

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

SPECIAL PROVISIONS, SPECIFICATIONS, PROPOSAL,
CONTRACT AND BOND

FOR

MAINTENANCE OF LANDSCAPED AREAS
AND MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION SYSTEM
SALT LAKE BOULEVARD TO PUULOA ROAD
PROJECT NO. H1G-01-17C
DISTRICTS OF EWA AND HONOLULU
ISLAND OF OAHU

2018

TABLE OF CONTENTS

Page No.

Notice to Bidders

Special Provisions.....	SP-1 - SP-21
-------------------------	--------------

Specifications (Serv.)

Section 1	Definition and Terms.....	1-1 - 1-4
Section 2	Proposal Requirements and Conditions.....	2-1 - 2-3
Section 3	Award and Execution of Contract.....	3-1 - 3-5
Section 4	Scope of Work.....	4-1 - 4-3
Section 5	Control of Work.....	5-1 - 5-3
Section 6	Control of Material and Equipment.....	6-1 - 6-3
Section 7	Legal Relations and Responsibility.....	7-1 - 7-4
Section 8	Prosecution and Progress.....	8-1 - 8-8
Section 9	Payment.....	9-1 - 9-2
Section 10	Maintenance of Landscaped Areas.....	10-1 - 10-28
Section 11	Maintenance, Repair and Inspection of Irrigation System	11-1 - 11-14

Appendices

Appendix A - Tree and Shrub Planting Detail	A-1
Appendix B - Invasive Plant Removal	B-1
Appendix C - Maintenance of Landscaped Areas Task and Frequency Matrix.....	C-1 - C-2

Appendix D - Irrigation System Maintenance Tasks, Frequency, Checklist and Report.....	D-1 – D-6
Appendix D1 - Supplemental Irrigation System Maintenance Information ...	D1-1 – D1-3
Appendix D2 - Sample – Irrigation Controller Schedule	D2-1
Appendix E – Sample – Irrigation Trouble Call/Equipment Service Maintenance Report.....	E-1
Appendix F - Location Plan	F-1
Appendix F1 – General Plans – As-Built (<i>Reduced Scale</i>)	
Project No. I-IR-H1-1-1(111):14) (Sprinkler Plan)	101 – 104
Project No. I-IR-H1-1-1(111):14) (Sprinkler Details)	105 - 108
Project No. I-IR-H1-1-1(111):14) (Sprinkler Summary)	109R – 110R
Project No. I-IR-H1-1-1(111):14) (Sprinkler Main General Plan)	111
Project No. I-IR-H1-1-1(111):14) (Sprinkler Main Profile)	112 - 113
Project No. I-IR-H1-1-1(111):14) (Sprinkler Main Details)	114
Project No. I-IR-H1-1-1(173):16) (Partial Irrigation Plan)	2 – 6
Project No. I-IR-H1-1-1(173):16) (Partial Drip Irrigation Plan)	7 – 9
Appendix F2 – Summary of Required Annual Inspections	F2-1
Appendix G - Application & Permit for the Occupancy & Use of State Highway Right-Of-Way.....	G-1
Appendix G1 – Sample – Notice to Proceed letter for Miscellaneous Work	G1-1
Appendix H - Landscape Maintenance Contractor Performance Rating	H-1

Page No.

Appendix H1 - Sample – Record of Herbicide Application.....	H1-1
Appendix I - Sample - Monthly Invoice.....	I-1
Appendix I1 - Sample – Certified Payroll Report.....	I1-1
Appendix J - Sample - Satisfactory Evidence by Affidavit for Final Payment.....	J-1
Proposal.....	PF-1 - PF-5
Proposal Schedule.....	PF-6 - PF-9
Forms	
Sample Contract.....	KF-1 - KF-3
Performance Bond (Surety).....	1-2
Performance Bond.....	PB-1 - PB-2
Certificate for Performance of Services	

NOTICE TO BIDDERS
(Chapter 103D, HRS)

SEALED BIDS for MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION SYSTEM, SALT LAKE BOULEVARD TO PUULOA ROAD, PROJECT NO. H1G-01-17C, DISTRICTS OF EWA AND HONOLULU, ISLAND OF OAHU, will be received at the Contracts Office, Department of Transportation, 869 Punchbowl Street, Honolulu, Hawaii 96813 until 2:00 P.M., Hawaii Standard Time (HST), May 10, 2018, at which time and place they will be publicly opened and read.

A compact disc containing the specifications, proposal and contract forms may be obtained from the above office. Bids (hard copies) shall be submitted in a sealed envelope, and shall be on the Proposal Form provided on the compact disc furnished by said Department. Bids received after the established due date and time will not be considered.

The scope of work consists of furnishing all labor, materials, tools and equipment necessary for the maintenance of certain designated landscaped areas, including applicable planter boxes within the highway right-of-way and maintenance, repair and inspection of irrigation system.

To be eligible for award, bidders must possess a valid State of Hawaii Specialty Contractor's C-27 Landscaping Contractor's license at the time of bidding. Bidder's attention is also directed to Section 2.1 of the Special Provisions regarding additional bidder's qualification.

The Hawaii Products Preference pursuant to ACT 175, SLH 2009 is applicable to this project. Persons wishing to certify and qualify a product as a Hawaii Product shall submit a Certification for Hawaii Product Preference (SPO Form 38) to the Department of Transportation Contracts Office no later than 4:30 p.m., fourteen (14) calendar days prior to the bid opening date. Late submittals for this project will not be reviewed by the Department.

A separate SPO-38 form shall be completed and submitted for each product. The form is available at <http://spo.hawaii.gov/wp-content/uploads/2013/12/spo-038.doc>

Driving While Impaired (DWI) Education. HDOT encourages all organizations contracted with the DOT to have an employee education program preventing DWI. DWI is defined as operating a motor vehicle while impaired by alcohol or other legal or illegal substances. HDOT promotes this type of program to accomplish our mission to provide a safe environment for motorists, bicyclists and pedestrians utilizing our State highways.

Campaign contributions by State and County Contractors. Contractors are hereby notified of the applicability of Section 11-355, HRS, which states that campaign contributions are prohibited from specified State or county government contractors during the term of the contract if the contractors are paid with funds appropriated by a legislative body. For more information, contact the Campaign Spending Commission at (808) 586-0285.

Any protest of this solicitation shall be submitted in writing to the Director of Transportation, in accordance with §103D-701, HRS and §3-126, HAR.

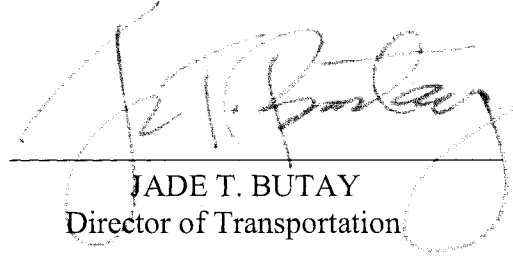
The Equal Employment Opportunity Regulations of the Secretary of Labor implementing Executive Order 11246, as amended, shall be complied with on this on this project.

The U.S. Department of Transportation Regulation entitled "Nondiscrimination in Federally-Assisted Programs of the U.S. Department of Transportation," Title 49, Code of Federal Regulations (CFR), Part 21 is applicable to this project. Bidders are hereby notified that the Department of Transportation will affirmatively ensure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the grounds of race, color, national origin or sex (as directed by 23 CFR Part 200).

For additional information, contact Leandro Manding by telephone at (808) 587-2184 or by facsimile at (808) 587-2524.

For additional information, contact Leandro Manding by telephone at (808) 587-2184 or by facsimile at (808) 587-2524.

The State reserves the right to reject any or all proposals and to waive any defects in said proposals for the best interest of the public.



JADE T. BUTAY
Director of Transportation

Internet Posting: April 18, 2018

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

SPECIAL PROVISIONS

SPECIAL PROVISIONS

The specifications contained herein are amended as follows:

A. SECTION 1 – DEFINITIONS AND TERMS is amended by adding the following:

1. 1.38 WORKING DAY is amended in its entirety to read as follows:

“Everyday, except Saturdays, Sundays and State holidays as observed.

Normal State holidays are as follows:

New Year’s Day (1st day in January) *
Dr. Martin Luther King, Jr. Day (third Monday in January)
President’s Day (third Monday in February)
Prince Kuhio Day (26th day in March)
Good Friday (day preceding Easter Sunday)
Memorial Day (last Monday in May)
King Kamehameha Day (11th day in June)
Independence Day (4th day in July)
Statehood Day (third Friday in August)
Labor Day (first Monday in September)
General Election Day (as observed by the State)
Veterans Day (11th day in November)
Thanksgiving Day (fourth Thursday in November)
Christmas Day (25th day in December)

State Holiday schedules can be obtained online at:
<http://dhrd.hawaii.gov/state-observed-holidays/>

2. Add the following new subsections:

“1.39 ENGINEER – The Oahu District Engineer, acting directly or through his duly authorized representatives, who are responsible for Oahu District engineering supervision of construction and other highway matters.

1.40 STANDARD SPECIFICATIONS – The Hawaii Standard Specifications for Road and Bridge Construction, 2005, Highways Division, Department of Transportation, including any amendments. To review the standard specifications, log on to:

<http://hidot.hawaii.gov/highways/s2005-standard-specifications/>

The Contractor shall utilize the latest revision.

1.41 MUTCD – The Manual On Uniform Traffic Control Devices, 2009, Federal Highway Administration, U.S. Department of Transportation, including any amendments or revisions. To review the MUTCD, log on to:

<http://mutcd.fhwa.dot.gov/>

The Contractor shall utilize the latest revision.

1.42 HMSLM – The Hawaii Department of Transportation (HDOT) Highway Manual for Sustainable Landscape Maintenance, 2011, Highways Division, Hawaii Department of Transportation, including any amendments or revisions. Contractors may purchase this manual by contacting Ms. Emily Hsu of the Department of Transportation Staff Services Office at (808)587-4069. To review the HMSLM, log on to: <http://hidot.hawaii.gov/highways/landscape-architecture-program/>”

1.43 OSHA – The U.S. Department of Labor (DOL), Occupational Safety and Health Administration (OSHA). To review the OSHA, log on to:

<https://www.osha.gov/law-regs.html>

The Contractor shall utilize the latest revision.

1.44 DEBRIS & LITTER – Rubbish and other objects that are unsightly, glass, trash, papers, cans, bottles, cigarette butts, palm fronds and tree limbs and the like.”

B. SECTION 2 – PROPOSAL REQUIREMENTS AND CONDITIONS is amended as follows:

1. 2.1 QUALIFICATION OF BIDDERS is to be amended by adding the following paragraph at the end of the first paragraph:

“Attention is directed to the provisions of Chapter 444, H.R.S., regarding the licensing of contractors in the State.

A. Contractor or Contractor’s Responsible Managing Employee (RME) Qualification

1. **License.** *At the date of bidding*, possesses a valid State of Hawaii Specialty Contractor’s C-27 Landscaping Contractor’s license. The Contractor or RME must possess the license throughout the duration of the contract and/or any extensions.

a. Statement of Capabilities. In the spaces provided in the Statement of Capabilities, the Contractor shall provide the following information (*Refer to Section 10.2(A) 1 Statement of Capabilities, of the Specifications for more information on Statement of Capabilities*)::

- i. Copy of the specified license, as applicable and
- ii. Contractor’s license number, as applicable.

2. **Work Experience.** *At the date of bidding, the Contractor or RME shall have a minimum of two (2) consecutive years of C-27 Landscaping Contractor's experience in the field of landscaping services. The experience shall include a minimum of two (2) years in managing contracts similar to this project in size and scope prior to bid opening.*
 - a. Statement of Capabilities. In the spaces provided in the Statement of Capabilities, the Contractor shall provide the following information (*Refer to Section 10.2(A) 1 Statement of Capabilities, of the Specifications for more information on Statement of Capabilities*):
 - i. Number of years of experience, as applicable. and
3. **Documentation of Work Experience.** Produce a list of similar projects to substantiate the Contractor's experience. List shall contain a minimum of three (3) different landscape projects to include name of company that you worked with or you are currently working with, point of contact, phone number, description landscaping work performed and size of project (cost wise). *The minimum of three (3) different landscape projects experience shall be positive on performance evaluation by the respective agency.*
 - a. Statement of Capabilities. In the spaces provided in the Statement of Capabilities, the Contractor shall provide the following information (*Refer to Section 10.2(A) 1 Statement of Capabilities, of the Specifications for more information on Statement of Capabilities*):
 - i. Client references, as applicable.
4. The Contractor shall possess the required business and tax license to conduct business in the State of Hawaii.
5. Have all required equipment (e.g. handheld tools, utility trucks, mowers, etc.) necessary to perform the specified services in this document. Since public safety is of utmost importance, the Contractor shall complete the Statement of Capabilities form. *Refer to Section 10.2(A) 1 Statement of Capabilities, of the Specifications for more information on Statement of Capabilities.* For leased equipment, the copy of the lease agreement shall be verified during the pre-start meeting as specified in Section 10.15 Pre-start Meeting, of the Specifications.

The following are required on all equipment/vehicles, as applicable:

- a. Contractor's vehicles must have Contractor's company name and/or logo displayed on doors or side panels and shall be in letters large enough to be easily legible from a distance of one hundred (100) feet. Magnetic signs bearing the contractor's company name/logo are acceptable. *Cost for the logo/contractor's company name shall be considered as incidental cost of maintaining landscaped areas.*
- b. All vehicles shall be in good condition and appearance.
- c. Shall meet all State and County licensing and registration and safety requirements and shall be equipped properly in accordance with City, State, Federal and OSHA requirements.
- d. Equipment/vehicles parked on the shoulder shall require proper traffic signage (i.e. "Shoulder Work Ahead", etc.) traffic cones, barricades, etc. as necessary and placed in accordance with the MUTCD. *Refer to Section 10.11(A) 4 of the Specifications for more information.*
- e. The Contractor shall obtain insurance coverages as specified by Section 7.9 Insurance, of the Specifications.
- f. Operation of all equipment shall be in accordance with all applicable OSHA, other Federal, State, and local regulations and laws and the equipment operator's manual.

Required equipment may be owned or leased. To show availability of equipment, the bidder shall complete the Statement of Capabilities form or submit a separate list of owned and/or leased equipment. *Refer to Section 10.2(A) 1 Statement of Capabilities, of the Specifications for more information on Statement of Capabilities.*

For leased equipment, the copy of the lease agreement as listed in the Statement of Capabilities shall be verified during the pre-start meeting as specified in Section 10.15 Pre-start Meeting, of the Specifications. The State reserves the right to verify the availability of equipment, prior to the Notice to Proceed date and throughout the term of the contract.

- 6. Be familiar with working on State Highways preferably on the Island of Oahu.

7. Be experienced on establishing required traffic control per the current U.S. Federal Highway Administration's 'Manual on Uniform Traffic Control Devices (MUTCD). The Contractor may employ a person or use a sub-contractor who is knowledgeable on traffic control.
8. Proposed Disposal Site Location. This information shall be provided in the Statement of Capabilities and shall be verified *prior to award* and prior to the issuance of the Notice to Proceed to the lowest responsive and responsible bidder.
9. Possess a valid disposal permit. This requirement provided in the Statement of Capabilities and shall be verified prior to the issuance of the Notice to Proceed to the lowest responsive bidder. *Failure to submit the required document(s) shall be grounds for terminating the contract."*

B. Contractor, Contractor's RME or Contractor's Personnel Qualification.

The Contractor shall determine the number of trained/certified staff personnel that he/she is going to employ in order to satisfactorily perform all tasks and fulfill all the safety requirements of the contract documents, but shall employ the minimum number of personnel as specified below who is trained/certified/licensed/experienced on the following:

1. **Lead Maintenance Person/Highway Maintenance Supervisor**
The Contractor shall employ, as a minimum, one in his staff with the following requirements. *Refer to Section 2.1.B.1.c below for minimum requirements if the Bidder/Contractor has been awarded multiple landscaping contracts at the time of bid of this project.*
 - a. **Certification.** *At the date of bidding, possesses a valid certification and-in good standing as a Landscape Industry Council Certified Landscape Technician (CLT) Exterior/Maintenance.*
 - b. **Work Experience.** *At the date of bidding and pursuant to "The Highway Manual for Sustainable Landscape Maintenance (HMSLM)", possesses the following:*
 - i. a minimum of one (1) year of experience, in supervising personnel performing all aspect of general maintenance work on highway right of way areas **or**
 - ii. at least two (2) years of experience in all aspects of general landscape maintenance.

Refer to Section 1.42 HMSLM, of the Special Provisions for the definition of "HMSLM."

- c. The CLT Exterior/Maintenance Lead Maintenance Person/Highway Maintenance Supervisor shall be onsite at all times supervising maintenance staff.
 - i. *To effectively enforce this requirement, Bidders/Contractors with multiple landscaping contracts with the Highways Division, Oahu District shall be required to employ a minimum of one (1) CLT Exterior/Maintenance Lead Maintenance per two (2) landscaping contracts. Bids from Contractors with multiple contracts may not be considered if certificate of CLT Exterior/Maintenance Lead Maintenance has been submitted for the past two awarded bids/contracts.*
 - ii. *Pursuant to Section 8.6 Liquidated Damages, of the Special Provisions, the Contractor shall be charged liquidated damages for failure to have CLT Exterior/Maintenance Lead Maintenance Person/Highway Maintenance Supervisor on site whenever landscaping maintenance work is in progress.*
 - iii. *If the CLT Exterior/Maintenance Lead Maintenance Person/Highway Maintenance Supervisor is found not to be onsite more than three (3) times in one contract year then contract shall not be renewed.*
 - iv. *A CLT Exterior/Maintenance who is also a CLT Exterior/Irrigation will satisfy the minimum requirement of one (1) CLT Exterior/Irrigation Lead Irrigation Person per two (2) landscaping contracts as specified in Section 2.1.B.2.c.i of the Special Provisions.*
- d. In the spaces provided in the Statement of Capabilities, the Contractor shall provide the following information (*Refer to Section 10.2(A) 1 Statement of Capabilities, of the Specifications for more information on Statement of Capabilities*):
 - i. Name of CLT Exterior/Maintenance personnel
 - ii. Work experience similar to the scope of this contract that fulfills the requirements of Sections 2.1.B.1.b.i or 2.1.B.1.b.ii above.
 - iii. Copy of the CLT Exterior/Maintenance certification.

- iv. Years of experience that fulfills the requirements of Sections 2.1.B.1.b.i **or** 2.1.B.1.b.ii above.
- e. The following certificates from the following training sources are acceptable:
 - i. Landscape Industry Council of Hawaii (LICH)
 - ii. Professional Landscape Network (PLANET)
 - iii. Combined LICH or PLANET
 - iv. Equivalent certificates similar to items i through iii above.

2. Lead Irrigation Person. The Contractor shall employ, as a minimum, one in his staff with the following requirements. *Refer to Section 2.1.B.2.c.i below for minimum requirements if the Bidder/Contractor has been awarded multiple landscaping contracts at the time of bid of this project.*

- a. **Certification.** *At the date of bidding,* possesses a valid certification and in good standing as a Landscape Industry Council Certified Landscape Technician (CLT) Exterior/Irrigation.
- b. **Work Experience.** *At the date of bidding* and pursuant to “The Highway Manual for Sustainable Landscape Maintenance_(HMSLM)” possesses the following:
 - i. a minimum of one (1) year of experience in supervising personnel performing irrigation work **or**
 - ii. at least two (2) years of experience in all phases of sprinkler repair and installation work.

Refer to Section 1.42 HMSLM, of the Special Provisions for the definition of “HMSLM.”

- c. The CLT Exterior/Irrigation Lead Irrigation Person shall be onsite *at all times* when irrigation work is being performed.
 - i. *To effectively enforce this requirement, Bidders/Contractors with multiple landscaping contracts with the Highways Division, Oahu District shall be required to employ a minimum of one (1) CLT Exterior/Irrigation Lead Irrigation Person per two (2) landscaping contracts. Bids from Contractors with multiple contracts may not be considered if certificate of CLT*

Exterior/Maintenance Lead Maintenance has been submitted for the past two awarded bids/contracts.

- ii. Pursuant to Section 8.6 Liquidated Damages Statement of Capabilities, of the Specifications, the Contractor shall be charged liquidated damages for failure to have the CLT Exterior/Irrigation Lead Irrigation Person on site whenever irrigation maintenance/repair operations are in progress.
 - iii. If the CLT Exterior/Irrigation Lead Irrigation Person is found not to be onsite more than three (3) times in one contract year then contract shall not be renewed.
 - iv. A CLT Exterior/Irrigation who is also a CLT Exterior/Maintenance will satisfy the minimum requirement of one (1) CLT Exterior/Maintenance Lead Maintenance Person per two (2) landscaping contracts as specified in Section 2.1.B.1.c.i of the Special Provisions.
- d. In the spaces provided in the Statement of Capabilities, the Contractor shall provide the following information (*Refer to Section 10.2(A) 1 Statement of Capabilities, of the Specifications for more information on Statement of Capabilities*):
- i. Name of CLT Exterior/Irrigation personnel.
 - ii. Work experience similar to the scope of this contract that fulfills the requirements of Sections 2.1.B.2.b.i or 2.1.B.2.b.ii above.
 - iii. Copy of the CLT Exterior/Irrigation certification.
 - iv. Years of experience that fulfills the requirements of Sections 2.1.B.2.b.i or 2.1.B.2.b.ii above.
- e. The following certificates from the following training sources are acceptable:
- i. Landscape Industry Council of Hawaii (LICH)
 - ii. Professional Landscape Network (PLANET)
 - iii. Combined LICH or PLANET
 - iv. Equivalent certificates similar to items i through iii above.

3. **Sprinkler Technician**

- a. **Working Knowledge.** *At the date of bidding, the Sprinkler Technician shall be, as a minimum, capable of reading plans and following instructions.*
- b. **Work Experience.** *At the date of bidding, possess a minimum of one (1) year experience in all phases of sprinkler system installation and maintenance work.*
- c. In the spaces provided in the Statement of Capabilities, the Contractor shall provide the following information (*Refer to Section 10.2(A) 1 Statement of Capabilities, of the Specifications for more information on Statement of Capabilities*):
 - i. Name of Sprinkler Technician.
 - ii. Work experience similar to the scope of this contract that fulfills the requirements of Section 2.1.B.3.b above.
 - iii. Years of experience that fulfills the requirements of Section 2.1.B.3.b above.

4. **Traffic Control personnel.** *Refer to Section 2.1.B of the Special Provisions for the required minimum number of trained/certified personnel.*

- a. If the Contractor is using his or her own work force/personnel to perform flagging/traffic control/closing of lanes services, the Contractor shall fulfill the following requirements:
 - i. **Certification.** *At the date of bidding, the Contractor or his personnel shall possess a valid certificate of training completion respectively. As a minimum, the Contractor or his/her personnel shall be trained and certified on the following American Traffic Safety Services Association (ATSSA) courses or their respective equivalent from other training sources:*
 - 1. Flagger,
 - 2. Traffic Control Technician (TCT) **and**
 - 3. Traffic Control Supervisor (TCS).

For more information on the above courses, log on to: <http://www.atssa.com/Training>

4. The Contractor shall submit the following acceptable documentation of training completion:
 - a. American Traffic Safety Services Association (ATSSA).
 - b. Equivalent documentation to the above.
 5. In the space provided in the Statement of Capabilities form, the Contractor shall provide the following information and documentation (*Refer to Section 10.2(A) 1 of the Specifications for more information on Statement of Capabilities*):
 - a. Name of ATSSA certified personnel **for each** of the personnel in Section 2.1.B.4.a.i.1 through 3 above.
 - b. Description of work experience for each specified personnel similar to the scope of this contract,
 - c. Years of experience for each specified personnel as of bid opening date. Years of experience shall meet the requirements of Section 2.1.B.4.a.ii of this section.
- ii. **Work experience.** *At the date of bidding, the Contractor or Contractor's traffic control personnel shall have a minimum of two (2) years' experience as a certified Flagger, Traffic Control Technician (TCT) and traffic Control Supervisor (TCS) or their respective equivalent.*
1. Statement of Capabilities. In the space provided in the Statement of Capabilities form, the Contractor shall provide the following information (Refer to Section 10.2(A) 1 of the Specifications for more information on Statement of Capabilities):
 - a. Number of years of experience.
 - b. If the Contractor plans on using a subcontractor(s) to perform flagging/traffic control/closing of lanes, the subcontractor shall fulfill the training and certification requirements as detailed in Section 2.1.B. 4. a. i of the

Special Provisions and shall have sufficient equipment and traffic control devices to perform traffic control services.

Subcontracting and approval process shall be in accordance with Section 8.2 Subcontracting, of the Special provisions. *The Contractor shall obtain the Director's written approval to subcontract prior to the issuance of the Notice to Proceed.*

In the space provided in the Statement of Capabilities form, the Contractor shall indicate his/her intent on using a subcontractor who has the required experience, training and certification as specified under this section."

5. Fall Protection Competent Person. The Contractor shall employ, as a minimum, one in his staff with the following requirements:

- a. **Certification.** *Prior to award, possesses a valid certification as **Fall Protection Competent Person**.*
- b. Training shall satisfy the requirements of the 29 CFR 1926.503, other Federal, State, and local regulations and laws. *Refer to Section 1.43 of the Special Provisions for the definition of the CFR.*
- b1. *The designated Contractor's Fall Protection "Competent Person" shall satisfy the requirements of "Competent Person" as defined in 29 CFR 1926.32(f).*
- c. *To be valid, the certificate of training completion must be current within the last three (3) years from the date of training completion as indicated in the certificate.*
- d. In the spaces provided in the Statement of Capabilities, the Contractor shall provide the following information and document (*Refer to Section 10.2(A) 1 Statement of Capabilities, of the Specifications for more information on Statement of Capabilities*):
 - i. Name of the **Fall Protection Competent Person(s)**.
 - ii. Work experience.
 - iii. Copy of the **Fall Protection Competent Person** training certification.
 - iv. Years of experience.
- e. The following certificates from the following training sources are acceptable:
 - i. Safety Systems and Signs Hawaii, Inc.
H1G-01-17C
SP-11

3/8/18

- ii. Equivalent certificates similar to item i above.
 - f. The **Fall Protection Competent Person** shall be onsite *at all times* when landscaping, irrigation work is being performed to areas requiring fall protection to include the sloped areas along H-2 Freeway.
 - i. If the **Fall Protection Competent Person** is found not to be onsite more than three (3) times in one contract year then the contract shall not be renewed.
6. **Fall Protection Training.** *Refer to Section 2.1.B of the Special Provisions for the required minimum number of trained/certified personnel.*
- a. **Certification.** *Prior to award,* possesses a valid training certification on **Fall Protection or higher such as Fall Protection Competent Person.**
 - b. Training shall satisfy the requirements of the 29 CFR 1926.503, other Federal, State, and local regulations and laws. *Refer to Section 1.43 of the Special Provisions for the definition of the CFR.*
 - c. *To be valid, the certificate of training completion must be current within the last three (3) years from the date of training completion as indicated in the certificate.*
 - d. In the spaces provided in the Statement of Capabilities, the Contractor shall provide the following information and document (*Refer to Section 10.2(A) 1 Statement of Capabilities, of the Specifications for more information on Statement of Capabilities*):
 - i. Name of the **Fall Protection trained**-personnel.
 - ii. Work experience.
 - ii. Copy of the **Fall Protection** training certification.
 - iii. Years of experience.
 - e. The following certificates from the following training sources are acceptable:
 - i. Safety Systems and Signs Hawaii, Inc.
 - ii. Equivalent certificates similar to item i above.
7. Ability to Communicate: Contractor personnel shall be able to speak and understand the English language and be able to communicate sufficiently in order to perform their assigned work.

