



**SPECIFICATIONS
FOR
SEPTIC SYSTEM REPAIR PLANS FOR
KA`U HOSPITAL**

**PAHALA, KA`U, HAWAII
COUNTY AND STATE OF HAWAII**

TECHNICAL SPECIFICATIONS

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DIVISION 1 – GENERAL REQUIREMENTS

SECTION 01010 – SUMMARY OF WORK

PART 1 – GENERAL

1.01 SUBMITTALS

A. Pre-Construction Submittals

1. Contractor must submit a comprehensive list of the required submittals, by Specification Section, and submit this list to the Owner within 15 days after Notice to Proceed. If a pre-construction meeting will be held, this list should be presented at the pre-construction meeting. Submittals may be provided prior to the meeting.

1.02 SUMMARY OF PROJECT

- A. The work to be done shall include performing all operations and furnishing all equipment, tools, materials and labor necessary to execute, complete and deliver all of the work and related items required for the project as called for on the drawings and as specified herein.
- B. This project includes the tree removal, tree stump removal, pumping and abandoning of existing septic tanks, construction of new sewer lines, installation of new septic tanks, connecting to existing seepage pits, and all other related work as shown on the drawings and as specified herein.

1.03 CODES AND ORDINANCES

- A. The Contractor shall comply with all Federal, State and local laws, ordinances, rules and regulations having jurisdiction over this project and shall apply for, pay for and obtain all permits, licenses and certificates and publish or post and pay for all notices required.

1.04 DIVISION OF WORK

- A. The Divisions, Sections and work specified within each Section into which these Specifications are divided shall not be considered an accurate or complete segregation of work by trades. As such, the disciplines by which the drawing sheets are divided, or the details therein, shall not be construed as a segregation of work by trades. All specifications, drawings and referenced codes, rules, regulations, standards, etc. shall be considered in whole.

1.05 GENERAL

- A. Construction Work Scope: The Contractor shall verify the work scope indicated on the drawings before any construction begins. Any discrepancies shall be immediately brought to the attention of the Owner, and any change shall be made in accordance with his instruction. The Contractor shall **not** be entitled to extra payment if he fails to report the discrepancies before proceeding with any work whether within the area affected or not.
- B. Examination of Premises: The Contractor shall contact the Owner and obtain permission before visiting secured areas at the site and of the structures thereon. The Contractor shall visit the site as many times and for as long as necessary to fully understand existing conditions and the scope of work required. The Contractor shall account for all hardships in executing the work of this project relative to existing conditions and make due allowances for such in his bid.
- C. Conditions at Site:
 1. Prior to preparing their bid the Contractor and Subcontractors are expected to:
 - a. Visit the site;

- b. Make due allowances for difficulties and contingencies to be encountered;
 - c. Compare contract documents with work in place and inform themselves of existing conditions, the conditions to be encountered in performing the work, and the requirements of the plans and specifications.
 - 1) The Contractor shall accept the site in the condition in which it exists at the time he is given access to begin the work.
 - a) The Contractor shall verify all existing conditions and dimensions shown and other dimensions not indicated but necessary to accomplish the work.
 - b) Locate general reference points and take such action as necessary to prevent their destruction; layout work and be responsible for lines, elevations and measurements and the work executed. Exercise proper precautions to verify figures and conditions shown on drawings before layout of work.
 - c) The Contractor and each subcontractor, before starting work, shall verify governing dimensions at the premises and shall examine adjoining work on which his work is in any way dependent. No additional compensation will be allowed on account of differences between actual measurements and dimensions shown. Submit differences discovered during the work to the Owner for interpretations before proceeding with the associated work.
2. Submission of bid shall be considered evidence that the Contractor has complied with the above listed expectations. No allowance will be awarded to a contractor for lack of examination of the site.
- D. Contract Zone Limits: The Contract Zone Limits shall be the boundaries of TMK: (3) 9-6-023 : 043, and coordinated with Owner exact extents of contract zone limits. The Contractor, however, is required to perform any and all necessary and incidental work, which may fall outside of these demarcation lines. The Contractor is also expected to confine all of his construction activities within the Contract Zone Limits and not to spread his equipment and materials indiscriminately about the area.
- 1. The Owner may alter, reduce, or otherwise adjust the Contract Zone Limits throughout the duration of the project, as necessary to maintain the proper operations of the facilities.
- E. Disruption of Utility Services: All work related to the disconnection of any utility system shall be pre-arranged with the Owner. The Contractor shall notify the Owner at least fifteen (15) days in advance of any interruption of existing utility service. Time and duration of interruption shall be to the satisfaction of the Owner. Duration of interruption shall be kept to a minimum so as not to cause inconvenience or hardship to the facility. In the event temporary power hook-up is required, the Contractor shall provide the necessary services at his own expense.
- F. Utility Services:
- 1. Electricity and Telephone: The Contractor shall make the necessary arrangements with the utility companies for temporary use of electricity and telephone for construction purposes and shall pay for all expenses pertaining thereto.

2. Water: The Contractor shall make the necessary arrangements with the utility company for temporary use of water and shall pay for all expenses pertaining thereto.
 3. Sewer: The Contractor shall include provisions to provide alternate toilet facilities and other sanitary requirements when work requires closure of restrooms.
- G. Contractor Access:
1. The Contractor and his employees will only be allowed to park in areas on the site designated by the Owner.
 2. Areas to be used by the Contractor shall be as designated by the Owner. Any lawn damaged by the Contractor shall be restored immediately to the satisfaction of the Owner at no additional cost to the Owner.
 3. Access to the Construction Area shall also be as designated by the Owner.
- H. Protection of Property: The Contractor shall continually maintain adequate protection of all his work from damage and shall protect all property, including but not limited to buildings, equipment, furniture, grounds, vegetation, materials, and utility system located at and adjoining the job site. The Contractor shall repair, replace or pay the expenses of repair of damages resulting from his fault or negligence. Repair and replacement work shall occur at a schedule to be determined by the Contracting Officer.
- I. Use of Power Driven Equipment: The Contractor is cautioned to take all necessary safety precautions to protect his personnel and the public whenever power driven equipment is used.
- J. Safety:
1. The Hawaii Occupational Safety and Health Law, Chapter 396, Hawaii Revised Statutes, effective May 16, 1972, as amended, is applicable and made a part of the Contract.
 - a. The Contractor shall carefully read and strictly comply with its requirements.
- K. Clean Up of Premises: The Contractor shall clean up and remove from premises all debris accumulated from operations from time to time and as directed by the Owner's Representative.
- L. Responsibility:
1. The Owner will hold the Contractor liable for all the acts of Subcontractors and shall deal only with him (the General Contractor) in matters pertaining to other trades employed on the job. The Contractor shall be responsible for coordinating the work of all trades on the job.
 2. Should he discover any discrepancy in the plans or specifications, the Contractor shall immediately notify the Owner's Representative before proceeding any further with the work. Otherwise, the Contractor will be held responsible for any cost involved in correction of work placed due to such discrepancy.
- M. Plans and Specifications:
1. The Contractor shall not deviate or make alterations in the drawings and specifications without written approval from the Owner's Representative. In the event he discovers any

errors or discrepancies, the Contractor shall immediately notify the Owner's Representative.

