anywhere on KHC property. Consumption of food and beverages will not be permitted on the premises except in designated areas.
  - 4. Playing of radios will not be permitted.
  - 5. Shall be properly attired for work. (No tank tops, cut-off jeans, slippers, etc.)
  - 6. Shall conduct themselves with decorum and courtesy toward staff, patients, and public.
  - 7. Shall not use loud and offensive language.
  - 8. Shall read and sign the Contractor's Guidelines Handbook.
- K. Construction Zone Accessibility Requirements
  - 1. General: Hawaii Revised Statutes (HRS) 103-05 requires this project to conform to the requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG).
  - 2. Ensure accessible routes to emergency entrances and exits to and from accessible parking public pedestrian routes during the construction period as required by ADAAG 4.1.1(4).
  - 3. Temporary buildings and facilities that are not of permanent construction but are extensively used or are essential for public use for a period of time shall be accessible. Egress must be maintained and way finding signage during construction.
  - 4. Provide temporary safe pedestrian passageway around a construction site.

- a. Areas that are used only as work areas shall be designed and constructed so that individuals with disabilities can approach, enter, and exit the areas.
- b. These guidelines do not require that any areas used only as work areas be constructed to permit maneuvering within the work area or be constructed or equipped (i.e., with racks or shelves) to be accessible.
- c. Follow OSHA guidelines concerning scaffolding and debris and dust protection.

1.04 WHFD AND/OR PROJECT MANAGER FURNISHED/WHFD AND/OR PROJECT MANAGER INSTALLED PRODUCTS

A. Items noted "OFOI" (WHFD AND/OR PROJECT MANAGER Furnished/WHFD AND/OR PROJECT MANAGER Installed) will be furnished and installed by the WHFD AND/OR PROJECT MANAGER, including but not limited to:

- 1. Medical equipment.

B. Hospital's Responsibilities:

- 1. Arrange for and deliver Hospital reviewed shop drawings, product, data and samples, to Contractor.
- 2. Upon delivery, inspect products jointly with Contractor.

C. Contractor's Responsibilities:

- 1. Review WHFD AND/OR PROJECT MANAGER's provided shop drawings, product data, and samples.
- 2. Provide any necessary utility roughs and backing, and install in accordance with manufacturer's instructions.
- 3. Arrange and pay for product delivery to site.
- 4. Submit claims for transportation damage and replace damaged, defective or deficient items.
- 5. Arrange for manufacturers' warranties, inspections and service.

1.05 HOSPITAL OCCUPANCY

- A. The Hospital will remain operational during entire period of construction for the conduct of normal operations.
- B. The Contractor is to coordinate the work and details within each phase, to minimize disruption to WHFD AND/OR PROJECT MANAGER's operation. Advanced notification of a minimum of one week for disruption due to noise and other construction activity is required as well as posting of signage in advance to advise occupants of such disruption.

- C. Provide dust and noise barriers where specified under other portions of the contract documents. Follow ICRA procedures during construction, i.e., Policy #125-54 as attached. Walk off mats at site entrance shall be changed as needed. HEPA filtration units are to be utilized 24 hours per day throughout the construction process. Complete ISLM check sheet daily.
- D. Schedule the Work, and cooperate with Hospital to minimize conflict with work involving dust and noise and odor.

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION (Not Used)**

END OF SECTION 01100

## **SECTION 01120 - ALTERATION PROJECT PROCEDURES**

### **PART 1 - PRODUCTS**

#### **1.01 SALVAGED MATERIALS**

- A. Salvage sufficient quantities of cut or removed material to replace damaged work of existing construction, when materials not readily obtainable on current market.
- B. Incorporate salvaged or used material only as indicated or with permission of the Hospital.

#### **1.02 PRODUCTS FOR PATCHING AND EXTENDING WORK**

- A. New Materials: Match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspection and testing products where necessary, referring to existing Work as a standard.

### **PART 2 - EXECUTION**

#### **2.01 EXAMINATION**

- A. Verify that demolition is complete, and areas are ready for installation of new Work.
- B. Beginning of restoration Work means acceptance of existing conditions.

#### **2.02 PREPARATION**

- A. Cut, move or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
- B. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specific for finished Work.
- C. Remove debris and abandoned items from area and from concealed spaces.
- D. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.
- E. Close openings in exterior surfaces to protect existing work and salvage items from weather and extremes of temperature and humidity. Insulate duct work and piping to prevent condensation in exposed areas.
- F. Do not demolish, chip, or penetrate existing structural members without the expressed approval of the Prime Consultant.
- G. Perform cutting and removal work to remove minimum necessary, and in a manner to avoid damage to adjacent work and provide proper surfaces to receive installation of repair and new Work.

### 2.03 INSTALLATION

- A. Coordinate work of alterations and renovations to expedite completion and to accommodate Owner occupancy.
- B. Project areas and Finishes: Complete in all respects including operational, carpentry, casework, mechanical and electrical work.
- C. Remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to original or specified condition as appropriate.
- D. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.
- E. In addition to specified replacement of equipment and fixtures, restore existing plumbing, ventilation, air conditioning, air balancing and electrical systems to full operational condition.

### 2.04 TRANSITIONS

- A. Where new Work abuts or aligns with existing, perform a smooth and even transition. Patched Work to match existing adjacent Work in texture and appearance.
- B. Cut finish surfaces such as masonry, tile, plaster, or metals by methods to terminate surfaces in a straight line at a natural point of division.
- C. When finished surfaces are cut so that a smooth transition with new Work is possible, terminate existing surface along a straight line at a natural line of division. Provide trim appropriate to finished surface subject to approval of Hospital's Representative.

### 2.05 ADJUSTMENTS

- A. Where removal of partitions or walls result in adjacent spaces becoming one, rework floors, walls and ceiling to a smooth plane without breaks, steps or bulkheads.
- B. Where a change of plane ¼ inch or more occurs, submit recommendation for providing a smooth transition for the WHFD AND/OR PROJECT MANAGER review.
- C. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.
- D. At penetrations of fire-rated wall, ceiling or floor construction, completely seal voids with fire rated, fire resistant material, full thickness of the construction element.



2.06 REPAIR OF DAMAGED SURFACES

- A. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- B. Repair substrate prior to patching finish.

2.07 FINISHES

- A. Finish surfaces as specified in individual Product Sections.
- B. Finish patches to product uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersection with written approval of the WHFD AND/OR PROJECT MANAGER.

2.08 CLEANING

- A. In addition to cleaning as specified in this specifications. Wet mop owner-occupied areas daily utilizing hospital's EPA approved disinfectant. Remove and replace soiled walk off (sticky) mats daily.
- B. Clean spillage, over-spray, and dust in Owner- occupied areas immediately.

**PART 3 - EXECUTION (Not Used)**

END OF SECTION 01120

## **SECTION 01260 - CONTRACT CONSIDERATIONS**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Schedule of values.
- B. Application for payment.
- C. Change procedures.

#### **1.02 RELATED SECTIONS**

- A. Section 01100- SUMMARY OF WORK: for allowances.

#### **1.03 SCHEDULE OF VALUES**

- A. Submit a printed schedule of AIA Form G703- Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be acceptable.
- B. Submit Schedule of Values in duplicate within 15 days after date of Owner Contractor Agreement.
- C. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the major specification Section. Identify site mobilization and bonds and insurance.
- D. Include in each line item, the amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.
- E. Include within each line item, a direct proportional amount of Contractor's overhead and profit.
- F. Revise schedule to list approved Change Orders, with each Application For Payment.

#### **1.04 APPLICATIONS FOR PAYMENT**

- A. Submit each application electronically on AIA Form G702- Application and Certificate for Payment and AIA G703- Continuation Sheet or Contractor's own invoice with all appropriate information. Contractor's electronic media printout will be acceptable.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Invoice to be submitted to Hospital Technical Representative for the preceding month's work by the 5<sup>th</sup> day of the month that follows. (The State of Hawaii does its best to pay within 30 days).

D. Waiver of Liens: Provide unconditional waiver of liens. Use contractor's form.

#### 1.05 CHANGE PROCEDURES

A. The following documents will be used. Sample forms are attached.

B. Request for Information: Standard Contractor form. A request for information shall be used by the Contractor to the Prime Consultant to request solutions to problems which are discovered during construction, to request drawings and cost and/or schedule impacts in the Request for Information.

C. Instruction Notice: Attachment 1, standard form.

1. Instruction Notice will be issued by the Prime Consultant for instructions to the Contractor which do not involve a change in the Contract Sum or construction period.
2. Instruction Notice authorizes the Contractor to proceed at once with the instruction included therein.
3. Instruction Notice which does affect the Contract Sum or construction period must have written authorization by the Owner's Project Manager. Such instruction shall have the note "Change Order to Follow" and then be followed with a Quotation Request, cross referenced to the Field Order.
4. Instruction Notice will be distributed as follows:
  - a. Two copies to Contractor
  - b. One copy to the Prime Consultant
  - c. One copy to each appropriate Consultant
  - d. One copy to WHFD AND/OR PROJECT MANAGER

D. Quotation Requests: Attachment 2, standard Prime Consultant form.

1. Proposed changes to the Contract will be initiated by the Prime Consultant in the form of a Quotation Request.
2. A Quotation Request, indicating the party suggesting the change, will clearly describe the proposed Contract variation, accompanied by the required drawings, if necessary.
3. Construction work shall not proceed on the strength of a Quotation Request only.
4. Quotation Requests will be distributed as follows:
  - a. Two copies to Contractor.
  - b. One copy to Prime Consultant

- c. One copy to each appropriate Consultant
  - d. One copy to Owner's Project Management
- 5. The Contractor shall respond to the Quotation Request within the time stated on the form.
- E. Change Proposal. Standard Contract Form.
  - 1. This form shall be issued by the Contractor for any claims he may have and in response to a Quotation Request.
  - 2. The Change proposal shall include a description of the work and the requested change to the Contract sum and construction time.
  - 3. All supporting documents, materials and subcontract quotations, time sheets, labor estimates, etc., shall be itemized and attached to the Change Proposal as necessary for proper checking by the Prime Consultant, Consultants and Owner's Project Manager.
  - 4. Change proposals, if acceptable, will be signed by the WHFD AND/OR PROJECT MANAGER and Prime Consultant with one executed copy returned to Contractor. The Contractor shall thus have the authority to proceed with the work and Change Order will follow.
- F. Change Order. Attachment 3, standard form.
  - 1. This document is issued to the Contractor as an instruction for him to make a change to the work of the contract Documents.
  - 2. Change Order documents are prepared by the Prime Consultant and countersigned by the Owner and Contractor.
  - 3. Approved Change orders record the following information:
    - a. Cross-reference to Change Proposal.
    - b. Summarized description of change in work required.
    - c. Change in completion date.
    - d. Change in Contract sum.
    - e. Identification of party/individual initiating change.
- G. Record of Variations: Variations in construction from the plans and specifications shall be recorded by the Contractor as required in Division 1. These variations shall be brought to the attention of the Prime Consultant and WHFD AND/OR PROJECT MANAGER by the Contractor.
- H. Timeliness of Processing: Instruction notices, Quotation Requests and Change Proposals will be processed and one copy provided the WHFD AND/OR PROJECT MANAGER the same day the document is prepared.

- I. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract Time as provided in the Contract Documents.
- J. Maintained detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION (Not Used)**

END OF SECTION 01260

## OPTIONAL

### INSTRUCTION NOTICE

**INSTRUCTION NOTICE NO:**

**DATE:**

**PROJECT NO:**

**PROJECT:** Kona Community Hospital  
Sewer System Improvements

**CONTRACTOR:**

---

**Reference:**

- ☐ **Specifications:**
- ☐ **Drawings:**
- ☐ **Other:**

---

**YOU ARE HEREBY DIRECTED TO PROMPTLY EXECUTE THIS INSTRUCTION NOTICE WHICH REPRESENTS THE CONTRACT DOCUMENTS OR ORDERS MINOR CHANGES IN THE WORK.**

**If you consider that a change in Contract Sum or Contract Time is required, submit your itemized proposal to the Prime Consultant immediately and before proceeding with the work. If your proposal is found to be satisfactory and in proper order, this Instruction Notice will be superseded by a Change Order.**

**COPIES TO:**

- ☐ **WHFD AND/OR PROJECT MANAGER**
- ☐ **Contractor**
- ☐ **Prime Consultant**
- ☐ **Structural**
- ☐ **Mechanical**
- ☐ **Electrical**
- ☐ **Civil**
- ☐ **Landscape**
- ☐ **Others**

Attachment 1

## OPTIONAL

### QUOTATION REQUEST

QUOTATION REQUEST NO:

DATE:

PROJECT NO:

PROJECT: Kona Community Hospital  
Sewer System Improvements

CONTRACTOR:

---

Submit a fully itemized quotation for the inclusion of the following changes into the contract. This is not a Change Order, a Construction Change Directive, nor an Instruction to proceed with the work herein.

---

REQUEST ORIGINATED BY:

DATE QUOTATION REQUIRED BY:

COPIES TO:

- ☐ WHFD AND/OR PROJECT MANAGER
- ☐ Contractor
- ☐ Others

**CHANGE ORDER**

DATE:

PROJECT:

CONTRACTOR:

Kona Community Hospital

Sewer System Improvements

CHANGE ORDER NO:

PROJECT NO:

Original Contract Sum was:  
Net changes by previously authorized Change Orders: \$  
Contract Sum prior to this Change Order was: \$  
Contract sum will be (increased) (decreased) (unchanged) by this Change Order \$  
New Contract Sum including this Change Order will be: \$  
The Contract Time will be (increased) (decreased) (unchanged) by days  
The date of Substantial Completion as of the date of this Change Order is:

PRIME CONSULTANT:

WHFD

AND/OR

PROJECT

MANAGER:

CONTRACTOR:

By:\_\_\_\_\_

Date:\_\_\_\_\_

Approved by:\_\_\_\_\_

Date:\_\_\_\_\_

Accepted by:\_\_\_\_\_

Date:\_\_\_\_\_



## **SECTION 01290 - PAYMENT PROCEDURES**

### **PART 1 - PRODUCTS**

#### **1.01 GENERAL CONDITIONS**

- A. As specified in Division 1.