Contractor personnel shall be able to read, understand written materials such as manuals regulations, instructions, and others that personnel will be required to use in the performance of their assigned work.

8. Falsification of personnel qualifications, inability to successfully perform the work, or excessively high turnover of personnel assigned to this work, shall constitute a major breach of this contract and the contract shall be subject to termination.

9. Supplementary Contractor Personnel Requirements

a. Uniforms. Contractor employees on the job site shall be easily identified as Contractor's employees by wearing a shirt, T-shirt or coverall with the company name or logo.

Contractor's employees shall present a neat and clean appearance at all times. One color and style of uniform shirt shall be selected which will be worn by all Contractor personnel. *Cost of employee's shirt, T-shirt or coverall shall be incidental to the unit price of furnishing maintenance of landscaped services.*

b. Conduct of personnel. For security and safety reasons, the Contractor shall prohibit his or her personnel from parking their personally-owned vehicle along the highway right-of-way areas.

The State reserves the right to disqualify the person based on performance anytime during the contract. Upon disqualification, the Contractor has ten (10) working days to submit a qualified replacement.

The determination of the Contractor's qualifications shall be made solely by the Director and the Director's decision shall be final."

2. 2.3 PROPOSAL GUARANTY is deleted in its entirety.

3. Add the following new section:

"2. 9 CERTIFICATE FOR PERFORMANCE OF SERVICES – Pursuant to Section 103-55, Hawaii Revised Statutes, and unless indicated otherwise, bidders should submit the attached "Certificate for Performance of Services" in the event bids are in excess of \$25,000. The notarized certificate must be submitted to said Contracts Office, Department of Transportation, 869 Punchbowl Street, Honolulu, Hawaii 96813, before entering into a contract to perform services.

As of April 1, 2017, salaries of State employees performing work similar to the work called for under this contract are as follows:

Class Title	Bargaining Unit (BU) Salary Schedule	Grade	Minimum Hourly Pay Rate
General Laborer I	BU 01	BC-02	\$ 18.72
General Laborer II	BU 01	BC-03	\$ 19.24
General Laborer III	BU 01	WS-03	\$ 20.60
Equipment Operator I	BU 01	BC-04	\$ 20.02
Equipment Operator II	BU 01	BC-06	\$ 21.65
Irrigation Service Worker II	BU 01	BC-07	\$ 22.52
Sprinkler System Repairer	BU 01	BC-05	\$ 20.82
Nursery Worker II	BU 01	WS-05	\$22.29
Grounds Maintenance Supervisor I	BU 02	F-103	\$22.23
Highway Maintenance Supervisor I & II	BU 02	F-105	\$24.35

The above information is provided to the Contractor for guidance only and is subject to change in accordance with existing collective bargaining contracts or shall change as contracts are renegotiated.

It is the bidder's responsibility to verify the accuracy of the wage rates contained herein and to provide for changes in the minimum wages, which must be paid to personnel working on this project at all times. Information on the status of Bargaining Unit (BU) contracts, salary schedules, Class Specifications and minimum qualification requirements can be obtained from the State Department of Transportation, Highways Division, Personnel Management office (587-2229) or on line at: <http://dhrd.hawaii.gov/state-hr-professionals/class-and-comp/>

Bidders are further advised that they are not restricted to hire only those classifications of employees as listed, but are free to employ such other classifications of workers as the bidder deems proper and proposes to use on the project, as may be according to the bidder's common hiring practice. However, the principal duties of employees other than those listed hereinabove working on the project will be matched against those of State workers to determine the closest equivalent State employee classification, and the Contractor must compensate such employee(s) at a rate which is no less than that of the equivalent State employee."

C. SECTION 4 - SCOPE OF WORK is amended as follows:

1. 4.2 PERFORMANCE OF WORK - is amended by adding the following paragraph to the end of the subsection:

"The Contractor shall perform work satisfactorily in the judgment of the Director during the contract period. If it appears at any time that the work contracted to be performed is not satisfactory, the Director may require the Contractor to furnish

and place in operation such additional force and equipment as the Director shall deem necessary to bring the work up to satisfactory status. In case the Contractor fails to comply after ten (10) working days from the date of receipt of such a written order from the Director, the Director may employ a working force and equipment and charge the Contractor for the reasonable cost thereof including depreciation for equipment and/or the Director may terminate the contract.”

D. SECTION 5 - CONTROL OF WORK is amended as follows:

1. 5.3 COOPERATION OF CONTRACTOR AND DIRECTOR is amended by adding the following paragraphs to the end of the subsection:

“The Contractor shall have at each work site, at all times when work is scheduled, a responsible individual who is able to understand and speak the English language. Such individual(s) shall have complete authority to communicate with the Inspector and to relate the Inspector’s instructions to the Contractor or his workers. The Contractor shall submit the name(s) of such individual(s) before starting work on the project and inform the Inspector in writing of any changes in such assigned responsibilities.

The Contractor shall furnish the State with a telephone number and email address where he can be reached at all times during normal working hours. This is very important during the bidding period as well as the contract period.”

2. 5.4 INSPECTION is amended by adding the following paragraphs to the end of the subsection:

“The Director reserves the right to have all work as specified by the contract documents to be inspected by a State Inspector or by a State-Contractor/Consultant-provided inspector. Refer to Subsections 1.12 Director and 1.19 Inspector, of the Specifications for the definitions of Director and Inspector respectively.

The Contractor shall maintain all books, documents, papers, records and other evidence pertaining to payroll, employee’s name, wage rates and hours worked and to make such materials and information available at their respective offices at all reasonable times during the contract period and for three (3) years from the date of final payment under the contract, for inspection by the State. Failure to comply with the conditions of this Section during the contract period may result in cancellation of the contract.”

3. Add the following new subsection:

“5.7 CONTRACTOR PERFORMANCE RATING - The Contractor shall be rated every month or more often as determined by the Engineer based on his performance for that period. The Contractor will be rated on twenty-five (25) performance factors related to compliance with the contract specifications. *Refer to Appendix H Landscape Maintenance Contractor Performance Rating, of the Appendices for the twenty-five (25) performance factors and for the Contractor’s instruction prior to submitting his/her monthly invoice.*

Deduction(s) is/are made as specified in Section 10.19(C) Deductions, of the Specifications for documented rating of “Doesn’t meet specifications” to any of the task.

At the *fourth-month* period of the contract, the Engineer shall make a determination whether to extend or not extend a contract. A consistent performance rating of “Doesn’t meet specifications” and/or a maximum of two failures on any of the tasks observed throughout a three (3) month – period, shall be grounds for non-extension of the contract. Rating of “Doesn’t meet specifications” shall constitute “failure.”

E. SECTION 7 - LEGAL RELATIONS AND RESPONSIBILITY is amended as follows:

1. 7.8 LABOR AND COMPENSATION REQUIREMENTS is amended by replacing the first paragraph with the following:

“7.8 LABOR AND COMPENSATION REQUIREMENTS - Wages paid each employee employed by the Contractor shall be no less than those specified in Section 2.9 of the Special Provisions. The Contractor shall submit certified payroll affidavits in the form approved by the Department, **showing full information on the following**:

- a. Name of each employee who worked during the reporting period,
- b. Their rates of pay,
- c. The number of hours worked,
- d. Gross earnings and
- e. Deductions made.

Personal information such as social security numbers and addresses of employees are not required.

For a sample format of certified payroll, click on the link:

<http://pwd.hawaii.gov/construction-management-branch/construction-administration-forms/>. Click on “Statement of Compliance & DAGS-ECP for Payroll Affidavits” for additional information. *Refer to Appendix II, Sample – Certified Payroll Report, of the Appendices*

The Engineer – Oahu District’s representative (Point of Contact) shall document failures to submit certified payroll affidavits and notify the Contractor in writing. Two documented offenses that show willfully ignoring this requirement or failure to document all employees in the payroll affidavit shall constitute a major breach of the Contract and the Contract maybe terminated by the Director.

The Contractor shall be required to comply with the laws of the U.S. Citizenship and Immigration Services (USCIS). The Department reserves the right to periodically check the employable status of persons listed on the certified payroll certificates. Any person, who is found to be an illegal alien (undocumented alien) under the laws of the (USCIS), shall be immediately dismissed from the project and not be rehired until he or she is properly cleared.”

2. Add the following new subsection:

“7.10 PUBLIC CONVENIENCE AND SAFETY

The Contractor shall conduct his maintenance operations with due regard to the convenience and safety of the public at all times. The protection of persons and property shall be provided by the Contractor.

All work under this contract shall be in full compliance with Subsection 107.11, Safety: Accident Prevention and 107.12, Protection of Persons and Property of the Standard Specifications. *Refer to Section 1.40 Standard Specifications, of the Special Provisions for the definition of Standard Specifications.*

The Contractor shall take all necessary precautions to protect all his/her employees and all other personnel from hazards and injuries. The rules and regulations promulgated by the U.S. Department of Labor Occupational Safety and Health Acts (OSHA); the Hawaii Department of Labor and Industrial Relations (DLIR) Hawaii Occupational Safety and Health Division (HIOSH) and any other applicable federal, state, and local rules and regulations are not included herein, but are applicable and made part of these specifications.”

- F. SECTION 8 - PROSECUTION AND PROGRESS is amended as follows:

1. 8.2 SUBCONTRACTING is amended by replacing the first paragraph with the following paragraphs:

“The Contractor shall give his personal attention to the fulfillment of the contract and shall keep the work under his control at all times.

The scope and nature of work required under this contract are such that any licensed Landscape Contractor (C-27) should be able to do all the work required without subcontracting any of it to others.

Any work, which falls outside of the authorized work of the C-27 license or work that requires specific training and certification, may be subcontracted only upon approval of the Director or the Contractor may employ these personnel that requires specific training and certification as part of his or her staff. The Director’s decision shall be final. Payment of all costs for such subcontractor work shall be according to prices or arrangements agreed upon prior to authorization of such work in writing.”

2. 8.6 LIQUIDATED DAMAGES by adding the following paragraphs to the end of the subsection:

“A. Liquidated Damages for Maintenance of Landscaped Areas:

- Plants which die due to irrigation failure will be considered to have died due to the Contractor's negligence, invasive plants, insects, disease or malpractice and shall be replaced with the same species, spread and height at the Contractor's expense within 4 weeks of notification from the Engineer. The Contractor shall pay liquidated damages to the Department for the replacement value of plants not replaced within the 4-week period after notification from the Engineer.

Item	Unit Size/Description	Unit	Liquidated Damages
<u>Gold Tree</u> [Tabebuia donnell-smithii]	95 Gallon Can, 8-10' ht, 6-10' Spd [must meet all above criteria]	Each	\$2,500.00
<u>Pink Tecoma</u> [Tabebuia heterophylla]	45 Gallon 6- 8 ' ht, 4-6' spread [must meet all above criteria]	Each	\$1,750.00
<u>Rainbow Shower Tree</u> [Cassia x nealae]	95 Gallon Can, 8-10' ht, 6-10' Spd [must meet all above criteria]	Each	\$2,500.00
<u>Royal Poinciana</u> [Delonix regia]	45 Gallon 6- 8 ' ht, 4-6' spread [must meet all above criteria]	Each	\$1,750.00
<u>African Tulip Tree</u> [Spathodea campanulata]	45 Gallon 6- 8 ' ht, 4-6' spread [must meet all above criteria]	Each	\$1,750.00
<u>Alexander Palm</u> [Archontophoeni x alexandrae]	45 Gallon, 8 to 10' brown trunk [must meet all above criteria]	Each	\$2,500.00
<u>Macarthur Palm</u> [Ptychosperma macarthurii]	Multi stem, 45 Gallon, 8-10' height	Each	\$1,750.00
<u>Bestill</u> [Thevetia peruviana]	45 Gallon 6- 8 ' ht, 4-6' spread [must meet all above criteria]	Each	\$1,750.00
<u>Kukui</u> [Aleurites moluccana]	95 Gallon Can, 8-10' ht, 6-10' Spd [must meet all above criteria]	Each	\$2,500.00
<u>Monkeypod</u> [Saman samanea]	95 Gallon Can, 8-10' ht, 6-10' Spd [must meet all above criteria]	Each	\$2,500.00
<u>Pothos</u> [Epipremnum aureum]	6" potted plant	Each	\$35.00
<u>Snow Bush</u> [Breynia nivosa]–	3 gallon potted plant	Each	\$75.00

LIQUIDATED DAMAGES (continuation)

Item	Unit Size/Description	Unit	Liquidated Damages
Monstera (Monstera delicious)	3 gallon potted plant	Each	\$75.00
<u>Bermuda Grass</u> [Cynodon dactylon]	Sod	Square Feet	\$2.50

2. \$400.00 for each and every calendar day for failure to have the required CLT Exterior Maintenance or CLT Exterior Irrigation on site during landscaping and/or irrigation maintenance/repair operations as specified in Sections 2.1.B.1.c and 2.1.B.2.c of the Special Provisions, respectively.

B. Liquidated Damages for Maintenance, Repair and Inspection of Irrigation and System (Routine/Preventive):

Timely performance by the Contractor of all his duties every calendar day is an essential part of this contract and in case of failure on the part of the Contractor to perform any of his duties in a timely manner; damages will be sustained by the State. As the amount of damages are difficult to predetermine, the amount of such damages are fixed in advance as follows:

1. For failure to provide satisfactory and timely maintenance and inspection service in accordance with the specifications as determined by the Director, liquidated damages shall be assessed to the Contractor for each and every calendar day at the rate of five percent (5%) of the unit price of the maintenance service items.
2. Five percent (5%) of current total monthly billing may be deducted from State's payment to the Contractor for each and every time it does not respond within two (2) hours after receipt of an irrigation trouble call request for remedial maintenance for which it is contractually obligated under this contract. For purposes of this paragraph, definition of the term "respond" means to have maintenance personnel on the job and working on the equipment, which is the subject of the request."

G. SECTION 9 - PAYMENT is amended as follows:

1. 9.2 RETAINAGE/DEDUCTION FROM PAYMENT - is amended by adding the following paragraphs to the end of the third paragraph:

*"Retainage is deducted monthly starting on the first invoice of the applicable term and if contract performance is satisfactory, deduction will end after six months. The Contractor, in order to be paid the retainage amount, has **two options**:*

- a. *Submit the total retainage invoice at the end of the first term. Repeat the whole process of deducting retainage and submitting total retainage for payment for each contract term, **or***
 - b. *Submit the total retainage invoice held during the first term at the end of the fifth term or the final term, as applicable (when contract is not renewed, etc.). Retainage will no longer be deducted at the 2nd, 3rd, 4th and 5th term, or the final term, as applicable (when contract is not renewed, etc.) of the contract."*
2. 9.4 PROGRESS PAYMENT is amended by adding the following paragraphs to the end of the subsection:

"The Contractor shall bill the State once a month. To expedite processing of all payments for services rendered, the Contractor shall forward copies of the invoice as specified in Section 9.4 Progress Payment, of the Specifications to the following address:

District Engineer - Oahu District
Highways Division
Department of Transportation
727 Kakoi Street, Honolulu, Hawaii 96819

Each invoice shall include but not limited to the following information:

- a. Contractor's name, address, and phone number.
- b. Contract no., project no., and project title.
- c. Bid item no., description of services, periods covered or date of service performed, quantity, unit price, amount, subtotal, and total.
- d. Deductions, as applicable, shall be included in the invoice as separate subtotal(s) and labeled as either (1), (2), and/or (3) below:
 - i. Deductions for failing to maintain the designated landscaped areas satisfactorily as specified in Section 10.19(C) Deductions, of the Specifications.
 - ii. Liquidated Damages – as specified in Section 8.6 Liquidated Damages, of the Special Provisions and Section 11. 19. (C) 1 of the Specifications.
 - iii. Retainage as specified in Section 9.2 Retainage/Deduction from Payment, of the Special Provisions and the Specifications.
- e. Certification by the Contractor that services as requested under the contract have been performed as specified in Section 9.4 Progress Payments, of the Specifications.

Refer to the sample invoice in Appendix I - Sample Monthly Invoice, of the Appendices.

Pursuant to Section 7.8 Labor and Compensation Requirements, of the Special Provisions, the Contractor shall submit each month to the Department, certified copies of the payrolls within seven (7) days after the end of the month. The certification shall affirm that the payrolls are correct and complete. The certificates shall be forwarded to the same address as specified above.”

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

SPECIFICATIONS

SECTION 1 - DEFINITION AND TERMS

Whenever the following pronouns are used in these specifications, or in any documents or instruments where these specifications govern, the intent and meaning shall be interpreted as follows:

1.1 ADDENDA - A written document which may be issued by the Director during the bidding period involving changes to the specifications and plans, if any, which shall be considered and made a part of the contract.

1.2 AIRPORTS DIVISION - Airports Division, Department of Transportation, State of Hawaii.

1.3 AWARD - The written acceptance of a proposal by the State.

1.4 BIDDER - Any individual, partnership, corporation or other legal entity, or combination thereof, submitting a proposal for the work contemplated, acting either directly or through a duly authorized representative.

1.5 CALENDAR DAY - Every day shown on the calendar. If no designation of calendar or working day is made, "day" shall mean calendar day.

1.6 CHANGE ORDER - A written order issued by the Director to the Contractor requiring the contract work to be performed in accordance with a change or changes that may involve an adjustment in contract time and price or requiring performance of any unforeseen work essential to complete the contract.

1.7 CONTRACT - The written agreement between the State and the Contractor setting forth the obligations of the parties thereunder, including, but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment.

The contract includes the (1) notice to bidders, (2) proposal, (3) contract form and contract bond, (4) specifications, (5) special provisions and plans, if any, (6) addenda, (7) notice to proceed, and (8) change orders and agreements that are required to complete the work, all of which constitute one instrument.

1.8 CONTRACT BOND - The approved form of security, executed by the Contractor and its Surety or Sureties, guaranteeing the completion of the work in accordance with the terms of the contract, and guaranteeing full payment of all claims for labor, materials, and supplies used or incorporated in the work.

1.9 CONTRACT TIME - The number of working days or calendar days allowed for completion of the contract, including authorized time extensions.

If a calendar date is specified as the date of completion in lieu of the number of working days or calendar days, the contract shall be completed by that date.

In case the contract is for a specified period of time, the contract time shall be for said specified period of time.

1.10 CONTRACTOR - The individual, partnership, corporation or other legal entity, or combination thereof, contracting with the State for performance of the prescribed work.

1.11 DEPARTMENT - The State Department of Transportation.

1.12 DIRECTOR - The Director of Transportation, acting either directly or through the Director's duly authorized representative.

1.13 EQUAL OR APPROVED EQUAL - Whenever this term is used in the specifications and plans, if any, it means a brand or article pre-qualified in accordance with Section 6.2 Trade Names and Alternates and which may be used in place of the one specified.

1.14 H.A.R. or HAR - Hawaii Administrative Rules.

1.15 H.R.S. or HRS - Hawaii Revised Statutes.

1.16 HARBORS DIVISION - Harbors Division, Department of Transportation, State of Hawaii.

1.17 HIGHWAYS DIVISION - Highways Division, Department of Transportation, State of Hawaii.

1.18 HOLIDAYS - The days which are set apart and established as State holidays pursuant to Section 8-1, H.R.S.

1.19 INSPECTOR - The Director's authorized representative assigned to make detailed inspections of contract performance and materials supplied.

1.20 NOTICE TO BIDDERS - The public announcement, as required by law, inviting proposals for the work to be performed or materials to be furnished.

1.21 NOTICE OF FINAL ACCEPTANCE - Written notice from the Director to the Contractor that the entire contract has been completed in all respects in accordance with the specifications and plans, if any, and any changes thereof previously approved by the Director.

1.22 NOTICE TO PROCEED - Written notice from the Director to the Contractor advising the Contractor of the date on which he is to begin the prosecution of the work.

1.23 PLANS - The contract drawings approved by the Director which show the location, character, dimensions and details of the work to be done and shall be a part of the contract.

1.24 PROCUREMENT OFFICER - The Director's duly authorized representative including project managers, project engineers and contract administrators assigned to prepare, evaluate and administer contracts for the purchasing of goods and services.

1.25 PROPOSAL (OR BID) - The offer of a bidder, on the prescribed form, to perform the work and to furnish the labor and materials at the prices quoted.

1.26 PROPOSAL FORM - The approved format prepared by the Department or a facsimile thereof on which bids for the work must be prepared and submitted. (Reasonable facsimile acceptable for bidding.)

1.27 PROPOSAL GUARANTY - The security furnished with a proposal to guarantee that the bidder will enter into the contract and furnish all other requirements if the bidder's proposal is accepted.

1.28 QUALIFICATION QUESTIONNAIRE - The specified forms on which the bidder shall furnish required information as to the bidder's ability to perform and finance the work.

1.29 S.L.H. or SLH - Session Laws of Hawaii.

1.30 SPECIAL PROVISIONS - Revisions to the specifications. The specific clauses setting forth conditions or requirements peculiar to the project under consideration which are not thoroughly or satisfactorily stipulated in these specifications.

1.31 SPECIFICATIONS - The directions, provisions, and requirements pertaining to the method and manner of performing the work and to the quantities and qualities of materials to be furnished under the contract.

1.32 STATE - The State of Hawaii.

1.33 SUBCONTRACTOR - An individual, partnership, corporation, other legal entity, or any combination thereof, that enters into an agreement with the Contractor to perform a portion of the work for the Contractor.

1.34 SUPERINTENDENT - The Contractor's representative who is responsible for and in charge of the work.

1.35 SURETY - The corporation, partnership or individual, other than the Contractor, executing a bond furnished by the Contractor and guaranteeing performance by the Contractor.

1.36 TITLES (OR HEADINGS) - The titles or headings of the Sections herein are intended for convenience of reference and shall not be considered as having any bearing on their interpretation. Unless otherwise indicated, whenever the word "Section" is used, reference is being made to a Section in these specifications.

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

1.38 WORKING DAY - Any day, except Saturdays, Sundays and State holidays.

SECTION 2 - PROPOSAL REQUIREMENTS AND CONDITIONS

2.1 QUALIFICATION OF BIDDERS - Prospective bidders must be capable of performing the work for which bids are called.

In accordance with Section 103D-310, HRS, the Department may require any prospective bidder to submit answers to questions contained in the "Standard Qualification Questionnaire for Prospective Bidders on Public Works Contracts" on the form furnished by the Department, properly executed and notarized, setting forth a complete statement of the experience of such prospective bidder and its organization in performing similar work and a statement of the equipment proposed to be used, together with adequate proof of the availability of such equipment. Whenever it appears to the Department, from answers to the questionnaire or otherwise, that the prospective bidder is not fully qualified and able to perform the intended work, the Department will, after affording the prospective bidder an opportunity to be heard and if still of the opinion that the bidder is not fully qualified to perform the work, refuse to receive or consider any bid offered by the prospective bidder. All information contained in the answers to the questionnaire shall be kept confidential. Questionnaire so submitted shall be returned to the bidders after serving their purpose.

Failure to complete the qualification questionnaire will be sufficient cause for the Department to disqualify a prospective bidder.

No person, firm or corporation may bid where (1) the person, firm, or corporation, or (2) a corporation owned substantially by the person, firm, or corporation, or (3) a substantial stockholder or an officer of the corporation, or (4) a partner or substantial investor in the firm is in arrears in payments owed to the State of Hawaii or its political subdivisions or is in default as a surety or failure to do faithfully and diligently previous contracts with the State.

2.2 REJECTION OF PROPOSALS CONTAINING ALTERATIONS, ERASURES, OR IRREGULARITIES - Proposals may be rejected if they show any alterations of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind.

When proposals are signed by any agent, other than the officer or officers of a corporation authorized to sign contract on its behalf or a member of copartnership, a Power of Attorney must be on file with the Department prior to opening bids or shall be submitted with the proposal; otherwise, the proposal may be rejected as irregular and unauthorized.

Members of a joint venture may be requested to supply the Department with a copy of their joint venture agreement or each member of the joint venture may be required to sign the proposal.

2.3 PROPOSAL GUARANTY - A proposal guaranty (bid bond) is not required except when specifically noted in the proposal section of the bid document.

When a proposal guaranty is required with a bid, it will be specifically stated in the proposal; and no proposal totaling \$25,000 or more will be considered unless accompanied by one of the following forms of bidder's security:

- A. a deposit of legal tender; or
- B. a surety bid bond underwritten by a company licensed to issue bonds in the State of Hawaii and submitted on the standard form provided herewith; or
- C. a certificate of deposit, share certificate, cashier's check, treasurer's check, teller's check, or official check drawn by, or a certified check accepted by and payable on demand to the State by a bank, savings institution, or credit union insured by the Federal Deposit Insurance Corporation (FDIC) or the National Credit Union Administration (NCUA).

1. The bidder may use these instruments only to a maximum of one hundred thousand dollars (\$100,000.00).

2. If the required security or bond amount totals over one hundred thousand dollars (\$100,000.00), more than one instrument not exceeding one hundred thousand dollars (\$100,000.00) each and issued by different financial institutions shall be acceptable.

3. The instrument shall be made payable at sight to the Department of Transportation, State of Hawaii.

According to Section 103D-323, HRS, the above shall be in a sum not less than five percent (5%) of the amount bid.

2.4 DELIVERY OF PROPOSALS - Each proposal shall be placed, together with the proposal guaranty when required, in an envelope and sealed and so marked as to indicate the identity of the project, the name and address of the bidder, and other required information and then delivered as indicated in the Notice to Bidders. Proposals will be received up to the time fixed in the Notice to Bidders for the opening of bids.

2.5 WITHDRAWAL OF PROPOSALS - Any proposal may be withdrawn at any time prior to the time fixed in the Notice to Bidders for the opening of proposals upon the filing of a written request therefore with the Department, executed by the bidder or a duly authorized representative. The withdrawal of a proposal shall not preclude a bidder from submitting a new proposal.

2.6 PUBLIC OPENING OF PROPOSALS - Proposals will be opened and read publicly at the time and place indicated in the Notice to Bidders. Bidders or their authorized agents are invited to be present.

2.7 DISQUALIFICATION OF BIDDERS - Any of the following reasons may be considered as being sufficient grounds for the disqualification of a bidder and the rejection of his proposal or proposals.

A. More than one proposal for the same work from an individual, firm, or corporation under the same or different name.

B. Evidence of collusion among bidders. Participants in such collusion will receive no recognition as bidders for any future work of the Department until such participant shall have been reinstated as a qualified bidder.

C. Evidence of assistance from a person who has been an employee of the agency within the preceding two years and who participated while in State office or employment in the matter with which the contract is directly concerned, pursuant to Section 84-15, H.R.S.

D. Lack of proposal guaranty.

E. Unsigned proposal or proposal not signed in ink by person or persons legally authorized to submit a proposal on behalf of the bidder.

2.8 MATERIAL GUARANTY - The bidder may be required to furnish a complete statement of the origin, composition and manufacture of any or all materials to be used in the prosecution of the work, together with samples. Such samples may be subjected to tests to determine their quality and fitness for the work.

SECTION 3 - AWARD AND EXECUTION OF CONTRACT

3.1 AWARD OF CONTRACT - The State reserves the right to reject any and all proposals and to waive any defects as may be deemed to be in the best interest of the public.

The award of contract, if it be awarded, will be made within sixty (60) calendar days after the opening of bids to the lowest responsive and responsible bidder whose proposal complies with all the prescribed requirements. The successful bidder will be notified, by letter mailed to the address shown in its proposal, that its proposal has been accepted and it has been awarded the contract.

Requirement for award. To be eligible for award, the apparent low Bidder will be contacted to submit copies of the documents listed below to demonstrate compliance with Section 103D-310(c), HRS. The documents should be submitted to the Department as soon as possible. If a valid certificate/clearance is not submitted on a timely basis for award of a contract, a Bidder otherwise responsive and responsible may not receive the award.