2. Where devices, or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many devices, items or parts as are required to properly complete the work.
3. Specifications and drawings are prepared in abbreviated form and include incomplete sentences. Omission of words or phrases such as "the Contractor shall", "as shown on the drawings", "and", and "the" are intentional. Omitted words and phrases shall be provided by inference to form complete sentences.
4. The specifying of inference and coordination in the various Sections is provided for information and convenience only. Such requirements, in the various Sections shall complement the requirements of this Section.
5. Discrepancies:
 - a. The drawings and specifications are intended to be cooperative. Any materials, equipment, or systems exhibited on the drawings but not mentioned in the specifications are to be executed to the intent and meaning thereof, as if it were mentioned in the specifications and set forth on the drawings.
 - b. In case of differences between the drawings and specifications, the specifications shall govern first, and then the drawings. Large scale details shall take precedence over small scale drawings as to the shape and details of construction. Specifications shall govern as to materials and procedures.
 - c. Drawings and specifications are intended to be fully cooperative and to agree, but should any discrepancy or apparent difference occur between the drawings and specifications or should error occur in the work of others affecting the work, the Contractor must notify the Owner's Representative immediately. If the Contractor proceeds with the work affected without written instructions from the Owner's Representative, any resultant damage or defect must be made good at no additional cost to the Owner. All interpretations of the drawings and specifications shall be clarified in writing by the Owner's Representative.

N. Required Submittals:

1. Required submittals as specified in the technical sections of these specifications include, but are not limited to, one or more of the following: shop drawings; color samples; material samples; technical data; schedules of materials; material safety data sheets; schedules of operations; certifications; guarantees; operating and maintenance manuals; and record drawings.
2. Record Drawings: Record Drawings (as-builts) are required for submittal and the following shall apply:
 - a. Record drawings, the intent of which is to record the actual in-place construction so that any future renovations or tie-ins can be anticipated accurately, shall be required.

- b. To accomplish this, all authorizations given by the Owner's Representative to deviate from the plans shall be drawn onto the field set by the Contractor.
 - 1) The Contractor shall document all such authorizations, including scope, date, and method of authorization and submit this list with the record drawings.
 - c. One set of original tracings for this purpose shall be furnished to the Contractor by the Owner's Representative upon the written request of the former or at any suitable time.
 - d. All deviations from alignments, elevations and dimensions which are stipulated on the plans shall be recorded on the record drawings set.
 - e. The following procedure shall be followed:
 - 1) Immediately after these changes are constructed in place, the Contractor shall record them on the field plans. This is to assure that changes are recorded before they are forgotten.
 - 2) Within two weeks after final inspection of the project, the Contractor shall transfer the changes marked on the field plans onto the original tracings using a red pencil. Any deletions shall be eradicated from the tracings and redrawn as necessary. The Contractor shall stamp or mark the tracings "RECORD DRAWING", and also sign and date each drawing so marked.
 - 3) The Contractor shall submit the record drawings together with the marked-up field plans to the Owner's Representative.
 - 4) Any record drawing which the Owner's Representative determines does not accurately record the deviation shall be corrected by the Contractor within two weeks of notification.
- O. Barricade: Erect temporary barricade(s) to prevent unauthorized persons from entering the project area to the extent as agreeable to the Owner's Representative.
- 1. To the extent feasible, temporary barricades, as well as any and all of the Contractor's operations shall not block or impede any existing accessible routes. When accessible routes are caused to be occluded or otherwise detrimentally affected by the Contractor's actions, the Contractor shall provide temporary accessible route(s) in compliance with ADAAG Section 206 and Chapter 4 until such time that existing accessible routes are restored and maintained free and clear. Temporary accessible routes shall be clearly identified and shall comply with ADAAG Section 216 requirements as if it were new construction. The Contractor shall identify, design and construct all such temporary accessible routes as incidental to the scope of this project.
- P. Protection of Drains: The Contractor shall provide adequate continuous protection of all drains, inlets to catch basins, drywells, etc. to prevent intrusion of runoff, construction debris and waste materials. He shall erect and maintain silt fences or temporary plugs but shall in no way cause runoff to leave the site or damage existing improvements.

1.06 GENERAL CONTRACTOR RESPONSIBILITIES

- A. The General Contractor, referred to as "Contractor", shall be in charge of this Contract and the site, as well as the coordination, direction and scheduling of all work. Contractor shall include general supervision, management and control of the work of this project, and in addition to other areas more specifically noted throughout the specification.
- B. Final responsibility for performance, interface, and completion of the Work and the project shall be the Contractor's.
- C. Job site Administration shall be the responsibility of the Contractor. The Contractor shall provide a competent superintendent on the job at all times during the progress of work with authority to act in its behalf. The Contractor shall also provide an adequate staff to coordinate and expedite all work properly and orderly in compliance with the plans and specifications. In addition, all workmen shall dress neatly and conduct themselves properly at all times; loud abusive behavior, sexual harassment and misconduct will not be tolerated. Workmen found in violation of the above shall be removed from the job site as directed by the Owner's Representative.
- D. Existing Conditions: Before commencing any of the work of this project, the Contractor shall verify if existing site conditions are the same as presented on the drawings, and immediately report any apparent discrepancies or inconsistencies in accordance with Paragraph 1.05 C.1.
- E. The Contractor shall be responsible for repairing any damage to the existing improvement to the satisfaction of the Owner's Representative and shall not be entitled to extra payment if he fails to report discrepancies before proceeding with any work within the affected areas or not.
- F. Shop Drawings: Shop drawings, manufacturer's literature, samples, color chips, schedules, catalogs, certificates, guarantees, bonds, and other items requiring the Owner's Representative's review or acceptance shall be submitted through the Contractor as part of the control of the work. The Contractor shall prepare a schedule of submittals for review and approval by the Owner's Representative prior to commencement of construction in accordance with Paragraph 1.05 N.
- G. Laying out Work:
 - 1. Bench Marks and Reference Points: Contractor shall designate a qualified surveyor to:
 - a. Establish bench marks and other reference points; and
 - b. Establish alignments and
 - c. Layout levels, and invert elevations for all work
 - 2. The Contractor shall keep layouts intact throughout the work of the project. The Contractor shall correctly locate all grades, lines and levels as required for the construction and completion of the Project; be solely responsible for the accuracy and correctness of all lines, levels and grades; and for establishing the location of buried utility lines at the site.
 - 3. Minor changes: Minor changes necessary to adjust conditions at the site to conform to the Contract Documents or vice versa will not be grounds for the Contractor to claim additional charges or additional time.
 - 4. Measurements: Before ordering any material, or doing any work, each Contractor shall verify all measurements and shall be responsible for the correctness of same. No extra

charge or compensation will be allowed because of differences in actual dimensions and measurements indicated on the drawings.

- H. Protection: The Contractor shall be responsible for the protection and safeguarding of all new work until after final inspection and acceptance by the Owner's Representative in accordance with Paragraph 1.05.H.
- I. Coordination: Provide project interface and coordination as required to properly and accurately bring together the several parts, components, systems, assemblies, and as required to complete the Work and the Project pursuant to the General Conditions and Special Provisions.

PART 2 – PRODUCTS

2.01 ASBESTOS PROHIBITION

- A. No asbestos containing materials or equipment shall be used in this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos-free.

2.02 QUALITY

- A. Materials, equipment, furnishings, fixtures, hereinafter specified in the various divisions and sections of the specifications shall be new, best, commercial grade, class, kind, and type available.