#### **1.02 RELATED SELECTIONS**

- A. Section 01260- CONTRACT CONSIDERATIONS for administrative procedures for handling changes to the Contract.

#### **1.03 DEFINITIONS**

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Application for Payment.

#### **1.04 SCHEDULE OF VALUES**

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
  - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with continuation sheets.
    - b. Submittal schedule.
    - c. Items required to be indicated as separate activities in Contractor's construction schedule.
  - 2. Submit the schedule of values to the Prime Consultant through the Hospital's Construction Management Representative at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
  - 1. Identification: include the following Project identification on the schedule of values:
    - a. Project name and location.
    - b. Name of Prime Consultant.
    - c. Prime Consultant's project number.
    - d. Contractor's name and address.

- e. Date if submittal.
- 2. Arrange schedule of values consistent with format of AIA Document G703.
- 3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each items listed:
  - a. Related Specification Section or Division.
  - b. Description of the Work
  - c. Name of subcontractor
  - d. Name of manufacturer or fabricator.
  - e. Name of supplier.
  - f. Change Orders (numbers) that affected value.
  - g. Dollar value of the following, as percentage of the Contract Sum to nearest on-hundredth percent, adjusted to total 100 percent.
    - 1) Labor
    - 2) Materials
    - 3) Equipment
- 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of two percent of the Contract Sum.
  - a. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling two percent of the Contract Sum and subcontract amount.
- 5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
- 6. Provide separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
  - a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
- 7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

8. Each item in the schedule of values and Application for Payments shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
9. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

#### 1.05 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as approved by the Hospital Construction Project Manager.
  1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: Each progress payment shall be submitted monthly.
- C. Payment Application Times: Submit Application for Payment to the Prime Consultant by the 5<sup>th</sup> day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
- D. Application for Payment Forms: Use AIA G702 and Document AIA G703 or Contractor's own form as a form for Application for Payment.
- E. Application Preparation: Complete every entry on form. Contract number must be on every application for payment. The Prime Consultant will return incomplete applications, including those without the contract number, without action.
  1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
  2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
  3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
  4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- F. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
- G. Transmittal: submit signed Application for Payment to Hospital Construction Project Manager (electronically or by hand delivery). Include waivers of lien and similar attachments of required.
- H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  2. When application shows completion of an item, submit conditional final or full waivers.
  3. WHFD AND/OR PROJECT MANAGER reserves the right to designate which entities involved in the Work must submit waivers.
  4. Waiver forms: Submit executed waivers of lien on forms acceptable to Owner.
- I. Waiver of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from subcontractors, sub-contractors, and suppliers for construction period covered by the previous application.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  2. When an application shows completion of an item, submit conditional final or full waivers.
  3. WHFD AND/OR PROJECT MANAGER reserves the right to designate which entities involved in the Work must submit waivers.
  4. Submit final Application for Payment with or proceeded by conditional final waivers from every entity involved with performance of the work covered by the application who is lawfully entitled to a lien.
  5. Waiver forms: Submit executed waivers of lien forms, acceptable to Owner.
- J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
  2. Schedule of values.
  3. Contractor's construction schedule (preliminary if not final).

4. Products list (preliminary if not final).
  5. Schedule of unit prices.
  6. Submittal schedule (preliminary of not final).
  7. List of Contractor's staff assignments.
  8. List of Contractor's principal's consultants.
  9. Copies of building permits.
  10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  11. Initial progress report.
  12. Report of preconstruction conference.
  13. Certificates of insurance and insurance policies.
  14. Performance and payment bonds.
  15. Data needed to acquire Owner's insurance.
- K. Application for Payment at Substantial Completion: After Prime Consultant issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract sum.
  2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- L. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  3. Updated final statement, accounting for final changes to the Contract Sum.
  4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims".
  5. AIA Document G706A, "Contractor's Affidavit of Releases of Liens".

6. AIA Document G707, "Consent of Surety to Final Payment".
7. Evidence that claims have been settled.
8. Final liquidated damages settlement statement.
9. Alternate forms may be utilized with approval from the WHFD AND/OR PROJECT MANAGER & Contracts Manager

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION (Not Used)**

END OF SECTION 01290

## **SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. General Coordination procedures
- B. Coordination drawings.
- C. Requests for information (RFI's)
- D. Project Web site.
- E. Project Meetings.

#### **1.02 RELATED SECTIONS**

- A. Section 01770 "CLOSEOUT PROCEDURES" for coordinating closeout of the Contract.

#### **1.03 DEFINITIONS**

- A. RFI: (Request for Information), the Prime Consultant for seeking information required by or clarifications of the Contract Documents.

#### **1.04 INFORMATION SUBMITTALS**

- A. Subcontract List: Prepare a written summary (provided herein as Attachment 4) identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Included the following information in tabular form:
  - 1. Name, address and telephone number of company performing subcontract or supplying products.
  - 2. The particular work to be performed by subcontractor.
- B. Key personnel Names: Within 7 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office and cellular telephone numbers and e-mail addresses. Provide names, addresses and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
  - 1. Post copies of list in project meeting room, in temporary field office and by each temporary telephone. Keep list current at all times.

#### **1.05 GENERAL COORDINATION PROCEDURES**

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the

Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
  3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections that depend on each other for proper installation, connection, and operations.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
  3. Make adequate provisions to accommodate items scheduled for later installation.
- C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors of coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and (activities of other contractors) to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
  2. Preparation of the schedule of values.
  3. Installation and removal of temporary facilities and controls.
  4. Delivery and processing of submittals.
  5. Progress meetings.
  6. Pre-installation of conferences.



7. Project closeout activities.
  8. Startup and adjustment of systems.
- E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
1. Salvage materials and equipment involved in performance of but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designed as Owner's property.

#### 1.06 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
    - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
    - b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contracts in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
    - c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
    - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
    - e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
    - f. Indicate required installation sequences.
    - g. Indicate dimensions show in the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Prime Consultant indicating proposed resolution of such conflicts. Minor dimensions changes and difficulty installations will not be considered changes to the Contract.

- B. Coordinating Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements and mechanical, plumbing, fire-protection, fire-alarm and electrical work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Plenum Space: indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas conflict between light fixtures and other components. All work to be seismically anchored utilizing TOLCO system.
3. Mechanical rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Mechanical and Plumbing Work: Show the following:
  - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges and support systems. All work to be seismically anchored using TOLCO system.
  - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
  - c. Fire –rated enclosures around ductwork.
7. Electrical Work: Show the following:
  - a. Runs of vertical and horizontal conduit 1-1/4 inches (32 mm) in diameter and larger.
  - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
  - c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
  - d. Location of pull boxes and junction boxes, dimensioned from column center lines.
8. Fire-Protection System: Show the following:

- a. Locations of standpipes, main piping, branch lines, pipe drops and sprinkler heads.
9. Review: Prime Consultant will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Prime Consultant determines that coordination drawings are not being prepared in sufficient scope or details, or are otherwise deficient, Prime Consultant will so inform Contractor, who shall make changes as direct and resubmit.
10. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements on Section 013300 "Submittal Procedures".
- C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
  1. File Preparation Format: Same digital data software program, version, and operating system as original Drawings.
  2. File Submittal Format: Submit or post coordination drawing files using Portable Data File (PDF) format.
  3. Prime Consultant will furnish Contractor one set of digital data files of Drawings for use in preparing coordinated digital data files.
    - a. Digital Data Software Program: Drawings are available in AutoCAD 2010.
    - b. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to WHFD AND/OR PROJECT MANAGER and Prime Consultant, if required by either party.

#### 1.07 REQUESTS FOR INFORMATION (RFI'S)

- A. General: Immediately of discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified to WHFD AND/OR PROJECT MANAGER.
  1. All RFIs must be submitted directly by the Contractor of record. Prime Consultant will return RFI submitted to Prime Consultant by other entities controlled by Contractor with no response.
  2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
  1. Project name.
  2. Project number.
  3. Date.

4. Name of Contractor.
  5. Name of Project Engineer.
  6. RFI number, number sequentially.
  7. RFI subject.
  8. Specification Section number and title and related paragraphs, as appropriate.
  9. Drawing number and detail references, as appropriate.
  10. Field dimensions and conditions, as appropriate.
  11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  12. Contractor's signature.
  13. Attachments: Include sketches, description, measures, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    - a. Include dimensions, thickness, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
  14. Response turnaround time needed.
- C. RFI Forms: Contractor's form
1. Attachment shall be electronic files preferably in Adobe Acrobat PDF format.
- D. Project Prime Consultant's Action: Project Prime Consultant will review each RFI, determine action required and respond within requested response time, typically 3 working days unless quicker response is needed as to not delay the project.
1. The following Contract-generated RFIs will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for approval of Contractor's means and methods.
    - d. Requests for coordination information already indicated in the Contract Documents.
    - e. Requests for adjustment in the Contract Time or Contract Sum.
    - f. Requests for interpretation of Prime Consultant's actions on submittals.

- g. Incomplete RFIs or inaccurately prepared RFIs.
- 2. The Prime Consultant's action may include a request for additional information, in which case the time for response will date from time of receipt of additional information.
- 3. The Project Prime Consultant's action on RFIs that may result in a change to the Contract Time or the Contract sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures".
  - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify the WHFD AND/OR PROJECT MANAGER in writing within 3 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly to Prime Consultant.
  - 1. Project name.
  - 2. Name and address of Contractor.
  - 3. Name and address of Project Prime Consultant.
  - 4. RFI numbering including RFIs that were returned without action or withdrawn.
  - 5. RFI description.
  - 6. Date when the RFI was submitted.
  - 7. Date when the Prime Consultant's response was received.

#### 1.08 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated
  - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify WHFD AND/OR PROJECT MANAGER and Prime Consultant of scheduled meeting dates and times. It is preferred that a standing meeting day/time is planned at the commencement of the project.
  - 2. Agenda: Contractor shall prepare the meeting agenda. Distribute the agenda to all invited attendees.
  - 3. Sign in Sheet: Furnish and supply a copy of completed sheet to KCH.
  - 4. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to all meeting attendees within three business days of the meeting.

B. Preconstruction Conference: the WHFD AND/OR PROJECT MANAGER will schedule and conduct a preconstruction conference before starting construction, at a time convenient to the Hospital, Contractor, and Project Prime Consultant, but no later than 15 days after execution of the Agreement.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of WHFD AND/OR PROJECT MANAGER, the Prime Consultant and their consultants; Contractor and its superintendent; major subcontractors; suppliers and other concerned parties. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including the following:
  - a. Tentative construction schedule.
  - b. Critical work sequencing and long-lead items.
  - c. Designation of key personnel and their duties.
  - d. Lines of communications.
  - e. Procedures for processing field decisions and Change Orders.
  - f. Procedures for RFIs
  - g. Procedures for testing and inspecting.
  - h. Procedures for processing Application for Payment.
  - i. Distribution of the Contract Documents.
  - j. Submittal procedures.
  - k. Use of the premises.
  - l. Work restrictions.
  - m. Working hours.
  - n. Owner's occupancy requirements.
  - o. Responsibility for temporary facilities and controls.
  - p. Procedures for moisture and mold
  - q. Procedures for disruption and shutdowns.
  - r. Parking availability.

- s. Office, work, and storage areas.
  - t. Equipment deliveries and properties.
  - u. Security.
4. Minutes: The Contractor will be responsible for conduction meeting, will record and distribute meeting minutes.
- C. Preinstall Conferences: Conduct a preinstallation conference at Project Site before each construction activity that requires coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installation that have preceded or will follow, shall attend the meeting. Advise the WHFD AND/OR PROJECT MANAGER, Project Prime Consultant of scheduled meeting dates.
  - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements to the following:
    - a. Contract Documents.
    - b. Options.
    - c. Related RFIs.
    - d. Related Change Orders.
    - e. Purchases.
    - f. Deliveries.
    - g. Submittals.
    - h. Possible conflicts.
    - i. Compatibility requirements.
    - j. Time schedules.
    - k. Weather limitations.
    - l. Manufacturer's written instructions.
    - m. Warranty requirements.
    - n. Compatibility of materials.
    - o. Acceptability of substrates.

- p. Temporary facilities and controls.
  - q. Space and access limitations.
  - r. Regulations of authorities having jurisdiction.
  - s. Testing and inspecting requirements.
  - t. Installation procedures.
  - u. Coordination with other work.
  - v. Required performance results.
  - w. Protection of adjacent work.
  - x. Protection of construction and personnel.
3. Record significant conference discussions, agreement, and disagreements, including required corrective measures and actions.
  4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
  5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date

D. Progress Meetings: Conduct progress meetings at weekly intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: Representatives of the WHFD AND/OR PROJECT MANAGER, and the Contractor. The Project Prime Consultant may call in by telephone, but once a month, attend the meeting site. The Prime Consultantural consultants and Contractor's subcontractors may attend upon request.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
  - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - 1) Review schedule for next period



- b. Review present and future needs of each entity present, including the following:
  - 1) Interface requirements.
  - 2) Sequence of operations.
  - 3) Owner operation issues/security.
  - 4) Status of submittals.
  - 5) Deliveries.
  - 6) Off-site fabrication.
  - 7) Access
  - 8) Temporary facilities and controls.
  - 9) Status of RFIs.
  - 10) Status of proposed requests.
  - 11) Pending changes.
  - 12) Status of change Orders.
  - 13) Pending claims and disputes.
- 4. Minutes: The Contractor that is responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
  - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made recognized. Issue revised schedule concurrently with the report of each meeting.

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION (Not Used)**

END OF SECTION 01310

## **SECTION 01330 – SUBMITTAL PROCEDURES**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed Products list.
- D. Shop Drawings.
- E. Product Data.
- F. Samples.
- G. Manufacturer's installation instructions.
- H. Manufacturer's certificates.

#### **1.02 RELATED SECTIONS**

- A. Section 01400- QUALITY REQUIREMENTS: Manufacturer's field services and reports.