A. Tax Clearance.

Pursuant to §103D-310(c), 103-53 and 103D-328, HRS, the successful bidder shall be required to submit a certified copy of its tax clearance issued by the Hawaii State Department of Taxation (DOTAX) and the Internal Revenue Service (IRS) to demonstrate its compliance with Chapter 237, HRS. A tax clearance is valid for six (6) months from the most recent approval stamp date on the tax clearance and must be valid on the bid's first legal advertisement date or any date thereafter up to the bid opening date.

FORM A6, TAX CLEARANCE CERTIFICATE, is available at the following website:

<http://www.hawaii.gov/tax/>

To receive DOTAX Forms by fax or mail, phone (808)587-7572 or 1-800-222-7572.

The application for the Tax Clearance Certificate is the responsibility of the bidder, and must be submitted directly to the DOTAX or IRS. The approved certificate may then be submitted to the Department.

B. DLIR Certificate of Compliance.

Pursuant to §103D-310(c), HRS, the successful bidder shall be required to submit a copy (faxed copies are acceptable) of its approved Certificate of Compliance issued by the Hawaii State Department of Labor and Industrial Relations (DLIR) to demonstrate its compliance with unemployment insurance (Chapter 383, HRS), workers' compensation (Chapter 386, HRS), temporary disability insurance (Chapter 392, HRS), and prepaid health care (Chapter 393, HRS). The certificate is valid for six (6) months from the most recent approval stamp date on the certificate and must be valid on the bid's first legal advertisement date or any date thereafter up to the bid opening date. For certificates which receive a "pending" approval stamp, a DLIR approval stamp is required prior to the issuance of the Notice to Proceed.

FORM LIR#27, APPLICATION FOR CERTIFICATE OF COMPLIANCE WITH SECTION 3-122-112, HAR, is available at the following website:

www.hawaii.gov/labor

More information is available by calling the DLIR Unemployment Insurance Division at (808) 586-8926.

Inquiries regarding the status of a LIR#27 Form may be made by calling the DLIR Disability Compensation Division at (808) 586-9200.

The application for the Certificate of Compliance is the responsibility of the bidder, and must be submitted directly to the DLIR. The approved certificate may then be submitted to the Department.

C. DCCA Certificate of Good Standing.

Pursuant to §103D-310(c), HRS, the successful bidder shall be required to submit a copy (faxed copies are acceptable) of its approved Certificate of Good Standing issued by the Hawaii State Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG) to demonstrate that it is either:

- (1) incorporated or organized under the laws of the State; or
- (2) registered to do business in the State as

a separate branch or division that is capable of fully performing under the contract.

A Certificate of Good Standing is valid for six (6) months from the approval date on the certificate and must be valid on the bid's first legal advertisement date or any date thereafter up to the bid opening date. A Hawaii business that is a sole proprietorship, is not required to register with the BREG, and therefore not required to submit a Certificate of Good Standing. Bidders are advised that there are costs associated with registering and obtaining a Certificate of Good Standing from the DCCA.

To purchase a CERTIFICATE OF GOOD STANDING, go to On-Line Services at the following website:

www.hawaii.gov/dcca/

The application for the Certificate of Good Standing is the responsibility of the bidder, and must be submitted directly to the DCCA. The approved certificate may then be submitted to the Department.

3.2 CANCELLATION OF AWARD - The State reserves the right to cancel the award of any contract any time before the execution of said contract by all parties without any liability to the successful bidder or any other bidder.

3.3 RETURN OF PROPOSAL GUARANTY - All proposal guaranties, except those of the lowest two (2) bidders, will be returned immediately following the opening and checking of the proposals. The retained proposal guaranty of the second lowest bidder, if not a bid bond, will be returned within ten (10) calendar days following execution of contract by the successful bidder. The successful bidder's proposal guaranty, if not a bid bond, will be returned after a satisfactory contract bond has been furnished and the contract has been executed.

3.4 REQUIREMENT OF CONTRACT BOND - Only when required by the proposal, the successful bidder at the time of the execution of the contract shall file good and sufficient performance and payment bonds on the forms furnished by the Department, or a facsimile thereof, conditioned for the full and faithful performance of the contract in accordance with the terms and intent thereof and also for the prompt payment to all others for all labor and materials furnished by them to it and use in the prosecution of the work provided for in such contract,

in the manner, form and amount required by Section 3-122-224(b)(2), H.A.R., which bonds shall be in an amount equal to fifty per cent (50%) of the contract price, including amounts estimated to be required for extra work, or in the case of price-term, open-end, or requirements contract under which the total amount to be paid to the Contractor cannot be accurately estimated at the time the contract is to be awarded, the bond amounts shall be as designated in the bid documents. Such bonds shall also by their terms inure to the benefit of any and all persons entitled to file claims for labor performed or materials furnished in the work so as to give them a right of action as contemplated by Section 103D-324, H.R.S.

The bidder shall limit the acceptable performance and payment bonds to the following:

- (a) Legal tender; or
- (b) Surety bond underwritten by a company licensed to issue bonds in the State of Hawaii; or
- (c) A certificate of deposit; share certificate;; cashier's check; treasurer's check; teller's check drawn by or a certified check accepted by and payable on demand to the State by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation (FDIC) or the National Credit Union Administration (NCUA).

1. The bidder may use these instruments only to a maximum of one hundred thousand dollars (\$100,000.00).

2. If the required security or bond amount totals over one hundred thousand dollars (\$100,000.00) more than one instrument not exceeding one hundred thousand dollars (\$100,000.00) each and issued by different financial institutions shall be acceptable.

3.5 EXECUTION OF CONTRACT - The contract and the "Certificate for Performance of Services", similar to a copy of the same annexed hereto, shall be executed by the successful bidder and returned, together with the contract bonds, when required, within ten (10) days after the award of the contract or within such further time as the Director may allow after the bidder has received the contract for execution.

Pursuant to Section 103D-309, H.R.S., the contract shall not bind the State in any way unless said contract has been fully and properly executed by all the parties thereto and

the Comptroller has endorsed thereon a certificate that there is available an unexpended appropriation over and above all outstanding contracts, sufficient to cover the amount required by the contract.

3.6 FAILURE TO EXECUTE CONTRACT - Failure to execute the contract, Certificate for Performance of Services and file acceptable bonds, when required, within ten (10) days after the award of the contract, or within such further time as the Director may allow, shall be cause for the cancellation of the award and the forfeiture of the proposal guaranty. Award of the contract may then be made to the next lowest responsible bidder.

SECTION 4 - SCOPE OF WORK

4.1 WORK TO BE DONE - The work to be done is described in the Section(s) following Section 9 of these specifications.

4.2 PERFORMANCE OF WORK - The Contractor shall employ, so far as possible, such methods and means in carrying out his work so as not to cause any interruption, disturbance, or interference with the public.

In case the Contractor is performing work in a building, the Contractor shall conduct the work in such a manner so as not to cause any interruption, disturbance, or interference with the business activities of the tenants in the building.

4.3 EXTRA WORK - New and unforeseen items of work will be classed as extra work when they cannot be covered by any of the various items for which there is a bid price.

4.4 CHANGES AND CLAIMS FOR ADJUSTMENT

A. Change order. By a written order, at any time, and without notice to any surety, the procurement officer may, subject to all appropriate adjustments, make changes within the general scope of this contract in any one or more of the following:

1. Drawings, designs, or specifications, if the goods to be furnished are to be specially manufactured for the State in accordance therewith;
2. Method of shipment or packing;
3. Place of delivery;
4. Changes in the work within the scope of the contract; or
5. Changes in the time of performance of the contract that do not alter the scope of work.

B. Adjustments of price or time for performance. If any change order increases or decreases the contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed by the order, an adjustment shall be made and the contract modified in writing accordingly. Any adjustment in contract price made pursuant to this clause shall be determined in accordance with the price adjustment clause of this contract. Failure of the parties to agree to an adjustment shall not excuse the contractor from proceeding with the contract as changed, provided that the procurement officer promptly and duly make the provisional adjustments in payment or time for performance as may be reasonable. By proceeding with the work, the contractor shall not be deemed to have

prejudiced any claim for additional compensation, or an extension of time for completion.

C. Time period for claim. Within thirty (30) days after receipt of a written change order under subsection (a) unless the period is extended by the procurement officer in writing, the contractor shall file notice of intent to assert a claim for an adjustment. Later notification shall not bar the contractor's claim unless the State or county is prejudiced by the delay in notification.

D. Claim barred after final payment. No claim by the contractor for an adjustment hereunder shall be allowed if notice is not given prior to final payment under this contract.

E. Other claims not barred. In the absence of a change order, nothing in this clause shall be deemed to restrict the contractor's right to pursue a claim as under the contract or for breach of contract.

4.5 PRICE ADJUSTMENT

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

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

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

C. By the costs attributable to the event or situation covered by the clause, plus appropriate profit or fee, all as specified in the contract or subsequently agreed upon;

D. In such other manner as the parties may mutually agree; or

E. In the absence of agreement between the parties, by a unilateral determination by the procurement officer of the costs attributable to the event or situation covered by the clause, plus appropriate profit or fee, all as computed by the procurement officer in accordance with generally accepted accounting principles and applicable sections of chapters 3-123 and 3-126 of the Hawaii Administrative Rules.

4.6 VARIATION IN QUANTITY

Upon agreement of the parties, the quantity of goods or services or both specified in this contract may be increased by a maximum of ten (10) percent provided (1) the unit prices will remain the same except for any price adjustments otherwise applicable and (2) the procurement officer makes a written determination that such an increase will either be more economical than awarding another contract or that it would not be practical to award another contract.

SECTION 5 - CONTROL OF WORK

5.1 AUTHORITY OF DIRECTOR - The Director shall decide all questions which may arise as to the quality or acceptability of materials furnished and work performed; the manner of performance and rate of progress of the work; the compensation for work performed; the interpretation of the contract and the fulfillment of the contract on the part of the Contractor. The Director's decision shall be final and the Director shall have the authority to enforce any such decision and order which the Contractor fails to carry out promptly and diligently. The Director shall have the following powers in the way of enforcement:

- A. The right to suspend the work.
- B. The right to withhold payment due the Contractor.

5.2 COORDINATION OF PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS - These specifications, the plans, special provisions, and all supplementary documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to describe and provide for the complete work.

5.3 COOPERATION OF CONTRACTOR AND DIRECTOR - The Contractor shall have available at the work site at all times, a copy of the specifications, special provisions and plans. The Contractor shall give the work constant attention to facilitate the progress thereof and shall cooperate with the Director in every way possible.

Before starting work on the project, the Contractor shall designate in writing a superintendent who shall have complete authority to represent and to act for the Contractor.

5.4 INSPECTION - The Director at all times shall have access to the work during its prosecution and shall be furnished with every reasonable facility for ascertaining that the materials and the workmanship are in accordance with the requirements and intentions of these specifications and special provisions. All work done and all materials furnished shall be subject to the Director's inspection and approval.

The inspection of the work shall not relieve the Contractor of any of its obligations to fulfill its contract as prescribed, and defective work shall be made good and unsuitable materials may be rejected, notwithstanding that such defective work and materials may have been previously overlooked by the Director and accepted or included in an estimate for payment.

Projects financed in whole or in part with Federal funds shall be subject to inspection at all times by representatives of the Federal agency involved.

5.5 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK - All work which has been rejected shall be corrected or removed and replaced by the Contractor in an acceptable manner and no compensation will be allowed the Contractor for such correction or removal and replacement. Upon failure on the part of the Contractor to comply promptly with any order of the Director, the Director may cause any rejected work to be corrected or removed and replaced and to deduct the costs thereof from any monies due or to become due the Contractor.

5.6 CLAIMS AND DISPUTES - The Contractor may give notice in writing to the Director for claims that extra compensation, damages, or an extension of time for completion is due the Contractor for one or more of the following reasons:

- A. Requirements not clearly covered in the contract, or not ordered by the Director as extra work;
- B. Failure between the State and the Contractor to agree to an adjustment in price for a contract change order issued by the State; or
- C. An action or omission on the part of the Director requiring performance changes within the scope of the contract.

The Contractor shall continue with performance of the contract in compliance with the directions or orders of the procurement officer, but by so doing, the Contractor shall not be deemed to have prejudiced any claim for additional compensation, damages, or an extension of time for completion; provided:

- A. The notice in writing be given:
 - 1. Before the commencement of the work involved, if at that time the Contractor knows of such requirements or the occurrence of such actions or omissions; or
 - 2. Within thirty (30) calendar days after the Contractor knows of such requirements or the occurrence of such action or omission if the Contractor did not have such knowledge before the commencement of the work; or
 - 3. Within thirty (30) calendar days after receipt of the written contract change order that was not

agreed upon by both parties; or

4. Within such further time as may be allowed by the Director in writing.

B. The notice shall clearly state the Contractor's intention to make claim and the reasons why the Contractor believes that additional compensation, changes or an extension of time may be remedies to which the Contractor is entitled; and afford the Director every facility for keeping records of the actual cost of work. Failure on the part of the Contractor to give such notification or to afford the procurement officer proper facilities for keeping strict account of actual cost shall constitute waiver of the claim for such extra compensation. The filing of such notice by the Contractor and the keeping of costs by the procurement officer shall not in any way be construed to prove the validity of the claim.

The Director will review the notice and render a decision. The Director's decision shall be final and conclusive unless, within thirty (30) calendar days from the date of the decision, the Contractor mails or otherwise furnishes a written appeal to the Director. The decision of the Director shall be final. Later notification of such claims shall not bar the Contractor's claim unless the State is prejudiced by the delay in notification. No claim by the Contractor for an adjustment hereunder shall be allowed if notice is not given before final payment under this contract.

Any adjustment in the contract price made pursuant to this clause shall be determined according to Section 4.5 - Price Adjustment.

The provisions of this Section shall not be construed as establishing any claims contrary to the terms of Section 4.4 - Changes and Claims for Adjustment.

Nothing herein contained, however, shall excuse the Contractor from compliance with any rules of law precluding any state officers and any Contractors from acting in collusion or bad faith in issuing or performing contract change orders which are clearly not within the scope of the contract.

SECTION 6 - CONTROL OF MATERIAL AND EQUIPMENT

6.1 DEFECTIVE MATERIALS - All materials not conforming to the requirements of these specifications or the special provisions shall be considered defective and all such materials, whether in place or not, shall be rejected. They shall be removed immediately from the site of the work, unless otherwise permitted by the Director. No rejected materials, the defects of which have been subsequently corrected, shall be used until approval in writing has been given by the Director. Upon failure on the part of the Contractor to comply promptly with any order to remove and replace defective materials, the Director may remove and replace defective material and to deduct the cost of removal and replacement from any monies due or to become due the Contractor.

6.2 TRADE NAMES AND ALTERNATES - For convenience in designation on the plans or in the specifications, certain equipment or articles or materials may be designated under a trade name or the name of a manufacturer and its information catalogue. The use of alternate equipment or an article or material which is of equal quality and of the required characteristics for the purposes intended will be permitted, subject to the written approval of the Director, in accordance with the following requirements:

A. QUALIFICATION BEFORE BID OPENING - When the specifications and/or plans specify one or more manufacturer's brand names of materials or equipment to indicate a quality, style, appearance, or performance, the bidder will be assumed to have based its bid on one of the specified named products, except where such proprietary product are specified, alternate brands may be qualified if found equal or better by the Director. Bidders requesting qualification of alternate proprietary products must submit a request to the Director for review and approval at the earliest date possible, but in any event, such request must be received at the Contracts office not later than ten (10) days before the bid opening date, not including the bid opening date.

It shall be the responsibility of the bidder to submit sufficient evidence based upon which a determination can be made by the Director that the alternate brand is qualified. The evidence shall be transmitted with a covering letter which shall list the evidence submitted and the items for which the substitution is requested.

If the evidence accompanying a request for substitution is insufficient to qualify a particular

model, the request shall be denied provided that further evidence may be submitted to qualify the item five (5) days prior to the bid opening date if the initial request was made prior to the deadline set above.

B. SUBSTITUTION AFTER BID OPENING - Substitution of material or equipment will not be allowed after the bid opening date except under the following unforeseen circumstances:

1. If a specified or pre qualified item is delayed by a lengthy strike in the factory or other unforeseeable contingency beyond the control of the Contractor which would cause an abnormal delay in the project completion.
2. If a specified or pre qualified item is found to be unusable due to change or other circumstances.
3. If the Contractor is willing to provide a more recently developed or manufactured item of material or equipment of the same manufacturer which the Director determines to be equal or better than the one specified or pre-qualified.

A substitution request, regardless of reason, shall be fully explained in writing by the Contractor and shall include its justification for said request, the quantities and unit prices involved, quotations and such other documents as are deemed necessary to support the request. Any savings in cost will accrue to the State and any additional cost for the substituted items will be paid by the Contractor.

The burden of proof as to the comparative quality and suitability of alternate equipment, articles, or materials shall be upon the bidder or Contractor and bidder or Contractor shall furnish, at its own expense, all information necessary or related thereto as required by the Director. The Director shall be the sole judge as to the comparative quality and suitability of alternate equipment, articles or materials and the Director's decisions shall be final.

The above shall not be construed to mean that substitution for brand name specified materials and equipment will be allowed; the Director reserves the right to deny any request he deems irregular or not in the best interest of the State.

6.3 ASSIGNMENT OF ANTITRUST CLAIMS FOR OVERCHARGES FOR GOODS
AND MATERIALS PURCHASED

A. Vendor and purchaser recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the purchaser. Therefore, vendor hereby assigns to purchaser any and all claims for such overcharges as to goods and materials purchased in connection with this order or contract, except as to overcharges which result from antitrust violations commencing after the price is established under this order or contract and which are not passed on to the purchaser under an escalation clause.

B. Contractor and owner recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the owner. Therefore, contractor hereby assigns to owner any and all claims for such overcharges as to goods and materials purchased in connection with this order or contract, except as to overcharges which result from antitrust violations commencing after the price is established under this order or contract and any change order. In addition, contractor warrants and represents that each of its first tier suppliers and subcontractors shall assign any and all such claims to owner, subject to the aforementioned exception.

SECTION 7 - LEGAL RELATIONS AND RESPONSIBILITY

7.1 LAWS TO BE OBSERVED - The Contractor shall comply with all federal, state, city and county laws, ordinances, rules and regulations which in any manner affect those engaged or employed in the work, the materials used in the work, and the conduct of the work. Any reference to such laws, ordinances, rules and regulations shall include any amendments thereto effective as of the date of the call for sealed proposals.

The Contractor shall hold harmless, indemnify, defend and where appropriate, insure the State, its officers, agents and employees against any claim or liability arising from or based on the violation of any such laws, ordinances, rules or regulations. If any discrepancy or inconsistency is discovered in the contract for the work in relation to any law, ordinance, rule, regulation, order or decree, the Contractor shall forthwith report the same to the Director in writing.

7.2 PERMITS AND LICENSES - The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work.

7.3 PATENTS - The Contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the work, and shall hold harmless, indemnify, defend and where appropriate, insure the State, its officers, agents and employees from all suits at law or actions of every nature, for or on account of the use of any patented materials, equipment, devices or processes.

7.4 RESPONSIBILITY FOR INJURY AND DAMAGE - The State, its officers, agents and employees shall not be held accountable in any manner for any loss or damage to the work or any part thereof, or for any of the materials and equipment used or employed in performing the work, or for any injury to any person or persons either workers or the public, or for any damage to property caused by the Contractor or its workers or any one employed by the Contractor. The Contractor shall be responsible for any liability imposed by law for any injury to any person or any damage to property resulting from defects or obstructions or from any cause whatsoever during the progress of the work or at any time before its completion and final acceptance. The acceptance of the completed work of the Contractor by the Director shall not relieve the Contractor from any liability which may have accrued or may accrue as a result of the performance of the work by the Contractor. The Contractor shall hold harmless, indemnify, defend and where appropriate, insure the State, its officers, agents and employees, from all suits or actions of every name, kind and description, brought for or on account of

any injuries or damages sustained by any persons or property caused by the Contractor, its servants or agents, or by or on account of any act or omission of the Contractor or its servants or agents, regardless of whether such actions or any claim is brought against them or any one of them before or after the final acceptance of the work. In addition to any remedy authorized by law, the State may withhold payment of any money due to Contractor as shall be reasonable until disposition has been made of any suits or claims for injuries or damages.

It is not the intention of the parties to this contract to make the public or any member thereof a third party beneficiary hereunder, or to authorize anyone not a party hereto to maintain a suit for personal injuries or property damage based on a contract theory of liability. In any event, the Contractor shall hold harmless, indemnify, defend and where appropriate, insure the State from suits and claims for personal injuries or property damage where such injuries or damage are caused by the negligent acts or omissions of the Contractor, its agents or employees.

7.5 COOPERATION BETWEEN CONTRACTORS - Where two or more Contractors are employed on related or adjacent work, each shall conduct its operations in such a manner as not to cause any unnecessary delay or hindrance to the other.

7.6 CONTRACTOR'S RESPONSIBILITY FOR WORK - Until the acceptance of the contract, the Contractor shall have the charge and care thereof and shall bear the risk of injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all damages to any portion of the work occasioned by any of the above causes before its completion and acceptance and shall bear the expenses thereof.

7.7 NO PERSONAL LIABILITY - Neither the Director nor any other officer or authorized employee of the Department shall be personally responsible for any liability arising under the contract.

7.8 LABOR AND COMPENSATION REQUIREMENTS - Wages paid each laborer employed by the Contractor or any subcontractor shall not be less than the prevailing minimum wage rate prescribed by law.

Every laborer employed by the Contractor or any subcontractor whose rate of compensation is Five Dollars (\$5.00) or less per day shall be paid his wages weekly pursuant to Section 103-54, H.R.S.

The Contractor's attention is directed to Chapter 377, H.R.S., Hawaii Employment Relations Act; Chapter 378, H.R.S., Employment Practices; Chapter 383, H.R.S., Hawaii Employment Security Law; Chapter 386, H.R.S., Workers' Compensation Law; Chapter 387, H.R.S., Wage and Hour Law; Chapter 392, H.R.S., Temporary Disability Insurance; Chapter 393, H.R.S., Prepared Health Care Act; Chapter 396, H.R.S., Occupational Safety and Health; and Section 103-55, H.R.S., Wages, Hours, Working Conditions of Employees of Contractor's Supplying Services.

7.9 INSURANCE - Prior to commencing with the work, the Contractor shall, at its own expense, obtain and submit to the Department, Certificate of Insurance from an insurance company authorized by the laws of the State to issue such insurance in the State of Hawaii showing full policy coverage of the Contractor.

TYPES OF INSURANCE:

A. Workers' Compensation:

The Contractor shall obtain worker's compensation insurance for all persons whom they employ in carrying out the work under this contract. This insurance shall be in strict conformity with the requirements of the most current and applicable State of Hawaii Worker's Compensation Insurance laws in effect on the date of the execution of this contract and as modified during the duration of the contract. The minimum limit of liability for workers compensation is the HRS 386 statutory limit.

B. Comprehensive Automobile Liability:

The Contractor shall obtain Auto Liability Insurance covering all owned, non-owned and hired autos with a combined single Limit of not less than \$1,000,000 per accident for bodily injury and property damage with the State of Hawaii named as additional insured. The required limit of insurance may be provided by a single policy or with a combination of primary and excess

policies.

C. Commercial General Liability:

The Contractor shall obtain General Liability insurance with a limit of not less than \$1,000,000 per occurrence and in the aggregates. The General liability insurance shall include the State of Hawaii as an additional insured. The required limit of insurance may be provided by a single policy or with a combination of primary and excess policies.

All policies must provide that 30 days prior written notice of cancellation or material change in coverage be given to certificate holders stated above.

Such insurance when accepted by the Director in writing shall become applicable and shall remain unmodified throughout the entire term of the contract and in no event shall be terminated or otherwise allowed to lapse prior to written certification of final acceptance of the work by the State. Such insurance aforementioned shall cover the State for all work performed under the contract, all work performed incidental thereto or directly or indirectly connected therewith, including other work performed outside of the work area, and all change orders.

Any delay in the submission and approval of insurance certificates shall not be justification of or grounds for a request by the Contractor postponing the issuance of a notice to proceed notwithstanding the fact that the Contractor shall not be allowed to proceed with the work until said certificates are submitted and approved.

Failure to obtain insurance in accordance with the Section, on the part of the Contractor, shall be considered a major breach of the contract; and should the State be forced to expend funds which would have been covered under the insurance, the Contractor agrees to assume the liability for such funds and to indemnify and hold the State harmless.

SECTION 8 - PROSECUTION AND PROGRESS

8.1 NOTICE TO PROCEED - A "Notice to Proceed" letter will be written to the Contractor by the Director. Such letter will indicate the date the Contractor is to begin work and from which date the contract time will commence to run.

The Contractor shall diligently perform the required duties during the term of the contract, or if the work is to be completed within a specified time limit, the Contractor shall diligently prosecute the work to completion within the specified time limit.

8.2 SUBCONTRACTING - The Contractor shall give its personal attention to the fulfillment of the contract and shall keep the work under its control.

Subject to Section 103D-302, H.R.S., the Contractor may subcontract a portion of the work pursuant to the provisions of this section, but the Contractor shall be primarily responsible for the work so subcontracted. The Contractor shall not subcontract any work to any subcontractor who has been suspended by the State.

Before any work is started under a subcontract, the Contractor shall have the written approval of the Director on a written statement on forms furnished by the Department, indicating the work to be subcontracted, the names of the subcontractors and the description of each portion of the work to be so subcontracted and showing that the subcontractors are particularly experienced and equipped to do the work subcontracted. The Contractor shall give assurance that the minimum wage rate schedule as stated in the contract shall apply to labor performed on the work so subcontracted. Consent of the Director to the subcontracting of work shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the contract.

When any portion of the work which has been subcontracted by the Contractor is not prosecuted in a manner satisfactory to the Director, the Contractor, upon receipt of a notice thereof in writing from the Director, shall remove the subcontractor immediately from the project and the subcontractor shall not again be employed on the work.

8.3 ASSIGNMENT OF CONTRACT - The performance of the contract may be assigned only with the prior written consent of the Director and when applicable, the Contractor's surety. Consent to any assignment shall not relieve the Contractor or the Contractor's surety of any obligations of the contract.

8.4 INSUBORDINATION - If any subcontractor or person employed by the Contractor shall fail or refuse to carry out the directions of the Director or shall appear to the Director to be incompetent or to act in a disorderly or improper manner, the subcontractor or person shall be removed immediately upon request by the Director and shall not again be employed on the work, nor shall it be employed upon any other Department project currently under contract to the same Contractor or subcontractor.

8.5 TEMPORARY SUSPENSION OF WORK

A. Order to stop work. The Director, may, by written order to the contractor, at any time, and without notice to any surety, require the contractor to stop all or any part of the work called for by this contract. This order shall be for a specified period not exceeding sixty (60) days after the order is delivered to the contractor, unless the parties agree to any further period. Any such order shall be identified specifically as a stop work order issued pursuant to this section. Upon receipt of such an order, the contractor shall forthwith comply with its terms and take all reasonable steps to minimize the occurrence of costs allocable to the work covered by the order during the period of work stoppage. Before the stop work order expires, or within any further period to which the parties shall have agreed, the Director shall either:

1. Cancel the stop work order; or
2. Terminate the work covered by such order as provided in the "termination for default clause" or the "termination for convenience clause" of this contract.

B. Cancellation or expiration of the order. If a stop work order issued under this section is canceled or if the period of the order or any extension thereof expires, the contractor shall have the right to resume work. An appropriate adjustment shall be made in the delivery schedule or contract price, or both, and the contract shall be modified in writing accordingly; if:

1. The stop work order results in an increase in the time required for, or in the contractor's cost properly allocable to, the performance of any part of this contract; and
2. The contractor asserts a claim for such an adjustment within thirty (30) days after the end of the period of work stoppage; provided that, if the Director decides that the facts justify such

action, any such claim asserted may be received and acted upon at any time prior to final payment under this contract.