2.03 HANDLING

- A. The Contractor shall supervise job site delivery and handling, and assign storage space for materials, equipment, furnishings, and fixtures of all trades. Contractor is responsible for delivery, unloading, unpacking, handling, storage, distribution, installation, and protection of materials at the job site until acceptance by the Owner's Representative.

PART 3 – EXECUTION

3.01 PREPARATION AND PROTECTION

- A. Before starting work on previously erected construction, Contractor shall make a thorough and complete investigation of such recipient surfaces and determine their suitability to receive required additional construction and finishes. Contractor, at his own expense, shall make whatever repairs and conditioning required to properly prepare such surfaces. Contractor shall coordinate the work to provide suitable surfaces to receive subsequent work.
- B. Commencement of work by any trade will be construed as acceptance of existing conditions and surfaces being satisfactory for application of subsequent work. Contractor shall be responsible for finished results and assumption of warranty obligations under the contract.
- C. Contractor shall protect existing work in a manner to prevent any damage. Take positive measures to prevent breakage of glass and damage to all finishes.
- D. Contractor shall exercise all required precautions necessary to protect all buildings and other construction on property adjacent to that of the work under the contract.

- E. Throughout entire construction period Contractor shall provide adequate measures to fully protect all property, staff, and the public.

3.02 CLEAN UP

- A. Rubbish and debris resulting from work of the various divisions and sections of the specifications shall be collected daily and disposed of by the Contractor in compliance with appropriate government laws. Contractor(s) or trade(s) specifically involved shall remove materials, debris, and rubbish from the site daily and dispose of at legal disposal areas away from the premises. Permission to provide on-site trash containers may be granted by the Owner and shall be placed where directed by the Owner's Representative.

END OF SECTION

SECTION 01015 – ADMINISTRATIVE PROVISIONS

PART 1 – GENERAL

1.01 WORK SEQUENCE

- A. Construct work in stages to accommodate the Owner’s occupancy requirements during the construction period. Work required of this contract to be performed in pedestrian and vehicular traffic areas, or interfering with pedestrian and vehicular traffic flow shall be scheduled with the Owner’s Representative to minimize disruption. The Contractor shall confine all work, equipment, materials, and personnel as much as possible within the Contract Zone Limits.
- B. The Contractor shall contact the Owner’s Representative and provide at least five (5) consecutive working days notice prior to starting any work.
- C. The sequence of work shall be based on the approved construction schedule. No work may begin until the schedule of operations has been reviewed and an adequate response has been provided per Section 01300 – Submittal Procedure.

1.02 CONTRACTOR’S USE OF PREMISES

- A. Limit the use of premises for work and construction operations to allow for Owner occupancy. Limit access to the site as directed by the Owner’s Representative.
- B. The Contractor shall conduct operations with minimum interference to the building facilities, streets, driveways, etc. and shall confine all work, equipment, materials, and personnel as much as possible to the work area indicated. The Contractor will schedule all work that involves excessive noise, dust, dirt, or any other detrimental aspect of this work in order that there will be minimum disruption to normal facility operations and the normal flow of traffic.
- C. Parking will be within area designated by Owner’s Representative.

1.03 CONTRACT ZONE LIMITS

- A. The Contract Zone Limits shown on the drawings and/or as provided elsewhere in these specifications indicate only in general the limits of the work involved. The Contractor however, is required to perform any and all necessary and incidental work which may fall outside of these demarcation lines. The Contractor is also expected to confine all of his construction activities within the Contract Zone Limits and not to spread his equipment and materials indiscriminately about the area.

1.04 OWNER OCCUPANCY

- A. The premises will remain occupied during the entire construction period for the conduct of normal operations. Coordinate with the Owner’s Representative to minimize any conflict. Any interruptions or interference caused by the construction activities, which hampers normal operations, shall be halted and rescheduled to the satisfaction of the Owner’s Representative at no additional cost to the Owner.

1.05 PERMITS, NOISE, ETC.

- A. The Contractor shall procure and pay for all necessary permits or certificates that may be required in connection with this project. The Contractor is required to comply with the conditions stipulated in the application and approval of all necessary permits.

- B. The following list of permits have been obtained for this project:
 - 1. Department of Health - Approval to Construct.

- C. The following permits have not yet been obtained and are anticipated to be required for this project. This list is intended to serve as a guide and does not preclude the Contractor from investigating and obtaining all permits and approvals that may be required by any authority having jurisdiction over the work. Any associated fees must be paid by the Contractor.
 - 1. Plumbing Permit.

1.06 PROJECT MEETINGS

- A. The Owner's Representative will schedule and administer project meetings throughout the progress of the work, including pre-construction and post-construction meetings. The Owner's Representative will make physical arrangements, prepare agenda, and preside over all meetings. Those in attendance shall include; job superintendent, major subcontractors and suppliers, Architect/Engineer, and other persons relevant to the meeting agenda.

PART 2 – NOT USED

PART 3 – NOT USED

END OF SECTION

SECTION 01300 – SUBMITTAL PROCEDURE

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Where required by the plans and specifications, the Contractor shall submit descriptive information to ascertain whether the Contractor's proposed materials, equipment or methods of work are in general conformance to the design concept and in compliance with the drawings and specifications. The information to be submitted shall consist of drawings, specifications, descriptive data, certificates, samples, test results and such other information, all as specifically required in the specifications.

1.02 SUBMITTALS

- A. The following is a list of Sections having submittal requirements and the phase(s) during which these submittals are required. This list does not relieve the Contractor from providing the comprehensive list required by Section 01010 – SUMMARY OF WORK. Any discrepancies found between this list and the submittal requirements of the remaining specification sections must be brought to the attention of the Owner's Representative for clarification. Unless specifically permitted by the Owner's Representative in writing, the Contractor is responsible for all submittals required by these specifications, whether listed here or not.

1. Section 01010 – SUMMARY OF WORK
 - a. Pre-Construction Submittals
2. Section 01310 – Construction Schedule
 - a. Pre-Construction Submittals
3. Section 01310 – Construction Schedule
 - a. Pre-Construction Submittals
4. Section 01700 – Closeout Documents
 - a. Post Construction Submittals
5. Section 02485 – Lawns and Grasses
 - a. Pre-Construction Submittals
6. Section 02600 – Pipe Utility Materials and Method
 - a. Pre-Construction Submittals
7. Section 02740 – Septic System
 - a. Pre-Construction Submittals

1.03 BIDDERS SPECIAL RESPONSIBILITY FOR COORDINATING CONTRACTUAL WORK AND SUBMITTALS:

- A. The Contractor shall be responsible for the coordination of all contractual work and submittals.
- B. The Contractor shall have a “stamp” made up in the following format:

(Contractor's Name)

PROJECT: _____

JOB NO. _____

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

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

CERTIFIED BY: _____

- C. This “stamp”, with fields completed, should appear on the title sheet of each shop drawing, on a cover sheet of submittals in an 8-1/2" x 11" format, or on one face of a cardstock tag (min. 3" x 6") tied to each sample. The tag on the samples should state what the sample is, so that if the tag is accidentally separated from the sample, they can be matched up again. The back of this tag will be used by the Owner’s Representative for his receipt, review, and log stamp and for any comments that relate to the sample.
- D. All submittals, including but not limited to manufacturer’s data, MSDS, certificates, and shop drawings, listed in the contract documents, shall be required and shall be first reviewed and certified by the Contractor, then reviewed by the Owner’s Representative, prior to any ordering of materials and equipment. Submittals that have not been reviewed by the Contractor shall be returned for review.