#### **1.03 DEFINITIONS**

- A. Action Submittals: Written and graphic information that requires Prime Consultant's responsive action.
- B. Informational Submittals: Written information that does not require Prime Consultant's approval. Submittals may be rejected for not complying with requirements.

#### **1.04 SUBMITTAL PROCEDURES**

- A. Transmit each submittal with AIA Form G810 or project Prime Consultant's accepted transmittal form.
  - 1. Identify whether submittal is an action submittal or informational submittal.
  - 2. Submit the number of duplicate documents and samples schedule in Part 3 below.
- B. Sequentially number the transmittal form. Reverse submittals with original number and a sequential alphabetical suffix.
- C. Identify Project Contractor, Subcontractor or supplier, pertinent drawing and detail number, and specification section number, as appropriate.

- D. Apply Contractor's wax seal, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite the Project, and deliver to Prime Consultant at business address. Coordinate submission of related items.
- F. For each submittal for review, allow 5 days excluding delivery time and from the contractor.
- G. Identify variations from Contract Documents and Product of system limitations which may be detrimental o successful performance of the completed Work.
- H. Submit all items relating to color selection at one time. Color selections will not be made until all color related submittals have been received.
- I. Provide space for Contractor, Project Prime Consultant, and Consultants review stamps or initials.
- J. Review and Resubmission of Submittals
  - 1. The Project Prime Consultant will review the submittal and stamp or initial it with indication of action as appropriate. Project Prime Consultant will retain one copy or and furnish one copy to Contractor. Consultants will retain one copy.
  - 2. Submittals returned marked "resubmit" or "rejected". Make corrections and resubmit.
    - a. Direct specific attention on resubmittals to revision other than those requested by the Project Prime Consultant on previous submittals.
    - b. Make shop drawing corrections on the original drawing and print.
  - 3. Submittals returned with markings or comments and marked "confirm". Submit a letter indicating acceptance of comments and stating that Contractor will comply with marks and comments.
  - 4. Submittals returned marked "No Exceptions Taken". Submit number of copies mechanical and electrical items with Contractor.
- K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with provisions.
- L. Submittal is not requested will not be recognized or processed.

#### 1.05 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit as part of the Monthly Report required by the Owner-Contractor Agreement.

#### 1.06 PROPOSED PRODUCTS LIST

- A. Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

#### 1.07 SHOP DRAWINGS

- A. Present in a clear and thorough manner, accurately and at a scale sufficient to show pertinent aspects. Indicate fabrication, layout, anchorage and installation details.
- B. Title each drawing. Identify details by reference to Contract Drawing and detail numbers.
- C. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- D. Drawing Size: Minimum 8-1/2 inches by 11 inches and maximum 30 inches by 42 inches.
- E. Shop Drawings: Submit review. After review, produce copies and distribute in accordance with the SUBMITTAL PROCEDURES article above.

#### 1.08 PRODUCT DATA

- A. Clearly mark each copy to identify each applicable product, model, option, and pertinent data for the products or systems to be provided. Supplement manufacturers' standard data to provide information unique to this Project. Highlighting will not be acceptable.
- B. Indicate Product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. After review distribute in accordance with the Submittal Procedures article above.

#### 1.09 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- B. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Prime Consultant selection.
  - 1. Provide custom color samples where requested.
- C. Reviewed samples which may be used in the Work are indicated in individual specification sections.

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION**

**3.01 SCHEDULE OF SUBMITTALS**

- A. Product Data, Schedules, Shop Drawings and Other Printed Materials: Submit the number of copies which the Contractor requires, plus copies for the following:
  - 1. One copy: Project Prime Consultant.
  - 2. One copy: WHFD AND/OR PROJECT MANAGER.
  - 3. One copy: Hospital Construction Project Manager.
  - 4. Copies as required from consultants.
- B. Samples: Submit the number of samples which the Contractor requires plus one for WHFD AND/OR PROJECT MANAGER and Contracts Manager.

END OF SECTION 01330

## **SECTION 01400 - QUALITY REQUIREMENTS**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Quality assurance and control of installation.
- B. Reference.
- C. Inspection and testing laboratory services.
- D. Special inspections.
- E. Manufacturers' field services and reports.

#### **1.02 RELATED SECTIONS**

- A. Section 01300 – SUBMITTAL PROCEDURES: Submissions of Manufacturers' Instruction and Certificates.
- B. Section 01600 – PRODUCT REQUIREMENTS: Requirements for material and product quality.

#### **1.03 QUALITY ASSURANCE/CONTROL OF INSTALLATION**

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step-in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Prime Consultant before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

#### **1.04 REFERENCES**

- A. Conform to reference standard by date of issue current on date for receiving bids.
- B. Obtain copies of standards when required by Contract Documents.
- C. Should specified reference standards conflict with Contract Documents, request clarification from Prime Consultant before proceeding.

- D. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

#### 1.05 INSPECTION AND TESTING LABORATORY SERVICES

- A. When the individual specifications sections require it, the Contractor shall appoint, employ, and pay for services of an independent firm to perform inspection and testing. Seismic testing will need to be performed by a special inspector. Contractor to coordinate inspection, but KCH will pay for said inspection directly. TAB to be arranged and paid for by the contractor at substantial completion or other date agreed upon by all parties.
- B. Services will be performed in accordance with requirements of governing authorities and with specified standards.
- C. Reports will be submitted by the independent firm to the Prime Consultant, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
  - 1. Notify WHFD AND/OR PROJECT MANAGER and independent firm 24 hours prior to expected time for operations required services.
  - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- E. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by WHFD AND/OR PROJECT MANAGER and shall be paid by the Contractor.

#### 1.06 SPECIAL INSPECTIONS

- A. Owner will employ Special Inspectors acceptable to Hawaii County to perform inspection on various elements of the work as required by Building Code as locally adopted. During the course of the work under inspection, each Special Inspector will submit detailed reports relative to progress and conditions of the work including deviations from specified requirements and stipulating dates, times, and locations. Special inspector will submit a final report to the County. Contractor must cooperate fully with Special Inspectors.

#### 1.07 MANUFACTURER'S FIELD SERVICES AND REPORTS

- A. Submit qualification of observer to the WHFD AND/OR PROJECT MANAGER 30 days in advance of required observations. Observer subject to approval of the Prime Consultant and the WHFD AND/OR PROJECT MANAGER.
- B. When specified in individual specification Sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site

conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment or to test, adjust, and balance of equipment as applicable, and to initiate instruction when necessary.

- C. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written constructions.
- D. Submit two (2) copies of report written by representative, both to the Owner and to the Project Engineer listing observations and recommendations, within five (5) days of observation.

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION (Not Used)**

END OF SECTION 01400



## **SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.
- B. Temporary utilities may include, but not limited to, the following:
  - 1. Sewers and drainage
  - 2. Water service and distribution
  - 3. Sanitary facilities, including toilets, wash facilities and drinking water facilities.
  - 4. Electric power service
  - 5. Lighting
  - 6. Telephone service.
- C. Support facilities include, but are not limited to, the following:
  - 1. Project identification and temporary signs.
  - 2. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities may include, but are not limited to, the following:
  - 1. Environmental protection.
  - 2. Stormwater control.
  - 3. Tree and plant protection.
  - 4. Pest control
  - 5. Site enclosure fence.
  - 6. Security enclosure and lockup.
  - 7. Barricade, warning signs, and lights.
  - 8. Fire protection.

#### **1.02 RELATED DOCUMENTS**

- A. Refer to Drawings for additional requirements for temporary protection.

### 1.03 RELATED SECTIONS

- A. Section 01330 SUBMITTAL PROCEDURES for procedures for submitting copies of implementation and termination schedule and utility reports.

### 1.04 USE CHARGES

- A. General: Cost or use charges for temporary facilities will be paid by the Contractor. Employ means and methods for conservation.
  - 1. Temporary electricity.
  - 2. Temporary water.

### 1.05 PROJECT CONDITIONS

- A. Temporary Utilities: At earliest feasible time, when acceptable to WHFD AND/OR PROJECT MANAGER Manager change over from use of temporary service to use of permanent service.
  - 1. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.
- B. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
  - 1. Keep temporary services and facilities clean and neat.
  - 2. Relocate temporary services and facilities as required by progress of the Work.

## **PART 2 - PRODUCTS**

### 2.01 MATERIALS

- A. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- B. Water: Potable

### 2.02 EQUIPMENT

- A. Fire Extinguishers: Hospital will provide fire extinguishers. Hand carried, portable, UL rated. Provide class and extinguishing agents as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
  - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.
- B. Self-Contained Toilet units, if necessary Single occupant units of chemical, aerated recirculation or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar non-absorbent material.

- C. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110 to 120V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.
- D. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V AC, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.

## **PART 3 - EXECUTION**

### **3.01 INSTALLATION, GENERAL**

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

### **3.02 TEMPORARY UTILITY INSTALLATION**

- A. General: Engage appropriate local utility company to install temporary service or connect to serve connections provided under the Work of the Project. Where utility company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.
  - 1. Provide adequate capacity at each stage of construction. Before temporary utility is available, provide trucked-in services.
  - 2. Obtain easements to bring temporary utilities to Project site where Owner's easements cannot be used for that purpose.
  - 3. Install 50 amp 125/250v job box, if necessary.
  - 4. Sewers and Drainage: If sewers are available, provide temporary connections to remove effluent that can be discharged lawfully.
- B. Water Service: Connect to existing water source for construction operations.
- C. Sanitary Facilities: Existing designated facilities may be used during construction operations. Maintain daily in clean and sanitary condition,
- D. Electric Power Service: Connect to existing power service. Power consumption shall not disrupt hospital's need for continuous service.
- E. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.

### 3.03 SUPPORT FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulation and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
  - 1. Cooperate and comply with hospital's Environmental Management Plan.
- B. Noise Control:
  - 1. Obtain noise permit or permit as required by Chapter 43 State of Hawaii Department of Health regulations.
  - 2. muffle internal combustion engine powered equipment to minimize noise and properly maintain to reduce noise to acceptable levels.
  - 3. Blasting and use of explosives will be not permitted.
  - 4. Activities of severe and prolonged noise and vibration must be approved in advance by WHFD AND/OR PROJECT MANAGER. Submit written notice not less than seven days in advance of intended noise producing activity.
- C. Dust Control:
  - 1. Keep dust within acceptable levels at all times, including non-working hours, weekends and holidays, in conformance with Chapter 31 – Air Pollution of State Departments of Health, Public Health Regulations, latest editions.
  - 2. Only wet grinding or cutting of concrete will be allowed on exterior surfaces.
  - 3. Mechanical dry sweeping not permitted. Vacuuming, wet mopping, approved limited dry hand, wet or damp sweeping is acceptable utilizing the hospital's EPA approved disinfectant.
  - 4. During loading operations, water down debris and waste materials to allay dust.
  - 5. Air scrubbers utilized for dust control costs incurred are the responsibility of the Contractor.
  - 6. Use wet/sticky mats at all entrances to work area to control dust. Replace daily at a minimum.
  - 7. The Contractor is responsible for damage claims.
  - 8. ICRA – during construction/renovation – KCH Policy 125.54 must be adhered to.
- D. Hazardous materials:
  - 1. Asbestos, urea formaldehyde and other hazardous materials are not expected but may be present in the existing structures subject to alteration.

Observe the applicable requirements of Hawaii Occupational Safety and health Standards and the Environmental Protection Agency.

2. If the presence of toxic substances is determined, notify the WHFD AND/OR PROJECT MANAGER immediately to determine the next course of action.
  3. Do not begin demolition when toxic substances are present until occupants of the building are moved to other facilities or are separated from the exposure by assured means.
  4. In removing and disposing of toxic substances, observe the following requirements:
    - a. Provide air-tight compartments within which the toxic substances may be removed.
    - b. In lieu of air-tight compartments, provide competent controlled misting or dust settling agent.
    - c. Place toxic substances in properly labeled sacks of at least 8 mil polypropylene.
  5. Must adhere to KCH Hazmat Material and Waste Management Program Policy 122-6 and Clean up of Spills, Hazardous and Infectious Policy 122-6-2. (If any differences are discovered between RFP and KCH policies, KCH policies shall prevail.)
- E. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
1. Hospital will provide fire extinguishers.
    - a. Field Offices: Class A stored-pressure water-type extinguishers.
    - b. Locate fire extinguishers where convenient and effective for their intended purpose; provide not less than one extinguisher on each floor at or near each usable stairwell.
  2. Store combustible materials in containers in fire-safe locations.
  3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for firefighting. Prohibit smoking in hazardous fire-exposed areas.
  4. Supervise welding operations, and similar sources of fire ignition.
  5. Permanent Fire Protection: At earliest feasible date in each area of Project, complete installation of permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.

6. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedure to be followed. Instruct personnel in methods and procedures. Post warnings and information.

#### F. BARRIERS

1. Follow ICRA. Provide barriers to prevent unauthorized entry to construction areas, to allow for hospital's use of premises, and to protect existing facilities and adjacent properties from damage from construction operations.
2. Provide barricades and covered walkways required by governing authorities.
3. Protect non-owned vehicular traffic, store materials, site and structures from damage.
4. Barriers that will be used on project are to be approved by the project manager before starting work.

#### G. INTERIOR ENCLOSURES

1. Provide temporary partitions as required to separate work areas from hospital occupied areas, to prevent penetration of dust and moisture into hospital occupied areas, and to prevent damage to existing materials and equipment.
2. Construction: Framing and sheet materials must be noncombustible, with closed joints and sealed edges at intersections with existing surfaces and all other areas to provide a smoke tight area; STC rating of 35 in accordance with ASTM E90 and maximum Flame Spread Rating of 75 in accordance with ASTM E84. This information must be posted on the containment.
3. Paint surfaces exposed to view from hospital occupied areas.
4. Enclosures that will be used on the project are to be approved by the WHFD AND/OR PROJECT MANAGER before starting work.

#### H. INFECTION CONTROL

1. Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with hospital's infection control regulation and minimize undesirable effects.
  - a. For ICRA. Cooperate and comply with Owner's Infection Control Plan (KCH Infection Control, Policy 125-54, to be adhered to during construction and renovation.).