C. Termination of stopped work. If a stop work order is not canceled and the work covered by such order is terminated for default or convenience, the reasonable costs resulting from the stop work order shall be allowable by adjustment or otherwise.

D. Adjustment of price. Any adjustment in contract price made pursuant to this clause shall be determined in accordance with the price adjustment clause of this contract.

8.6 LIQUIDATED DAMAGES - It is mutually understood and agreed by and between the parties to the contract that the performance by the Contractor of its duties every calendar/working day is an essential part of the contract and in case of failure on the part of the Contractor to perform its duties for the time specified in the contract, the State will be damaged thereby and the amounts of said damages being difficult, if not impossible of definite ascertainment and proof, shall be estimated, agreed upon and fixed at the sum shown in the proposal for each and every calendar/working day that the Contractor fails to perform its duties during the period the contract is in effect; and the Contractor shall pay the liquidated damages as provided for in the proposal and, in case the same are not paid, the Department may deduct the amount thereof from any monies due or that may become due the Contractor under the contract.

8.7 DEFAULT AND TERMINATION OF CONTRACT

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

similar goods or services.

1. Contractor's duties. Notwithstanding termination of the contract and subject to any directions from the Director, the contractor shall take timely, reasonable, and necessary action to protect and preserve property in the possession of the contractor in which the State or county has an interest.
2. Compensation. Payment for completed goods delivered and accepted by the State shall be at the contract price. Payment for the protection and preservation of property shall be in an amount agreed upon by the contractor and Director; if the parties fail to agree, the Director shall set an amount subject to the contractor's rights under chapter 3-126, HAR. The State may withhold from amounts due the contractor such sums as the Director deems to be necessary to protect the State against loss because of outstanding liens or claims of former lien holders and to reimburse the State for the excess costs incurred in procuring similar goods and services.
3. Excuse for nonperformance or delayed performance. Except with respect to defaults of subcontractors, the contractor shall not be in default by reason of any failure in performance of this contract in accordance with its terms, including any failure by the contractor to make progress in the prosecution of the work hereunder which endangers such performance, if the contractor has notified the Director within fifteen (15) days after the cause of the delay and the failure arises out of causes such as: acts of God; acts of the public enemy; acts of the State and any other governmental body in its sovereign or contractual capacity; fires; floods; epidemics; quarantine restrictions; strikes or other labor disputes; freight embargoes; or unusually severe weather. If the failure to perform is caused by the failure of a subcontractor to perform or to make progress, and if such failure arises out of causes similar to those set forth above, the contractor shall not be deemed to be in default, unless the goods or services to be furnished by the subcontractor were unreasonably obtained from other sources in sufficient time to permit the contractor to meet the contract requirements. Upon request of the contractor, the Director shall ascertain the facts and extent of such failure, and if such officer determines that any failure to perform was

occasioned by any one or more of the excusable causes, and that, but for the excusable cause, the contractor's progress and performance would have met the terms of the contract, the delivery schedule shall be revised accordingly, subject to the rights of the State under the clause entitled "Termination for Convenience". As used in this paragraph of this clause, the term "subcontractor" means subcontractor at any tier.

4. Erroneous termination for default. If, after notice of termination of the contractor's right to proceed under the provisions of this clause, it is determined for any reason that the contractor was not in default under the provisions of the clause, or that the delay was excusable under the provisions of paragraph 3 above, Excuse for nonperformance or delayed performance of this clause, the rights and obligations of the parties shall, if the contract contains a clause providing for termination for convenience of the State, be the same as if the notice of termination had been issued pursuant to such clause.

5. Additional rights and remedies. The rights and remedies provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

B. Termination for convenience. The Director may, when the interests of the State so require, terminate this contract in whole or in part, for the convenience of the State. The Director shall give written notice of the termination to the contractor specifying the part of the contract terminated and when termination becomes effective.

1. Contractor's obligation. The contractor shall incur no further obligations in connection with the terminated work and on the dates set in the notice of termination the contractor will stop work to the extent specified. The contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated work. The contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work. The Director may direct the contractor to assign the contractor's right, title, and interest under terminated orders or subcontracts to the State. The contractor must still complete the work not terminated by the notice of termination and may incur obligations as are necessary to do so.

2. Right to goods. The Director may require the contractor to transfer title and deliver to the State in the manner and to the extent directed by the Director:

- a. Any completed goods; and
- b. The partially completed goods and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights hereinafter called "manufacturing material," as the contractor has specifically produced or specially acquired for the performance of the terminated part of this contract.

The Contractor shall, upon direction of the Director, protect and preserve property in the possession of the contractor in which the State has an interest. If the Director does not exercise this right, the contractor shall use the Contractor's best efforts to sell such goods and manufacturing materials. Use of this section in no way implies that the State has breached the contract by exercise of the termination for convenience clause.

3. Compensation:

- a. The Contractor shall submit a termination claim specifying the amounts due because of the termination for convenience together with cost or pricing data to the extent required by subchapter 15, chapter 3-122, HAR, bearing on such claim. If the Contractor fails to file a termination claim within one (1) year from the effective date of termination, the Director may pay the Contractor, if at all, an amount set in accordance with subparagraph c. below.
- b. The Director and the Contractor may agree to settlement provided the Contractor has filed a termination claim supported by cost or pricing data to the extent required by subchapter 15, chapter 3-122, HAR, and that the settlement does not exceed the total contract price plus settlement costs reduced by payments previously made by the State, the proceeds of any sales of goods and manufacturing materials under paragraph (2) of this clause, and the contract price of the work not terminated.

c. Absent complete agreement under subparagraph b above, the Director shall pay the Contractor the following amounts, provided payments agreed to under subparagraph b shall not duplicate payments under this subparagraph for the following:

(i) Contract prices for goods or services accepted under the contract;

(ii) Costs incurred in preparing to perform and performing the terminated portion of the work plus a fair and reasonable profit on such portion of the work, such profit shall not include anticipatory profit or consequential damages, less amounts paid or to be paid for accepted goods or services; provided that if it appears that the Contractor would have sustained a loss if the entire contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss;

(iii) Costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to paragraph 1 of this clause. These costs must not include costs paid in accordance with subparagraph (ii) above.

(iv) The reasonable settlement costs of the Contractor including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the contract and for the termination of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to the terminated portion of this contract. The total sum to be paid the Contractor under this subparagraph shall not exceed the total contract price plus the reasonable settlement cost of the Contractor reduced by the amount of payments otherwise made, the proceeds of any sales of supplies and manufacturing materials under subparagraph b of this paragraph, and the contract price of work not terminated.

d. Cost claimed, agreed to, or established under subparagraphs b and c shall be in accordance with chapter 3-123, HAR. bearing on such claim.

8.8 FINAL INSPECTION - Upon notice from the Contractor of the completion of the work or contract, the Director shall make an inspection. If the contract is found completed to the Director's satisfaction, such inspection shall constitute the final inspection and acceptance of the work.

If the work is unsatisfactory in whole or in part, the Director shall notify the Contractor of the work necessary for final completion and acceptance and the Contractor shall forthwith perform the work required by the Director. Upon performance of such required work by the Contractor, another inspection shall be made which shall constitute the final inspection if the work is completed satisfactorily.

Within ten (10) days after final inspection and acceptance of the work, or as soon thereafter as is practicable, the Contractor shall be notified by the Director in writing of such acceptance.

8.9 TERMINATION OF CONTRACTOR'S RESPONSIBILITY - The contract will be considered complete when all work has been completed, the final inspection made, the work accepted by the Director, and the final estimate paid. The Contractor will then be released from further obligation except as set forth in the contract and bond, when applicable.

SECTION 9 - PAYMENT

9.1 SCOPE OF PAYMENT - The Contractor's bid price shall be inclusive of all costs, direct or indirect, including all taxes, required for the fulfillment of the contract.

Contract payments to the Contractor by the State shall be full payment for the furnishing of all labor, tools, equipment, and other incidentals, including all taxes, necessary for performing all work and services contemplated and embraced under the contract.

9.2 RETAINAGE/DEDUCTION FROM PAYMENT - The Director may at any time retain or deduct out of any sums due the Contractor to cover claims of the State against the Contractor, or such sums sufficient to cover any unpaid claims of others supported by sworn statements filed in the office of the Director, without any liability for damages, interest or otherwise to the Contractor for such retention or deduction.

Provided the work of the Contractor is progressing satisfactorily in the judgment of the Director and in accordance with the provisions of this contract, monthly payments, less five percent (5%), will be made to the Contractor. The amount of such monthly payments shall be determined by the Director based on the Director's estimate of the items of work performed and materials incorporated in the work and the value therefor at the unit prices or lump sum prices set forth in the contract. All monthly payments are shall be subject to correction at any time prior to or in the final payment.

At any time after fifty per cent (50%) of the work has been completed, if the State determines that the work contracted to be performed is progressing satisfactorily, the State may make any of the remaining monthly payments in full.

If the Director finds that unsatisfactory progress is being made, the State may, from the beginning of such unsatisfactory progress, withhold any amount up to five per cent (5%) of any subsequent monthly payment.

9.3 ASSIGNMENT OF PAYMENTS - All monies payable under the contract, or any part thereof, shall be paid to the Contractor in accordance with the provisions of this Section and no assignment or order executed by the Contractor directing payment of any portion or all of such funds to any other person or persons shall be recognized by the State unless such assignment or order specifies the amounts to be so paid and the purposes for which the assignment or order is given. Such assignment or order shall have attached thereto, by endorsement or otherwise, the consent of the surety, when

applicable. No such assignment or order shall be binding on the State.

Any assignment of money shall, however, be subject to all proper set-offs in favor of the State, to all deductions provided for in the contract and to all liens and rights conferred by law on the State. All money withheld, whether assigned or not, shall be subject to being used by the State for the completion of the work in the event of the Contractor's default.

9.4 PROGRESS PAYMENTS - Payments under this contract shall be made only upon submission by the Contractor of an original invoice and 2 copies. The invoice shall specify the amount due less retainage and shall also certify that services requested under the contract have been performed by the Contractor according to the contract.

9.5 FINAL PAYMENT - Final payment will only be made after the Contractor receives final acceptance by the Director as provided in Section 8.8, and until the Contractor has filed with the Department the following:

- A. Consent of the surety, when applicable, to payment of the final estimate;
- B. Satisfactory evidence by affidavit that all debts resulting from the contract have been fully paid or satisfactorily secured;
- C. A current "Certificate of Vendor Compliance" issued by the Hawaii Compliance Express (HCE). The Certificate of Vendor Compliance is used to certify the Contractor's compliance with (a) Section 103D-328, HRS (for all contracts \$25,000 or more) which requires a current tax clearance certificate issued by the Hawaii State Department of Taxation and the Internal Revenue Service; (b) Chapters 383, 386, 392, and 393, HRS; and (c) Subsection 103D-310(c), HRS. The State reserves the right to verify that compliance is current prior to the issuance of final payment. Contractors are advised that non-compliance status will result in final payment being withheld until compliance is attained.

The filing of willfully false affidavits will disqualify the Contractor from bidding on future work of the Department.

SECTION 10 - MAINTENANCE OF LANDSCAPED AREAS

10.1 DESCRIPTION - The work consists of maintenance of planted areas through continued watering, weeding, fertilizing, mowing, reseeding, cultivating, spraying, mulching, trimming and care of shrubs and trees, edging, invasive plant removal and other services necessary for care and upkeep of highway plantings. This section also describes replacement of dead or damaged plants, cleaning and clearing of sidewalks, gutters, swales, and ditches within the contract limits; removal and disposal of trash and debris.

A location plan in Appendix F Location Plan, of the Appendices, is attached in the Appendices showing the area(s) for which landscaped maintenance services are to be provided. *Refer also to Appendix F1 – General Plans – As-Built (Reduced Scale), of the Appendices for the various plans, details and notes.* The plans are in a reduced scale. Bidders are advised not to use the graphical scale. Plans in full scale are available for review at the Oahu District office by making an appointment by calling the number as indicated in Section 10.3 Inspection of Plans and of Areas to be Maintained, of the Specifications.

10.2 BIDDER REQUIREMENTS

(A) The bidder shall submit the following documents as scheduled in Section 10.2(B) below:

1. Statement of Capabilities.
 - a. The Statement of Capabilities is a questionnaire regarding the bidder's qualifications as specified in Section 2.1 Qualification of Bidders, of the Special Provisions.
 - b. *The Statement of Capabilities form is not physically included in these bid specifications but will be provided by mail to the bidders, **starting with the lowest bidder**, along with the written request as specified in Section 10.2(B) 1 of this section after bid opening and during the award process.*
 - c. *The bidder shall "complete" and sign this document. "Complete" shall mean providing **all** the requested information, except items marked optional. **Do not leave anything blank.***
2. Copy of the valid State of Hawaii Specialty Contractor's C-27, Landscaping Contractor license. *The copy shall be in compliance with Section 2.1.A.1 License, of the Special Provisions.*
3. Copy of the valid certification and in good standing as a Landscape Industry Council Certified Landscape Technician (CLT) **Exterior/Maintenance**. *The copy shall be in compliance with Section 2.1.B.1.a Certification, of the Special Provisions.*
4. Copy of the valid certification and in good standing as a Landscape Industry Council Certified Landscape Technician (CLT) **Exterior/Irrigation**. *The copy shall be in compliance with Section 2.1.B.2.a Certification, of the Special Provisions.*

5. If the Contractor is using his or her own work force/personnel to perform Flagging/traffic control/closing of lanes services, the Bidder shall submit a copy of the certificate of training completion, as a minimum, one (1) of each of the following:

- a. Flagger,
- b. Traffic Control Technician and
- c. Traffic Control Supervisor.

The respective copies shall be in compliance with Section 2.1.B.4.a.i.1 through 3 of the Special Provisions.

If the Bidder plans on using a subcontractor(s) to perform flagging/traffic control/closing of lanes, refer to Section 2.1.B.4.b of the Special Provisions for information on subcontracting requirements.

- 6. Copy of the valid training completion certificate as Fall Protection Competent Person. *The copy shall be in compliance with Section 2.1.B.5.b through c of the Special Provisions.*
- 7. Copy of the valid training completion certificate on Fall Protection Training. *The copy shall be in compliance with Section 2.1.B.6.b through c of the Special Provisions.*

(B) *Schedule of Submitting Required Documents.*

- 1. **Submit prior to award.** The completed Statement of Capabilities as specified in Section 10.2 (A) 1 Statement of Capabilities, above **and** requested documents as specified in Section 10.2 (A) 2 through 5 above, *as applicable*, shall be received by the Project Manager no later than seven (7) working days from the date of request (date of receipt of the written request) from the State. *The Statement of Capabilities shall be mailed, starting with the lowest bidder, in accordance Section 10.2(A) 1.b of this section.*

- (C) **Failure by the bidder to submit.** *The bidder may be considered non-compliant with the requirements of the Special Provisions and the Specifications if the bidder fails to submit the documents to the Project Manager no later than **seven (7) working days** from the date of request (date of receipt of the written request) from the State. This failure may result in an adverse decision of an award by the Department of Transportation.*

- (D) The signed statement of capabilities, including any documents, shall be returned to the bidder after serving their purpose.

10.3 INSPECTION OF PLANS AND OF AREAS TO BE MAINTAINED

- (A) A set of detailed plans showing the limits of the areas and sprinkler system plans to be maintained will be available for inspection at the Oahu District Baseyard Office at 727 Kakoi Street, Honolulu, Hawaii 96819, from the first day of advertising for bids up to and including the day of bid opening. In case of dispute over limits of work areas, the limits

shown on the detailed plans shall govern. It is the Contractor's responsibility to meet with District personnel and discuss the plans and specifications prior to submitting his/her proposal. *Bidders are advised to make an appointment by calling the Engineer, Oahu District's representative (Point of Contact) in Section 10.9 Coordination of Work, of the Specifications. Refer to Appendix F Location Plan, of the Appendices for the areas that are included in this contract.*

- (B) In case of new construction and other State maintenance activities, whether planned or unplanned, the State reserves the right to reduce the scope of work and areas to be maintained within the landscaped areas as specified in the contract. The State shall issue a Change Order and shall modify the contract in writing as specified in Section 4.4, Changes and Claims for Adjustments. Adjustments in the contract price shall be determined in accordance with Section 4.5 Price Adjustment, of the Specifications.
- (C) Once construction is complete and plants have been established on new construction as mentioned in Section 10.3(B) above, the State may request the Contractor to provide landscape maintenance services. The State shall issue a Change Order and shall modify the contract in writing as specified in Section 4.4, Changes and Claims for Adjustments. Adjustments in the contract price shall be determined in accordance with Section 4.5 Price Adjustment, of the Specifications.
- (D) Throughout the life of the contract, the State may add additional small areas that are not under contract which are "adjacent" or "within the vicinity" to the project limits and which are the property of the State, requiring services that are specified in this contract. For the purposes of these specifications, the words "adjacent" or "within the vicinity" shall be defined by the proximity of the closest landscaped area under contract to the proposed additional area and not by a certain measured linear distance. By this definition, as an example, the Engineer may add a small area as mentioned above which is located 5 miles to the closest landscaped area under contract for as long as this landscaped area under contract is the closest to the proposed additional small area. Requesting, pricing and modifications to the contract will be similar to the procedures in Section 10.3(C) of this section. Payments for services to added areas will be paid by Bid Item No. 8 Miscellaneous Work, of the Proposal Schedule.

For proposed additional small areas, the State reserves the right to solicit competitive quotations and have landscape maintenance, maintenance, repair and inspection of irrigation work done by the lowest quotation.

10.4 SCOPE OF WORK - All work shall conform to the best horticultural practices and the HMSLM. *Refer to Section 1.42 HMSLM, of the Special Provisions for the definition of the HMSLM.* The Contractor shall use the chart as a guideline for the frequency and duration of each task. *Refer to Appendix F Location Plan, of the Appendices for the specified areas.*

- (A) **MOWING** - All turf shall be mowed according to the Landscape Maintenance Plans with a frequency as specified in Section 10.5 Maintenance of Landscaped Areas Task and Frequency Matrix, of the Specifications.

- 1. During long dry periods if directed by Engineer in writing, grass height may govern mowing frequency.

2. The turf height shall be from one and one-half (1-1/2) inch to two (2) inches on medians and areas of foot traffic and four (4) to six (6) inches on other open areas along the highway for erosion control.
 - 2a. Remove all litter and debris prior to mowing. A bag or chute shall be used to remove excess cuttings or the area may be raked.
 3. Clean and remove all clippings from hard surfaces, roadways and drainage swales and remove by the end of each workday.
 4. *A payment deduction will be made if trimmings are not removed and shall be computed as specified in Section 10.19(C) 1, of the Specifications.*
- (B) **EDGING AND TRIMMING OF GRASS** - Trimming and edging of all turf cover along sidewalks, roadways, plant beds or structures shall be incidental to turf mowing. Monofilament line trimmers shall not be used around the base of trees unless a tree guard is installed. Chemical edging is unacceptable.
- (C) **WEEDING** - Weeds shall be considered any undesirable plants not originally planted and noxious vegetation shall be defined by the "Hawaii Invasive Species Council List of Plant Species Designated as Noxious Weeds for Eradication or Control Purposes by the Hawaii Department of Agriculture (06/18/1992)." All pavement expansion joints and cracks are to be maintained free of weeds.

The weeding cycle shall be continuous and as needed. Weed infestation shall not exceed ten percent (10%) of each designated area.

All landscaped areas shall not exceed ten percent (10%) weed infestation of each designated area within thirty (30) days after commencement of work. Contractor shall use pre-emergent herbicides as necessary to control excessive weeds in planting beds.

Conspicuous and deleterious weeds shall be removed by its roots in all landscaped areas. Removal by cutting or topping at the ground line will not be allowed. This requirement shall be strictly enforced. In maintenance areas without landscaping but only vegetative cover for erosion control purposes, cutting or topping of weeds will be allowed at the Engineer's discretion.

- (D) **EDGING AND TRIMMING OF VINES AND GROUND COVER (AS APPLICABLE)** - Vines and ground cover shall be edged and/or trimmed by the best horticultural practice as required to maintain a neat appearance and safe travel way.

Vines or ground cover shall not be allowed to overgrow shrubbery, signs, street lights, fences, valve boxes, guardrails or other structures unless otherwise instructed.

All work in this section shall be in order within thirty (30) days after commencement of the work. Unless directed otherwise, ground covers shall be maintained at a uniform height not exceeding twelve (12) inches or not less than six (6) inches above ground and shall be cleared from around all sprinkler heads, valves and other utilities. All other shall

be cleared from around all sprinkler heads, valves and other utilities. All other undesirable vines and ground covers shall be entirely removed from the area.

- (E) **CARING AND TRIMMING OF SHRUBS** - Shrubbery shall be maintained and trimmed by the best horticultural practice as required to maintain a healthy and vigorous growth. Conform to the horticultural recommendations in publication A300-1995, "Tree, Shrub and Other Woody Plant Maintenance – Standard Practices," of the American National Standards Institute (ANSI).

1. Caring of Shrubs.

- a. **Apply a two inch depth of compost** in all planting beds of shrubs in the first week of January, April, July and October. *Refer to Section 10.7(D) Compost, of the Specifications for the specifications for this material.*
- b. *Application of compost to shrubs shall be performed at the request of the Engineer and if approved, will be paid by Bid Item No. 8 Miscellaneous Work, of the Proposal Schedule and negotiated in accordance with Section 10.19(B) Miscellaneous Work, of the Specifications.*

2. Trimming of Shrubs.

- a. *Shrubs shall be trimmed to a **minimum frequency** in accordance with Appendix C Maintenance of Landscaped Areas Task and Frequency Matrix, of the Appendices or more often as directed by the Engineer to prevent overgrowth, to maintain a neat appearance, to foster shrub brush out and to eliminate dead wood.*
- b. Shrub pruning shall be performed to maintain a "natural" appearance; decorative, poodle cuts or other unnatural pruning will not be permitted unless box hedging is required by the Engineer.
- c. Shrubs in natural plantings or formal hedges shall be pruned as mass planting. Do not shear shrubs into topiary (shapes) unless specifically instructed to do so in writing by the Engineer. Under no circumstances shall shrubs be pruned more than twenty-five (25) percent. If pruned more than 25% than entire shrub shall be replaced with the same species, spread and height at the Contractor's expense within 4 weeks of notification from the Engineer. Hedges shall be wider at the base than the top.
- d. The Contractor shall be responsible for trimming shrubs **affecting the sight distance to the sign**. Traffic signs shall be visible at all times. Trimming of shrubs to eliminate traffic hazards and **to make traffic signs visible at all times** shall be continuous as needed. The limbs shall not hang over the travelway.
- e. *Trimming of shrubs shall be paid by the unit cost in Bid Item No. 2, Caring and Trimming of Shrubs, of the Proposal Schedule.*

3. **Shrub Removal.** *Shrub removal shall be performed at the request of the Engineer.*

- a. Removal, including stump grinding, shall be used to remove any unwanted shrubs. Stump grinding shall not be required for all removed trees but only in special cases, highly visible developed areas and situations. The Engineer may direct that stumps be grinded to a minimum six (6) inches below finish grade.
- b. *Removal of unwanted shrubs shall be, if approved by the Engineer, the cost shall be negotiated in accordance with Section 10.19(B) 2 Miscellaneous Work, of the Specifications and paid by Bid Item No.8 Miscellaneous Work, of the Proposal Schedule*

4. **Plant Replacement.** *Refer to Section 10.7(C) Plant Replacement, of the Specifications for the required plant replacement for plants that die due to neglect, invasive plants, insects, disease, or malpractice or vandalism and vehicular traffic.*

Refer to Appendix A Tree and Shrub Planting Detail, of the Appendices for more information.

(E1) **CARING AND TRIMMING (SIGHT DISTANCE/CLEAR ZONES/CLEAR SPACE) OF TREES** -These tasks shall be performed at a frequency in accordance to each subtask as scheduled below. Caring and trimming (sight distance/clear zones/clear space) of trees shall conform to the horticultural recommendations in publication A300-1995, "Tree, Shrub and Other Woody Plant Maintenance – Standard Practices," of the American National Standards Institute (ANSI).

1. **Caring of Trees**

- a. **MULCHING** -_Apply a three-foot radius circle of two-inch depth of mulch around the base of all trees and palms by the first Thursday of March and September. *Refer to Section 10.7(E) Mulch, of the Specifications for the required specifications for this material.*
- b. **STAKES AND GUY WIRES** (as applicable) - Stakes and guy wires shall be adjusted, or if necessary, removed as determined by the Engineer to prevent damage to the trees and to reduce hazards to the maintenance personnel. Maintain a minimum clear area of three (3) feet radius shall ring young trees to prevent mowing, damage and choking.
- c. *Cost of removal of guy wires, as applicable, shall be incidental to unit cost in Bid Item No. 3, Caring and Trimming of Trees (Sight Distance/Clear Zones/Clear Space) continuous, of the Proposal Schedule.*
- d. *Mulching shall be performed at the request of the Engineer and if approved, the cost shall be negotiated in accordance with Section 10.19(B) Miscellaneous Work, of the Specifications and paid by Bid Item No.8 Miscellaneous Work, of the Proposal Schedule.*

2. **Trimming of Trees (Sight Distance/Clear Zones/Clear Space) – continuous as needed.**

- a. **TRAFFIC SIGNS** - The Contractor shall be responsible for trimming tree branches of all trees *affecting the sight distance to the sign*. Traffic signs shall be visible at all times. Trimming of trees to eliminate traffic hazards and **to make traffic signs visible at all times** shall be *continuous as needed*. The limbs shall not hang over the travelway.
- b. **CLEAR ZONE TREES** - In the clear zone, remove all new tree saplings that will at maturity be greater than 4 inches in tree trunk diameter. In the clear zone, remove all new tree saplings growing within six feet trunk to trunk spacing. Removing tree saplings in the clear zone shall be *continuous as needed*.

Clear zone is measured from the travel lane line towards the right of way line or property line. The width of the clear zone varies due to the posted speed and the slope of shoulder. See chart below for the required clear zones for each speed.

Shoulder Slope			
Posted Speed	Upslope and Flat to 1'V:6'H	Down Slope 1'V:5'H to 1'V:4'H	Down Slope Slope > 1'V:4'H
<45 mph	16 feet	18'	Clear zone extends to bottom of slope
45 – 55 mph	22'	28'	Clear zone extends to bottom of slope
55 mph	24'	32'	Clear zone extends to bottom of slope
60 mph	32'	44'	Clear zone extends to bottom of slope

- c. **CLEAR SPACE** - The Contractor shall trim trees to maintain a minimum ten-foot clear space below its canopy. At the direction of the Engineer, trees within 30 feet of the edge of pavement may be lifted-additionally. Side pruning of trees to provide clearances to signs, utility poles and lines, structures, etc., shall be included.
- d. *Trimming of Trees (Sight Distance/Clear Zones/Clear Space) as specified above shall be paid by the unit cost in Bid Item No. 3 Caring and Trimming of Trees (Sight Distance/Clear Zones/Clear Space) – continuous, of the Proposal Schedule.*

3. **Plant Replacement.** Refer to Section 10.7(C) Plant Replacement, of the Specifications for the required tree replacement for trees that die due to neglect, invasive plants, insects, disease, or malpractice or vandalism and vehicular traffic.

(E2) Trimming of Trees - tree trimming (light trimming, lifting) etc.) is excluded from this contract. Tree trimming services shall be provided from a separate State contract.