PART 2 – CONTRACTOR’S RESPONSIBILITIES

2.01 GENERAL

- A. All submittals required by these specifications are required to be submitted by the Contractor in full, complete form, no exceptions. The Contractor shall request in writing to the Owner’s Representative to omit those specific submittals he feels are not required or not applicable to the project. Unless so granted by the Owner’s Representative, all submittals are required as a prerequisite to project acceptance.
- B. Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the material, equipment or method of work shall be as described in the submittal. Submittals shall contain all required information, including satisfactory identification of items, units, and assemblies in relation to the contract drawings and specifications. The Contractor shall verify that the material and equipment described in each submittal conform to the requirements of the specifications and drawings. Unless otherwise reviewed by the Owner’s Representative, submittals shall be made only by the Contractor, who shall indicate by a signed stamp on the submittals, that it (the Contractor) has checked the submittals, and that the work shown conforms to contract requirements and has been checked for dimensions and relationship with work of all other trades involved. If the information shows deviations from the specifications or drawings, the Contractor, by statement in writing accompanying the information shall identify the deviations and state the reason(s) therefore. The Contractor shall insure that there is no conflict with other submittals and shall notify the Owner’s Representative in each case where its submittal may affect the work of another contractor or the Owner. The Contractor shall insure coordination of submittals among the related crafts and Subcontractors.
- C. The Contractor may authorize in writing a material or equipment supplier to deal directly with the Owner’s Representative or with the Owner regarding a submittal. The Contractor, however, shall be responsible for the accuracy and completeness of information contained in all submittals.
- D. All submittals shall be made no later than necessary to allow for the Owner’s Representative review, to procure the item, and to avoid schedule delays as established in the Contractor's construction schedule.

2.02 PERFORMANCE (CONSTRUCTION) SCHEDULE

- A. The Contractor shall provide a construction schedule for scheduling and coordinating the work within the contract time as specified in Section 01310 – CONSTRUCTION SCHEDULE. The construction schedule shall be itemized and be in Gantt chart format, and shall be submitted to the Owner’s Representative for approval no later than 30 days after the Contract Award Date or prior to the issuance of Notice to Proceed, whichever is earlier. Contract time extensions shall be incorporated into updated schedules, reflecting their effect at the time of occurrence. Failure of the Contractor to comply with these requirements for submittal of the performance schedule and reports shall be cause for delay in review of progress payments by the Owner’s Representative. Project status review and update shall be provided each month and submitted with progress payment requests.

2.03 SUBMITTAL SCHEDULE

- A. The Contractor shall provide a submittal schedule as specified in Section 01010– SUMMARY OF WORK.

2.04 RECORD DRAWINGS

- A. Record drawings shall be submitted by the Contractor in conformance with Section 01010 – SUMMARY OF WORK and Section 01700 – CONTRACT CLOSEOUT.

PART 3 – TRANSMITTAL PROCEDURE

3.01 GENERAL

- A. Unless otherwise noted, excepting for physical samples and documents requiring wet signatures, all submittals shall be provided to the Owner’s Representative in electronic (.pdf) format. Submittals shall be emailed to Jeremy Harlow at “jharlow@hhsc.org”. The subject of all e-mailed submittals shall begin with the project title, “Septic System Repair Plans for Kau Hospital”. Submittals shall be made in sufficient time to allow the Owner’s Representative not less than twenty (20) regular working days to provide a review and response.
- B. Pre-construction submittals shall be made as a complete package per section, including all pre-construction submittals required by that Section. Incomplete packages will be returned for resubmittal without review.
- C. Post-construction submittals shall be made as a complete package per section, including the final versions of all pre-construction, in-construction, and post-construction submittals required by that Section. Incomplete packages will be returned for resubmittal without review.
- D. A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted. Original submittal numbers shall have the following format: "XXX"; where "XXX" is the sequential number assigned by the Contractor.
- E. Resubmittals shall have the following format: "XXX-Y"; where "XXX" is the originally assigned submittal number and "Y" is a sequential letter assigned for resubmittals, i.e., A, B, or C being the 1st, 2nd, and 3rd resubmittals, respectively. Submittal 25B, for example, is the second resubmittal of submittal 25.
 - 1. Resubmittals must be made as a complete package with any revisions from the previous submittal indicated on the cover sheet.

3.02 DEVIATION FROM CONTRACT

- A. If the Contractor proposes to provide a material which does not conform to the specifications and drawings, it shall indicate so under "deviations" on the submittal transmittal form accompanying the submittal copies. The Contractor shall prepare its reason for the proposed change, including cost and time differential. All deviations shall be reviewed and approved by the Owner's Representative on an individual basis.

PART 4 – REVIEW PROCEDURE

4.01 SUBMITTALS

- A. When the contract requires a submittal, the Contractor shall submit the specified information as follows to the Owner's Representative for review:
 - 1. Unless otherwise noted, excepting for physical samples and documents requiring wet signatures, all submittals shall be provided to the Owner's Representative in electronic (.pdf) format. Submittals shall be emailed to jharlow@hpsc.com. The subject of all e-mailed submittals shall begin with the project title. Submittals shall be made in sufficient time to allow the Owner's Representative not less than twenty (20) regular working days to provide a review and response.
 - 2. Physical samples and documents requiring wet signatures shall be submitted in triplicate with appropriate identification as indicated previously in this section.

4.02 RESPONSES

- A. Responses to electronic submittals will be provided as follows:
 - 1. Unless otherwise specified, upon receipt of the submittal by the Owner's Representative, the submittal shall be reviewed, and the Owner's Representative shall return a marked up copy of the submittal in electronic (.pdf) format. The Owner's Representative response will be addressed to the email from which the submittal was originated unless the Contractor requests otherwise. Unless otherwise indicated, the Contractor shall allow for twenty (20) working days for review and return of all submittals. Submittals requiring shorter review times may be requested by the Contractor, however, no guarantee is made that these requests will be accommodated.
- B. Responses to physical submittals will be provided as follows:
 - 1. Unless otherwise specified, upon receipt of the submittal by the Owner's Representative, the submittal shall be reviewed, and the Owner's Representative shall return two (2) copies of the marked-up reproducible original. The reproduction original will be retained by the Owner's Representative. The Contractor may submit additional sets of the submittal should he require additional sets for distribution to his Subcontractors, suppliers, or for other purposes. Unless otherwise indicated, the Contractor shall allow for twenty (20) working days for review and return of all submittals. Submittals requiring shorter review times may be requested by the Contractor, however, no guarantee is made that these requests will be accommodated.
- C. Returned submittals shall indicate one of the following actions:
 - 1. No Exceptions Taken
 - a. This response indicates that the material, or work method is in general conformance with the design concept and complies with the drawings and specifications. In this event the Contractor may begin to implement the work method or incorporate the material or equipment covered by the submittal.

2. Reviewed – See Remarks
 - a. This response indicates limited corrections are required. The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections. A corrected copy of the complete submittal shall be provided with the post-construction submittal package.