### 3.04 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended use.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

END OF SECTION 01500

## **SECTION 01600 - PROJECT REQUIREMENTS**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Selection of products for use in project
- B. Product delivery, storage, and handling
- C. Manufacturers standard warranties on products; special warranties
- D. Product substitutions
- E. Comparable products

#### **1.02 DEFINITIONS**

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
  - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
  - 2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled- content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
  - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design." including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.
- D. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Hospital.



- E. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Hospital.

### 1.03 SUBMITTALS

- A. Product List: Submit a list, in tabular form (preferably in Microsoft Excel), showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.

1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
2. Form: Tabulate information for each product under the following column headings:
  - a. Specification Section number and title.
  - b. Generic name used in the Contract Documents.
  - c. Proprietary name, model number, and similar designations.
  - d. Manufacturer's name and address.
  - e. Supplier's name and address.
  - f. Installer's name and address.
  - g. Projected delivery date or time span of delivery period.
  - h. Identification of items that require early submittal approval for scheduled delivery date.
3. Initial Submittal: Within 20 days after date of commencement of the Work, submit electronically the initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.
  - a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.
4. Completed List: Within 30 days after date of commencement of the Work, submit electronically the completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
5. Project Prime Consultant's or WHFD AND/OR PROJECT MANAGER's Action: The Project Prime Consultant or WHFD AND/OR PROJECT MANAGER will respond in writing to Contractor within 15 days of receipt of completed product list. The Project Prime Consultant's or WHFD AND/OR PROJECT MANAGER's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Project Prime Consultants or WHFD AND/OR PROJECT MANAGERS response, or lack of

response, does not constitute a waiver of requirement that products comply with the Contract Documents.

- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.

#### 1.04 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected.
  - 1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
  - 2. If a dispute arises between contractors over concurrently selectable but incompatible products, the WHFD AND/OR PROJECT MANAGER will determine which products shall be used.

#### 1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturers written instructions.
  - 1. Schedule delivery to minimize storage at Project site and to prevent overcrowding of construction spaces. Long term storage onsite is not permitted unless approved by WHFD AND/OR PROJECT MANAGER.
  - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
  - 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
  - 5. Store products to allow for inspection and measurement of quantity or counting of units.
  - 6. Store materials in a manner that will not endanger Project structure.
  - 7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
  - 8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.

9. Protect stored products from damage
- B. Storage: Provide a secure location and enclosure at Project site for temporary storage of materials and equipment. Coordinate location with WHFD AND/OR PROJECT MANAGER. Long term storage onsite is not permitted unless approved by WHFD AND/OR PROJECT MANAGER.

#### 1.06 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
  1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
  2. Specified Form: Forms are included with the Specifications. Prepare a written document using appropriate form properly executed.
  3. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

### **PART 2 - PRODUCTS**

#### 2.01 PRODUCT OPTIONS

- A. General Product Requirements: Provide products that comply with the Contract Documents that are undamaged, and unless otherwise indicated, that are new at time of installation.
  1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
  2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
  3. Hospital reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
  4. Where products are accompanied by the term "match sample," sample to be matched is Prime Consultant's.

5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics” of products.
  6. Or Equal: Where products are specified by name and accompanied by the term “or equal” or “or approved equal” or “or approved,” comply with provisions in “Comparable Products” Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures: Procedures for product selection include the following:
1. Product: Where Specification paragraphs or subparagraphs titled “Product” name a single product and manufacturer, provide the product named.
    - a. Substitutions may be considered, unless otherwise indicated.
  2. Manufacturer/Source: Where Specification paragraphs or subparagraphs titled “Manufacturer” or “Source” name single manufacturers or sources, provide a product by the manufacturer or from the source named that complies with requirements.
    - a. Substitutions may be considered, unless otherwise indicated.
  3. Products: Where Specification paragraphs or subparagraphs titled “Products” introduce a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
    - a. Substitutions may be considered, unless otherwise indicated.
  4. Manufacturers: Where Specification paragraphs or subparagraphs titled “Manufacturers” introduce a list of manufacturers’ names, provide a product by one of the manufacturers listed that complies with requirements.
    - a. Substitutions may be considered, unless otherwise indicated.
  5. Available Products: Where Specification paragraphs or subparagraphs titled “Available Products” introduce a list of names of both products and manufacturers, provide one of the products listed or another product that complies with requirements. Comply with provisions in “Comparable Products” Article to obtain approval for use of an unnamed product.
  6. Available Manufacturers: Where Specification paragraphs or subparagraphs titled “Available Manufacturers” introduce a list of manufacturer names, provide a product by one of the manufacturers listed or another manufacturer that complies with requirements. Comply with provisions in “Comparable Products” Article to obtain approval for use of an unnamed product.
  7. Product Options: Where Specification paragraphs titled “Product Options” indicate that size, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide either the specific product or system indicated or a comparable product or system by another manufacturer. Comply with provisions in “Product Substitutions” Article.

8. Basis-of-Design Products: Where Specification paragraphs or subparagraphs titled "Basis-of-Design Product[s]" are included and also introduce or refer to a list of manufacturers' names, provide either the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.
  - a. Substitutions may be considered, unless otherwise indicated.
9. Visual Matching Specification: Where Specifications require matching an established Sample, select a product (and manufacturer) that complies with requirements and matches Prime Consultant's sample. WHFD AND/OR PROJECT MANAGER's or Contract Manager's decision will be final on whether a proposed product matches satisfactorily.
  - a. If no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents on "substitutions" for selection of a matching product.
10. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product (and manufacturer) that complies with other specified requirements.
  - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, WHFD AND/OR PROJECT MANAGER and Contracts Manager will select color, pattern, or texture from manufacturer's product line that does not include premium items.
  - b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures or similar phrase. WHFD AND/OR PROJECT MANAGER and Contracts Manager will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.
11. Allowances: Refer to individual Specification Sections and "Allowance" provisions in Division I for allowances that control product selection and for procedures required for processing such selections.

## 2.02 PRODUCT SUBSTITUTIONS

- A. Follow the procedures as described in Hawaii Health Systems Corporation General Conditions for Construction.

## 2.03 COMPARABLE PRODUCTS

- A. Where products or manufacturers are specified by name, submit the following, in addition to other required submittals, to obtain approval of an unnamed product:

1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of Prime Consultants and owners, if requested.
5. Samples, if requested.

**PART 3 - EXECUTION (Not Used)**

END OF SECTION 01600

## **SECTION 01730 – EXECUTION**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Construction layout.
- B. Field engineering and surveying.
- C. Progress cleaning.

#### **1.02 RELATED SECTIONS**

- A. Section 01330 "SUBMITTAL PROCEDURES" for submitting surveys.

### **PART 2 - PRODUCTS (Not Used)**

### **PART 3 - EXECUTION**

#### **3.01 EXAMINATION**

- A. Acceptance of Conditions: Examine substrates, areas, and conditions, with General Contractor and Subcontractor present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  - 1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
    - a. Description of the Work.
    - b. List of detrimental conditions, including substrates.
    - c. List of unacceptable installation tolerances.
    - d. Recommended corrections.
  - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
  - 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

#### **3.02 PREPARATION**

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of Items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Prime Consultant. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

### 3.03 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
  - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, wet mop or vacuum the entire work area, as appropriate, utilizing the hospital's EPA approved disinfectant.
- D. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- E. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

END OF SECTION 01730



## **SECTION 01732 - CUTTING AND PATCHING**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Requirements and limitations for cutting and patching of Work.

#### **1.02 RELATED SECTIONS**

- A. Section 01100 SUMMARY: Work by Owner or by separate contractors.
- B. Section 01120 ALTERATION PROJECT PROCEDURES: Cutting and patching for alterations work.
- C. Section 01330— SUBMITTAL PROCEDURES.
- D. Section 01600— MATERIAL REQUIREMENTS: Product Options and Substitutions.
- E. Individual Product Specification Sections:
  - 1. Cutting and patching incidental to work of the Section.
  - 2. Advance notification to other Sections of openings required in work of those Sections.
  - 3. Limitations on cutting structural members.

#### **1.03 SUBMITTALS**

- A. Submit written request in advance of cutting or alteration which affects:
  - 1. Structural integrity of any element of Project.
  - 2. Efficiency, maintenance, or safety of any operational element.
- B. Include in request:
  - 1. Identification of Project.
  - 2. Location and description of affected work.
  - 3. Necessity for cutting or alteration.
  - 4. Description of proposed work, and products to be used.
  - 5. Alternatives to cutting and patching.
  - 6. Effect on work of Hospital or separate contractor.
  - 7. Written permission of affected separate contractor.

8. Date and time work will be executed.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS**

- A. Primary Products: Those required for original installation.

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.
- B. After uncovering existing work, inspect conditions affecting performance of work.
- C. Beginning of cutting or patching means acceptance of existing conditions.

### **3.02 PREPARATION**

- A. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
- B. Provide protection from elements for areas that may be exposed by uncovering work.
- C. Maintain excavations free of water.

### **3.03 CUTTING AND PATCHING**

- A. Execute cutting, fitting, and patching to complete work.
- B. Fit products together, to integrate with other work.
- C. Uncover work to install ill-timed work.
- D. Remove and replace defective or non-conforming work.
- E. Remove samples of installed work for testing when requested.
- F. Provide openings in the work for penetration of mechanical and electrical work.

### **3.04 PERFORMANCE**

- A. Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
- B. Cut rigid materials using masonry saw or core drill. Pneumatic tools are allowed with WHFD's prior approval.
- C. Restore work with new products in accordance with requirements of Contract Documents.

- D. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- E. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids, fire stopping, to full thickness of the penetrated element. Use red 3M fire caulk only.
- F. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

END OF SECTION 01732

## **SECTION 01770 - CLOSEOUT PROCEDURES**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Inspection procedures.
  - 2. Warranties.
  - 3. Final cleaning.

#### **1.02 RELATED SECTIONS**

- A. Section 01260 CONTRACT CONSIDERATIONS for requirements for Applications for Payment for Substantial and Final Completion.
- B. Section 01730 EXECUTION for progress cleaning of Project site.
- C. Sections for specific closeout and special cleaning requirements for the Work in those Sections.

#### **1.03 SUBSTANTIAL COMPLETION**

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
  - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
  - 2. Advise Hospital Risk Manager of pending insurance changeover requirements, if necessary.
  - 3. Obtain and submit releases permitting Hospital unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  - 4. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
  - 5. Complete startup testing of systems.
  - 6. Submit test/adjust/balance, including TAB, records.
  - 7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

8. Advise WHFD of changeover in heat and other utilities.
  9. Submit changeover information related to Hospital's occupancy, use, operation, and maintenance.
  10. Complete final cleaning requirements, including touchup painting.
  11. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, the WHFD will either proceed with inspection or notify Contractor of unfulfilled requirements. The will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of Items, either on Contractor's list or additional items identified by the Prime Consultant that must be completed or corrected before certificate will be issued.
1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
  2. Results of completed inspection will form the basis of requirements for Final Completion.

#### 1.04 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section Payment Procedures.
  2. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents. To be submitted in 3 ring binder.
  3. Deliver tools, spare parts, extra materials, and similar items to location designated by WHFD. Label with manufacturer's name and model number where applicable.
  4. Make final changeover of permanent locks and deliver keys to WHFD. Advise Hospital's personnel of changeover n security provisions.
  5. Submit copy of WHFD's Substantial Completion inspection list of items to be completed or corrected. The copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  7. Submit pest-control final inspection report and warranty.

8. Instruct Hospital's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Document attendance and discussion topics presented to WHFD's personnel.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, the Prime Consultant and WHFD will either proceed with inspection or notify Contractor of unfulfilled requirements.
  1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

#### 1.05 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit electronic copy of punch list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use Contractor's form.
  1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
  2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Contractor.
    - d. Page number.

#### 1.06 WARRANTIES

- A. Submittal Time: Submit written warranties on request of WHFD for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 10 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
  1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11 1-inch paper.

2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS**

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Cleaning agents must be approved WHFD. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

## **PART 3 - EXECUTION**

### **3.01 FINAL CLEANING**

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions as well as utilize hospital approved disinfectants.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
    - a. Clean Project site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid

disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

- f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- g. Sweep concrete floors broom clean in unoccupied spaces. Mop using quaternary ammonium disinfectants.
- h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
- i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
- j. Remove labels that are not permanent.
- k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
  - 1) Do not paint over "UL" and similar labels on door and window frames, including mechanical and electrical nameplates.
- l. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- m. Replace parts subject to unusual operating conditions.
- n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- p. Clean ducts, blowers, and coils if units were operated without filters during construction.
- q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
- r. Leave Project clean and ready for occupancy.

C. Pest Control: To be determined by WHFD.



- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Hospital's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully. Follow County of Hawaii waste guidelines.

END OF SECTION 01770

## **SECTION 01783 - PROJECT RECORD DOCUMENTS**

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Administrative and procedural requirements for Project Record Documents, including the following:
  - 1. Record Drawings.
  - 2. Record Specifications.
  - 3. Record Product Data.

#### **1.02 RELATED SECTIONS**

- A. Section 01770 CLOSEOUT PROCEDURES for general closeout procedures.
- B. Related sections of the work in this Specification for Project Record Documents.

#### **1.03 SUBMITTALS**

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit copies of Record Drawings as follows:
    - a. Initial Submittal: Submit one set of plots from corrected Record CAD Drawings and one set of marked-up Record Prints. Prime Consultant will initial and date each plot and mark whether general scope of changes, additional information recorded, and quality of drafting are acceptable. Prime Consultant will return plots and prints for organizing into sets, printing, binding, and final submittal.
    - b. Final Submittal: Submit one set of marked-up Record Prints, two sets of Record CAD Drawing files, two copies of Record CAD Drawing plots. Plot and print each Drawing, whether or not changes and additional information were recorded.
      - 1) E-mail: ACAD and PDF formats
    - c. Record Specifications: Submit one electronic copy of Project's Specifications, including addenda and contract modifications.

### **PART 2 - PRODUCTS**

#### **2.01 RECORD DRAWINGS**

- A. Record Prints: Maintain one set of black-line prints of the Contract Drawings and Shop Drawings.