*The Contractor shall notify the Engineer (Point of Contact) by **both** voice (phonecall) **and** in writing (email, text, correspondence, etc.to include photos) immediately when there are evidence of plant damage as a result of tree trimming operations performed by the State tree trimming contractor.*

The Contractor shall be charged liquidated damages in accordance with Section 8.6.A.1 of the Special Provisions for plantings that die due to failure of the Contractor to notify the Engineer (Point of Contact).

- (E3) Tree Removal –tree removal is excluded from this contract. Tree removal services shall be provided from a separate State contract.**

*The Contractor shall notify the Engineer (Point of Contact) by **both** voice (phonecall) **and** in writing (email, text, correspondence, etc.to include photos) immediately when there is evidence of plant damage as a result of tree removal operations performed by the State tree removal contractor.*

The Contractor shall be charged liquidated damages in accordance with Section 8.6.A.1 of the Special Provisions for plantings that die due to failure of the Contractor to notify the Engineer (Point of Contact).

- (F) CONTROLLING VEGETATION INTRUSION OF RIGHT-OF-WAY LINE** - The Contractor shall be responsible for controlling of all undesirable vegetation intrusions into right-of-way areas from the adjoining properties. In extreme cases, the inspectors who are responsible for the areas shall work with the Contractor to get the property owners to cooperate in controlling the intrusions. Ultimately, it is the Contractor's responsibility to control or mitigate all undesirable vegetation intrusions.

- (F1) WATERING** - The watering cycle shall be in accordance to the plant's needs to maintain a healthful, vigorous and lush growth. *Watering problems shall be called to the attention of the Engineer immediately to prevent plant damage.*

The Contractor shall be responsible for the control of the irrigation system, and shall minimize and conserve the use of water whenever possible.

The Contractor shall perform the following work:

1. Monitor the landscaped areas for water need;
2. Water the landscaped areas as needed;
3. Promptly report all deficiencies of irrigation system pressure lines and the control clocks to the Engineer for repair;
4. Submit the "Irrigation Controller Schedule" to the Engineer thirty (30) days after the Notice to Proceed date. *Refer to Section 11.1(C)1. a for more information.*

Irrigation water and keys to the controller cabinets, as applicable, shall be provided to the Contractor in accordance with Sections 11.7(B) 3 and 11.7(B) 4 of the Specifications.

Refer to Item No. 3, Section 11.16 Submittals/Reports, of the Specifications for the required irrigation controller quarterly schedule of watering and Paragraph (H), Manual Watering, Appendix D1, Supplementary Irrigation System Maintenance Information, Supplementary Irrigation System Maintenance Information, of the Appendices.

The Contractor shall also have control of the clocks. Should controller clocks malfunction report the condition immediately to the Engineer.

- (G) FERTILIZING. *Application of fertilizer shall be performed at the request of the Engineer and if approved, the cost shall be negotiated and paid by Bid Item No. 8 Miscellaneous Work, of the Proposal Schedule.*

LAWN

For best results under most highway conditions, a mixed lawn should receive 1 pound of actual nitrogen per 1,000 square feet for each growing months and shall be completed by first Wednesday of January, March, May, July, September and November. For efficient plant consumption, consistent rates of lawn growth, and to minimize "fertilizer burn", Fertilizers should be applied frequently in small amounts rather than in large amounts at greater intervals. Lawns should never be fertilized while the grass is wet. Sufficient water should be applied after the application to dissolve the fertilizer and wash it into the root zone. This first watering must be thorough.

Fertilizers should be applied evenly with seeder-type spreaders or wheel-mounted fertilizer spreaders. Care should be taken with either type of spreader, to place the fertilized strips to completely cover the area. Spreaders should not be filled on the lawn as fertilizer is too frequently spilled, killing the lawn in that area. Fertilizer shall be applied by mechanical apparatus, centrifugal throw spreader or motorized spreader at the rate of five hundred (500) pounds per acre or as directed by the Engineer. Contractor is responsible for damage resulting from over fertilization. During winter months, reduce or omit nitrogen applications for Bermuda grass in cooler and windward areas.

Schedule for the application of fertilizer shall be in accordance to Appendix C Maintenance of Landscape Areas Task and Frequency Matrix, of the Appendices or as approved by the Engineer.

SHRUBS AND PLANTING BEDS

Shrubs and planting beds shall be fertilized quarterly and shall be completed by the third Wednesday of February, May, August and November. Fertilizer shall be a complete balanced fertilizer (15:15:15) at a rate of two (2) pounds of slow release nitrogen per 1,000 square feet per application.

TREES AND PALMS

Trees shall be fertilized annually in January with a slow release complete balance fertilizer (15:15:15) at a rate of two (2) pounds of slow release nitrogen per 1,000 square feet of root zone under the drip line. Fertilize native plantings sparingly or as recommended. Palms shall be fertilized annually with an approved Palm specific fertilizer with Epson salt to palm special blend with high magnesium & phosphorous.

Notify the Engineer of fertilization schedule a minimum of one week prior to fertilization.

- (H) **SPRAYING PESTICIDE & HERBICIDE** - It is the Contractor's responsibility to maintain all plantings in good health, free of harmful insects and disease. Plant material that dies as a result of insect or disease shall be replaced with the same species, spread and height at the Contractor's cost within 4 weeks of notification from the Engineer. If the Contractor applies herbicide to areas not approved then the Contractor shall replace plants that are applied with herbicide with the same species, spread and height at the Contractor's cost within 4 weeks of notification from the Engineer. *The Contractor shall maintain a record of all pesticides and/or herbicides used on the project including the name of the pesticide and/or herbicide, location and areas of application, dates of application, rates of application and total quantity used per day. A copy of the record shall be submitted to the Engineer weekly or as requested.* Certification requirement is also mentioned in Section 10.7(B) Pesticide & Herbicide, of the Specifications. Contractor shall not spray herbicides or pesticides on windy or rainy days. Contractor shall exercise care when spraying near drainage structures or swales and shall not spray within any drainage structures or swales and shall not spray within ten (10) feet of these areas. Preemergents shall only be used in planting beds after bark mulch has been applied. Contractor shall consider integrated vegetative management decision making and apply the appropriate means including mechanical, herbicide and/or organic herbicides for low lifecycle cost and environmental impact. If undesirable vegetation is greater than 5 feet in height than it shall be cut first to a height no greater than 6 inches and then sprayed.

Any damage to vegetation, man, environment or other property, within or outside the highway right-of-way due to the use of pesticides and/or herbicides by the Contractor shall be the sole responsibility of the Contractor. Damaged desired plants or erosion of soils will be replaced at the Contractor's expense.

Refer to Section 10.11(C) Mandatory Training, of the Specifications for the required mandatory training for personnel involved in the application of herbicide.

- (I) **CLEARING GUTTERS, SWALES AND DITCHES** - Clear and maintain lined drainage ditches, swales and roadway gutters of vegetation, rock, silt and mud, papers, bottles, cans and maintain these areas clear of debris and growth. Stabilize and replant any eroding areas immediately. Earth drainage ditches swales and gutters will be turf maintained the same as the areas indicated above. Contractor shall exercise care when spraying herbicide or pesticide near drainage structures or swales and shall not spray within any drainage structures or swales. All drainage culverts under roadways and embankments shall be maintained by the State. The Contractor shall notify the State immediately of any blockage detected during normal landscape work.

Refer to Chapter 7 Rubbish and Debris in Gutters, Ditches and Swales, of the HMSLM for additional information. HMSLM is defined in Section 1.42 HMSLM, of the Special Provisions.

- (J) **PLANTINGS REQUIRING ADDITIONAL TASKS** – Some projects will have plantings that require additional and/or specific maintenance requirements. *These*

additional tasks shall be included to the Contractor's bid price in Bid Item No. 1 maintenance of landscaped areas, of the Proposal Schedule.

The following is a list of plants that require specific maintenance requirements as follows:

TREES	
<u>Gold Tree</u> [Tabebuia donnell-smithii]	<u>Gold Tree</u> [Tabebuia donnell-smithii] – Produces litter when blooming, prune annually to shape tree.
<u>Pink Tecoma</u> [Tabebuia heterophylla]	<u>Pink Tecoma</u> [Tabebuia heterophylla]– No known pests or diseases.
<u>Rainbow Shower Tree</u> [Cassia x nealae]	<u>Rainbow Shower Tree</u> [Cassia x nealae] – Produces litter when blooming, prune annually to shape tree. Protect trees less than 12-inch caliper trunk with tree guard. Prune is best after flowering annually. Notify the Engineer after flowering. Pruning shall be performed by a separate State contract as specified in Section 10.4(E) of the Specifications. Fertilize twice a year with a fertilizer 16-16-16 Simplot or approved equal. Regular water is ideal. Water demand will be higher in Summer. Winter demand will be negligible, particularly when in its deciduous state. Susceptible to insects such as aphids and caterpillars. Keep an eye during warmer months and regularly spray them with insect repellent
<u>Royal Poinciana</u> [Delonix regia]	<u>Royal Poinciana</u> [Delonix regia] –It is best to prune before the spring regrowth starts. Notify the Engineer before the spring regrowth starts. Pruning shall be performed by a separate State contract as specified in Section 10.4(E) of the Specifications. Avoid line trimmers near tree base as this can cause girdling. Install plastic tree guards on all trees.
<u>African Tulip Tree</u> [Spathodea campanulata]	<u>African Tulip Tree</u> [Spathodea campanulata] – No known pests or diseases.
<u>Alexander Palm</u> [Archontophoenix alexandrae]	<u>Alexander Palm</u> [Archontophoenix alexandrae] - Remove brown fronds and ripe fruit. May be damaged by spider mites, Helminthosporium leaf spot in young plants, Phytophthora root rot, and aerial blight. Avoid weed whackers around palm base.
<u>Macarthur Palm</u> [Ptychosperma macarthurii]	<u>Macarthur Palm</u> [Ptychosperma macarthurii] - Sooty mold sometimes coats the trunk. Avoid weed whackers around palm base.
<u>Bestill</u> [Thevetia peruviana]	<u>Bestill</u> [Thevetia peruviana]– All parts are poisonous when ingested.
<u>Kukui</u> [Aleurites moluccana]	<u>Kukui</u> [Aleurites moluccana] – No known pests or diseases.
<u>Monkeypod</u> [Saman samanea]	<u>Monkeypod</u> [Saman samanea]– Prune surface roots if used near pavement. Noctuid moths are an occasional problem.

PLANTINGS REQUIRING ADDITIONAL TASKS (continuation)

SHRUBS	
<u>Pothos</u> [Epipremnum aureum]	<u>Pothos</u> [Epipremnum aureum]– Prune to keep pothos within planting beds.
<u>Snow Bush</u> [Breynia nivosa]–	<u>Snow Bush</u> [Breynia nivosa]– No serious insect or disease problems. Remove Snow Bush that escapes planting bed.
Monstera (Monstera deliciosa)	Monstera (Monstera deliciosa) – No serious insect or disease problems. Fertilize with nitrogen and requires shade and moisture.
GROUND COVERS	
<u>Bermuda Grass</u> [Cynodon dactylon]	<u>Bermuda Grass</u> [Cynodon dactylon] – Susceptible to army worms and Bermuda grass mites. Check the White grubs and Pearl Scales and control if necessary. Apply preemergence herbicide to control crabgrass and goose grass. Apply – post emergence herbicide on summer to control spurge and Lespedza.

- (K) **INVASIVE PLANT REMOVAL** – The Contractor is responsible for removal and damages resulting from invasive plants found on-site. Refer to the Hawaii Invasive Species Council List of Plant Species Designated as Noxious Weeds for Eradication or Control Purposes by the Hawaii Department of Agriculture (06/18/1992). The following species are a priority on Oahu – Guinea Grass, Maile Pilau, Ivy Gourd, Opiuma, Mysore Thorn and Shoebuttan.

Refer to the list of instructions on Appendix B Invasive Plant Removal, of the Appendices and Chapter 9 Invasive Species Management, of the HMSLM for additional information. HMSLM is defined in Section 1.42 HMSLM, of the Special Provisions.

- (L) **REMOVAL OF RUBBISH, DEBRIS AND SOLID HAZARDOUS WASTE** - The Contractor shall remove all rubbish and debris from the project contract limits. The project shall be maintained to a neat and clean appearance.

1. **Debris and litter on roadways, which originate from the landscape maintenance work.** Rubbish and debris on roadways, which originate from the landscape maintenance work, shall also be removed by the Contractor before the end of each work day, or immediately if it creates a traffic hazard.

Cost of removal and disposal of debris and litter on roadways which originate from the landscape maintenance work is incidental to the unit cost of maintenance of landscaped areas, Bid Item No. 1, of the Proposal Schedule.

2. **General clean up.** Litter in landscaped areas, ditches, gutters and shoulders (i.e. papers, cigarette butts, bottles, cans, tree limbs, palm leaves, etc.) shall be removed when found. **General clean up shall be conducted three (3) times per week** as specified in the Maintenance of Landscaped Areas Task Matrix, of the Appendices. **This shall be strictly enforced.** Refer to Section 1.44 Debris and Litter, of the Special Provisions for the definition of debris and litter as they apply to this contract.

Cost of removal, and disposal of debris and litter during general cleanup is incidental to the unit cost of maintenance of landscaped areas, Bid Item No. 1, of the Proposal Schedule.

3. Solid/hazardous waste such as batteries, tires, tire shreds, machine parts, large debris (i.e. large furniture, etc.).
 - a. Disposal of solid/hazardous requires the following documents to be submitted to the Engineer in order to be paid:
 1. Receipt from the certified landfill. The landfill receipt shall clearly indicate the items, quantity and weight of the disposed items.
 2. Photograph of the waste materials taken from the original location. The photograph(s) submitted shall clearly show all waste items prior to the removal of waste material in the original locations.
 3. The Contractor shall submit to the State the required receipt and photograph with his or her monthly invoice. Payments shall not be processed without the required receipt and photograph.

The Engineer or his representative shall meet with the Contractor at the job site to witness, document, photograph the illegal dumpsite, certify the type of waste and to ensure that the dumpsite is within the State Right-Of-Way jurisdiction or within the project area.

- b. *Cost of disposal of solid/hazardous waste, if approved, shall be paid by allowance in Bid Item No. 8 Miscellaneous Work, of the Proposal Schedule and shall be negotiated in a manner similar to Section 4.5 Price Adjustment, of the Specifications and shall be no more than 1.5 x landfill cost.*
4. Burning of rubbish and debris in the highway right-of-way is prohibited.
5. The Contractor shall under no circumstances stockpile debris, soil or garbage within the highway right-of-way. Any existing stockpiles at the beginning of the contract shall be removed within 30 days. Contractor shall receive a payment deduction for any stockpiling and shall be computed as specified in Section 10.19 (C) 1 of the Specifications.
6. Debris and rubbish shall be disposed of away from the highway right-of-way and in accordance with City, State and Federal laws and regulations.

(M) **Reporting of Hazardous Conditions and Damages to Landscaped Areas.** Pursuant to Reporting, Chapter 14 of the HMSLM, the Contractor shall report the following to the Engineer. *Refer to Section 1.42 HMSLM, of the Special Provision for the definition of HMSLM.*

1. Injuries.
2. Illnesses.
3. Damage to government property.
4. Blocked culverts, ditches and swales.
5. Eroding areas.
6. Severe instances of illegal rubbish dumping.

(N) **Closing of Lanes/Traffic Control**

1. *If necessary, the Contractor shall furnish traffic control and closing of lanes, and shall be in accordance with Section 10.11(A) 4 of the Specifications and shall be performed by trained **and** certified personnel only.*

Refer to Section 2.1.B.4 of the Special Provisions for the training requirements of personnel involved in traffic control. The Contractor may employ a person or use a sub-contractor who is knowledgeable on traffic control. Costs for traffic control shall include preparation of the traffic control plan, set-up and removal of all signs, cones, delineators, barricades, certified and trained flag persons or special duty police officers, arrow boards, etc. as applicable, and shall be incidental to the cost of landscaping services.

2. The Contractor shall make all the necessary coordination and shall request approval of the Engineer in writing seven (7) working days prior to the scheduled lane closure/traffic control.
3. Traffic Control Plan.

- a. All closing of lanes shall require a traffic control plan. The traffic control plan shall be prepared/developed by persons knowledgeable (i.e. trained or certified) about the fundamental principles of traffic control and work activities to be performed. The Engineer reserves the right to require the Contractor to submit a copy of the certificate of training of the person who prepared the traffic control plan. *Preparation of the Traffic Control Plan shall be incidental to the cost of maintenance of landscaped areas, Bid Item No. 1, of the Proposal Schedule.*
 - b. This plan shall be submitted to the Engineer and shall be made part of the approval process as specified in Section 10.4(N) 2 above.
4. Permit for the Occupancy & Use of State Highway Right-Of-Way
- a. The Contractor shall submit this application to the Engineer, along with the traffic control plan as mentioned in Section 10.4(N) 3 above.
 - b. This permit shall be made part of the approval process as specified in Section 10.4(N) 2 above.
 - c. *Refer to Appendix G, Application & Permit for the Occupancy & Use of State Highway Right-Of-Way, of the Appendices.*
5. Do not close traffic lanes or slow down traffic during the peak hours as specified in the Application & Permit for the Occupancy & Use of State Highway Right-Of-Way.

(O) LANDSCAPED AREAS COMPREHENSIVE ANNUAL INSPECTION

1. For purposes of contract extension, on the second Monday on the fourth month after the Notice to Proceed date and the fourth month from the beginning of each contractual term for each contract renewal, as applicable.
2. For purposes of contract closing, sixty (60) days to the end of the contract as specified in Section 11.1(E)3 of the Specifications.
3. The Contractor and the Engineer shall perform a comprehensive annual inspection which shall include the following:
 - a. Plant inventory,
 - b. Plant list comparison and replacement list,
 - c. Liquidated damages assessed,
 - d. Soil tests of troubled planting areas,
 - e. Fertilization schedule review,
 - f. Herbicide schedule review,
 - g. Invasive species,
 - h. Discretionary fund projects for coming year,
 - i. Professional credential review and
 - j. Maintenance sustainability recommendations.

Refer to Paragraph J Irrigation System Annual Comprehensive Annual Inspection, Appendix D1 Supplemental Irrigation System Maintenance Information, of the Appendices for the required annual inspection on the irrigation system.

(P) MISCELLANEOUS WORK

1. Refer to Section 10.19(B) Miscellaneous Work, of the Specifications for miscellaneous work that the Engineer maybe tasking the Contractor.
2. In order for the Contractor to commence performance of all miscellaneous work, a Notice to Proceed letter shall be issued by the Engineer. *Refer to Appendix G1 Sample – Notice to Proceed Letter for Miscellaneous Work, of the Appendices.*
3. Miscellaneous work, if approved by the Engineer, shall be paid by allowance in Bid Item No. 8 *Miscellaneous Work, of the Proposal Schedule and negotiated in accordance with Section 10.19(B) of the Specifications.*

10.5 MAINTENANCE OF LANDSCAPED AREAS TASK AND FREQUENCY MATRIX - The Contractor shall use the chart as a guideline for the frequency and duration of each maintenance task.

Refer to Appendix C Maintenance of Landscaped Areas Task and Frequency Matrix, of the Appendices.

10.6 CONTRACTOR EVALUATION FORM – The Contractor shall be evaluated on his or her performance using the form in Appendix H Landscape Maintenance Contractor Performance Rating, of the Appendices.

Refer to Section 5.7 Contractor Performance Rating, of the Special Provisions for more information.

10.7 MATERIALS

- (A) FERTILIZER - *If the Engineer requests the Contractor to apply fertilizer, cost of fertilizer shall be paid by allowance in Bid Item No. 8 Miscellaneous Work, of the Proposal Schedule and shall be negotiated in a manner similar to Section 4.5 Price Adjustment, of the Specifications.* The Contractor shall submit a record of area fertilized, date applied and amount used after each application.
- (B) PESTICIDE & HERBICIDE - Insecticides, fungicides and other pesticides shall be applied as needed to control insect pest and disease. Herbicides may be used for weed control. The Contractor shall obtain written approval from the Engineer before using pesticides and/or herbicides. The Contractor may purchase pesticide and herbicide from suppliers, but prior to purchase, the Contractor shall submit a list of needed pesticide and/or herbicide and their respective price to the Engineer for approval. *Cost for the pesticide and herbicide shall be paid by Bid Item No. 6 Pesticide and Herbicide, of the Proposal Schedule.* Pesticide and herbicide purchased without the Engineer's approval shall not be paid.

If the Contractor chooses to use restricted pesticides, the Contractor shall obtain a Category 6, Certification for Commercial Applicators for Restricted Pesticides from the Department of Agriculture. The processing, handling and application must be performed by a person or under the direct supervision of the person possessing the above certificate. A copy of the certificate shall be submitted to the Engineer.

All work shall be performed in strict compliance with the manufacturer's label and/or Safety Data Sheet (SDS) as applicable and in accordance with State, Federal and local regulations and laws. A copy of the SDS shall be submitted to the Engineer as a part of his approval to use pesticide and/or herbicide and a copy shall be maintained by the Contractor at the job site during processing, handling and application of pesticides and/or herbicides.

Refer to Section 10.11(C) 1 of the Specifications for the required annual training for the Contractor's employees who are involved in the application of pesticide and herbicide.

- (C) PLANT REPLACEMENT - Replacement plants shall be the same species, spread and height. The Engineer will inspect plants at place of growth and after delivery to the Project. Each tree shall be tagged by the Engineer with consecutively numbered plastic tamper resistant self-locking seal with a breaking strength of 55 lbs. Seals shall remain on trees and only be removed by the Engineer. Plants not conforming to the Contract requirements shall be rejected.
- (D) COMPOST - Compost shall meet the requirements of the United State Composting Council (USCC) Seal of Testing Assure (STA) program. Compost shall be the result of the biological degradation and transformation of plant-derived materials under controlled conditions designed to promote aerobic decomposition. Compost shall be stable with regard to oxygen consumption and carbon dioxide generation. Compost shall be mature with regard to its suitability for serving as a soil amendment. The compost shall have a moisture content that has no visible free water or dust produced when handling the material. Compost feedstock may include, but is not limited to, leaves and yard trimmings, biosolids, food scraps, food-processing residual, manure or other agricultural residuals, forest residues, bark, and paper. Ensure compost and wood chips do not contain any visible refuse, other physical contaminants, or any substance considered harmful to plant growth. Provide compost meeting all applicable 40 CFR 503 standards for Class A biosolids and State of Hawaii Department of Health public health and safety regulations.
- (E) MULCH - Mulch must be shredded bark and coconut husks, wood chips, or macadamia husks; these materials may be partially composted before use. Wood chips produced on site from tree trimmings may contain leaves and small twigs. Maximum size shall be 3 inches by 1-1/2 inches by 1/2 inch thick.

10.8 ORDER TO STOP WORK

- (A) Order to stop work shall be in accordance with Section 8.5.A Order to Stop Work, of the Specifications.

- (B) The Engineer or his authorized representative reserves the right to stop work at anytime, to include but not limited to hazardous condition or unsafe acts as a result of the Contractor's landscape maintenance operations or failure to follow a contractual requirement e.g. failure to have the CLT-Exterior/Maintenance personnel during landscape maintenance operations as specified by Section 2.1.B.1.c of the Special Provisions, as applicable.
- (C) Upon receipt of either a written or verbal notification from the Engineer or his authorized representative, the Contractor shall immediately stop any practice or work as determined by the Engineer or his authorized representative as obviously hazardous. The Engineer shall document safety or hazardous incidents.
- (D) Work may continue once the hazard has been rectified or removed and/or contractual deficiencies have been corrected. The Contractor shall obtain the approval from the Engineer prior to resuming work.
- (E) The Contractor shall not be given additional time past the required completion date of any work.
- (F) *Refer to Section 8.6 Liquidated Damages, for liquidated damages that are charged against the Contractor for failure to comply with contractual requirements.*

10.9 COORDINATION OF WORK

- (A) All work under this contract shall be coordinated with the Engineer or a duly authorized representative. *Refer to Section 1.39 Engineer, of the Special Provisions for the definition of Engineer.* Contact information is as follows:

Mr. George Abcede District Engineer (DE) – Oahu District Phone: 808-831-6703 Fax: 808-831-6725 Email: George.Abcede@hawaii.gov	Point of Contact Mr. Dean Takayama District Horticulturist – Oahu District (Authorized Representative of the DE) Phone: 808-831-6795 Fax: 808-831-6725 Email: Dean.T.Takayama@hawaii.gov
---	---

10.10 HOURS OF OPERATION

- (A) Regular Working Hours for Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation System. The Contractor shall be available to provide the specified services during daylight hours, Monday through Friday, except for State holidays. *Refer to Section 1.38 Working Day, of the Special Provisions.*

10.11 SAFETY

- (A) Safety Concerns

1. The Contractor shall observe safety concerns that are mentioned in Section 7.10 Public Convenience and Safety, of the Special Provisions, to the fullest during performance of work.

2. The Contractor and his/her employees shall exercise due care in performing any work. The Contractor and his/her employees may be subject to slip, trip, fall, vehicular hazards, chemical hazards, noise hazards and other workplace hazards. **The Contractor shall maintain an internal aggressive safety program.** *Refer to Item No. 6, Safety Plan, Section 10.14 Submittals/Reports Summary and Section 10.11(D) Safety Plan, of the Specifications for the required Safety Plan.*
3. All methods and practices shall be in accordance with the U.S. Department of Labor (DOL), Occupational Safety and Health Standards, American National Standard Institute (ANSI) Z133.1 – 2012, the Environmental Protection Agency (EPA), health standards and health programs required by Hawaii Administrative Rules § 12-110 and Hawaii Revised Statutes § 396 and other agencies as specified by Section 7.10 Public Convenience and Safety, of the Special Provisions and safety regulations promulgated by local other governmental agencies.
4. All closing of lanes and traffic control and safety measures shall be performed in conformance with the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways. *Refer to Section 10.4(N) Closing of Lanes/Traffic Control, of the Specifications for the required training of traffic control personnel, procedures in the approval process for requesting closing of lanes and traffic control.*
- 4a. The contractor is responsible for the work site and the work practices of all employees on the project site and is the controlling, exposing, correcting as well as the creating employer for purposes of this scope of work. The State of Hawaii Department of Transportation monitoring of the work in progress is not representative as the controlling employer for purposes of workplace and work practice safety and health compliance.
5. Contractor shall at all times conduct his work to assure the least possible obstruction to public traffic. The Safety and convenience of the general public and the protection of persons and property is of utmost importance, and the Contractor shall provide appropriate traffic control and safety measures. The Contractor and its employees shall treat members of the public in a fair and polite manner. Workers shall present a professional appearance and conduct themselves in a professional manner at all times.
6. While working in right-of-way areas, all employees shall wear OSHA approved safety equipment, **as applicable**, including but not limited to: head protection, safety hardhat, hearing protection, vest, safety belts, lanyards, fall arrest system, goggles, gloves, chemical gloves, safety shoes, chain-saw-resistant leg protection, clothing and footwear appropriate to the known hazard and other equipment as required. Vest shall be the appropriate safety apparel that meets current ANSI/ISEA 107 and the U.S. Department of Transportation's MUTCD Section 6D.03. *Cost of employee's personal protective equipment (PPE) shall be incidental to the cost of maintenance of landscaped areas, Bid Item No. 1, of the Proposal Schedule.*

(B) Hazardous Materials/Environmental Protection.