3. Amend & Submit
 - a. This response indicates that the submittal is insufficient or contains incorrect data. Copies will be marked accordingly and will be required to be resubmitted. Except at his own risk, the Contractor shall not undertake work covered by this submittal.

 - b. The Contractor shall resubmit the complete, corrected package until the submittal is returned and marked either "No Exceptions Taken" or "Reviewed – See Remarks".

4. Rejected
 - a. This response indicates that the material, equipment, or work method is not in general conformance with the design concept or incompliance with the drawings and specifications. Except at its own risk, the Contractor shall not undertake work covered by such submittals.

 - b. Submittals with deviations that have not been identified clearly may be rejected.

 - c. Submittals which are incomplete may also be rejected.

 - d. The Contractor shall resubmit the complete, corrected package until the submittal is returned and marked either "No Exceptions Taken" or "Reviewed – See Remarks".

PART 5 – EFFECT OF REVIEW OF CONTRACTOR’S SUBMITTALS

5.01 GENERAL

- A. The Owner’s Representative review of drawings, methods of work, or information regarding materials or equipment the Contractor proposes to provide, shall not relieve the Contractor of its responsibility for deficiencies, omissions and errors therein and shall not be regarded as an assumption of risks or liability by the Owner’s Representative or the Owner, or by any officer, employee, consultant, or subcontractor thereof, and the Contractor shall have no claim under the contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed. A mark of "NO EXCEPTIONS TAKEN" or "REVIEWED – SEE REMARKS" shall mean that the Owner’s Representative has no objection to the Contractor, upon its own responsibility, using the plan or method of work proposed, or providing the material or equipment proposed.

END OF SECTION

SECTION 01310 – CONSTRUCTION SCHEDULE

PART 1 – GENERAL

1.01 SCOPE

- A. This section specifies the procedures for preparing and revising the cost-loaded construction schedule used for planning and managing construction activities. The schedule provides a basis for determining the progress status of the project relative to the completion time, specific dates, and for determining the acceptability of the Contractor's progress payment estimates.

1.02 DESCRIPTION

- A. The Contractor shall prepare a time scale network schedule in Gantt chart format using the critical path method. A general guide for preparing such a schedule is contained in "The Use of CPM in Construction, a Manual for Contractors," published by the Associated General Contractors of America.
- B. The schedule shall depict all significant construction activities and all items of work listed in the breakdown of contract prices submitted by the Contractor. Assigned values for each part of the work shall be indicated. The dependencies between activities shall be indicated so that it may be established what effect the progress of any one activity has on the schedule.
- C. Completion time and all specific dates and sequencing requirements shall be shown on the schedule. Activities making up the critical path shall be identified.
- D. No activity on the schedule shall have duration longer than 21 days or assigned value greater than \$100,000, except activities comprising only fabrication and delivery may extend for more than 21 days. Activities which exceed these limits shall be divided into more detailed components. The scheduled duration of each activity shall be based on the work being performed during the normal 40-hour work week with allowances made for legal holidays and normal weather conditions.

1.03 SUBMITTALS

- A. Pre-Construction Submittals
 - 1. The Contractor must submit a complete construction schedule no later than 30 days after the Contract Award Date or prior to issuance of the Notice to Proceed, whichever is earlier.
 - a. Within one week of receiving the construction schedule, the Owner's Representative will review and return the schedule to the Contractor approved or with comments.
 - b. If comments are issued, the Contractor will have one week to revise and resubmit the schedule.
- B. Submittals During Construction
 - 1. The Contractor must submit an updated construction schedule on a monthly basis throughout the duration of construction.

1.04 CONTINUITY OF SERVICES

- A. All work shall be coordinated with the Owner's Representative and sequenced such that the facility may remain open during the work.

- B. Any unavoidable closures, whenever possible, must be scheduled for weekends, or hours when the facility is typically closed for business.
- C. If closures must occur that will interfere with facility operations, these closures must be scheduled with the Owner's Representative a minimum of two weeks in advance and accepted prior to starting that work.

PART 2 – NOT USED

PART 3 – NOT USED

END OF SECTION

SECTION 01400 – QUALITY CONTROL

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. It is the Contractor's responsibility to coordinate and schedule all necessary inspections with the authorities having jurisdiction and Owner's Representative.
- B. Any remediation work required due to failed inspections or failure to schedule inspections shall be performed by the Contractor at no additional cost to the Owner.
- C. The Owner's Representative must be notified at least 24 hours prior to any scheduled inspection and must be notified of the results within 24 hours after those results are available.

1.02 APPLICABLE CODES AND STANDARDS

- A. All work shall meet or exceed the requirements of the International Building Code (IBC), Uniform Plumbing Code (UPC), National Electrical Code (NEC), latest adopted editions and the applicable codes and ordinances having jurisdiction of the County, State, and Federal governments.
- B. References in the specifications to "code" or to "building code" not otherwise identified shall mean the foregoing specified codes, together with the additions, changes, amendments, and interpretations adopted by the enforcing agency, and in effect on the date of these contract documents. Nothing on the drawings or in the specifications shall be interpreted as requiring or permitting work that is contrary to these rules, regulations, and codes. Any such discrepancies shall be brought to the attention of the Owner's Representative immediately.
- C. Where other codes or standards are referenced hereinafter in these specifications, the affected work shall meet or exceed the applicable requirements of such codes and standards. When latest edition of a standard is specified, it shall mean the latest edition in effect as of the date of these contract documents. When the documents are not dated, the date of execution of the agreement shall establish the date of the contract documents. In the event that during the construction period, codes or standards referenced are superseded by newly promulgated regulations, and conflict with the plans and specifications exist, such conflict shall be brought to the attention of the Owner's Representative immediately.
- D. The code, specification, or standard referred to shall have full force and effect as though printed in these specifications, except as modified in these specifications.
- E. Where the drawings or specifications call for or describe materials, workmanship, or construction of a better quality, higher standard, or larger size than is required by said laws, codes, rules, and regulations, the provisions of the drawings and specifications shall take precedence over said laws, codes, rules, and regulations.

1.03 OTHER APPLICABLE LAWS AND REGULATIONS

- A. All applicable Federal, State, and local laws, and the regulations of governing utility districts and the various other authorities having jurisdiction over the construction and completion of the project shall apply to the contract throughout, and they shall be deemed to be included in the contract the same as though printed in the specifications.

1.04 REFERENCES

- A. The contract documents contain references to various standard specifications, codes, practices, and requirements for materials, work quality, installation, inspections, and tests, which references are published and issued by the organizations, societies, and associations listed below by abbreviation and name. Such references are hereby made a part of the contract documents to the extent required.
- B. The Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the various sections by abbreviation and number only (not by title) and are not further identified.
- C. When the effective date of a reference standard is provided or not provided, it shall be understood that the current edition or latest revision thereof and any amendments or supplements thereto in effect shall govern the work.
- D. Reference standards are not furnished with the contract documents. The Contractor shall obtain copies of referenced standards direct from publication sources as needed for proper performance and completion of the work and provide and maintain referenced standards at the job site field office.

PART 2 – NOT USED

PART 3 – NOT USED

END OF SECTION

SECTION 01500 – CONSTRUCTION FACILITIES

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Consult with the Owner's Representative, review site conditions and factors which affect construction procedures and construction aids, including adjacent properties and public facilities, which may be affected by execution of the work.
- B. Relocate construction aids as required by the progress of construction, by storage or work requirements, and to accommodate legitimate requirements of the Owner and other contractors employed at the site.