1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
  - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Accurately record information in an understandable drawing technique.
  - b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
2. Content: Types of items requiring marking include, but are not limited to, the following:
  - a. Dimensional changes to Drawings.
  - b. Revisions to details shown on Drawings.
  - c. Depths of foundations below first floor.
  - d. Locations and depths of underground utilities.
  - e. Revisions to routing of piping and conduits.
  - f. Revisions to electrical circuitry.
  - g. Actual equipment locations.
  - h. Duct size and routing.
  - i. Locations of concealed internal utilities.
  - j. Changes made by Change Order or Construction Change Directive.
  - k. Changes made following Prime Consultant's written orders.
  - l. Details not on the original Contract Drawings.
  - m. Field records for variable and concealed conditions.
  - n. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

5. Mark important additional information that was either shown schematically or omitted from original Drawings.
  6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record CAD Drawings: Prepare a full set of corrected CAD Drawings of the Contract Drawings, as follows:
1. Format: Same CAD program, version, and operating system as the original Contract Drawings. PDF format also.
  2. Incorporate changes and additional information previously marked on Record Prints. Delete, redraw, and add details and notations where applicable.
  3. Refer instances of uncertainty to Prime Consultant through Owners Project Manager for resolution.
  4. The Contractor is free to negotiate a fee with the Prime Consultant, for the CAD Drawings of the Contract Drawings for use in recording Information.
- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize Record Prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
  2. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file. PDF format also.
  3. Identification: As follows:
    - a. Project name.
    - b. Date.
    - c. Designation "PROJECT RECORD DRAWINGS."
    - d. Name of Contractor.

## 2.02 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

#### 2.03 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  3. Note related Change Orders. Record Specifications, and Record Drawings where applicable.

#### 2.04 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

### **PART 3 - Execution**

#### 3.01 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Prime Consultant's and Owner's reference during normal working hours.

END OF SECTION 01783

## **SECTION 02532 – PACKAGED SEWAGE PUMPING STATIONS**

### **PART 1 - GENERAL**

#### **1.01 GENERAL DESCRIPTION**

- A. Furnish complete factory-built and tested Drywell Grinder Pump Station, consisting of grinder pump(s) suitably mounted in a basin constructed of polyethylene (HDPE) for simplex stations with dimensions and capacities as show on the Contract Drawings, NEMA 6P electrical quick disconnect (EQD), pump removal system, stainless steel discharge assembly/shut-off valve, anti-siphon valve/check valve, each assembled in the basin, electrical alarm panel and all necessary internal wiring and controls. Component type grinder pump systems that require field assembly will not be acceptable due to the potential problems that can occur during field assembly. All components and materials shall be in accordance with section 2.0 of this Product Specification. For ease of serviceability, all pump, motor/grinder units shall be of like type and horsepower throughout the system.

#### **1.02 SUBMITTALS**

- A. Contractor shall furnish shop drawings detailing the equipment to be furnished including dimensional data and materials of construction. Fabrication of the equipment shall not commence until acceptance of shop drawings has been issued by Engineer.
- B. Submit detailed installation and user instructions for sewer pump station, information on manufacturer's established service program including complete parts and service manuals, and service manuals.

#### **1.03 MANUFACTURER**

- A. Grinder pump station, complete with all appurtenances, form an integral system, and as such, shall be supplied by one grinder pump station manufacturer. The Contractor shall be responsible for the satisfactory operation of the entire system. The equipment specified shall be a product of a company experienced in the design and manufacture of grinder pumps for specific use in low pressure sewage systems. Manufacturer is responsible for maintaining a continuing inventory of grinder pump replacement parts. The Manufacturer shall provide, upon request, a reference and contact list from ten of its largest contiguous grinder pump installations of the type of grinder pumps described within this specification.

The Manufacturer of the grinder pump station shall be Environment One Corporation or Approved Equal.

- B. Attention is directed to the fact that the drawings and overall system design are based on a particular piece of equipment from a particular manufacturer. These specifications are intended to provide guidelines for standard equipment of a recognized manufacturer who already meets all the requirements of this specification.

#### 1.04 ALTERNATE EQUIPMENT

- A. In the event that the Contractor proposes an Alternate to the specified Manufacturer, the Engineer recognizes that it will be difficult to conform to certain details of this Specification due to different manufacturing techniques or grinder pump station designs. If proposing an Alternate, the Contractor must submit, no less than 15 business days in advance of the bid date, a complete description of any changes that will be necessary to the system design, a complete submittal package as outlined in Section 1.02 SUBMITTALS, a system hydraulic analysis based on the proposed pump (including pipe sizes, flows, velocities, retention times and number and location of recommended valves and cleanouts, if any). If the equipment differs materially or differs from the dimensions given on the Drawings, the Contractor shall submit complete drawings showing elevations, dimensions, or any necessary changes to the Contract Documents for the proposed equipment and its installation. Pre-approval, if granted, will be provided in writing by the Engineer to the Contractor at least five business days in advance of the bid date. If the Engineer's approval is obtained for Alternate Equipment, the Contractor must make any needed changes in the structures, system design, piping or electrical systems necessary to accommodate the proposed equipment at the expense of the Contractor.

#### 1.05 OPERATING CONDITIONS

- A. The pumps shall be capable of delivering 15 GPM against a rated total dynamic head of 0 feet (0 PSIG), 11 GPM against a rated total dynamic head of 92 feet (40 PSIG), and 7.8 GPM against a rated total dynamic head of 185 feet (80 PSIG). The pump(s) must also be capable of operating at negative total dynamic head without overloading the motor(s). Under no conditions shall in-line piping or valving be allowed to create a false apparent head.

#### 1.06 WARRANTY

- A. The grinder pump Manufacture shall provide a part(s) and labor warranty on the complete station and accessories, including, but not limited to, the panel for a period of 24 months after notice of Owner's acceptance, but no greater than 27 months after receipt of shipment. Any manufacturing defects found during the warranty period reported to the Manufacturer by the Owner and must be corrected by the Manufacturer at no cost to the Owner.

### **PART 2 – PRODUCTS**

#### 2.01 PUMP

- A. The pump shall be a custom designed, integral, vertical rotor, motor driven, solids handling pump of the progressing cavity type with a single mechanical seal. Double radial O-ring seals are required at all casting joints to minimize corrosion and create a protective barrier. All pump castings shall be cast iron, fully epoxy coated to 8-10 mil Nominal dry thickness, wet applied. The rotor shall

be through-hardened, highly polished, precipitation hardened stainless steel. The stator shall be of a specifically compounded ethylene propylene synthetic elastomer. This material shall be suitable for domestic wastewater service. Its physical properties shall include high tear and abrasion resistance, grease resistance, water and detergent resistance, temperature stability, excellent aging properties, and outstanding wear resistance. Buna-N is not acceptable as a stator material because it does not exhibit the properties as outlined above and required for wastewater service.

## 2.02 GRINDER

- A. The grinder shall be placed immediately below the pumping elements and shall be direct-driven by a single, one-piece motor shaft. The grinder impeller (cutter wheel) assembly shall be securely fastened to the pump motor shaft by means of a threaded connection attaching the grinder impeller to the motor shaft. Attachment by means of pins or keys will not be acceptable. The grinder impeller shall be a one-piece, 4140 cutter wheel of the rotating type with inductively hardened cutter teeth. The cutter teeth shall be inductively hardened to Rockwell 50 – 60c for abrasion resistance. The shredder ring shall be of the stationary type and the material shall be white cast iron. The teeth shall be ground into the material to achieve effective grinding. The shredder ring shall have a staggered tooth pattern with only one edge engaged at a time, maximizing the cutting torque. These materials have been chosen for their capacity to perform in the intended environment as they are materials with wear and corrosive resistant properties.

This assembly shall be dynamically balanced and operate without objectionable noise or vibration over the entire range of recommended operating pressures. The grinder shall be constructed so as to minimize clogging and jamming under all normal operating conditions including starting. Sufficient vortex action shall be created to scour the tank free of deposits or sludge banks which would impair the operation of the pump. These requirements shall be accomplished by the following, in conjunction with the pump:

1. The grinder shall be positioned in such a way that solids are fed in an upward flow direction.
  2. The maximum flow rate through the cutting mechanism must not exceed 4 feet per second. This is a critical design element to minimize jamming and as such must be adhered to.
  3. The inlet shroud shall have a diameter of no less than 5 inches. Inlet shrouds that are less than 5 inches in diameter will not be accepted due to their inability to maintain the specified 4 feet per second maximum inlet velocity which by design prevents unnecessary jamming of the cutter mechanism and minimizes blinding of the pump by large objects that block the inlet shroud.
  4. The impeller mechanism must rotate at a nominal speed of no greater than 1800 rpm.
- B. The grinder shall be capable of reducing all components in normal domestic sewage, including a reasonable amount of "foreign objects," such as paper, wood, plastic, glass, wipes, rubber and the like, to finely-divided particles which will pass freely through the passages of the pump and the 1-1/4" diameter stainless steel discharge piping.



## 2.03 ELECTRIC MOTOR

- A. As a maximum, the motor shall be a 1 HP, 1725 RPM, 240 Volt 60 Hertz, 1 Phase, capacitor start, ball bearing, air-cooled induction type with Class F installation, low starting current not to exceed 30 amperes and high starting torque of 8.4 foot pounds. The motor shall be press-fit into the casting for better heat transfer and longer winding life. Inherent protection against running overloads or locked rotor conditions for the pump motor shall be provided by the use of an automatic-reset, integral thermal overload protector incorporated into the motor. This motor protector combination shall have been specifically investigated and listed by Underwriters Laboratories, Inc., for the application. Non-capacitor start motors or permanent split capacitor motors will not be accepted because of their reduced starting torque and consequent diminished grinding capability. The wet portion of the motor armature must be 300 Series stainless. To reduce the potential of environmental concerns, the expense of handling and disposing of oil, and the associated maintenance costs, oil-filled motors will not be accepted.

## 2.04 MECHANICAL SEAL

- A. The pump/core shall be provided with a mechanical shaft seal to prevent leakage between the motor and pump. The seal shall have a stationary ceramic seat and carbon rotating surface with faces precision lapped and held in position by a stainless steel spring.

## 2.05 TANK AND INTEGRAL ACCESSWAY

- A. High Density Polyethylene Construction. The tank shall be a Drywell design made of high density polyethylene, with a grade selected to provide the necessary environmental stress cracking resistance. Corrugated sections are to be made of a double wall construction with the internal wall being generally smooth to promote scouring. The corrugations of the outside wall are to be a minimum amplitude of 1-1/2" to provide necessary transverse stiffness. Any incidental sections of a single wall construction are to be 0.250" thick (minimum). All seams created during tank construction are to be thermally welded and factory tested for leak tightness. The tank wall and bottom must withstand the pressure exerted by saturated soil loading at maximum burial depth. All station components must function normally when exposed to 150 percent of the maximum external soil and hydrostatic pressure.
- B. The tank shall be furnished with one EPDM grommet fitting to accept a 4.50" OD DWV or Schedule 40 pipe. The tank capacities shall be as shown on the contract drawings.
- C. The Drywell accessway shall be an integral extension of the Wetwell assembly and shall include a lockable cover assembly providing low profile mounting and watertight capability. The accessway design and construction shall enable field adjustment of the station height in increments of 4" or less without the use of any adhesives or sealants requiring cure time before installation can be completed.

- D. The station shall have all necessary penetrations molded in and factory sealed. To ensure a leak free installation no field penetrations will be acceptable.
- E. All discharge piping shall be constructed of 304 stainless steel. The discharge shall terminate outside the accessway bulkhead with a stainless steel, 1-1/4" Female NPT fitting. The discharge piping shall include a stainless steel ball valve rated for 235 psi WOG; PVC ball valves or brass ball/gate will not be accepted. The bulkhead penetration shall be factory installed and warranted by the manufacturer to be watertight.
- F. The accessway shall include a single NEMA 6P Electrical Quick Disconnect (EQD) for all power and control functions, factory installed with accessway penetrations warranted by the manufacturer to be watertight. The EQD to be supplied with 32', 25' of useable Electrical Supply Cable (ESC) outside the station, to connect to the alarm panel. The ESC shall be installed in the basin by the manufacturer. Field assembly of the ESC into the basin is not acceptable because of potential workmanship issues. The EQD shall require no tools for connecting, seal against water before the electrical connection is made, and include radial seals to assure a watertight seal regardless of tightening torque. Plug-type connections of the power cable onto the pump housing will not be acceptable due to the potential for leaks and electrical shorts. A junction box shall not be permitted in the accessway due to the large number of potential leak points. The EQD shall be so designed to be conducive to field wiring as required. The accessway shall also include an integral 2-inch vent to prevent sewage gases from accumulating in the tank.

#### 2.06 CHECK VALVE

- A. The pump discharge shall be equipped with a factory installed, gravity operated, flapper-type integral check valve built into the stainless steel discharge piping. The check valve will provide a full-ported passageway when open, and shall introduce a friction loss of less than 6 inches of water at maximum rated flow. Moving parts will be made of a 300 Series stainless steel and fabric reinforced synthetic elastomer to ensure corrosion resistance, dimensional stability, and fatigue strength. A nonmetallic hinge shall be an integral part of the flapper assembly providing a maximum degree of freedom to assure seating even at a very low back-pressure. The valve body shall be an injection molded part made of an engineered thermoplastic resin. The valve shall be rated for continuous operating pressure of 235 psi. Ball-type check valves are unacceptable due to their limited sealing capacity in slurry applications.

#### 2.07 ANTI-SIPHON VALVE

- A. The pump discharge shall be equipped with a factory-installed, gravity-operated, flapper-type integral anti-siphon valve built into the stainless steel discharge piping. Moving parts will be made of 300 Series stainless steel and fabric-reinforced synthetic elastomer to ensure corrosion resistance, dimensional stability, and fatigue strength. A nonmetallic hinge shall be an integral part of the flapper assembly, providing a maximum degree of freedom to ensure proper operation even at a very low pressure. The valve body shall be injection-molded from an engineered thermoplastic resin. Holes or ports in the discharge piping are not acceptable anti-siphon devices due to their tendency to clog from the

solids in the slurry being pumped. The anti-siphon port diameter shall be no less than 60% of the inside diameter of the pump discharge piping.