1. The Contractor shall comply with all Federal, State and local environmental laws and regulations when handling hazardous materials.
2. All work shall be performed in strict compliance with the manufacturer's label and/or Safety Data Sheet (SDS) as applicable and in accordance with State, Federal and local regulations and laws. A copy of the SDS shall be submitted to the Engineer **two days prior to the scheduled use** for his approval prior to use **or immediately notify the Engineer by phone or fax for his verbal approval** in cases of emergency situations which occurs during off hours. A copy of the SDS shall be submitted to the Engineer by close of business the following working day. *Refer to Section 10.14 Submittals/Report Summary, of the Specifications for other miscellaneous submittals.* Contractor employees who are involved in the application of pesticides and herbicides shall complete a video training as specified in Section 10.11(C) 1 of the Specifications. The Contractor at the jobsite shall maintain a copy during handling chemicals. The Contractor is responsible in notifying personnel about the existence of hazardous chemicals in the project area.
3. The Contractor shall immediately contain and clean up the release or spill of hazardous material and shall report the incident to the Engineer.
4. The Contractor shall not allow debris from the landscape maintenance operation to get into irrigation canals, rivers or any stream.
5. Work shall not cause air or storm water pollution. The Contractor shall be responsible for all hauling and lawful disposal of debris. Any unauthorized or illegal disposal is grounds for termination of the contract.

(C) Mandatory Training

1. Initial and Annual Training. Contractor's employees who are involved in the application of herbicide shall complete a video training before applying herbicide.

Retraining shall be repeated annually thereafter. The Contractor shall contact the Engineer for information on mandatory training and upon completion, the Contractor shall submit the training completion report as a part of the submittals as specified in Section 10.14 Submittals/Reports Summary, of the Specifications.

Training completion report should contain, as a minimum, name of personnel attending, date, title of video, signature of person administering the training (or official of the firm).

2. Annual Training. The Contractor and his entire crew who are working on this contract shall attend training to be conducted by the Department to discuss and train on the 2011 Hawaii Department of Transportation State Highway Manual for Sustainable Landscape Maintenance (HMSLM). The Engineer will notify the Contractor to schedule the training. *Attendees are required to pass a written exam*

at the end of the training in order to fulfill the requirements of the training. Refer to Section 1.42 HMSLM, of the Special Provisions for the definition of HMSLM.

3. *Cost of time spent on mandatory training shall be incidental to the unit price of maintenance of landscaped areas, Bid Item No. 1, of the Proposal Schedule.*
The run time for the video in Section 10.11(C) 1 above is one-half hour and the departmental training in Section 10.11(C) 2 will be for approximately two days.

(D) Safety Plan

1. As a minimum and as applicable, shall contain the following information: project number, project title, contract number, activity description, hazard, action required to remove or mitigate the hazard, special training requirements, engineering controls (i.e. guardrails, barricades, etc.), administrative controls (Standard Operating Procedures, signs, etc.), emergency information, safety equipment checklist & report and required personal protective equipment, required as specified by Section 10.11(A)6 of this section.
2. This plan shall be submitted as specified by Item No. 6, Section 10.14 Submittals/Reports Summary, of the Specifications and by the HMSLM or resubmitted within seven (7) working days prior to commencement of the work when there are revisions. *Refer to Section 1.42 HMSLM, of the Special Provisions for the definition of "HMSLM."* The Contractor shall discuss safety plans in accordance with Section 10.15 Pre-start Meeting, of the Specifications.
3. The Safety Plan shall be prepared/developed/signed by a person who is knowledgeable (i.e. trained and certified) about the fundamental principles of occupational safety and health and work activities to be performed.

During the pre-start meeting, the Contractor shall submit a copy of the certificate of training of the person who prepared the Safety Plan.

The following certificates from the following training sources are acceptable:

- a. Construction Health and Safety Technician from the Board of Safety Professionals.
- b. Specialist in Safety and Health from the OSHA Training Institute
- c. Equivalent certificates from 10.11(D) 3.a and 10.11(D) 3.b above.

TriSafety Consultation and other safety consultants can provide services in the preparation, development and certification of a Safety Plan.

4. *Cost involved in the development and certification of the Safety Plan shall be incidental to the cost of maintenance of landscaped areas Bid Item No. 1, of the Proposal Schedule.*

(E) Fall Protection Plan.

1. 29 CFR 1926.502(K) specifies that “this option is available only to employees engaged in leading edge work, precast concrete erection work, or residential construction work who can demonstrate that it is infeasible or it creates a greater hazard to use conventional fall protection equipment.”
2. Preparation, approval, implementation, reasons/justification, written discussion, identification of location, safety monitoring system, identification of personnel, and others, shall be in accordance with the 29 CFR 1926.502(K), other federal, State, local regulation and laws. *Refer to the 29 CFR 1926 Subpart M App E for the Non-Mandatory Sample Fall Protection Plan.*
3. The fall protection plan shall be prepared/developed/signed/certified by a person who is knowledgeable (i.e. trained and certified) about the fundamental principles of occupational safety and health and work activities to be performed.

The Engineer reserves the right to require the Contractor to submit a copy of the certificate of training of the person who prepared the Fall Protection Plan.

4. The Contractor shall submit and discuss his Fall Protection Plan, as applicable, in accordance with Section 10.15, Pre-start Meeting of the Specifications. This plan shall be submitted as specified by Section 10.14, Submittals/Reports Summary of the Specifications within seven (7) working days prior to commencement of the work when there are revisions.
5. *Cost involved in the development of the Fall Protection Plan shall be incidental to the cost of maintenance of landscaped areas, Bid Item No. 1 of the Proposal Schedule.*

10.12 CONTRACTOR’S RESPONSIBILITY FOR DAMAGE TO PROPERTY – Any damage caused by the Contractor as a result of his or her maintaining of landscaped areas operations including but not limited to damaged plants, broken sidewalk, guardrails, traffic signs, pavement markers, asphalt, concrete swales, curb, rutted lawn, broken water shut-offs, wire damage, building damage, damaged utilities (underground, on ground or overhead) and other non-contractual in the project area whether in public or private property shall be remedied or replaced by the Contractor in accordance with Section 107.12(A) Contractor’s Responsibility for Damage to Property, of the Standard Specifications to the satisfaction of the Engineer and/or the injured party.

10.13 WORK SCHEDULE

The Contractor shall bring the project up to specifications within thirty (30) days of the contract’s Notice to Proceed date. If the Contractor is unable to bring the project up to specifications within thirty (30) days, he shall request a time extension from the Engineer.

Failure to bring the project up to specifications or to request a time extension may result in an unsatisfactory rating for this period. It is the Contractor’s responsibility to insure that adequate labor, equipment, and tools are provided for landscape maintenance.

The Contractor shall furnish a monthly schedule detailing when, where, the number of workers and what type of work the Contractor plans to do for each day of the schedule for a work period of not less than three (3) days per week. The schedule shall be submitted on the first day of the period and may be revised by the State at any time. The Contractor shall maintain and revise the work schedule to be current at all times. Progress payments shall be withheld until such time as a satisfactory work schedule is received by the Engineer. The State reserves the right to instruct the Contractor to work in areas other than his scheduled areas if such areas require immediate attention.

The Contractor shall employ an English-speaking Lead Maintenance Person/Highway Maintenance Supervisor to supervise the work. *Refer to Section 10.2(A) 1 Statement of Capabilities, of the Specifications for the qualification and submittal requirements and for more information on Statement of Capabilities. Required minimum number of CLT Exterior/Maintenance Lead Maintenance Person/Highway Maintenance is specified in Section 2.1.B.1.c of the Special Provisions.* The Contractor's Lead Maintenance Person/Highway Maintenance and the Engineer will meet no less than once per month to review the work site to ensure compliance with the contract specifications and standards. At this meeting, Contractor's Lead Maintenance Person/Highway Maintenance shall submit a monthly written report listing major accomplishments for the previous month, notable problems, schedule changes and goals and deadlines for the coming month. These meetings shall be documented by the Engineer.

10.14 SUBMITTALS/REPORTS SUMMARY. The Contractor shall submit the following submittals/reports as a hard copy or in a format as requested by the Engineer.

Item	Submittals/Reports	Reference	Required	Frequency	Submit to
1	Statement of Capabilities including all required attachments	Section 10.2(A) 1 Statement of Capabilities and Section 10.2(B), Schedule of Submitting Required Documents, of the Specifications.	Prior to award.	As revised	Project Manager, Construction and Maintenance Branch, Highways Division.
2	Names, Telephone Number(s) and Adresse(s) of Contact for Contractual issues	Section 10.2(A)1 Statement of Capabilities, Section 10.2(B), Schedule of Submitting Required Documents, Section 10.9 Coordination of Work and Section 10.15 Pre-start Meeting, of the Specifications.	Prior to award. (included in the Statement of Capabilities) and three (3) working days prior to the Notice to Proceed.	As revised	Project Manager, Construction and Maintenance Branch, Highways Division and the Engineer - Oahu District's representative (Point of Contact)

SUBMITTALS/REPORTS SUMMARY (continuation)

Item	Submittals/Reports	Reference	Required	Frequency	Submit to
3	Work schedules	Section 10.13 Work Schedule, of the Specifications; Section 10.9 Coordination of Work and Section 10.15 Pre-start Meeting, of the Specifications.	During pre-start meeting	Monthly	The Engineer - Oahu District's representative (Point of Contact)
4	List of personnel employed under the contract along with individual qualifications	Section 10.2(A)1 Statement of Capabilities, Section 10.2(B), Schedule of Submitting Required Documents and Section 10.15 Pre-start Meeting, of the Specifications.	Prior to award and three (3) working days prior to Notice to Proceed date	As revised	Project Manager, Construction and Maintenance Branch, Highways Division and the Engineer - Oahu District's representative (Point of Contact)
5	Reporting of Hazardous Conditions and Danger to Landscaped Areas	Section 10.4(M) Reporting of Hazardous Conditions and Damages to Landscaped Areas, of the Specifications	As required	As needed	The Engineer - Oahu District's representative (Point of Contact)
6	Safety Plan	Section 10.11(D) Safety Plans, of the Specifications	During Pre-start meeting	As needed/as revised	Project Manager, Construction and Maintenance Branch, Highways Division and the Engineer - Oahu District's representative (Point of Contact)

SUBMITTALS/REPORTS SUMMARY (continuation)

Item	Submittals/Reports	Reference	Required	Frequency	Submit to
6a	Fall Protection Plan	Section 10.11(E) of the Specifications	During Pre-start meeting	As needed/as revised	Project Manager, Construction and Maintenance Branch, Highways Division and the Engineer - Oahu District's representative (Point of Contact)
7	Traffic Control Plan	Section 10.4(N)3 Traffic Control Plan, of the Specifications	Seven (7) working days prior to the scheduled lane closure.	As required	The Engineer - Oahu District's representative (Point of Contact)
8	Permit for the Occupancy & Use of State Highway Right-Of-Way	Section 10.4(N)4 Permit for the Occupancy & Use of State Highway Right-Of-Way, of the Specifications	Seven (7) working days prior to the scheduled lane closure.	As required	The Engineer - Oahu District's representative (Point of Contact)
9	Safety Data Sheet	Section 10.11(B)2 of the Specifications	Two working days prior to use or immediately for emergency situations.	As needed	The Engineer - Oahu District's representative (Point of Contact)
10	Record of herbicide application	Section 10.4(H) Spraying Herbicide & Pesticide, of the Specifications and Appendix H1 Sample Record of Herbicide Application, of the Appendices.	Weekly or as requested by the Engineer	Weekly or as requested by the Engineer	The Engineer - Oahu District's representative (Point of Contact)

SUBMITTALS/REPORTS SUMMARY (continuation)

Item	Submittals/Reports	Reference	Required	Frequency	Submit to
11	Record of fertilizer application	Section 10.7(A) Fertilizer, of the Specifications	After each application.	As needed	The Engineer - Oahu District's representative (Point of Contact)
12	Video Training Completion Report	Section 10.11(C)1 of the Specifications	Prior to application	Initial and Annually	The Engineer - Oahu District's representative (Point of Contact)
12a	Certified Payroll Affidavit	Section 7.8 Labor and Compensation Requirements, of the Special Provisions.	Within seven (7) days after the end of each month. <i>Submitted with the monthly invoice.</i>	Monthly	The Engineer - Oahu District's representative (Point of Contact)

10.15 PRE-START MEETING – Three (3) working days prior to the Notice to Proceed date or earlier, the Contractor shall schedule a pre-start meeting by contacting the Engineer or his authorized representative at the phone number or email address as specified in Section 10.9 Coordination of Work, of the Specifications. This meeting will include the Engineer, his authorized representative and other personnel as deemed necessary by the Engineer. The Contractor shall include and introduce the main contact person or Lead Maintenance Person/Highway Maintenance Supervisor for this project. Pursuant to Section 10.14 Submittals/Reports Summary, of the Specifications, ***the Contractor shall be prepared to discuss and submit the specified documents that are listed in the table of this section prior to the Notice to Proceed including, but not limited to the following:***

- (A) Equipment list for all equipment/vehicles that will be used on this project including lease agreement for leased equipment.
- (B) Coordination of access to the working areas as applicable.
- (C) Verification of quantities in the Proposal Schedule and boundaries of right-of-way areas.

10.16 TERM OF CONTRACT - The term of this contract shall be for twelve (12) months from the date indicated in the Notice to Proceed from the Department.

10.17 OPTION TO EXTEND TERM - This contract may be extended to four (4) additional twelve (12) month periods or parts thereof (i.e. two or three months, etc.) without the necessity for re-bidding upon mutual agreement between the State and the Contractor in writing provided the contract price for the extended period shall remain equal to or less than the initial bid price; with adjustments as provided in subsection 10.18, Escalation Clause, herein below, however, the entire term of contract, including extensions, shall not exceed sixty (60) months. *Contract may not be extended due to rating performance of "failure" received as specified in Section 5.7 Contractor Performance.*

10.18 ESCALATION CLAUSE – If, during the life of the contract, the prevailing wage rates for State civil service workers performing similar work are increased or decreased, the State shall automatically adjust the unit prices, Bid Item Nos. 1 through 5, of the Proposal Schedule to match the percentage increase(s) or decrease(s) granted to State civil service workers performing similar work. There will be no prorated adjustments to the actual date of the increase. Price adjustments shall be made only at the time of extension of the contract. However, in the event Section 103.55, Hawaii Revised Statutes, as amended, is repealed or modified so that this section of the statute is no longer applicable to this contract, this paragraph will be voided.

10.19 BASIS FOR PAYMENT - The Contractor's bid price shall be full compensation for furnishing all labor, materials, tools, equipment, vehicles, communication costs, taxes, insurance, overhead, travel, and incidental costs necessary for the maintenance of certain designated landscaped areas, including viaducts and planter boxes within the highway right-of-way as specified in this contract.

Incidental costs include, but not limited to the following:

Item	Reference	Item	Reference
Vehicle logo	Section 2.1.A.5.a of the Special Provisions	Development of a traffic control plan	Section 10.4(N)3.a of the Specifications
Employee uniform	Section 2.1.B.9.a of the Special Provisions	Personnel Protective Equipment (PPE)	Section 10.11(A)6 of the Specifications
Plantings requiring additional tasks	Section 10.4(J) Plantings Requiring Additional Tasks, of the Specifications	Mandatory training	Section 10.11(C) Mandatory Training, of the Specifications
Removal and disposal of rubbish and litter	Sections 10.4(L)1 and 10.4(L)2 of the Specifications	Development of a safety plan	Section 10.11(D)4 of the Specifications
Closing of Lanes/Traffic control	Section 10.4(N) Closing of Lanes/Traffic Control, of the Specifications	Development of a fall protection plan	Section 10.11(E) of the Specifications

Refer to Section 11.19 Basis of Payment, of the Specifications for a list of additional incidental costs.

Maintenance of landscaped areas will be paid for on the following basis:

(A) Monthly Earnings. Computed as follows:

1. For **Bid Item Nos. 1 through 3** —monthly earnings shall be per unit bid price as specified in the Proposal Schedule or as increased by Section 10.18 Escalation Clause, of the Specifications, as applicable.

Refer to Section 11.19 Basis of Payment, of the Specifications for information on monthly earnings on maintenance and inspection of irrigation system and irrigation trouble call repair work (estimated).

(B) Miscellaneous Work - The cost of miscellaneous work shall be negotiated in a manner similar to Section 4.5 Price Adjustment, of the Specifications and if approved, will be paid by the respective allowance.

1. Application of Herbicide/Pesticide Work (**Bid Item No. 6**) - Herbicide/Pesticide Work will be used only at the discretion of the Engineer for herbicide and/or pesticide work within the project area. *Refer to Section 10.4 (H) Spraying Pesticide and Herbicide, of the Specifications for the work involved.*
2. Additional Miscellaneous Work - Miscellaneous Work (**Bid Item 8**) will be used only at the discretion of the Engineer to include:
 - a. Application of Fertilizer. *Refer to Sections 10.4 (G) Fertilizing and 10.7(A) Fertilizer, of the Specifications for more information.*
 - b. Additional miscellaneous work within the project area.

(C) Deductions (as applicable)

1. If the Contractor fails to maintain the designated landscaped areas satisfactorily as required in Section 10 – MAINTENANCE OF LANDSCAPED AREAS, a deduction from the monthly earnings will be made as follows:

$$\text{Deductions} = \text{Percent (\%)} \text{ estimated by the State as incomplete or unsatisfactory work} \times \text{monthly earnings}$$

The deduction(s) shall be retained by the State and shall not be paid to the Contractor. An explanation report with substantiating evidence shall be filed by the Engineer.

2. Liquidated Damages – computed as specified in Section 9.4.d.ii of the Special Provisions. The amount shall be retained by the State and shall not be paid to the Contractor. An explanation report with substantiating evidence shall be filed by the Engineer.
3. Retainage - computed as specified in Section 9.2 Retainage/Deduction from Payment, of the Specifications and deducted in accordance with Section 9.4.d.iii of the Special Provisions. *Refer to Section 9.2 Retainage/Deduction from Payment, of the Special Provisions for retainage invoicing procedures.*

(D) Total Monthly Payments. The total monthly payments payable to the Contractor for maintenance of landscaped areas will be the applicable monthly earnings in Section 10.19(A) Monthly Earnings, of this section plus the applicable miscellaneous work in Section 10.19(B) Miscellaneous Work, of this section minus the applicable deduction(s) Section 10.19(C) Deductions, of this section.

Refer to Section 9.4 Progress Payment, of the Special Provisions for the required information on monthly invoice.

SECTION 11 –MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION SYSTEM

11.1 DESCRIPTION – The work shall consist of furnishing labor, materials, tools equipment, vehicles, communication costs, taxes, insurance, overhead, travel and incidental costs necessary for maintaining the irrigation system.

(A) **Limits of work.** The irrigation system includes all appurtenances and/or components, **from and including the remote-control valves to the sprinkler heads.** The work includes maintenance, repairing leakages, inspecting the irrigation system and submitting required reports as specified in these Specifications

(B) Currently Operational Irrigation System(s):

1. *At the date of bidding*, the overall Irrigation System is **currently twenty (80%) percent operational.**
2. The Contractor is required to maintain, repair and inspect these currently operational irrigation system(s) as specified in this contract documents. The State may task the Contractor to perform discretionary services to these currently operational irrigation system(s) as specified in Section 11.4(D) Miscellaneous Work, of the Specifications.
3. The As-Built Irrigation Plan in full scale are available for review at the Oahu District Office by making an appointment and by calling the phone number as indicated in Section 10.3 Inspection of Plans and of Areas to be Maintained, of the Specifications.

(C) Currently Non-operational Irrigation System(s).

1. *At the date of bidding*, the overall Irrigation System is **currently eighty (20%) percent non-operational.**

Irrigation system on the following areas are currently off and rendered **non-operational**:

- a. Rail guideway work from Kamehameha Highway Bridge to Aolele Street.
 - b. Deck planters along H1 Freeway Viaduct.
2. To obtain the location and additional information regarding these non-operational irrigation system, the Bidder/Contractor may call the phone number as indicated in Section 10.3 Inspection of Plans and of Areas to be Maintained, of the Specifications.
 3. The Contractor is NOT required to maintain these currently non-operational irrigation system(s), however, the State may task the Contractor to perform discretionary services as specified in Section 11.4(D) Miscellaneous Work, of the Specifications.

Upon mutual agreement between the State and the Contractor, a Contract Change Order is issued and adjustment to contract price shall be in accordance with and similar to Section 10.3(C) of the Specifications.

- (D) *Upon approval of the Engineer, replacement parts will be ordered by the Contractor and paid for by the State under Bid Item No. 7 Replacement Parts, of the Proposal Schedule. The Contractor shall submit invoices of all authorized parts to the Engineer for payment.*
- (E) The Contractor shall start repairing any damages of the irrigation system within forty-eight (48) hours of detection or from the time of notification by the State maintenance inspector or the public.
1. *Within thirty (30) days after the Notice to Proceed date, the Contractor shall provide a written itemized report of all irrigation components to the Engineer that need to be replaced including but not limited to backflow preventers, controllers, valves and sprinkler heads. **All components not listed in the report are the responsibility of the Contractor to replace at the Contractor's cost***
 2. *Within thirty (30) days after the Notice to Proceed date, the Contractor shall Submit the "Irrigation Controller Schedule" for all controllers and shall be submitted with the itemized report as specified above. Refer to Appendix D2 Sample – Irrigation Controller Schedule, of the Appendices for the information that is required in the irrigation controller schedule report and Paragraph A, Irrigation Controller, Appendix D1, Supplemental Irrigation System Maintenance Information, of the Appendices.*
 3. *Prior to sixty (60) days to the end of the contract, the Contractor and the Engineer shall perform a comprehensive inspection of all irrigation components to assure proper coverage and good working order. As the Contractor is the steward of maintaining the system, all components not functioning properly shall be replaced within thirty (30) days of the inspection solely at the Contractor's cost.*

11.2 INSPECTION OF DETAILED PLANS & EQUIPMENT DATA - Detailed plans in full scale and limited manufacturer's catalog cuts and maintenance manuals for the Irrigation System as described in Section 11.1(A) of the Specifications will be available for inspection at the Oahu District Office, located at the address as specified in Section 9.4 Progress Payments, of the Special Provisions, from the first day of advertising for bids up to and including the day of bid opening. *Refer to Appendix FI – General Plans – As-Built (Reduced Scale), of the Appendices for the various irrigation plans, details and notes which are reduced scale. Refer to Section 10.3 Inspection of Plans and of Areas to be Maintained, of the Specifications for more information.*

11.3 MATERIALS – It is intended that the Contractor shall reuse salvable materials wherever feasible. Any salvable materials damaged through the Contractor's negligence shall be replaced at the Contractor's expense. Materials will be subject to inspection at any time. Failure of the State's inspector to note faulty material or workmanship during maintenance or installation will not relieve the Contractor of the irresponsibility for removing or replacing such materials and restoring the system to working order at the Contractor's expense. Any replacement of irrigation system components shall be made with materials of the same manufacturer and model as the original equipment. Substitutions of materials other than original equipment will be approved only when the original equipment has been discontinued and is no longer available for purchase at any location. The substituted equipment must be completely compatible with the original and must be approved in advance by the Engineer. All repairs to the system shall be identical to the original installation, unless approved otherwise in advance by the Engineer. *If a change to the installation will result in lower future maintenance costs, less frequent breakage, or an increase in public safety, Contractor shall request authorization to make the change from the Engineer.*

11.4 SCOPE OF WORK - All work shall conform to the best irrigation practices including but not limited to the manufacturer's maintenance standards, the most current requirements of Section 616 - Irrigation System of the Standard Specifications and Chapter 12 of the HMSLM. *Refer to Sections 1.40 Standard Specifications and 1.42 HMSLM, of the Special Provisions for the definition of the Standard Specifications and the HMSLM.*

(A) Maintenance and Inspection of Irrigation System (routine/preventive)

1. *As a minimum, perform the maintenance tasks as listed in Appendix D Irrigation System Maintenance Tasks, Frequency, Checklist and Report, of the Appendices at the specified frequency as specified and as applicable.*
2. If any procedure in this specification is found to contradict any manufacturer's recommendation contained in the Operations and Maintenance Manual, the Contractor shall immediately bring such contradiction to the Engineer who shall determine which of the procedures shall be followed.
3. The Contractor shall record all maintenance performed, malfunctions and corrective actions taken on the irrigation system in performing its work under this contract. *The Contractor shall utilize the form in Appendix E Irrigation Trouble Call/Equipment Service Maintenance Report, of the Appendices. The Engineer may modify this form as necessary.*

4. *No later than thirty (30) calendar days after each twelve (12) – month period, the Contractor shall submit annual reports of system status, based on their assessment of preventive maintenance to the Engineer. The report shall include, as a minimum:*
 - a. An assessment of system adequacy and
 - b. Recommendations for equipment replacement.
5. All routine/preventive maintenance work shall be completed within seven (7) working days of the scheduled maintenance date and shall be performed during regular working hours as specified in Section 10.10 Hours of Operation, of the Specifications.
6. Maintenance work shall be accomplished at the following schedule, as applicable:

Required maintenance tasks	Required completion date
Weekly	First 3 days of the week
Monthly	During the last week of the month
Annual	Month of May
Years ending in “0” or “5”	Month of January

7. Refer to Section 11.4(D) Miscellaneous Work, of the Specifications for additional Miscellaneous Work that the Engineer may task the Contractor.
8. The Contractor shall prepare a schedule to satisfy the prescribed schedule in the Operations and Maintenance Manual of each equipment covered in this contract and submits to the Engineer as specified under Section 10.14 Submittal/Reports Summary, of the Specifications.
9. *Refer to Chapter 12, Irrigation System – Maintenance Inspection and Repairs of the HMSLM for more reporting information. Refer to Section 1.42 HMSLM, of the Special Provisions for the definition of “HMSLM.”*
10. *Payments to the Contractor for Maintenance and Inspection of Irrigation System (routine/preventive) shall be in accordance with Section 11.19(A)1 Maintenance and Inspection of Irrigation System (routine/preventive), of the Specifications.*
11. **Liquidated Damages.** *Refer to Section 8.6.B Maintenance and Inspection of Irrigation System (routine/preventive), of the Special Provisions for the liquidated damages that the State shall be assessing the Contractor for failure to provide satisfactory and timely Maintenance and Inspection of Irrigation System (routine/preventive) service and for failure to respond to trouble calls.*

(B) Repairs/Trouble Calls

In case of mechanical/electrical failure or malfunction of the irrigation system or leakages and damages caused by, but not limited to, vehicular traffic covered by this contract, the Contractor is subject to be called by the Engineer. *The number of personnel used to perform repair work on trouble calls by the Contractor shall be fully justified and approved by the Engineer before starting the said repair work.* The Contractor shall have adequate personnel, supervisors and equipment necessary to perform trouble calls. The Contractor shall present his completed "*Irrigation Trouble Call/Equipment Service Maintenance Report*" to the Engineer or an authorized representative for certification at the end of each day or each job whichever is earlier. The completed "*Irrigation Trouble Call/Equipment Service Maintenance Report*" shall include all chargeable time, material and equipment used as applicable. *Refer to Appendix E, Sample - Irrigation Trouble Call/Equipment Service Maintenance Report, of the Appendices for a copy of the sample report.*

1. Trouble Calls are classified as follows:

- a. Trouble Calls During Regular Working Hours. Refer to Section 10.10 Hours of Operation, of the Specifications for the definition of "regular working hours."
 1. The Contractor shall respond within one (1) hour to the job site. The Contractor shall be charged liquidated damages as specified in Section 8.6 Liquidated Damages, of the Special Provisions if the Contractor fails to respond within the specified time.
 2. Trouble calls during regular working hours shall be paid for based on the hourly bid price in the Contractor's proposal as applicable, Bid Item 5, of the Proposal Schedule multiplied by the time spent at the job site to complete the repair work.
 3. Time spent at the job site to complete the repair work during regular working hours shall be taken to the closest one-quarter (1/4) of an hour and any fraction of a one-quarter (1/4) of an hour shall be considered a full one-quarter (1/4) of an hour.
 4. In order for the Contractor to receive payment, all completed "*Irrigation Trouble Call/Equipment Service Maintenance Report*" during regular working hours shall be certified and signed by the Engineer or his authorized representative.
 5. *No additional payment will be made by the State for repairs on equipment based on wear and tear as specified by Section 11.4(C) 1.b of the Specifications.*

(C) Repairs/Replacement Parts

1. Minor Repair/Replacement Parts
 - a. "Minor Repair/Replacement Parts" shall mean cost of repair and a replacement part is equal to or less than \$200.00.
 - b. *Cost of new parts and materials and labor for removing old part(s) and replacing new part(s) for minor repair and replacement based on normal wear and tear and included as part of preventive maintenance based on industry/manufacturing standards or contractor's own commercial policies and pricing practices shall be considered incidental to the cost of Maintenance and Inspection of Irrigation System (routine/preventive), Bid Item No. 4, of the Proposal Schedule. No additional payment will be made by the State.*
2. Major Repairs/Replacement
 - a. "Major Repairs/Replacement" shall mean repairs that will require a system to be shut down for more than four (4) hours or cost of repair and replacement parts is in excess of \$200.00.
 - b. The Contractor is not authorized to commence on any major repair work in excess of \$200.00. without *written authorization* from the Engineer. The Contractor shall immediately notify the Engineer when a major repair/replacement is required or planned. *The Contractor shall submit a written cost estimate for labor, materials and/or equipment to the Engineer as expeditious as possible for his approval.* The State reserves the right to solicit competitive bids and have repair work done by the lowest bidder.
 - c. All major repairs/replacement shall be negotiated separately in a manner similar to Section 4.5 Price Adjustment, of the Specifications and shall be paid by the corresponding labor hour under Irrigation Trouble calls repair work, Regular working hours - per man-hour, Sprinkler Technician, Bid Item No. 5 and/or allowance under Replacement Parts, Bid Item No. 7, of the Proposal Schedule, as applicable.
 - d. The Contractor shall be reimbursed for the cost of the new parts including shipping plus fifteen percent (15%) for overhead, profit, taxes and other incidental expenses. The Contractor shall substantiate its charges by submitting original billing as requested by the State.
 - e. Due care will be exercised to prevent physical damage to the equipment.