1.02 SUBMITTALS

- A. Submit the following items for review. Work may not begin until these submittals have been reviewed and an adequate response has been provided per Section 01300 – Submittal Procedure.
 - 1. Shop drawings, including a layout and elevation views for the proposed safety barricades.

1.03 UTILITIES

- A. The Contractor is responsible to coordinate all necessary utility services with the appropriate utility companies.
 - 1. The Contractor is responsible for all fees associated with temporary utility services used with the project.
- B. The Contractor shall provide portable sanitary facilities for all workers and subcontractors at no additional expense to the Owner.
- C. Locations of temporary utility lines and facilities must be coordinated with the Owner's Representative. Locations should minimize interference with the Owner's daily operations.

1.04 CONSTRUCTION AIDS

- A. Provide construction aids and equipment required by construction personnel and to facilitate execution of the work; including but not limited to scaffolds, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes, and other such facilities and equipment.
- B. Any lighting used for night work must be in compliance with all applicable regulations and regulating bodies, including but not limited to the Hawaii County Code and the U.S. Fish and Wildlife Service.

1.05 TEMPORARY PROTECTION

- A. The Contractor shall erect and maintain a temporary safety barricade encompassing the project area to protect the occupants and the public. Unless otherwise instructed by the Owner's Representative, the barricade shall be maintained a minimum of five (5) feet outside the project area. The barricade shall remain in place until approval is given by the Owner's Representative for its removal.
- B. Any damage to the surrounding buildings or their contents from failure to provide the protection mentioned in the above paragraphs shall be repaired by the Contractor to the satisfaction of the Owner's Representative at no cost to the Owner.

1.06 REMOVAL

- A. Completely remove temporary materials, equipment and service at project completion. Clean and repair damage caused by installation or use of temporary facilities. Restore existing facilities used for temporary purposes to the specified or to original conditions to the satisfaction of the Owner's Representative.

PART 2 – NOT USED

PART 3 – NOT USED

END OF SECTION

SECTION 01567 – POLLUTION CONTROL

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

A. Rubbish Disposal

1. Wherever possible, construction waste should be recycled instead of being sent to the landfill. In addition to a standard waste disposal bin, the Contractor must provide recycling bins at the jobsite for the collection of recyclable waste.
 - a. Common recyclable wastes include: scrap metals, scrap plastics, plastic packaging, and cardboard boxes.
2. No burning of debris and/or waste materials shall be permitted on the project site.
3. No burying of debris and/or waste materials, except for materials that are specifically indicated elsewhere in these specifications as suitable for backfill, shall be permitted on the project site.
4. All usable debris and waste material shall be hauled away to an appropriate off-site waste dump area. During loading operations, debris and waste material shall be watered down to allay dust.
5. No dry sweeping shall be permitted in cleaning rubbish and fines, which can become airborne from roof or other areas. Vacuuming, wet mopping or wet/damp sweeping is permissible.
6. Clean-up shall include the collection of all waste paper and wrapping materials, cans, bottles, construction waste material and other objectionable materials, and their removal as required. Frequency of clean-up shall coincide with rubbish-generating activities; work area shall be free of non-containerized debris and waste material at the end of each work day.

B. Dust

1. The Contractor shall prevent dust from becoming airborne at all times including non-working hours, weekends and holidays in conformance with State of Hawai'i, Department of Health, Administrative Rules, Title 11, Chapter 60.1 – Air Pollution Control.
2. The method of dust control and costs shall be the responsibility of the Contractor. Methods of dust control shall include the use of water for such use over surfaces that may create airborne dust.
 - a. Dust control water shall be kept to a minimum so that no runoff is generated.

C. Noise

1. Noise shall be kept within acceptable levels at all times, in conformance with State of Hawai'i, Department of Health, Administrative Rules, Title 11, Chapter 46 – Community Noise Control. The Contractor shall obtain and pay for the Community Noise Permit from the State of Hawai'i, Department of Health when construction related equipment or activities emit noise at levels exceeding the specified limits.

2. All internal combustion engine-powered equipment shall have mufflers to minimize noise and shall be properly maintained to reduce noise to within acceptable levels.
3. Starting-up of construction equipment meeting allowable noise limits shall not be done prior to 6:45 AM without prior approval of the Owner's Representative. Equipment exceeding allowable noise levels shall not be started-up prior to 7:00 AM.

D. Best Management Practices (BMPs)

1. Wherever construction and construction related vehicles leave the site and enter surrounding paved streets or public rights-of-ways, the Contractor shall prevent any materials from being carried onto hard surfaces. All materials deposited on paved roads, streets, parking lots, sidewalks or walkways shall be immediately removed and cleaned to the satisfaction of the Owner's Representative.
 - a. Where used, construction exit washing water must be directed to an impermeable basin sized to contain 1.5 times the anticipated volume of wash water. Water shall be allowed to evaporate and the remaining sludge must be disposed of at an approved location.
2. Wastewater shall not be discharged into existing streams, waterways or drainage systems such as gutters and catch basins unless treated to comply with the State of Hawai'i, Department of Health water pollution regulations.
3. Trucks hauling debris shall be covered as required by PUC Regulations. Trucks hauling fine materials or materials that may generate dust shall be covered, without exception.
4. No dumping of waste concrete will be permitted at the job-site unless otherwise permitted in the Special Provisions.
5. Except for rinsing of hopper and delivery chute, and for wheel washing where required, concrete trucks shall not be cleaned on the job site. Rinse water shall not be allowed to drain into the drainage system.
 - a. Unless otherwise permitted, concrete truck wash water must be directed to an impermeable basin sized to contain 1.5 times the anticipated volume of wash water. Water shall be allowed to evaporate and the remaining sludge must be disposed of at an approved location.
6. Irrigation water must be kept to a minimum so that no runoff is generated.
7. Dewatering effluent must be directed to an impermeable basin. Water shall be allowed to evaporate and the remaining sludge must be disposed of at an approved location.
8. No fuel, oil, or hydraulic fluid shall be stored onsite. Except in an emergency, such as mechanical failure, all vehicle fueling and maintenance shall be done in a designated area. A temporary berm shall be constructed around the area when runoff can cause a problem.
9. Where deemed necessary by the Owner's Representative, the Contractor shall implement additional BMPs to prevent pollution from leaving the construction site at no additional cost to the Owner, whether indicated on the plans or not.

E. Suspension of Work

1. Violations of any of the above requirements or any other pollution control requirements which may be specified in the Technical Specifications herein shall be cause for suspension of the work creating such violation. No additional compensation shall be due the Contractor for remedial measures to correct the offense. Also, no extension of time will be granted for delays caused by such suspension.
2. If no corrective action is taken by the Contractor within 72 hours after suspension is ordered by the Owner's Representative, the Owner reserves the right to take whatever action is necessary to correct the situation and to deduct all costs incurred by the Owner in taking such action from monies due the Contractor.
3. The Owner's Representative may also suspend any operations that it feels are creating pollution problems although they may not be in violation of the above-mentioned requirements.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Where specific products are mentioned below, the intent is to specify a level of quality. Acceptable alternatives must meet or exceed those specifications of the listed products.
- B. Sediment Filtration Waddle
 1. Sediment filtration waddles shall be a compost filled waddle, SiltSoxx as manufactured by Filtrexx or approved equal.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. All products shall be installed according to the manufacturer's requirements and recommendations. If there is conflict between the manufacturer's requirements and the instructions provided in the plans, this must be brought to the immediate attention of the Owner's Representative. In such cases the Owner's Representative may choose to revise the plans to ensure any warranties offered by the product manufacturer will remain intact.