## 2.08 CORE UNIT

- A. The grinder pump station shall have a cartridge type, easily removable core assembly consisting of pump, motor, grinder, all motor controls, check valve, anti-siphon valve, level controls, electrical quick disconnect and wiring. The core unit shall be installed in the basin by the manufacturer. Field assembly of the pump and controls into the basin is not acceptable because of potential workmanship issues and increased installation time. The core unit shall seal to the tank deck with a stainless steel latch assembly. The latch assembly must be actuated utilizing a single quick release mechanism requiring no more than a half turn of a wrench. The watertight integrity of each core unit shall be established by a 100 percent factory test at a minimum of 5 PSIG.

## 2.09 CONTROLS

- A. All necessary motor starting controls shall be located in the cast iron enclosure of the core unit secured by stainless steel fasteners. Locating the motor starting controls in a plastic enclosure is not acceptable. The wastewater level sensing controls shall be housed in a separate enclosure from motor starting controls. The level sensor housing must be sealed via a radial type seal; solvents or glues are not acceptable. The level sensing control housing must be integrally attached to pump assembly so that it may be removed from the station with the pump and in such a way as to minimize the potential for the accumulation of grease and debris accumulation, etc. The level sensing housing must be a high-impact thermoplastic copolymer over-molded with a thermo plastic elastomer. The use of PVC for the level sensing housing is not acceptable.
- B. Non-fouling wastewater level controls for controlling pump operation shall be accomplished by monitoring the pressure changes in an integral air column connected to a pressure switch. The air column shall be integrally molded from a thermoplastic elastomer suitable for use in wastewater and with excellent impact resistance. The air column shall have only a single connection between the water level being monitored and the pressure switch. Any connections are to be sealed radially with redundant O-rings. The level detection device shall have no moving parts in direct contact with the wastewater and shall be integral to the pump core assembly in a single, readily-exchanged unit. Depressing the push to run button must operate the pump even with the level sensor housing removed from the pump.
- C. All fasteners throughout the assembly shall be 300 Series stainless steel. High-level sensing will be accomplished in the manner detailed above by a separate air column sensor and pressure switch of the same type. Closure of the high-level sensing device will energize an alarm circuit as well as a redundant pump-on circuit. For increased reliability, pump ON/OFF and high-level alarm functions shall not be controlled by the same switch. Float switches of any kind, including float trees, will not be accepted due to the periodic need to maintain (rinsing, cleaning) such devices and their tendency to malfunction because of incorrect wiring, tangling, grease buildup, and mechanical cord fatigue. To assure reliable operation of the pressure switches, each core shall be equipped with a factory

installed equalizer diaphragm that compensates for any atmospheric pressure or temperature changes. Tube or piping runs outside of the station tank or into tank-mounted junction boxes providing pressure switch equalization will not be permitted due to their susceptibility to condensation, kinking, pinching, and insect infestation. The grinder pump will be furnished with a 6 conductor 14 gauge, type SJOW cable, pre-wired and watertight to meet UL requirements with a FACTORY INSTALLED NEMA 6P EQD half attached to it.

#### 2.10 Stainless Steel Curb Stop/Check Valve Assembly (UNI-LATERAL):

- A. The curb stop shall be pressure-tight in both directions. The ball valve actuator shall include position stop features at the fully opened and closed positions. The curb stop/check valve assembly shall be designed to withstand a working pressure of 235 psi.
- B. The stainless steel check valve shall be integral with the curb stop valve. The check valve will provide a full-ported 1-1/4" passageway and shall introduce minimal friction loss at maximum rated flow. The flapper hinge design shall provide a maximum degree of freedom and ensure seating at low back pressure.
- C. Engineered Thermoplastic Fittings – All plastic fitting components are to be in compliance with applicable ASTM standards.
- D. All pipe connections shall be made using compression fitting connections including a Buna-N O-ring for sealing to the outside diameter of the pipe. A split-collet locking device shall be integrated into all pipe connection fittings to securely restrain the pipe from hydraulic pressure and external loading caused by shifting and settling.
- E. Curb Boxes – Curb boxes shall be constructed of ABS, conforming to ASTM-D 1788. Lid top casting shall be cast iron, conforming to ASTM A-48 Class 25, providing magnetic detectability, and be painted black. All components shall be inherently corrosion-resistant to ensure durability in the ground. Curb boxes shall provide height adjustment downward (shorter) from their nominal height.
- F. Factory Test – The stainless steel, combination curb stop/check valve component shall be 100 percent hydrostatically tested to 150 psi in the factory.

#### 2.11 ALARM PANEL

- A. Grinder pump station shall include a NEMA 4X, UL-listed alarm panel suitable for wall or pole mounting. The NEMA 4X enclosure shall be manufactured of thermoplastic polyester to ensure corrosion resistance. The enclosure shall include a hinged, lockable cover with padlock, preventing access to electrical components, and creating a secured safety front to allow access only to authorized personnel. The enclosure shall not exceed 10.5" W x 14" H x 7" D, or 12.5" W x 16" H x 7.5" D if certain options are included.
- B. The alarm panel shall contain one 15-amp, double-pole circuit breaker for the pump core's power circuit and one 15-amp, single-pole circuit breaker for the alarm circuit. The panel shall contain a push-to-run feature, an internal run

indicator, and a complete alarm circuit. All circuit boards in the alarm panel are to be protected with a conformal coating on both sides and the AC power circuit shall include an auto resetting fuse.

- C. The alarm panel shall include the following features: external audible and visual alarm; push-to-run switch; push-to-silence switch; redundant pump start; and high level alarm capability. The alarm sequence is to be as follows when the pump and alarm breakers are on:
  - 1. When liquid level in the sewage wet-well rises above the alarm level, the contacts on the alarm pressure switch activate, audible and visual alarms are activated, and the redundant pump starting system is energized.
  - 2. The audible alarm may be silenced by means of the externally mounted, push-to-silence button.
  - 3. Visual alarm remains illuminated until the sewage level in the wet-well drops below the "off" setting of the alarm pressure switch.
- D. The visual alarm lamp shall be inside a red, oblong lens at least 3.75" L x 2.38" W x 1.5" H. Visual alarm shall be mounted to the top of the enclosure in such a manner as to maintain NEMA 4X rating. The audible alarm shall be externally mounted on the bottom of the enclosure, capable of 93 dB @ 2 feet. The audible alarm shall be capable of being deactivated by depressing a push-type switch that is encapsulated in a weatherproof silicone boot and mounted on the bottom of the enclosure (push-to-silence button).
- E. The entire alarm panel, as manufactured and including any of the following options shall be listed by Underwriters Laboratories, Inc.
  - 1. Generator Receptacle and Auto Transfer – The alarm panel shall include a 20 amp, 250 VAC generator receptacle with a spring-loaded, gasketed cover suitably mounted to provide access for connection of an external generator while maintaining a NEMA 4X rating. An automatic transfer switch shall be provided, which automatically switches from AC power to generator power. Power shall be provided to that alarm panel through the generator receptacle whenever power is present at the receptacle, allowing the audible and visual alarms to function normally in generator mode. When power is no longer applied to the generator receptacle, the panel is automatically switched back to the AC Mains power. (No manual switching within the panel enclosure is necessary to switch from generator power back to AC Mains, so the mode cannot be inadvertently left in the generator position after pumping down the station in generator mode as is the case with a manual transfer switch).
  - 2. SENTRY SIMPLEX PROTECT
    - a. Low Voltage (Brownout) Protection – A lockout cycle will prevent the motor from operating and will illuminate an LED if:
      - 1) the incoming AC Mains voltage drops below a predetermined minimum, typically 12% of nameplate (211 volts for a 240 volt system) for 2 to 3 seconds, regardless of whether the motor is running
      - 2) the lockout cycle will end if the incoming AC Mains voltage returns to a predetermined value, typically 10% of nameplate (216 volts for a

240 volt system)

The system continues to retest the voltage every second indefinitely. If the lockout cycle has been initiated and the voltage comes back above the predetermined starting voltage, the system will function normally. The LED remains illuminated during a Brownout condition and remains latched until the pump breaker is turned off and then on again (reset). The audible and visual alarm will not be activated unless there is a high wastewater level in the tank.

- b. Run Dry Protection – A 20-minute lockout cycle will prevent the motor from operating and will illuminate an LED when the wastewater level in the tank is below the pump inlet level. The condition is rechecked every 20 minutes. If the lockout cycle has been initiated and the condition is satisfied, the pump is not allowed to cycle normally but the LED remains latched. The LED will remain latched until the pump breaker is turned off and then on again (reset). If the condition is not satisfied after 3 consecutive attempts, the visual alarm will be activated until the pump breaker is turned off and on (reset) or until there is one cycle of normal operation. If a high level condition is presented at any time, a pump run cycle will be activated.
- c. High System Pressure Protection – A 20-minute lockout cycle will prevent the motor from operating and will illuminate an LED when the pressure in the discharge line is atypically high (closed valve or abnormal line plug). The condition is rechecked every 20 minutes. If the condition is satisfied, the pump is allowed to cycle normally but the LED remains latched. If the condition is not satisfied after 3 consecutive attempts, the pump is locked out indefinitely until the condition is removed and power is reset. The LED will remain latched until the pump breaker is turned off and then on again (reset). The audible and visual alarm will be activated.

## 2.12 SERVICEABILITY

- A. The grinder pump core, including level sensor assembly, shall have two lifting hooks complete with lift-out harness connected to its top housing to facilitate easy core removal when necessary. The level sensor assembly must be easily removed from the pump assembly for service or replacement. All mechanical and electrical connections must provide easy disconnect capability for core unit removal and installation. Each EQD half must include a water-tight cover to protect the internal electrical pins while the EQD is unplugged. A pump push-to-run feature will be provided for field trouble shooting. The push-to-run feature must operate the pump even if the level sensor assembly has been removed from the pump assembly. All motor control components shall be mounted on a readily replaceable bracket for ease of field service.

## 2.13 OSHA CONFINED SPACE

- A. All maintenance tasks for the grinder pump station must be possible without entry into the grinder pump station (as per OSHA 1910.146, permit-required confined spaces). "Entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in

that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space."

## **2.14 SAFETY**

- A. The grinder pump shall be free from electrical and fire hazards as required in a residential environment. As evidence of compliance with this requirement, the completely assembled and wired grinder pump station shall be listed by Underwriters Laboratories, Inc. to be safe and appropriate for the intended use. UL listing of components of the station, or third-party testing to UL standard are not acceptable.
- B. The grinder pump shall meet accepted standards for plumbing equipment for use in or near residences, shall be free from noise, odor, or health hazards, and shall have been tested by an independent laboratory to certify its capability to perform as specified in either individual or low pressure sewer system applications. As evidence of compliance with this requirement, the grinder pump shall bear the seal of NSF International. Third-party testing to NSF standard is not acceptable.

## **PART 3 - EXECUTION**

### **3.01 FACTORY TEST**

- A. Grinder pump shall be submerged and operated for 1.5 minutes (minimum). Included in this procedure will be the testing of all ancillary components such as, the anti-siphon valve, check valve, discharge assembly and each unit's dedicated level controls and motor controls. All factory tests shall incorporate each of the above listed items. Actual appurtenances and controls which will be installed in the field shall be particular to the tested pump only. A common set of appurtenances and controls for all pumps is not acceptable. Certified test results shall be available upon request showing the operation of each grinder pump at two different points on its curve. Additional validation tests include: integral level control performance, continuity to ground and acoustic tests of the rotating components.
- B. All completed stations shall be factory leak tested to assure the integrity of all joints, seams and penetrations. All necessary penetrations such as inlets, discharge fittings and cable connectors shall be included in this test along with their respective sealing means (grommets, gaskets etc.).

### **3.02 CERTIFIED SERVICE PROGRAM**

- A. The grinder pump Manufacturer shall provide a program implemented by the Manufacturer's personnel as described in this specification to certify the service company as an authorized serviced center. As evidence of this, the Manufacturer shall provide, when requested, sufficient evidence that they have maintained their own service department for a minimum of 30 years and currently employ a minimum of five employees specifically in the service department.
- B. As part of this program, the Manufacturer shall evaluate the service technicians as well as the service organization annually. The service company will be

authorized by the Manufacturer to make independent warranty judgments. The areas covered by the program shall include, as a minimum:

1. Pump Population Information — The service company will maintain a detailed database for the grinder pumps in the territory that tracks serial numbers by address.
2. Inventory Management — The service company must maintain an appropriate level of inventory (pumps, tanks, panels, service parts, etc.) including regular inventory review and proper inventory labeling. Service technicians will also maintain appropriate parts inventory and spare core(s) on service vehicles.
3. Service Personnel Certification — Service technicians will maintain their level-specific certification annually. The certifications are given in field troubleshooting, repair, and training.
4. Service Documentation and Records — Start up sheets, service call records, and customer feedback will be recorded and available by the service company.
5. Shop Organization — The service company will keep its service shop organized and pumps will be tagged with site information at all times. The shop will have all required equipment, a test tank, and cleaning tools necessary to service pumps properly.

### 3.02 DELIVERY

- A. All grinder pump units will be delivered to the job site 100 percent completely assembled, including testing, ready for installation. Field installation of the pump in tanks under 96 inches is not allowed. Field installation of the level sensor into the tank is not allowed. Grinder pump stations will be individually mounted on wooden pallets.

### 3.03 INSTALLATION

- A. Earth excavation and backfill shall be done in accordance with contract documents and manufacturer's installation instruction.
- B. The Contractor shall be responsible for handling ground water to provide a firm, dry subgrade for the structure, and shall guard against flotation or other damage resulting from general water or flooding.
- C. Remove packing material and deliver User instructions to the Owner. Hardware supplied with the unit, if required, will be used at installation. The basin will be supplied with a standard 4" inlet grommet (4.50" OD) for connecting the incoming sewer line. Appropriate inlet piping must be used. The basin may not be dropped, rolled or laid on its side for any reason.
- D. Installation shall be accomplished so that 1 inch to 4 inches of accessway, below the bottom of the lid, extends above the finished grade line. The finished grade shall slope away from the unit. The diameter of the excavated hole must be large enough to allow for the concrete anchor.
- E. A 6" inch (minimum) layer of naturally rounded aggregate, clean and free flowing, with particle size of not less than 1/8" or more than 3/4" shall be used as bedding material under each unit.