- f. The Contractor shall submit a list of parts ordered but not received within thirty (30) days and explain in writing what parts are not received on the first day of each month.
3. **Replacement Parts for Damages Caused by Motorists.** Cost of new parts and materials and labor for removing old part(s) and replacing new part(s) for damages caused by motorists shall be paid by the corresponding labor hour under Irrigation Trouble calls repair work, Regular working hours - per man-hour, Sprinkler Technician, Bid Item No. 5 and/or allowance under Replacement Parts, Bid Item No. 7, of the Proposal Schedule, as applicable.
4. Replacement Parts/Spare Parts
 - a. If parts are not salvable as specified in Section 11.3 Materials, of the Specifications, original manufacturer's parts or equivalent will be used for repairs.

(D) Miscellaneous Work.

The State may request the Contractor to provide discretionary services that are mentioned below including miscellaneous work mentioned in Section 11.19(B) 3 of the Specifications.

1. Upgrades. Upgrade work requires authorization by the Engineer. Upgrade work may include but is not limited to the following:
 - a. Installation of new controller equipment.
 - b. Replacement of non-operative equipment/component.
 - c. Enhancing equipment as warranted or needed.
 - d. Install, modify or upgrade devices as needed.

In order for the Contractor to commence performance of all miscellaneous work, a Notice to Proceed letter shall be issued by the Engineer. *Refer to Appendix G1 Sample Notice to Proceed Letter for Miscellaneous Work, of the Appendices.*

Miscellaneous work, if approved by the Engineer, shall be paid by allowance in Bid Item No. 8 *Miscellaneous Work, of the Proposal Schedule and negotiated in accordance with Section 10.19(B) of the Specifications.*

(E) Closing of Lanes/Traffic Control (as applicable). *Refer to Section 10.4(N) Closing of Lanes/Traffic Control, of the Specifications.*

11.5 WARRANTIES

(A) Commercial Warranties

1. The Contractor shall be responsible for exercising all manufacturers' commercial warranties on State-government equipment parts and systems under this contract. The Contractor shall report to the Engineer any difficulty in exercising manufacturer warranties and request assistance when necessary. *The Engineer will provide existing copies of warranties, as applicable; to the Contractor prior to the contract notice to proceed date.*
2. The Contractor shall maintain a file of the original warranties on new Equipment/component installed and maintains a list of manufacturer's telephone numbers and points of contact for all warranted equipment. A copy of this list shall be provided to the Engineer thirty (30) days after the notice to proceed date and whenever new equipment is added or old warranties expire. This file shall be turned over to the Engineer upon completion or termination of this contract. These warranties shall list the "State of Hawaii, Department of Transportation" as the equipment owner.
3. State-government equipment installed by the Contractor that fails within a warranty period due to Contractor's poor workmanship, or by not following the manufacturer's installation, operation and/or maintenance instructions shall be replaced or repaired at the Contractor's expense.
4. Labor warranty shall be a full thirty (30) calendar days on all items of equipment provided by the Contractor which period shall commence upon completion and acceptance by the Engineer.

(B) Warranted Equipment/Component

1. Warranted equipment and component parts shall not be repaired, removed or replaced by the Contractor while under warranty by the manufacturer or by the installer.
2. All defects in workmanship or material, defective parts or improper installation found by the Contractor shall be reported in writing to the Engineer. The Contractor shall have the knowledge of the equipment and component that are covered by the original warranty and the duration of the warranty.
3. The Contractor shall perform all preventive maintenance and inspection as prescribed by the manufacturer.

11.6 MISCELLANEOUS REQUIREMENTS

- (A) The Contractor shall clean respective areas after maintenance and repair operations. Materials and equipment brought in by the Contractor for servicing shall be removed by contractor when work is completed. Equipment/component that were serviced shall be wiped down and free of oil, grease, dirt and handprints upon completion of service, as applicable.
- (B) Immediately report hazardous conditions and items that requires repair to the Engineer.
- (C) The Contractor shall be held accountable for any damage caused to fixtures, landscaping, pavements or other features resulting from work for this project. Property damaged by action of the Contractor or his employees shall be replaced or repaired to the satisfaction of the Engineer at the Contractor's expense as specified in Section 10.12 Contractor's Responsibility for Damage to Property, of the Specifications.

11.7 MATERIALS, SUPPLIES, EQUIPMENT, FACILITIES AND UTILITIES

(A) Contractor-Furnished Supplies, Material and Equipment.

- 1. The Contractor shall furnish all necessary supplies, material and equipment that are required to maintain and repair the irrigation system.
- 2. Batteries for battery-powered controllers/valves as specified in Paragraph (E) Battery Powered Controllers/Valves, Appendix D1 Supplemental Irrigation System Maintenance Information, of the Appendices.
- 3. Materials furnished by the Contractor shall be of quality to conform to these specifications.

(B) State-Furnished Supplies, Material and Equipment, Facilities and Utilities.

- 1. The current irrigation system, including all accessories as described in Section 11.1 Description, of the Specifications.
- 2. The State will provide electrical power to power the current irrigation systems.
- 3. Water to irrigate the landscaped areas.
- 4. Applicable keys to the irrigation controller cabinets, as applicable, will be issued to the Contractor on the Notice to Proceed date of this contract.

(C) Materials. *Refer to Section 11.3 Materials, of the Specifications.*

- (D) On slopes where no vehicles traverse, plastic valve boxes are acceptable. On flat areas, concrete valve boxes with metal covers are required.

11.8 COORDINATION OF WORK. *Refer to Section 10.9 of the Specifications.*

11.9 MAINTENANCE TASKS, FREQUENCY, CHECKLIST AND REPORT - The Contractor shall use the following chart as a guideline for the frequency, duration of each maintenance task and as a checklist and report. Failure to complete the tasks in the schedule shall result in payment deduction.

Refer to Appendix D Irrigation System Maintenance Tasks, Frequency, Checklist and Report, of the Appendices.

11.10 LEAD IRRIGATION PERSON – *Refer to Section 2.1.B.2 Lead Irrigation Person, of the Special Provisions for the required qualification.*

11.11 SPRINKLER TECHNICIAN – *Refer to Section 2.1.B.3 Sprinkler Technician, of the Special Provisions for the required qualification.*

11.12 EQUIPMENT AND VEHICLES – *Refer to Section 2.1.A.5 of the Special Provisions.*

11.13 SAFETY - *Refer to Section 10.11 Safety, of the Specifications.*

11.14 HOURS OF OPERATION - *Refer to Section 10.10 Hours of Operation, of the Specifications.*

11.15 WORK SCHEDULE – It is the Contractor's responsibility to insure that adequate labor, equipment, and tools are provided for irrigation maintenance.

The Contractor shall furnish a monthly schedule detailing when, where, the number of workers and what type of work the Contractor plans to do for each day of the schedule for a work period of not less than three (3) days per week. The schedule shall be submitted to the Engineer during the Pre-start meeting as specified in Section 10.15 Pre-Start Meeting, of the Specifications and may be revised by the State at any time. The Contractor shall maintain and revise the work schedule to be current at all times. Progress payments shall be withheld until such time as a satisfactory work schedule is received by the Engineer. The State reserves the right to instruct the Contractor to work in areas other than his scheduled areas if such areas require immediate attention.

Contractor shall employ an English-speaking Lead Irrigation Person on a regular basis to supervise the work. *Refer to Section 11.10 Lead Irrigation Person, of the Specifications for more information.*

The Lead Irrigation Person and the Engineer will meet no less than once per month to review the work site to ensure compliance with the contract specifications and standards. At this meeting, this person shall submit a monthly written report listing major accomplishments for the previous month, notable problems, schedule changes and goals and deadlines for the coming month. These meetings shall be documented by the Engineer.

The State reserves the right to disqualify the Lead Irrigation Person based on the work performance anytime during the contract. The Contractor has ten (10) working days to submit a qualified replacement.

11.16 SUBMITTALS/REPORTS SUMMARY – The Contractor shall submit the following submittals/reports as a hard copy or in a format as requested by the Engineer:

Item	Submittals/Reports	Reference	Required	Frequency	Submit to
1	List of personnel employed under the contract along with individual qualifications	Section 10.2, Bidder Requirements and Section 10.15 Pre-start Meeting, of the Specifications	Prior to award and three (3) working days prior to Notice to Proceed date	As revised	Project Manager, Construction and Maintenance Branch, Highways Division and the Engineer - Oahu District's representative (Point of Contact)
2	Work schedule, Proposed schedule for routine and preventive maintenance	Section 11.15 Work Schedule, of the Specifications and Section 10.15 Pre-start Meeting, of the Specifications.	During the Pre-start meeting	As revised by the Engineer.	the Engineer - Oahu District's representative (Point of Contact)
3	Irrigation controller schedule of watering	Paragraph (A) Irrigation Controller, Appendix D Supplemental Irrigation System Maintenance Information, of the Appendices and Appendix D1 Sample Irrigation Controller Schedule, of the Appendices	(1) month after the notice to proceed date.	As required	the Engineer - Oahu District's representative (Point of Contact)
4	Monthly Irrigation Report	Paragraph (A) Irrigation Controller, Appendix D Supplemental Irrigation System Maintenance Information, of the Appendices.	Submit with the monthly invoice.	Monthly	the Engineer - Oahu District's representative (Point of Contact)

SUBMITTALS/REPORTS SUMMARY (continuation)

Item	Submittals/Reports	Reference	Required	Frequency	Submit to
5	Parts requirements, and maintenance record system and other essential information	Section 10.15 Pre-start Meeting, of the Specifications.	During pre-start meeting	As required	the Engineer - Oahu District's representative (Point of Contact)
6	Irrigation Weekly Service Maintenance Report	Section 11.4(A)6 of the Specifications and Appendix D Irrigation System Maintenance Tasks, Frequency, Checklist and Report, of the Appendices	Submit with the monthly invoice.	Weekly	the Engineer - Oahu District's representative (Point of Contact)
7	Irrigation Monthly Service Maintenance Report	Section 11.4(A)6 of the Specifications and Appendix D Irrigation System Maintenance Tasks, Frequency, Checklist and Report, of the Appendices	Submit with the monthly invoice.	Monthly	the Engineer - Oahu District's representative (Point of Contact)
8	Irrigation Annual Service Maintenance Report	Section 11.4(A)6 of the Specifications and Appendix D Irrigation System Maintenance Tasks, Frequency, Checklist and Report, of the Appendices	Submit with the monthly invoice.	Annually	the Engineer - Oahu District's representative (Point of Contact)
9	Irrigation Service Maintenance Report for years ending in "5" or "0"	Appendix D Irrigation System Maintenance Tasks, Frequency, Checklist and Report, of the Appendices	Month of January. Submit with the monthly invoice.	For years ending in "5" or "0"	the Engineer - Oahu District's representative (Point of Contact)
10	Irrigation Annual Report	Section 11.4(A)4 of the Specifications	No later than thirty (30) calendar days after each one (1) year contractual period. Submit with the monthly invoice.	Annually	Project Manager, Construction and Maintenance Branch, Highways Division and the Engineer - Oahu District's representative (Point of Contact)

Refer to Chapter 14 Reporting, of the HMSLM for more reporting information. *Refer to Section 1.42 HMSLM, of the Special Provisions for the definition of "HMSLM."*

11.17 PRE-START MEETING - *Refer to Section 10.15 Pre-Start Meeting, of the Specifications.*

11.18 CONTRACTOR EVALUATION FORM – The Contractor shall be evaluated on his performance using the form in *Appendix H Landscape Maintenance Contractor Performance Rating, of the Appendices. Refer to Section 5.7 Contractor Performance Rating, of the Special Provisions for more information.*

11.19 BASIS OF PAYMENT – The Contractor's bid price shall be full compensation for furnishing all labor, technical knowledge and skills, materials, tools, equipment, vehicles, communication costs, taxes, insurance, overhead, travel, and incidental costs necessary for the maintenance, repair and inspection of the irrigation systems as specified in this contract.

Incidental costs include, but not limited to the following:

Item	Reference
Batteries for battery powered controllers/valves	Paragraph (E), Battery Powered Controllers/Valves, Appendix D1 Supplemental Irrigation System Maintenance Information, of the Appendices.
Components not listed in the itemized report	Section 11.1(E)1 of the Specifications.
Components not functioning properly sixty (60) days prior to contract closing	Section 11.1(E)3 of the Specifications.

Refer to Section 10.19 Basis of Payment, of the Specifications for a list of additional incidental costs.

The Contractor shall estimate the cost to maintain the irrigation system for the duration of the project, including any extension(s) and place their applicable annual estimate on the above mentioned bid item. *Refer to Section 10.3 Inspection of Plans and of Areas to be Maintained, of the Specifications for an opportunity to inspect the full scale of the irrigation and pump system plans prior to bid opening.*

(A) Monthly Earnings

1. Maintenance and Inspection of Irrigation System (routine/preventive) (**Bid Item No. 4**) – monthly earnings shall be per unit bid price as specified in the Proposal Schedule, as applicable, or as increased by Section 10.18 Escalation Clause, of the Specifications, as applicable.

Refer to Section 10.19, Basis of Payment, of the Specifications for information on monthly earnings on maintenance of landscaped areas, caring and trimming of shrubs and caring and trimming of trees (Sight Distance/Clear Zones/Clear Space only) – continuous.

(B) Miscellaneous Work

1. Irrigation Trouble call repair work, Regular working hours– per man-hour, Sprinkler Technician (**Bid Item No. 5**). Monthly payments to the Contractor will be made on the basis of actual number of services performed and the applicable unit bid price. *Refer to Section 11.4(B) 1.a.2 of the Specifications for more information.*
2. Replacement Parts (**Bid Item No. 7**) – The Contractor shall be reimbursed for the cost of the new part in accordance with Section 11.4(C) 2.c of the Specifications.
3. Miscellaneous Work (**Bid Item No. 8**) will be used only at the discretion of the Engineer for additional miscellaneous work within the scope of work and within the project area. The amount shall be negotiated in a manner similar to Section 4.5 PRICE ADJUSTMENT, of the Specifications. *Refer to Section 11.4(D) Miscellaneous Work, of the Specifications for additional miscellaneous work that the Engineer may task the Contractor.*

(C) Deductions (as applicable)

1. Liquidated Damages - if applicable, amounts shall be charged as specified in Section 9.4.d.ii of the Special Provisions. The amount shall be retained by the State and shall not be paid to the Contractor. An explanation report with substantiating evidence shall be filed by the Engineer.

Near the conclusion of the contract period, a thorough inspection of the irrigation system shall be conducted by the State as part of the project final inspection. All deficiencies found shall be corrected to the satisfaction of the State before the conclusion of the contract. Should deficiencies go uncorrected without justification, State sprinkler repair crews shall do all the needed repairs and back charge the Contractor by deducting from the final payment.

2. Retainage as specified in Section 9.4.d.iii of the Specifications. *Refer to Section 9.2 Retainage/Deduction from Payment, of the Special Provisions for retainage invoicing procedures.*

- (D) Total Monthly Payments. The total monthly payments payable to the Contractor for Maintenance, repair and inspection of irrigation system will be the applicable monthly earnings in Section 11.19 (A) Monthly Earnings plus the applicable miscellaneous work in Section 11.19 (B) Miscellaneous Work minus the applicable deduction(s) in Section 11.19 (C) Deductions, of this section.

It is the sole responsibility of the Contractor to ensure the proper operations of the irrigation system.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

APPENDICES

Contents:

Appendix A – Tree and Shrub Planting Details

Appendix B - Invasive Plant Removal

Appendix C - Maintenance of Landscaped Areas Task and Frequency Matrix

Appendix D - Irrigation System Maintenance Tasks, Frequency, Checklist and Report

Appendix D1 - Supplemental Irrigation System Maintenance Information

Appendix D2 - Sample - Irrigation Controller Schedule

Appendix E – Sample - Irrigation Trouble Call/Equipment Service Maintenance Report

Appendix F - Location Plan

Appendix F1 – General Plans – As-Built (*Reduced Scale*)

Project No. I-IR-H1-1-1(111):14) (Sprinkler Plan)

Project No. I-IR-H1-1-1(111):14) (Sprinkler Details)

Project No. I-IR-H1-1-1(111):14) (Sprinkler Summary)

Project No. I-IR-H1-1-1(111):14) (Sprinkler Main General Plan)

Project No. I-IR-H1-1-1(111):14) (Sprinkler Main Profile)

Project No. I-IR-H1-1-1(111):14) (Sprinkler Main Details)

Project No. I-IR-H1-1-1(173):16) (Partial Irrigation Plan)

Project No. I-IR-H1-1-1(173):16) (Partial Drip Irrigation Plan)

APPENDICES
(Continuation)

Appendix F2 – Summary of Required Annual Inspections

Appendix G - Application & Permit for the Occupancy & Use of State Highway Right-Of-Way

Appendix G1 – Sample – Notice to Proceed letter for Miscellaneous Work

Appendix H - Landscape Maintenance Contractor Performance Rating

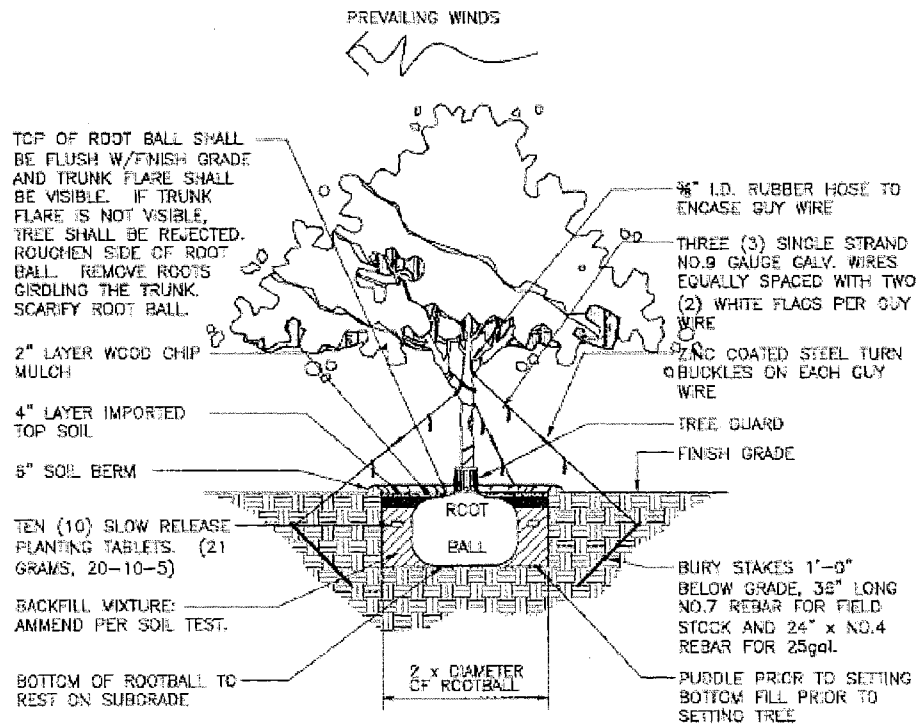
Appendix H1 - Sample – Record of Herbicide Application

Appendix-I - Sample - Monthly Invoice

Appendix I1 - Sample – Certified Payroll Report

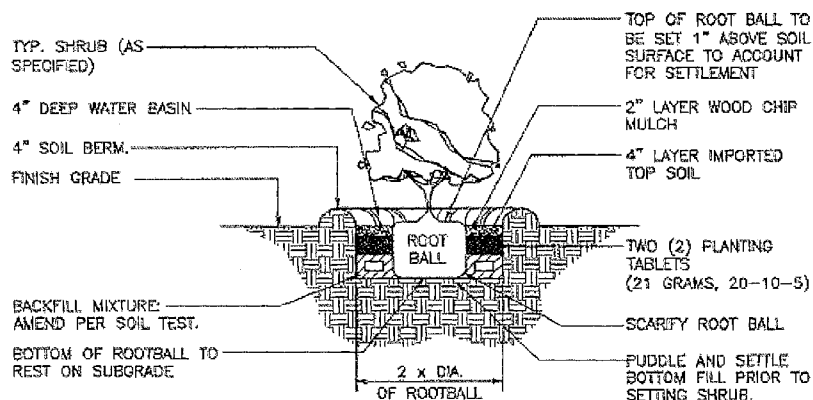
Appendix J - Sample - Satisfactory Evidence by Affidavit for Final Payment

APPENDIX A **TREE AND SHRUB PLANTING DETAILS**



NOTE:
 TRUNK MUST BE PROTECTED FROM ROPE SLING BURNS AND ABRASIONS DURING MOVING. TREE SHALL BE PLUMB. IF TREE IS LEANING AT THE END OF THE PLANT ESTABLISHMENT PERIOD, THE TREE SHALL BE REJECTED.

CONTAINER
 ② TREE PLANTING DETAIL
 SCALE: N.T.S.



⑨ SHRUB PLANTING DETAIL
 SCALE: N.T.S.

APPENDIX B
INVASIVE PLANT REMOVAL

INVASIVE PLANT	REMOVAL INSTRUCTIONS
Guinea Grass [Panicum maximum]	Susceptible to Glyphosate, including drizzle application. Cut grass over 24" to 6" above grade and apply Glyphosate [i.e. RoundUp], Young plants are susceptible to selective grass killers.
Sleeping Grass [Mimosa pudica]	Very sensitive to picloram (0.25 lb/acre), sensitive to triclopyr (1 lb/acre).
Wiregrass [Eleusine indica]	Sensitive to MSMA.
Kyllinga [Cyperus brevifolius]	Remove by hand. Few herbicides are effective in controlling nutsedge, either because of lack of selectivity to other plants or lack of uptake.
California Grass [Brachiaria mutica]	Drizzle application of glyphosate at 1 lb/acre.
Maile Pilau [Paederia foetida]	If not climbing over desirable vegetation apply direct application to foliage with triclopyr herbicide and cut stem/stump at ground at apply herbicide and followup at least once with second application. If climbing over desirable vegetation cut stump and apply triclopyr herbicide [i.e. Garlon 4, etc.] and follow up at least once with second application. Remove climbing Maile Pilau from desirable vegetation exercising caution.
Ivy Gourd [Coccinia grandis]	Except for bagging fruits, physical control is not recommended. Grubbing or hand pulling generally does not kill the plant. Rather, it breaks up into multiple plantlets which can grow back from roots or stems that touch the ground. Ivy gourd plants have responded well to a thin-line basal bark application of 100% Garlon 4 (triclopyr). If there are multiple stems, apply multiple times. Make sure to get each section that touches the ground. Leave plants in place. Try not to pull plants out of trees or off of walls or fences, as this multiplies the number of plants and prevents translocation of the herbicide. Cut stump method is not recommended as it will lead to multiplying plants and prevents translocation of herbicide to the rest of the vine.
Mysore Thorn [Caesalpinia decapetala]	C. decapetala is extremely prickly, and attempts at physical control must be done carefully. Sensitive to foliar applications of Glyphosate and triclopyr, and to soil applications of tebuthiuron. Adequate coverage of cats claw foliage in dense infestations is difficult. Timely repeat applications (3-9 months) of triclopyr ester at 0.25 lb/acre allow gradual reductions and opening of the canopy and eventual control. This strategy not only stresses the cats claw over a longer period but also controls newly germinated cats claw seedlings. Accessible stems may be treated basal bark with triclopyr ester at 20% product in diesel or crop oil in very low volume applications.
Shoebuttan [Ardisia elliptica]	Small numbers of seedlings and shrubs can be eliminated by pulling and grubbing. A broadcast spray of Glyphosate [i.e. Roundup] is effective in killing dense stands of seedlings but will also kill native plants. Larger plants can be killed by applying a basal spray of triclopyr [i.e. Garlon 4] mixed with an oil diluent.

APPENDIX C
MAINTENANCE OF LANDSCAPED AREAS TASK AND FREQUENCY MATRIX

Section 10.4	TASK	MONTH												ANNUAL TOTAL
		J	F	M	A	M	J	J	A	S	O	N	D	
(A)	Mowing.	2	2	2	2	2	2	2	2	2	2	2	2	24
(B)	Edging and trimming of grass along curbs, edge of pavements, guardrails, fences, structures and around trees and shrubs.	2	2	2	2	2	2	2	2	2	2	2	2	24
(C)	Weeding.	2	2	2	2	2	2	2	2	2	2	2	2	24
(D)	Edging and trimming of vines and ground cover.	2	2	2	2	2	2	2	2	2	2	2	2	24
(E)	Shrub Trimming [natural appearance]	1	1	1	1	1	1	1	1	1	1	1	1	12
(E1)	Caring of Trees/Tree Trimming (sight distance/clear zones/clear space) - continuous	In accordance with Section 10.4(E1) of the Specifications												
(E1)	Mulching	-	-	-	-	-	-	-	-	-	-	-	-	As requested
(F)	Controlling vegetation intrusion of right-of-way line.	2	2	2	2	2	2	2	2	2	2	2	2	24
(F1)	Watering	In accordance with Paragraph (A), Irrigation Controller, Supplemental Irrigation System Maintenance Information, Appendix D1, of the Appendices												
(G)	Fertilizing.	In accordance with Section 10.4(F1) of the Specifications												As determined by the Engineer
	Fertilize Lawns	In accordance with Section 10.4(F1) of the Specifications												As determined by the Engineer
	Fertilize Shrubs	In accordance with Section 10.4(F1) of the Specifications												As determined by the Engineer
	Fertilize Trees	In accordance with Section 10.4(F1) of the Specifications												As determined by the Engineer
(H)	Spraying pesticide & herbicides	-	-	-	-	-	-	-	-	-	-	-	-	As needed
(I)	Clearing gutters, swales and ditches.	2	2	2	2	2	2	2	2	2	2	2	2	24
(J)	Plantings requiring additional / special tasks.	-	-	-	-	-	-	-	-	-	-	-	-	In accordance with Section 10.4(J)
(K)	Invasive Plant Removal	2	2	2	2	2	2	2	2	2	2	2	2	24
	Removing and disposing rubbish and debris and litter resulting from the work activities (i.e. paper, cans, bottles, cigarette butts, tree limbs, palm leaves, etc.), including waste material resulting from the work activities													Required after any work activities
(L)	General clean up. Removing and disposing rubbish and debris and litter (i.e. paper, cans, bottles, cigarette butts, tree limbs, palm leaves, etc.).													156 (3 times per week)

APPENDIX C (continuation)
MAINTENANCE OF LANDSCAPED AREAS TASK AND FREQUENCY MATRIX

Section 10.4	TASK	MONTH												ANNUAL TOTAL
		<u>J</u>	<u>F</u>	<u>M</u>	<u>A</u>	<u>M</u>	<u>J</u>	<u>J</u>	<u>A</u>	<u>S</u>	<u>O</u>	<u>N</u>	<u>D</u>	
(L)	Removing and disposing of solid/hazardous waste (i.e. batteries, mechanical parts, large furniture, etc.)													Required when solid/hazardous waste is found
(M)	Reporting of Hazardous Conditions and Damages to Landscaped Areas													As needed
(N)	Closing of Lanes/Traffic Control													As needed
(O)	Comprehensive Annual Inspection (Landscaped areas and irrigation system)	In accordance with Section 10.4(O) Comprehensive Annual Inspection, of the Specifications												1

APPENDIX D

IRRIGATION SYSTEM MAINTENANCE TASKS, FREQUENCY, CHECKLIST AND REPORT

ALL ROUTINE/PREVENTIVE MAINTENANCE TASKS SHALL BE IN ACCORDANCE WITH WHAT IS RECOMMENDED IN THE MANUFACTURER'S MAINTENANCE MANUAL.