3.02 MAINTENANCE

- A. Pollution control measures must remain in place as indicated and as required throughout the duration of the project. If pollution control structures are found to have failed or been damaged, the Contractor must repair or replace those structures immediately, prior to proceeding with any other work.

END OF SECTION

SECTION 01700 – CONTRACT CLOSEOUT

PART 1 – GENERAL

1.01 CLOSEOUT PROCEDURES

- A. When work has reached final completion, submit written notification that the contract documents have been reviewed, the work has been examined, and that the work is complete in accordance with contract documents and ready for the Contracting Officer’s review and acceptance.
- B. After the above notification and unless otherwise directed by the Owner’s Representative, the following events shall occur in sequence:
 - 1. Pre-Final Inspection
 - 2. Final Inspection
 - 3. Execution of Submittals
 - a. Letter of release from the surety company
 - b. Submittals as specified in any section of these specifications and the conditions of the contract
 - c. Final invoice, as-builts, construction progress report, and statement of contract time
 - 4. Submittals shall be made in accordance with Section 01300 – Submittal Procedure.

1.02 PRE-FINAL INSPECTION

- A. The pre-final inspection at the jobsite will be held after written notice as specified above is received by the Owner’s Representative.
- B. The Contractor shall have a copy of the “as-built” record drawings available for reference during the pre-final inspection.
- C. During the inspection, any work determined by the Owner’s Representative to be incomplete, damaged, and/or not in accordance with the contract documents shall be recorded in a punch list.
- D. Deficient work, indicated in the Owner’s Representative punch list shall be completed, repaired, and/or corrected to the satisfaction of the Owner’s Representative and at no additional cost to the Owner.
- E. All punch list work shall be completed within ten (10) consecutive working days from the pre-final inspection date or prior to the contract completion date indicated in the Notice to Proceed, whichever is later.
- F. All punch list work must be included in the final “as-built” record drawings.

1.03 FINAL INSPECTION

- A. Final inspection will be called after written notice is received by the Owner’s Representative.

- B. If any punch list work is found incomplete at the time of final inspection and the reasons for delay are not acceptable to the Owner's Representative, the liquidated damages stipulated in the Special Provisions Section will take effect the day after the contract completion date.

1.04 WARRANTIES

- A. Provide original and electronic copies of all warranties. All warranties shall be in effect from the date of project acceptance for the duration specified.

1.05 FINAL CLEANING

- A. At the completion of the project, prior to acceptance and prior to the final inspection, thoroughly clean the job site, buildings and work areas. Areas requiring cleaning shall be limited to construction areas, areas used, traversed or soiled by and attributed to construction operations and as indicated herein after. Vacuum clean where appropriate and remove grease, adhesive, dust, dirt, stains, fingerprints, and other foreign materials from sight-exposed exterior surfaces. Use commercial cleaning compounds where necessary. Clean all painted surfaces where soiled.
- B. Also prior to final inspection, clean the site and put it into a neat, acceptable condition. Hose down and scrub where necessary all existing pavement and walks dirtied as a result of the work. Contractor shall conduct an inspection of sight-exposed exterior surfaces, and all work areas, to verify that the entire work is clean and ready for final inspection.

PART 2 – NOT USED

PART 3 – NOT USED

END OF SECTION

SECTION 02485 – LAWNS AND GRASSES

PART 1 – GENERAL

1.01 GENERAL CONDITIONS

- A. This section covers the requirements for preparation, planting, and maintenance of areas designated to be grassed per plan.
 - 1. Where grassed areas are not specifically indicated on the plans, the following areas shall be grassed:
 - a. All existing grassed areas that are damaged by construction operations;
 - b. Areas that are dug up for utility trenches;
 - c. Areas within “Contract Zone Limits” that are graded and covered with topsoil except areas designated for other plants; and
 - d. All other areas within “Contract Zone Limits” that are indicated on the plans to be graded, whether with the addition of screened soil or not, such as slopes of banks, etc.
- B. The maintenance requirements of this section shall extend to all landscaped areas that are affected by the construction work, whether grassed or not.

1.02 SUBMITTALS

- A. Submit the following items for review. Work may not begin until these submittals have been reviewed and an adequate response has been provided per Section 01300 – Submittal Procedure.
 - 1. Manufacturer’s product data
- B. At the completion of planting operations, the Contractor must submit a written request for approval. The date that written approval is issued will constitute the start of the maintenance period.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Grassing shall be done by placing sod or by hydromulch seeding.
- B. Where grassing will be done by hydromulch, grass seeds shall be fresh, hulled, and meet the following requirements:
 - 1. Pure Seed: 95% Minimum
 - 2. Crop Seed: 1.0% Maximum
 - 3. Weed: 0.5% Maximum
 - 4. Inert Materials: 5.0% Maximum
 - 5. Germination: 85.0% Minimum

6. Grass seeds shall be a mixture of 50% Bermuda and 50% Rye.
 7. Grass seeds shall be delivered to the site in unopened, sealed containers, labeled with the brand name and percent purity. Labeling shall indicate that the seeds passed a certified germination test no more than 12 months prior to use.
- C. Grass seeds shall be applied at the following rates:
1. Bermuda Grass: 62 lbs / acre
 2. Rye Grass: 215 lbs / acre
- D. Fertilizer shall be pelleted and shall consist of the following percentages by weight of active ingredients:
1. Nitrogen: 15%
 2. Phosphate: 15%
 3. Potash: 15%
- E. Mulch shall be specially processed fiber containing no growth or germination inhibiting factors. It shall be such that additions and agitation in the hydraulic equipment with seed, fertilizer, water and other additives not detrimental to plant growth, the fibers will form a homogeneous slurry. When hydraulically sprayed on the soil, the fibers shall form a blotter like ground cover that readily absorbs water and allows infiltration to the underlying soil.
1. Hydro mulch shall be Central Fiber Corp. 'Enviro-Matt' or equal. Rate of application shall be 3,000 lbs./acre minimum.
- F. Organic Soil Conditioners
1. Aged macadamia nut husk
 2. Redwood shavings shall be a nitrogen stabilized compost of redwood materials passing through a 1/2" screen
 3. Peat moss
- G. Water shall be potable.

PART 3 – EXECUTION

3.01 GROUND PREPARATION

- A. Prior to planting, the areas to be grassed shall be cleared of all unwanted plants (including their root system), stones over 3 inches in diameter, papers, trash and debris and graded to the dimension and elevations shown on the plans or as directed.
1. If the existing soil in the areas to be grassed is suitable for use as planting soil, the soil shall be scarified to a depth of not less than 6 inches from the finished surface shown on the plans. The soil shall be worked until it is of a uniform and loose texture, free from all stones greater than 1/2 inch in diameter and appropriate for planting. If additional material is required to bring the said areas to plan grade,

planting soil shall then be spread and graded to conform to the finish surface shown on the plans.