- F. A concrete anti-flotation collar, as detailed on the drawings, and sized according to the manufacturer's instructions, shall be required and shall be pre-cast to the grinder pump or poured in place. Each grinder pump station with its pre-cast anti-flotation collar shall have a minimum of three lifting eyes for loading and unloading purposes.
- G. If the concrete is poured in place, the unit shall be leveled, and filled with water, to the bottom of the inlet, to help prevent the unit from shifting while the concrete is being poured. The concrete must be manually vibrated to ensure there are no voids. If it is necessary to pour the concrete to a level higher than the inlet piping, an 8" sleeve is required over the inlet prior to the concrete being poured.
- H. The Contractor will provide and install a 4-foot piece of 4-inch SCH 40 PVC pipe with water tight cap, to stub-out the inlet for the property owners' installation contractor, as depicted on the contract drawings.
- I. Install Uni-Lateral assembly pipe lateral on the pump discharge lateral connection to cleanout-to-grade at the existing sewer line connection.
- J. The electrical enclosure shall be furnished, installed and wired to the grinder pump station by the Contractor. An alarm device is required on every installation, there shall be No Exceptions. Unless otherwise instructed by Owner, locate Alarm Panel Adjacent to Electrical disconnect. Contractor shall get approval of final location by Owner, prior to installation.
- K. The Contractor shall mount the alarm device in a conspicuous location, as per national and local codes. The alarm panel will be connected to the grinder pump station by a length of 6-conductor type TC cable as shown on the contract drawings. The power and alarm circuits must be on separate power circuits. The grinder pump stations shall be provided with 32 feet, 25 feet of useable, electrical supply cable to connect the station to the alarm panel. This cable shall be supplied with a Factory Installed EQD half to connect to the mating EQD half on the core.

#### 3.04 BACKFILL REQUIREMENTS

- A. Soil must be compacted in lifts not to exceed one foot to reach a final Proctor Density of between 85 percent and 90 percent. Heavy, non-compactible clays and silts are not suitable backfill for this or any underground structure such as inlet or discharge lines.
- B. Optional for the use of a flowable fill (i.e., low slump concrete). Flowable fills should not be dropped more than 4 feet from the discharge to the bottom of the hole to avoid separation of the constituent materials.
- C. Backfill of clean native earth, free of rocks, roots, and foreign objects shall be thoroughly compacted in lifts not exceeding 12" to a final Proctor Density of not less than 85 percent. Improper backfilling may result in damaged accessways. The grinder pump station shall be installed at a minimum depth from grade to the top of the 1 1/4" discharge line, to assure maximum frost protection. The finish

grade line shall be 1" to 4" below the bottom of the lid, and final grade shall slope away from the grinder pump station.

- D. All restoration will be the responsibility of the Contractor. The properties shall be restored to their original condition in all respects, including, but not limited to, curb and sidewalk replacement, landscaping, loaming and seeding, and restoration of the traveled ways, as directed by the Engineer.

### 3.05 START-UP AND FIELD TESTING

- A. The Manufacturer shall provide the services of qualified factory trained technician(s) who shall inspect the placement and wiring of each station, perform field tests as specified herein, and instruct the Owner's personnel in the operation and maintenance of the equipment before the stations are accepted by the Owner. Contractor is responsible for all associated training fees.
- B. All equipment and materials necessary to perform testing shall be the responsibility of the Contractor. This includes, as a minimum, a portable generator and power cable (if temporary power is required), water in basin (filled to a depth sufficient to verify the high level alarm is operating), and opening of all valves in the system. These steps shall be completed prior to the qualified factory trained technician(s) arrival on site.
- C. The services of a trained factory-authorized technician shall be provided a minimum of 8 hours, up to 40 hours max.
- D. Upon completion of the installation, the authorized factory technician(s) shall perform the following test on each station:
  - 1. Make certain the discharge shut-off valve in the station is fully open.
  - 2. Turn ON the alarm power circuit and verify the alarm is functioning properly.
  - 3. Turn ON the pump power circuit. Initiate the pump operation to verify automatic "on/off" controls are operative. The pump should immediately turn ON.
  - 4. Consult the Manufacturer's Service Manual for detailed start-up procedures.
- E. Upon completion of the start-up and testing, the Manufacturer shall submit to the Owner the start-up authorization form describing the results of the tests performed for each grinder pump station. Final acceptance of the system will not occur until authorization forms have been received for each pump station installed and any installation deficiencies corrected.

### 3.06 MANUALS

- A. The Manufacturer shall supply two copies of Operation and Maintenance Manuals to the Owner.

END OF SECTION

## **SECTION 02600 – PIPED UTILITY MATERIALS AND METHODS**

### **PART 1 – GENERAL**

#### **1.01 GENERAL REQUIREMENTS**

- A. This specification covers the requirements for furnishing and installation of piped utilities, including but not limited to; sanitary sewer, as indicated in the plans or elsewhere in these specifications.
  - 1. The following utility piping is not covered by this section but is covered by other sections of these specifications:
    - a. Electrical conduit
- B. Whenever the Contractor is required by State or local laws or regulations to make a deposit and/or pay for a permit before proceeding with any work called for under this part of the specifications, the Contractor shall make the necessary deposits and/or pay for obtaining the required permit for the work.
- C. The Contractor must be familiar with any permits that have been obtained by the Owner or otherwise and construction operations must be in accordance with the requirements of those permits.
- D. The following construction standards, with certain modifications as hereinafter specified, are hereby incorporated into and made a part of these specifications by reference and shall be applicable to all work performed by the Contractor under this section.
  - 1. The Counties' STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION dated September 1986 and STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION dated September 1984 as revised, except as amended in the plans and/or specifications herewith. (Paragraph concerning Measurements and Payments in the Sections are not applicable to this project.
  - 2. The Hawaii County Code.
  - 3. 2005 STANDARD SPECIFICATIONS & SPECIAL PROVISIONS, Department of Transportation, State of Hawaii, latest edition, as amended with deletion of sub-sections related to measurement and payment and as specified herein.

#### **1.02 SUBMITTALS**

- A. Submit the following items for review.
  - 1. Manufacturer's product data
  - 2. Material Safety Data Sheets (MSDS)
- B. Prior to any installation work, the Contractor must furnish affidavits from the manufacturers of all materials furnished and installed under this section verifying that such materials delivered to the project conform to the requirements of this

specification. Materials include but are not limited to pipe, fittings, valves, and appurtenances.

1. These affidavits must be specific to this project.

## **PART 2 – PRODUCTS**

### **2.01 MATERIALS**

#### **A. Asbestos Prohibition**

1. No asbestos containing materials or equipment shall be used under this section. The Contractor shall insure that all materials and equipment incorporated in the project are asbestos free.

#### **B. Materials for sanitary sewer system shall be in accordance with the PLUMBING CODE of the County of Hawaii and the applicable sections of the Counties' STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION dated September 1986 and STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION dated September 1984 as revised, except as amended in the plans and/or specifications herewith.**

1. Gravity flow sanitary sewer piping and fittings must be SDR-35 as indicated on the plans and must conform to ASTM D3034 or ASTM F679 as applicable.
2. Gravity flow sanitary sewer piping shall be green in color.
3. Pressurized flow sanitary sewer piping and fittings must be HDPE (PE3408 or PE4710 resins) DR 11 or heavier, rated for pressures of 160psi.
4. Pressurized flow sanitary sewer piping shall have green markings at intervals not less than five (5) feet indicating that it is a sanitary sewer pipe.

#### **C. Warning tape must be installed for all underground piped utilities. Warning tape must be a minimum 6" wide and run continuously along the length of buried pipe. The warning tape must clearly identify the type of utility for which it is applied (e.g. "Caution Sanitary Sewer Below").**

1. Warning tape must be manufactured specifically for underground use, be resistant to destructive elements typically found in soil, and have a minimum thickness of 4.5 mils.
2. Where metallic piping has been installed, the warning tape shall be non-metallic.
3. Where non-metallic piping has been installed, the warning tape shall be metallic and detectable by standard, non-destructive, pipe detection methods.
4. Warning tape and lettering shall have the following color schemes:
  - a. Sanitary and Storm Sewer: Green

## **PART 3 – EXECUTION**

### 3.01 INSTALLATION

#### A. Location and Adjustment of Existing Utility Lines

1. The Contractor shall be responsible for precisely laying out the various exterior utility lines shown on the contract drawings as provided elsewhere in these specifications. The locations shown on the contract drawings of the various existing utility lines which the new lines are to cross over or under or connect to, were determined on the basis of the best information available; however, no assurance can be provided that the actual locations will be precisely as shown on the contract drawings.
2. In performing all work, the Contractor shall exercise due care and caution necessary to avoid any damage to and impairment in the use of any existing utility lines. Any damage inflicted on existing lines resulting from the Contractor's operations shall be immediately repaired and restored as directed by the Contracting Officer at the Contractor's expense.

#### B. Joining and Laying Pipe

1. Pipes must be joined and placed according to the manufacturer's requirements and recommendations. For gravity flow pipes and other piping requiring a specific slope, ensure the trench bedding is well compacted prior to placing. Any solvents or lubricants used must conform to the pipe manufacturer's requirements.
2. All HDPE piping must be joined by heat fusion unless specifically noted to be joined by solvent welding.

#### C. Excavation and Backfill

1. Trench excavation and backfill for the laying and installation of water and sewer pipes, to the required line and grade and structure excavation for the construction of the appurtenant structures, shall be governed by the following provisions of the DPW STANDARD SPECIFICATIONS as hereinbefore amended with respect to measurement and payment and with certain additional modifications noted below:

|  |            |
|--|------------|
| a. Trench Excavation and Backfill            | Section 11 |
| b. Structure Excavation and Backfill         | Section 13 |
| c. PVC Sewer Pipe and Appurtenances          | Section 21 |
| d. Restoring Pavement and Other Improvements | Section 38 |
2. Surplus material resulting from trench and structure excavation shall be used by the Contractor for backfilling, filling and grading to the extent required as specified elsewhere in these specifications. The Contractor, in performing any work within the Contract Zone Limits shown on the contract drawings, shall exercise due care to keep to an absolute minimum any damages to existing improvements, including plants and shrubs. The Contractor shall be responsible for repairing, replacing and/or restoring all damages to existing improvement to the satisfaction of the Contracting Officer

a. Sanitary Sewer System

- 1) In accordance with the PLUMBING CODE of the County of Hawaii and applicable Sections of the Counties' STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION dated September 1986.

3.02 FINAL INSPECTION

- A. At the time of final inspection of the work performed under the contract, the utilities covered by this section shall be complete in every respect and operating as designed. All surplus materials of every character resulting from the work of this section shall have been removed. Sanitary sewers shall be free from sand, silt or other obstructions. Any defects discovered in the utilities subsequent to this inspection shall be corrected prior to final acceptance.

END OF SECTION

## **DIVISION 16 - ELECTRICAL**

### **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**

- A. 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.
- B. 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:
  - 1. American Society for Testing and Materials (ASTM).
  - 2. National Fire Protection Association (NFPA).
  - 3. American National Standards Institute (ANSI).
  - 4. Illuminating Engineering Society (IES).
  - 5. Institute of Electrical and Electronics Engineers (IEEE).
  - 6. Insulated Cable Engineers Association (ICEA).
  - 7. National Electrical Manufacturer's Association (NEMA).
  - 8. National Electrical Contractors' Association (NECA).
  - 9. Underwriters' Laboratories, Inc. (UL).
  - 10. Factory Mutual (FM).
  - 11. Federal Specifications (FS).
  - 12. National Electrical Code (NEC) with County of Hawaii Amendments.
- C. References shall mean to the latest edition of the standard or those currently adopted by the State or County governing agencies.
- D. Conform to local ordinances and codes.

##### **1.03 QUALITY ASSURANCE**

- A. 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.
- B. 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

- A. Coordinate electrical equipment and materials installation with other building components.
- B. Verify all dimensions by field measurement. Do not scale drawings.
- C. Arrange for chases, slots, and openings in other building components to allow for electrical installations.
- D. Sequence, coordinate, and integrate installations of electrical materials and equipment for efficient flow of the work.
- E. Coordinate the access panel requirements with General Contractor to accommodate the installation of electrical equipment and materials.
- F. Where mounting heights are not detailed or dimensioned, install electrical services and overhead equipment to provide the maximum headroom possible.
- G. 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.
- H. Coordinate the installation of electrical materials and equipment above ceilings with suspension system, mechanical equipment and systems, and structural components.
- I. Contractor shall review Mechanical and Architectural drawings prior to bid.
- J. 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.
- K. It is the intent of these drawings and specifications to establish a standard of quality.
- L. Work shall be performed in a workmanlike manner to the satisfaction of the Hospital.
- M. Contractor shall verify and coordinate exact location of equipment to be furnished by others prior to rough-in.
- N. Contractor shall be responsible for replacing equipment which is damaged due to incorrect field wiring provided under this section or factory wiring in equipment provided under this division.
- O. Contractors shall visit site prior to bid and verify that conditions are as indicated. Contractor shall include in his bid, costs required to make his work meet existing conditions.
- P. 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.

- Q. Wire termination provisions for panelboards, circuit breakers, safety switches and all other electrical apparatus shall be listed as suitable for 75 degree C.
- R. Systems shall be complete, operable and ready for continuous operations. Lights, switches, receptacles, motors, etc., shall be connected and operable.
- S. Electrical equipment shall be located to maintain clear and level clearances outlined in NEC 110-26. Panelboards, switchboards, transformers, 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.
- T. Maintain separation between telecommunication conduits and electrical feeders, electronic ballasts, transformers, etc. to minimize electromagnetic compatibility issues.

1.05 ELECTRICAL SUBMITTALS

- A. Refer to Division 1 Specifications for submittal requirements.
- B. Data shall be submitted at one time in three ring binders and indexed as scheduled below. Partial submittals will not be accepted.
  - 1. 16060 – Grounding and Bonding
  - 2. 16075 – Electrical Identification
  - 3. 16120 – Conductors and Cables
  - 4. 16130 – Raceways and Boxes
- C. Submit shop drawings and product data grouped to include complete submittals of related systems, products and accessories in a single submittal.
- D. Identify products requiring color selections.
- E. 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

- A. Prepare listing of major electrical equipment and materials for the project.
- B. Submit this listing as a part of the submittal requirement specified in the Division 1 Specifications.

1.08 NAMEPLATE DATA

- A. 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

- A. 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.
- B. 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.
- C. 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

- A. Refer to the Division 1 Specifications for requirements. The following paragraphs supplement the requirements of Division 1.
- B. 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.
- C. Mark specifications to indicate approved substitutions; Change Orders; Addendums and equipment and materials used.

#### 1.11 WARRANTIES

- A. Refer to the Division 1 Specifications for procedures and submittal requirements for warranties. Refer to individual equipment specifications for warranty requirements.
- B. 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.
- C. 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.

#### 1.12 CLEANING

- A. Refer to the Division 1 Specifications for general requirements for final cleaning.

**PART 2 - PRODUCTS**

Not Used

**PART 3 - EXECUTION**

Not Used

END OF SECTION

## **SECTION 16060- GROUNDING AND BONDING**

### **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 methods and materials for grounding systems and equipment grounding requirements specified in this section ay be supplemented by special requirements of section described in other sections.

#### **1.03 SUBMITTALS**

- A. Product Data: For each type of product indicated.

#### **1.04 QUALITY ASSURANCE**

- A. 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.

### **PART 2 - PRODUCTS**

#### **2.01 CONDUCTORS**

- A. Insulated Conductors: Copper wire or cable insulated for 600V unless otherwise required by applicable Code or authorities having jurisdiction.
- B. Equipment Grounding Conductors: Insulated with green-colored insulation.

#### **2.02 CONNECTORS**

- A. 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.

### **PART 3 - EXECUTION**

#### **3.01 APPLICATIONS**

- A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger, unless otherwise indicated.

#### **3.02 EQUIPMENT GROUNDING**

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.

- B. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
  - 1. Feeders and branch circuits.
  - 2. Lighting circuits.
  - 3. Receptacle circuits.
  - 4. Single-phase motor and appliance branch circuits.
  - 5. Three-phase motor and appliance branch circuits.
  - 6. Flexible raceway runs.
  - 7. Armored and metal-clad cable runs.
- C. 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.

### 3.03 INSTALLATION

- A. 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.
- B. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance, except where routed through short lengths of conduit.
  - 1. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install so vibration is not transmitted to rigidly mounted equipment.
- C. Bonding Interior Metal Ducts: Bond metal air ducts to equipment grounding conductors of associated fans, blowers, electric heaters, and air cleaners. Install bonding jumper to bond across flexible duct connections to achieve continuity.

END OF SECTION

## **SECTION 16075 - ELECTRICAL IDENTIFICATION**

### **PART 1 – GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.02 SUMMARY**

- A. This Section includes the following:
  - 1. Identification for raceways
  - 2. Identification for conductors.
  - 3. Equipment identification labels.

#### **1.03 SUBMITTALS**

- A. Product Data: For each electrical identification product indicated.

#### **1.04 QUALITY ASSURANCE**

- A. Comply with ANSI A13.1 and ANSI C2.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.145.

#### **1.05 COORDINATION**

- A. 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.
- B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

## **PART 2 – PRODUCTS**

### **2.01 RACEWAY IDENTIFICATION MATERIALS**

- A. 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.
- B. Color for Printed Legend:
  - 1. Power Circuits: Black letters on an orange field.
  - 2. Legend: Indicate system or service and voltage, if applicable.
- C. 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.
- D. 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.
- E. 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.
- F. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; 2 inches (50 mm) wide; compounded for outdoor use.

### **2.02 CONDUCTOR IDENTIFICATION MATERIALS**

- A. 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.
- B. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
- C. 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.
- D. 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 EQUIPMENT IDENTIFICATION LABELS**

- A. 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).

### **2.04 MISCELLANEOUS IDENTIFICATION PRODUCTS**

- A. Cable Ties: Fungus-inert, self-extinguishing, 1-piece, self-locking, Type 6/6 nylon cable ties.

1. Minimum Width: 3/16 inch (5 mm).
  2. Tensile Strength: 50 lb (22.6 kg), minimum.
  3. Temperature Range: Minus 40 to plus 185 deg F (Minus 40 to plus 85 deg C).
  4. Color: According to color-coding.
- B. 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**

- A. 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.
- B. Accessible Raceways of Auxiliary Systems: Identify the following systems with color-coded, self-adhesive vinyl tape applied in bands or paint:
1. Color coding for raceways shall be as follows, verify exact requirements based on existing identification convention present at the facility:

| Color                  |             | Minimum           |
|------------------------|-------------|-------------------|
| <u>Service</u>         | <u>Band</u> | <u>Band Width</u> |
| Power                  | Yellow      | 2"                |
| Emergency Power        | Red         | 2"                |
| Life Safety/Fire Alarm | White       | 2"                |

- C. 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.
- D. 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.
1. 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. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.
  2. Equipment to Be Labeled:
    - a. Panelboards, electrical cabinets, and enclosures.



- b. Access doors and panels for concealed electrical items.
- c. Disconnect switches.
- d. Enclosed circuit breakers.

### 3.02 INSTALLATION

- A. Verify identity of each item before installing identification products.
- B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- C. Apply identification devices to surfaces that require finish after completing finish work.
- D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. Attach nonadhesive signs and plastic labels with screws and auxiliary hardware appropriate to the location and substrate.
- F. 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.
- G. 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.
  - 1. Color shall be factory applied or, for sizes larger than No. 10 AWG, field applied.
  - 2. Colors for 208/120-V Circuits:
    - a. Phase A: Black.
    - b. Phase B: Red.
    - c. Phase C: Blue.
    - d. Neutral: White
    - e. Ground: Green
  - 3. Colors for 480/277-V Circuits:
    - a. Phase A: Brown.
    - b. Phase B: Orange.
    - c. Phase C: Yellow.
    - d. Neutral: Gray
    - e. Ground: Green
  - 4. 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.

END OF SECTION

## **SECTION 16120 - CONDUCTORS & CABLES**

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.02 SUMMARY**

- A. This Section includes the following:
  - 1. Building wires and cables rated 600 V and less.
  - 2. Connectors, splices, and terminations rated 600 V and less.
  - 3. Sleeves and sleeve seals for cables.

#### **1.03 DEFINITIONS**

- A. EPDM: Ethylene-propylene-diene terpolymer rubber.
- B. NBR: Acrylonitrile-butadiene rubber.

#### **1.04 SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.

#### **1.05 QUALITY ASSURANCE**

- A. 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.
- B. Comply with NFPA 70.

### **PART 2 - PRODUCTS**

#### **2.01 CONDUCTORS AND CABLES**

- A. Copper Conductors: Comply with NEMA WC 70.
- B. 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.

## **PART 3 - EXECUTION**

### **3.01 CONDUCTOR MATERIAL APPLICATIONS**

- A. Feeders: Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger, except as indicated below.
  - 1. Use standard conductors for control circuits.
  - 2. Use conductor not smaller than 14 AWG for control circuits.
  - 3. Use 10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet (25 m).
  - 4. Use 10 AWG conductors for 20 ampere, 277 volt branch circuits longer than 200 feet (160 m).
- B. Branch Circuits: Copper. Minimum size #12 AWG; solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

### **3.02 CONDUCTOR INSULATION APPLICATIONS AND WIRING METHODS**

- A. Feeders Concealed in Ceilings, Walls, Partitions, below raised floors and Crawlspace: Type THHN-THWN, single conductors in raceway

### **3.03 INSTALLATION OF CONDUCTORS AND CABLES**

- A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
- B. 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.
- C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- D. Support cables according to Division 16 Section "Hangers and Supports for Electrical Systems."
- E. Identify and color-code conductors and cables according to Division 16 Section "Electrical Identification."
- F. Use no wire smaller than 12 AWG for power and lighting circuits, and no wire smaller than 16 AWG for control wiring.
- G. 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

- A. 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.
- B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

### 3.05 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

### 3.06 FIELD QUALITY CONTROL

- A. Tests and Inspections:
  - 1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors, for compliance with requirements.
  - 2. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
- B. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION

## **SECTION 16130 – RACEWAYS AND BOXES**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. This Section includes raceways, fittings, boxes and enclosures, for electrical wiring.

#### **1.02 DEFINITIONS**

- A. EMT: Electrical metallic tubing.
- B. FMC: Flexible metal conduit.
- C. IMC: Intermediate metal conduit.
- D. LFMC: Liquidtight flexible metal conduit.
- E. RGSC: Rigid galvanized steel conduit.
- F. RNC: Rigid nonmetallic conduit.

#### **1.03 SUBMITTALS**

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.
- B. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:
  - 1. Structural members in the paths of conduit groups with common supports.
  - 2. Plumbing items and architectural features in the paths of conduit groups with common supports.

#### **1.04 QUALITY ASSURANCE**

- A. 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.
- B. Comply with NFPA 70.

### **PART 2 - PRODUCTS**

#### **2.01 METAL CONDUIT AND TUBING**

- A. Rigid Steel Conduit: ANSI C80.1.
- B. IMC: ANSI C80.6.
- C. EMT: ANSI C80.3.

- D. FMC: Zinc-coated steel.
- E. LFMC: Flexible steel conduit with PVC jacket.
- F. 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.
  - c. Coating for Fittings for PVC-Coated Conduit: Minimum thickness, 0.040 inch (1 mm), with overlapping sleeves protecting threaded joints.
- G. 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.

## 2.03 METAL WIREWAYS

- A. Description: Sheet metal sized and shaped as indicated, NEMA 250, Type 1, unless otherwise indicated.
- B. 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.
- C. Wireway Covers: Screw-cover type or Flanged-and-gasketed type as required.
- D. Finish: Manufacturer's standard enamel finish.

## 2.04 BOXES

- A. Sheet Metal Outlet and Device Boxes: NEMA OS 1.
- B. Cast-Metal Outlet and Device Boxes: NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.
- C. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- D. Cast-Metal Access, Pull, and Junction Boxes: NEMA FB 1, galvanized, cast iron with gasketed cover.

# **PART 3 - EXECUTION**

## 3.01 RACEWAY APPLICATION

- A. Comply with the following indoor applications, unless otherwise indicated:
  - 1. Exposed, Not Subject to Physical Damage: EMT.

2. Exposed, Not Subject to Severe Physical Damage: EMT.
  3. Exposed and Subject to Physical Damage: Rigid galvanized steel conduit. Includes raceways in the following locations:
  4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
  5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
  6. Damp or Wet Locations: Rigid galvanized steel conduit, IMC.
  7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4, stainless steel in damp or wet locations.
- B. Minimum Raceway Size: 3/4-inch (24-mm) trade size for homeruns and conduits below grade or slab on grade.
- C. Raceway Fittings: Compatible with raceways and suitable for use and location.
1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
- D. All conduits larger than 1" shall be furnished with grounding type busing with equipment grounding conductor solidly connected at both ends.

### 3.02 INSTALLATION

- A. 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.
- B. 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.
- C. Complete raceway installation before starting conductor installation.
- D. Arrange stub-ups so curved portions of bends are not visible above the finished slab.
- E. Install no more than the equivalent of three 90-degree bends in any conduit run between boxes. Provide no more than the equivalent of two (2) 90 degree bends between boxes.
- F. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated except as follows:

1. Any variance shall be obtained from the Contracting Officer.
- G. 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.
- H. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors, including conductors smaller than No. 4 AWG.
- I. 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:
  1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
  2. Where otherwise required by NFPA 70.
- J. Route raceways, concealed or exposed parallel and perpendicular to walls and building structural components.
- K. 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.
  1. Use LFMC in damp or wet locations.
- L. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.
- M. Cut conduit square using saw or pipecutter; de-burr cut ends.
- N. Bring conduit to shoulder of fittings; fasten securely.
- O. Use conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes.
- P. 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

- A. Set wall mounted boxes at elevations to accommodate mounting heights indicated. Comply with ADA requirements.
- B. Orient boxes to accommodate wiring devices oriented as specified in Section 16140.
- C. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.
- D. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches



(150mm) from ceiling access panel or from removable recessed luminaire.

- E. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- F. 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.
- G. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.
- H. Use stamped steel bridges to fasten flush mounting outlet box between studs.
- I. Use adjustable steel channel fasteners for hung ceiling outlet box.
- J. Do not fasten boxes to ceiling support wires or other piping systems.
- K. Support boxes independently of conduit.
- L. Use gang box where more than one device is mounted together. Do not use sectional box.
- M. Use gang box with plaster right for single device outlets.
- N. Do not use boxes smaller than 4-inches square.

#### 3.04 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

#### 3.05 PROTECTION

- A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.
  - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
  - 2. 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

## **APPENDIX L**

### **CONTRACTORS HANDBOOK**

See following pages.

**This Section  
is Deleted**

## **APPENDIX M**

### **PRICING SUMMARY**

See following page



## Pricing Summary for

---

Official Company Name (must match W-9)

| Qty  | Item  | Price |
|------|---|-------|
|      |   |       |
| 1    | Materials and all labor to upgrade Maintenance Cottage Sewer System in accordance with all requirements of RFP 21-0035.   |       |
| 1    | Permit(s) and inspections   |       |
| 1    | Performance and Payment Bonds   |       |
|      |   |       |
|      |   |       |
|      |   |       |
|      | Subtotal  |       |
|      | GE Tax (4.712%)   |       |
|      | <b>GRAND TOTAL</b>  |       |
| NOTE | Your company's standard quote form may be attached to this form as back up.   |       |
| NOTE | Any options the bidder would like to propose and/or requested pricing arrangements (i.e. deposit) should be listed below. |       |

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Authorized Signature, Title

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Date

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