2. Areas unsuitable for planting, as determined by the Owner's Representative shall be excavated to a depth of not less than 6 inches from the finished surface and backfilled with planting soil. The planting soil shall be spread and graded to conform to the finish grade shown on the plans. The Contractor shall be responsible for the disposal of all excavated material.
3. A soil conditioner shall be added to all surfaces to be grassed. A 2-inch thick layer of soil amendment shall be tilled into the soil to depth of not less than 6 inches until the soil is loose and fine textured and free from stones greater than 1/2 inches in diameter.

3.02 HYDROMULCHING

- A. Hydromulching shall consist of furnishing and applying hulled seed, fertilizer, mulch and stabilizing and water retaining agent by hydromulching.
 1. The seeds shall be applied at the rates indicated hereinbefore. In every application, complete and uniform coverage of the soil shall be attained.
 2. First application of fertilizer shall be included with the mulch and seed.
 3. The hydromulch equipment shall be capable of mixing all the necessary ingredients to a uniform texture and to apply the slurry to provide uniform coverage. Seed, fertilizer, mulch mix, and stabilizing water retaining agent shall be applied in one operation by hydraulic equipment made specifically for this use. The equipment shall have a built in agitation system with an operating capacity sufficient to keep the mix in uniform distribution until pumped from the tank. Distribution and discharge lines shall be large enough to prevent stoppage and shall be equipped with hydraulic spray nozzles which provide a uniform distribution of the slurry.
 4. Water shall be applied immediately following mulching and the planted area shall then be kept moist until roots are established.

3.03 MAINTENANCE

- A. Fertilizer shall be distributed uniformly over the planted area at a rate of 300 pounds per acre.
 1. In addition to the initial application during hydromulching operations, fertilizer shall be applied at least 3 times during the maintenance period at intervals not closer than 2-1/2 months.
- B. The Contractor shall be responsible for the proper care of the grassed areas. Maintenance shall include watering, mowing, repairing, regrassing, and protection. The maintenance period will begin immediately after completion and written approval of all planting operation is issued and shall continue for a period of nine months thereafter. If the end of the maintenance period occurs before the end of the construction contract, the maintenance shall continue until the end of the construction contract.

- C. After mulching, the ground shall be watered as deemed necessary by the Contractor to establish a healthy growth. Watering shall be done in a manner that will prevent erosion due to the application of excessive quantities of water, and the watering equipment shall be of a type that will prevent damage to the finished surface.
- D. Weeds shall be uprooted and removed completely and in no case shall they be allowed to grow and propagate more seeds. Large holes caused by weeding shall be filled with screened soil and raked level.
- E. Grass shall be mowed to a height of 1" whenever the height of the grass becomes 1-1/2".
- F. When any portion of the surface becomes gullied or otherwise damaged and grass has failed to grow, such areas shall be repaired with screened soil and replanted with grass. Any area of one foot square or more in which grass has failed to grow after 30 days of maintenance shall be regrassed.
- G. The grassed areas shall be protected against traffic so that the grass establishes a healthy growth. Grassed areas damaged by traffic shall be replanted.

3.04 ACCEPTANCE OF GRASSING

- A. At the time of acceptance, the grass shall have been well established and shall have been given a final weeding and a final mowing to a height of 1". If the maintenance period has expired before acceptance of the entire project, the Contractor shall continue to maintain the grass until acceptance of the entire project. If the maintenance period should extend beyond acceptance of the entire project, the Contractor shall continue to maintain the grass until the end of the specified period of time required for maintenance.
 - 1. At the end of the maintenance period, should there appear areas where grass has failed to grow, such areas shall be replanted with grass, refertilized and maintained beyond the maintenance period until a healthy growth is established.

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.
- 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. Work may not begin until these submittals have been reviewed and an adequate response has been provided per Section 01300 – Submittal Procedure.
 1. Manufacturer's product data
 2. Material Safety Data Sheets (MSDS)
 3. Shop Drawings
 - a. Where shoring is required, submit shop drawings showing shoring locations and details of shoring to be provided.
- 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.

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 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.
3. If a Ground Penetrating Radar (GPR) survey, toning, or probing of existing utilities must be completed prior to any excavation work.

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.

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

SECTION 02740 - SEPTIC SYSTEMS

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Whenever the Contractor is required by State or local laws or regulations to make a deposit and/or to pay for a permit before proceeding with any work called for under this part of the specifications. The Contractor shall make the necessary deposit and/or pay for obtaining the required permit for the work.
- B. In addition, 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. Specific 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. Paragraphs concerning Measurements and Payments in the Sections are not applicable to this project.
 - 2. Specific Sections of the MANUAL OF SEPTIC-TANK PRACTICE U.S. Department of Health, Education, and Welfare.
 - 3. Specific Sections of the State of Hawaii, Department of Health, Hawaii Administrative Rules Chapter 11-62, Wastewater Systems.

1.02 CERTIFICATION

- A. The Contractor shall furnish to the Owner's Representative, affidavits from the manufacturers of pipe, septic tank, fittings, etc., furnished and installed under this section verifying that such materials delivered to the project conform to the requirements of this specification.

PART 2- PRODUCTS

2.01 MATERIALS

- A. Asbestos Prohibition: No asbestos containing materials shall be used under this section. The Contractor shall insure that all materials incorporated in the project are asbestos-free.
- B. Materials for septic system shall be in accordance with the below listed 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. Paragraphs concerning Measurements and Payments in the sections are not applicable to this project.
 - 1. PVC Sewer Pipe and Appurtenances SDR-35 Section 21
- C. Septic Tank shall be Non-Traffic rated 1500-gallon fiberglass septic tank. Septic tank shall have two 24" minimum diameter access holes. All inlet and outlet pipe shall be watertight sealed with gaskets and/or sealants to the septic tank. Septic tank shall be 1500-gallon septic tank as manufactured by Orenco or pre-approved equivalent.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Location and Adjustment of Existing Utility Lines: The Contractor shall be responsible for precisely laying out the septic system shown on the contract drawings as provided elsewhere in these specifications. The locations shown on the contract drawings of the various utility lines which the new lines are to cross over or under or connect to, be 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.
1. 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 line. Any damage inflicted on existing lines resulting from the Contractor's operations shall be immediately repaired and restored as directed by the Engineer at the Contractor's expense.
 2. Trench excavation and backfill for the laying and installation of sewer pipes and leaching field, to the required line and grade and structure excavation for
- B. The construction of the appurtenant utility structure shall be governed by the following sections of the DPW STANDARD SPECIFICATIONS as herein before amended with respect to Measurements and Payments and with certain additional modifications noted below:
1. Trench Excavation and Backfill Section 11
 2. Structure Excavation and Backfill Section 13
 3. Sewer Manhole – Frame and Cover Section 23
 4. Restoring Pavements and Other Improvements Section 38
- C. 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 improvements to the satisfaction of the Owner's Representative.
- G. Final Inspection: At the time of final inspection of the work performed under the contract, the septic system covered by this section shall be complete in every respect and operating as designed. All surplus material of every character resulting from the work of this section shall have been removed. The septic system shall be free from sand, silt or other obstructions. There shall be no low points over the absorption bed for ponding of any rainfall runoff. Any defect discovered in the utilities subsequent to this inspection shall be corrected prior to final acceptance.

END OF SEPTIC SYSTEM