IRRIGATION SYSTEM COMPONENT/TASKS		MONTHLY	MONTH OF JANUARY IN YEARS ENDING IN "5" OR "0"	ANNUALLY	TECHNICIAN'S INITIAL AFTER COMPLETION OF TASK & DATE
A. ELECTRIC VALVE					
1	CHECK FLOW CONTROL ON EACH VALVE FOR PROPER ADJUSTMENT. ADJUST AS NEEDED BASED ON HEAD OPERATION.	X			
2	CHECK FOR VALVE WEEPING AT THE HEADS. REPLACE VALVE AS NEEDED AND IF APPROVED BY THE ENGINEER.	X			
3	CHECK THE CONDITION OF WIRE SPLICES. REPLACE AS NEEDED <u>AND IF APPROVED BY THE ENGINEER.</u>	X			
4	CHECK FOR LEAKS AT ALL THREADED CONNECTIONS. TIGHTEN AS NEEDED.	X			
5	<u>CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>	X			
6	CHECK EACH VALVE OHM READING FROM THE CONTROLLER AND RECORD FOR FUTURE REFERENCE (20-60 OHMS IS NORMAL). IF THE OHM READINGS DECREASE SIGNIFICANTLY FROM ONE YEAR TO THE NEXT, REPLACE SOLENOID EVEN IF IT STILL OPERATES. CONFIRM THAT THIS IS A SOLENOID PROBLEM, NOT WIRING.			X	
7	UNSCREW THE SOLENOID AND CHECK PLUNGER FOR SMOOTH OPERATION. CHECK SOLENOID AND PLUNGER FOR RUST OR CORROSION. REPLACE IF RUST OR CORROSION PRESENT AND IF APPROVED BY THE ENGINEER.			X	
8	CHECK WIRE LEADS FOR CRACKS OR EXPOSED WIRES.			X	
9	CHECK WIRE SPLICES. ENSURE THAT THE SPLICES ARE GOOD AND ARE STILL WATERPROOF. <u>REPLACE AS NEEDED AND IF APPROVED BY THE ENGINEER.</u>			X	
10	IF VALVES ARE A "DIRTY WATER" VALVE, CHECK AND CLEAN SCREEN/FILTER. <u>REPLACE IF NEEDED AND IF APPROVED BY THE ENGINEER.</u>			X	
11	<u>CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED ANNUAL CHECKLIST WITH MONTHLY INVOICE.</u>			X	
12	<u>SUBMIT A RECOMMENDATION TO THE ENGINEER AND IF APPROVED REPLACE ALL SOLENOIDS, DIAPHRAGMS, SEAT, SPRING, WIRE SPLICES, AND CHECK AND CLEAN ALL PORTS AND SCREENS</u>		X		

APPENDIX D (continuation)

IRRIGATION SYSTEM MAINTENANCE TASKS, FREQUENCY, CHECKLIST AND REPORT
(continuation)

ALL ROUTINE/PREVENTIVE MAINTENANCE TASKS SHALL BE IN ACCORDANCE WITH WHAT IS RECOMMENDED IN THE MANUFACTURER'S MAINTENANCE MANUAL.

IRRIGATION SYSTEM COMPONENT/TASKS		WEEKLY	MONTHLY	MONTH OF JANUARY IN YEARS ENDING IN "5" OR "0"	ANNUALLY	TECHNICIAN'S INITIAL AFTER COMPLETION OF TASK & DATE
B. SPRAY HEAD AND ROTOR HEAD MAINTENANCE						
1	CHECK THE BODY FOR CRACKS AND LEAKS WHERE THE STEM RISES FROM THE BODY.	X				
2	CHECK FOR LEAKS COMING UP FROM BELOW THE HEAD. REPAIR AS NEEDED.	X				
3	CHECK THAT THE NOZZLE IS NOT CLOGGED OR SEMI-CLOGGED. UNCLOG OR REPLACE. CLEAN THE FILTER FOR SPRAY HEAD.		X			
4	ON SPRAY HEADS THAT APPEAR CLOGGED, CHECK THE FILTER UNDER THE NOZZLE AND ADJUST ARC AS NECESSARY. REPLACE AS NEEDED AND IF APPROVED BY THE ENGINEER.	X				
5	PRUNE OBSTRUCTING PLANTS ON ALL SPRINKLER HEADS.	X				
6	<u>CERTIFY PERFORMANCE OF WEEKLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>					
7	ON ROTOR HEADS, CHECK VISUALLY FOR TOO HIGH OR TOO LOW PRESSURE. ADJUST VALVE FLOW CONTROL OR PRESSURE REGULATOR AS NEEDED.		X			
8	ON ROTOR HEADS CHECK ARC ADJUSTMENT OF THE HEAD.		X			
9	ON ROTOR HEADS, CHECK RADIUS OF HEAD COVERAGE. MAKE SURE THE SET ADJUSTMENT IS NOT SET INCORRECTLY.		X			
10	<u>CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>		X			
11	REPLACE THE FILTERS UNDER THE NOZZLES AND AT THE BASE OF ALL HEADS.				X	
12	REPLACE WORN NOZZLES AND/OR NOZZLES THAT CANNOT EASILY BE UNPLUGGED.				X	
13	CHECK THAT THE CORRECT NOZZLE IS IN PLACE AND HAS BEEN INADVERTENTLY CHANGED DURING THE YEAR. ON ROTOR HEADS CHECK FOR MATCHED PRECIPITATION RATE AND REPLACE AS NECESSARY.				X	
14	CHECK STEM SEAL AND REPLACE IF LEAKING AND IF APPROVED BY THE ENGINEER.				X	
15	CHECK FOR LOW OR TILTED HEADS AND RAISE AND/OR STRAIGHTEN AS NEEDED.				X	
16	CHECK FOR LOW HEAD DRAINAGE. REPLACE LOW HEADS WITH HEADS WITH IN-HEAD CHECK VALVES.				X	

APPENDIX D (continuation)

IRRIGATION SYSTEM MAINTENANCE TASKS, FREQUENCY, CHECKLIST AND REPORT
(continuation)

ALL ROUTINE/PREVENTIVE MAINTENANCE TASKS SHALL BE IN ACCORDANCE WITH WHAT IS RECOMMENDED IN THE MANUFACTURER'S MAINTENANCE MANUAL.

IRRIGATION SYSTEM COMPONENT/TASKS		WEEKLY	MONTHLY	MONTH OF JANUARY IN YEARS ENDING IN "5" OR "0"	ANNUALLY	TECHNICIAN'S INITIAL AFTER COMPLETION OF TASK & DATE
B. SPRAY HEAD AND ROTOR HEAD MAINTENANCE (CONTINUATION)						
17	ON SPRAY HEADS, USE A PRESSURE GAUGE WITH ADAPTER AND CHECK PRESSURES AT THE BEGINNING, MIDDLE AND END OF ZONE. ADJUST PRESSURE AS NEEDED AND WHERE AVAILABLE. IF A PSI VARIATION GREATER THAN 10% EXISTS FROM THE FIRST HEAD COMPARED TO THE LAST HEAD ON THE ZONE, CONSIDER PSI REGULATING NOZZLES OR HEADS FOR REPLACEMENT IF NOT CURRENTLY IN USE.				X	
18	ON ROTOR HEADS, USING A PITOT TUBE, CHECK PRESSURE AT THE BEGINNING, MIDDLE AND END OF ZONE. ADJUST PRESSURE AS NEEDED AND WHERE AVAILABLE. IF A PSI VARIATION GREATER THAN 10% EXISTS FROM THE HEAD COMPARED TO THE LAST HEAD ON THE ZONE, CONSIDER PSI REGULATING HEADS FOR REPLACEMENT, IF NOT CURRENTLY IN USE. IF PRESSURE REGULATING ROTOR HEADS ARE NOT AVAILABLE, CONSIDER MAKING NOZZLE CHANGES TO BETTER REGULATE PRESSURE.				X	
19	ON ROTOR HEADS, CHECK ROTATION SPEED. ALL HEADS OF THE SAME TYPE FROM THE SAME MANUFACTURER SHOULD ROTATE AT THE SAME SPEED.				X	
20	ON ROTOR HEADS, CHECK STEM SEAL AND REPLACE IF LEAKING.				X	
IRRIGATION SYSTEM COMPONENT/TASKS		MONTHLY	MONTH OF JANUARY IN YEARS ENDING IN "5" OR "0"	ANNUALLY	TECHNICIAN'S INITIAL AFTER COMPLETION OF TASK & DATE	
B. SPRAY HEAD AND ROTOR HEAD MAINTENANCE (CONTINUATION)						
21	ON ROTOR HEADS, CHECK FOR LOW OR TILTED HEADS AND RAISE AND/OR STRAIGHTEN AS NEEDED.				X	
22	CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.				X	
23	PERFORM A CATCH CAN TEST TO DETERMINE THE ZONE DISTRIBUTION UNIFORMITY (DU).		X			
24	IF APPROVED BY THE ENGINEER, REPLACE ALL NOZZLES, FILTERS, AND STEM SEALS AND REPLACE ENTIRE SPRAY OR ROTOR HEAD IF PARTS EXCEED ENTIRE HEAD.		X			
25	CHECK HEAD LOCATIONS AND MOVE AS NEEDED BASED ON CURRENT LANDSCAPE CONFIGURATION AND PLANT GROWTH.		X			
26	TIGHTEN ALL CONNECTIONS WHERE THE HEAD CONNECTS TO THE UNDERGROUND PIPING.		X			

APPENDIX D (continuation)

IRRIGATION SYSTEM MAINTENANCE TASKS, FREQUENCY, CHECKLIST AND REPORT
(Continuation)

ALL ROUTINE/PREVENTIVE MAINTENANCE TASKS SHALL BE IN ACCORDANCE WITH WHAT IS RECOMMENDED IN THE MANUFACTURER'S MAINTENANCE MANUAL.

IRRIGATION SYSTEM COMPONENT/TASKS		MONTHLY	MONTH OF JANUARY IN YEARS ENDING IN "5" OR "0"	ANNUALLY	TECHNICIAN'S INITIAL AFTER COMPLETION OF TASK & DATE
B. SPRAY HEAD AND ROTOR HEAD MAINTENANCE (CONTINUATION)					
27	TIGHTEN ALL CONNECTIONS WHERE THE RISERS OR FLEX PIPE CONNECT TO FITTINGS ON THE PVC OR POLY PIPE FITTINGS. CHECK FOR UNUSUAL WEAR, CRACKS, LEAKS OR STRESS. REPLACE PARTS AS NEEDED AND AS APPROVED BY THE ENGINEER.		X		
28	<u>CERTIFY PERFORMANCE OF "5" OR "0" SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>		X		
C. VALVE BOX					
1	TRIM INTRUDING GRASS AROUND BOX COVER.	X			
2	<u>CERTIFY PERFORMANCE OF WEEKLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>	X			
3	CHECK LID FOR DAMAGE. REPLACE IF CRACKED OR BROKEN.			X	
4	CHECK FOR VALVE BOX SETTLING. RAISE AND LEVEL BOX IF NOT AT FINISH GRADE.			X	
5	CHECK FOR DIRT INTRUSION. CLEAN OUT ALL DIRT IN BOX.			X	
6	<u>CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>			X	
7	IF APPROVED BY THE ENGINEER, REPLACE BOX IF WARPED OR DAMAGED IN ANY WAY. REINSTALL BOX TO FINISH GRADE.		X		
8	IF APPROVED BY THE ENGINEER, REPLACE LANDSCAPE FABRIC AND GRAVEL IN BOX.		X		
9	<u>CERTIFY PERFORMANCE OF "5" OR "0" SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>		X		
D. WIRING					
1	CHECK WIRE CONNECTIONS AT THE CONTROLLER AND AT THE VALVE BOX. TIGHTEN AND/OR REPLACE AS NEEDED.	X			
2	CHECK FOR STRESS OR TIGHTNESS ON THE WIRES AND SPLICES IN THE VALVE BOX. REPAIR AS NEEDED.	X			
3	<u>CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>	X			
4	MAKE SURE ALL WIRES ARE LABELED WITH CONTROLLER AND ZONE NUMBERS. CHECK AND REPLACE ANY FADED OR MISSING LABELS.			X	

APPENDIX D (continuation)
IRRIGATION SYSTEM MAINTENANCE TASKS, FREQUENCY, CHECKLIST AND REPORT
(Continuation)

ALL ROUTINE/PREVENTIVE MAINTENANCE TASKS SHALL BE IN ACCORDANCE WITH WHAT IS RECOMMENDED IN THE MANUFACTURER'S MAINTENANCE MANUAL.

IRRIGATION SYSTEM COMPONENT/TASKS		MONTHLY	MONTH OF JANUARY IN YEARS ENDING IN "5" OR "0"	ANNUALLY	TECHNICIAN'S INITIAL AFTER COMPLETION OF TASK & DATE
D. WIRING (CONTINUATION)				X	
5	CHECK EVERY SPLICE BOX AND CHECK THAT ALL SPLICES ARE SOUND AND WATERPROOF. REPLACE ALL DAMAGED OR COMPROMISED SPLICES.				
6	IDENTIFY, LABEL AND OHM-OUT ALL EXTRA AND UNUSED WIRES SO THEY CAN BE USED IF NEEDED, IF OTHER WIRES FAIL.			X	
7	<u>CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>			X	
8	IF APPROVED BY THE ENGINEER, REPLACE ALL SPLICES IN ALL VALVE BOXES AND JUNCTION BOXES.		X		
9	CHECK AND RE-LABEL ALL WIRES.		X		
10	<u>CERTIFY PERFORMANCE OF "5" OR "0" SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>		X		

IRRIGATION SYSTEM COMPONENT/TASKS		DAILY	WEEKLY	MONTHLY	MONTH OF JANUARY IN YEARS ENDING IN "5" OR "0"	ANNUALLY	TECHNICIAN'S INITIAL AFTER COMPLETION OF TASK & DATE
E. CONTROLLER							
1	CHECK THAT THE CORRECT IRRIGATION SCHEDULE IS SELECTED SINCE SOME CONTROLLERS REVERT TO THE FACTORY DEFAULT PROGRAM WHEN THERE IS LOSS OF POWER.			X			
2	VERIFY THAT THE CONTROLLER HAS ALL THE SEASONAL SCHEDULES PROGRAMMED.			X			
3	MANUALLY TEST RAIN SWITCH. REPLACE RAIN SWITCH IF NOT FUNCTIONING.			X			
4	CHECK AND REPLACE BACKUP BATTERY AS APPLICABLE AND NECESSARY.			X			
5	<u>CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>			X			

APPENDIX D (continuation)
IRRIGATION SYSTEM MAINTENANCE TASKS, FREQUENCY, CHECKLIST AND REPORT
(Continuation)

ALL ROUTINE/PREVENTIVE MAINTENANCE TASKS SHALL BE IN ACCORDANCE WITH WHAT IS RECOMMENDED IN THE MANUFACTURER'S MAINTENANCE MANUAL.

IRRIGATION SYSTEM COMPONENT/TASKS		DAILY	WEEKLY	MONTHLY	MONTH OF JANUARY IN YEARS ENDING IN "5" OR "0"	ANNUALLY	TECHNICIAN'S INITIAL AFTER COMPLETION OF TASK & DATE
E. CONTROLLER (CONTINUATION)							
6	RECORD STANDARD WATERING SCHEDULES AND LAMINATE AND KEEP INSIDE CONTROLLER. UPDATE MAINTENANCE DRAWINGS TO REFLECT CURRENT SCHEDULE.					X	
7	CLEAN ALL INSECTS IN CONTROLLER AND INSTALL MOTH BALLS IN CLOTH BAGS.					X	
8	CHECK THAT CONTROLLER ENCLOSURE IS SECURE AND WATERPROOF. REPAIR WATER-PROOFING AS NECESSARY TO ENSURE ENCLOSURE IS WATERPROOF. IF APPROVED BY THE ENGINEER, REPLACE ENCLOSURE IF LOCK IS NOT REPAIRABLE.					X	
9	IF RAIN SWITCH IS ELECTRONIC, THEN REPLACE BATTERY AT THE CONTRACTOR'S COST.					X	
10	<u>CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>					X	
11	SUBMIT RECOMMENDATION TO THE ENGINEER AND IF APPROVED, REPLACE ENTIRE CONTROLLER IF NOT FULLY FUNCTIONAL.				X		
12	REPLACE ALL RAIN SWITCHES AND SENSORS.				X		
13	<u>CERTIFY PERFORMANCE OF "5" OR "0" SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>				X		
F. RAIN SENSORS							
1	REMOVE DEBRIS			X			
2	<u>CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>			X			
G. SITE INSPECTION							
1	REFER TO PARAGRAPH J, ANNUAL COMPREHENSIVE INSPECTION, APPENDIX D, SUPPLEMENTAL IRRIGATION SYSTEM MAINTENANCE INFORMATION OF THE APPENDICES.					X	
2	<u>CERTIFY PERFORMANCE OF ANNUAL SITE INSPECTION AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.</u>					X	

APPENDIX D1
SUPPLEMENTAL IRRIGATION SYSTEM MAINTENANCE INFORMATION

- (A) **IRRIGATION CONTROLLER** All run times should take into account sprinkler rates, precipitation rates, soil conditions, microclimate conditions, evapotranspiration, and consideration of slope. Before scheduling run times, the site should be "walked" and planted areas inspected to observe plant stress and health. Soil moisture levels should be inspected throughout planted areas, and appropriate adjustments made to the irrigation schedule. Irrigation scheduling will be performed to encourage deep roots, including deep watering through use of multiple repeat cycles. On slopes, short irrigation cycles should be repeated to minimize water runoff. Soil probing shall be used to determine soil moisture depth, overall moisture levels and the need to adjust irrigation schedules. Soils will be allowed to dry to a 50% moisture depletion level between irrigations in order to avoid root-rot and allow adequate air to be present in the soil.

Irrigation cycles are to run only between the hours of 9:00 p.m. to 6:00 a.m. Watering times should be adjusted, where needed, to eliminate irrigation during heavy commuter hours. A proposed quarterly schedule of watering shall be provided to the Engineer thirty (30) days after the notice to proceed date. The frequency and duration shall be set to adequately irrigate plants and turf without causing significant surface runoff or ponding. Each time the schedule is changed due to seasons or any other reason, a revised schedule shall be provided to Engineer.

Controller enclosures are to remain locked and vandalism to enclosure shall be repaired within ten business days. Controllers are to be maintained free of insects and geckos. Contractor may employ moth balls. Keep solar-operated controller lenses clean of dirt and debris.

Refer to Appendix D2 Sample Irrigation Controller Schedule of the Appendices, for the required information.

- (B) **IRRIGATION VALVES**. Each valve should be inspected monthly to correct the following conditions: stuck valves, and broken risers, laterals or mains. Contractor shall list and report all irrigation system damages to the Engineer with the cost estimate of repair/replacement. Irrigation system pressure shall be checked and adjusted at least monthly to insure efficient operation of irrigation systems. On slopes where no vehicles traverse, plastic valve boxes are acceptable. On flat areas, concrete valve boxes with metal covers are required. Contractor shall maintain the bottom of all valves, a minimum 1" above gravel base. Contractor shall remedy all valves not 1" above gravel base by excavating all dirt from valve box to a depth of 4" below the bottom of the valve and installing filter fabric and a 3" layer of number three gravel.
- (C) **SPRINKLER HEADS**. Inspect all sprinkler heads for misaligned irrigation heads, clogged or obstructed heads, missing or vandalized heads, low-head drainage conditions, overspray onto hardscaped areas, poor coverage or uniformity. If the irrigation is not adequate to provide uniform coverage, the Contractor agrees to upgrade the system to achieve site efficiency. To clear clogs, remove internal assembly, clean screen filter, thread fine wire through orifice of nozzle, and reassemble head. Run test to confirm that clog has been cleared. Do not attempt to clean plastic nozzles by sticking knife blades or wire into the openings. The plastic will be scratched and the pattern will be ruined.

APPENDIX D1 (continuation)
SUPPLEMENTAL IRRIGATION SYSTEM MAINTENANCE INFORMATION

- (D) MONTHLY IRRIGATION REPORT. Develop and maintain a site log, which should contain the following information: monthly water consumption data, broken components, repairs areas of vandalism, and other site information. Submit this report with monthly invoice.
- (E) BATTERY POWERED CONTROLLERS/VALVES. Battery powered controllers/valves shall be tested each month to check that the batteries are operating. Dead batteries shall be replaced immediately at the Contractor's cost.
- (F) RAIN SENSOR. Rain sensor switches prevent irrigation systems from running when it is raining, or when it has recently rained. Maintain rain sensor free of debris and insects on the screen and funnel.
- (G) DRIP IRRIGATION. Drip lines and spray heads shall be randomly checked on an ongoing basis such that the entire system is checked each month. Malfunctioning systems will be corrected immediately. Methods of detection include: visual sightings of water on adjacent hardscape and property, soil probing, meter monitoring and specific line observations.
- (H) MANUAL WATERING. When breakdowns or malfunctions exist, the Contractor shall hand water the same schedule as the irrigation controller to maintain all plant material in a healthy condition unless Engineer determines otherwise. Do not wait for approval to begin hand watering if it is required to save the plantings. Failure of the irrigation system to provide full and proper coverage shall not relieve the landscape maintenance Contractor of the responsibility to provide adequate irrigation. It is the Contractor's responsibility to make sure that the irrigation system is maintained and operates properly. Plants which die due to irrigation failure will be considered to have died due to the contractor's negligence and shall be replaced at the Contractor's expense in the amount as specified in Section 8.6 Liquidated Damages, of the Special Provisions.
- (I) WEEKLY INSPECTION. The Contractor shall check the entire irrigation system weekly for items such as dry spots and missing or malfunctioning irrigation components. Check for leaking valves, water running across pavement, water standing in puddles, or any other condition which hampers the correct operation of the system or the public safety. The Contractor shall carefully observe plant materials for signs of wilting, indicating a lack of water. Plants which die due to irrigation failure will be considered to have died due to the Contractor's negligence and shall be replaced at the Contractor's expense.
- (J) IRRIGATION SYSTEM ANNUAL COMPREHENSIVE INSPECTION. The Contractor and the Engineer shall perform a comprehensive annual inspection of the entire irrigation system annually.
 - 1. For purposes of contract extension, on the second Monday on the fourth month after the Notice to Proceed date and the fourth month from the beginning of each contractual term for each contract renewal, as applicable.
 - 2. For purposes of contract closing, sixty (60) days to the end of the contract as specified in Section 11.1(B)5 of the Specifications.

APPENDIX D1 (continuation)
SUPPLEMENTAL IRRIGATION SYSTEM MAINTENANCE INFORMATION

3. The Irrigation System Annual Comprehensive Inspection shall include the following:
 - a. an irrigation inventory.
 - b. Each valve shall be individually operated and checked for any deficiencies.
 - c. The Contractor shall start repairing any damages of the sprinkler system within forty-eight (48) hours of detection or from the time of notification by the State maintenance inspector.

Refer to Section 10.4(O) Landscaped Areas Comprehensive Annual Inspection, of the Specifications for the required annual inspection on landscaped areas.

Refer to Chapter 12, Irrigation System – Maintenance Inspection and Repairs, of the HMSLM for more reporting information. *Refer to Section 1.42 HMSLM, of the Special Provisions for the definition of “HMSLM.”*

Appendix D2

Sample - Irrigation Controller Schedule

(pursuant to Section 11.1(B)4 and Item No. 3, Section 11.16 Submittals/Reports Summary, of the Specifications, the Contractor shall submit this schedule to the Engineer within 30 days after the Notice to Proceed date)

Project No: H1G-01-17C

Contract No.: _____

Date: _____

Project Title: Project Title: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation System, H-1 Freeway, Salt Lake Boulevard to Puuloa Road, Districts of Ewa and Honolulu, Island of Oahu

Contractor: _____

Controller No.	Valve No.	Valve Location	Irrigation Program		Irrigation Duration (Minutes, Hours)	Program				Daily Start Time			
			Weekly	Cyclical		1	2	3	4	1	2	3	4
	1		M, T, W, Th, F, Sat, Sun										
	2		M, T, W, Th, F, Sat, Sun										
	3		M, T, W, Th, F, Sat, Sun										
	4		M, T, W, Th, F, Sat, Sun										
	5		M, T, W, Th, F, Sat, Sun										
	6		M, T, W, Th, F, Sat, Sun										
	7		M, T, W, Th, F, Sat, Sun										
	8		M, T, W, Th, F, Sat, Sun										
	9		M, T, W, Th, F, Sat, Sun										

Remarks: _____

Printed Name of Submitter: _____

Signature of Submitter: _____

APPENDIX E
SAMPLE - IRRIGATION TROUBLE CALL/EQUIPMENT SERVICE MAINTENANCE
REPORT

(pursuant to Section 11.1(B) and Item No. 3, Section 11.16 Submittals/Reports Summary, of the Specifications, the Contractor shall submit this schedule to the Engineer within 30 days after the Notice to Proceed date)

Date: _____
Project No.: H1G-01-17C

Sheet No. _____
Contract No. _____

Project Title: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation System, H-1 Freeway, Salt Lake Boulevard to Puuloa Road, Districts of Ewa and Honolulu, Island of Oahu

Contractor: _____

Location (i.e. mile post no., etc.): _____

Date of Service Call: _____

Name of Person (s) Making Call: _____

Time In, Time Out at Site: _____

Person (s) Contacted: _____

Nature of Service Call – (Routine Maintenance or Emergency – Explain)

Equipment Readings and Maintenance Performed (List all items serviced):

Remarks and Recommendation: _____

Printed Name of Submitter: _____ Signature of Submitter: _____

Appendix F

LIMITS OF PROJECT NO. H1G-01-12C

H-1 FREEWAY/NIMITZ HIGHWAY

BEGIN PROJECT
SALT LAKE BLVD

PUULOA ROAD
END PROJECT

APPROXIMATE LAND AREA = 81 acres

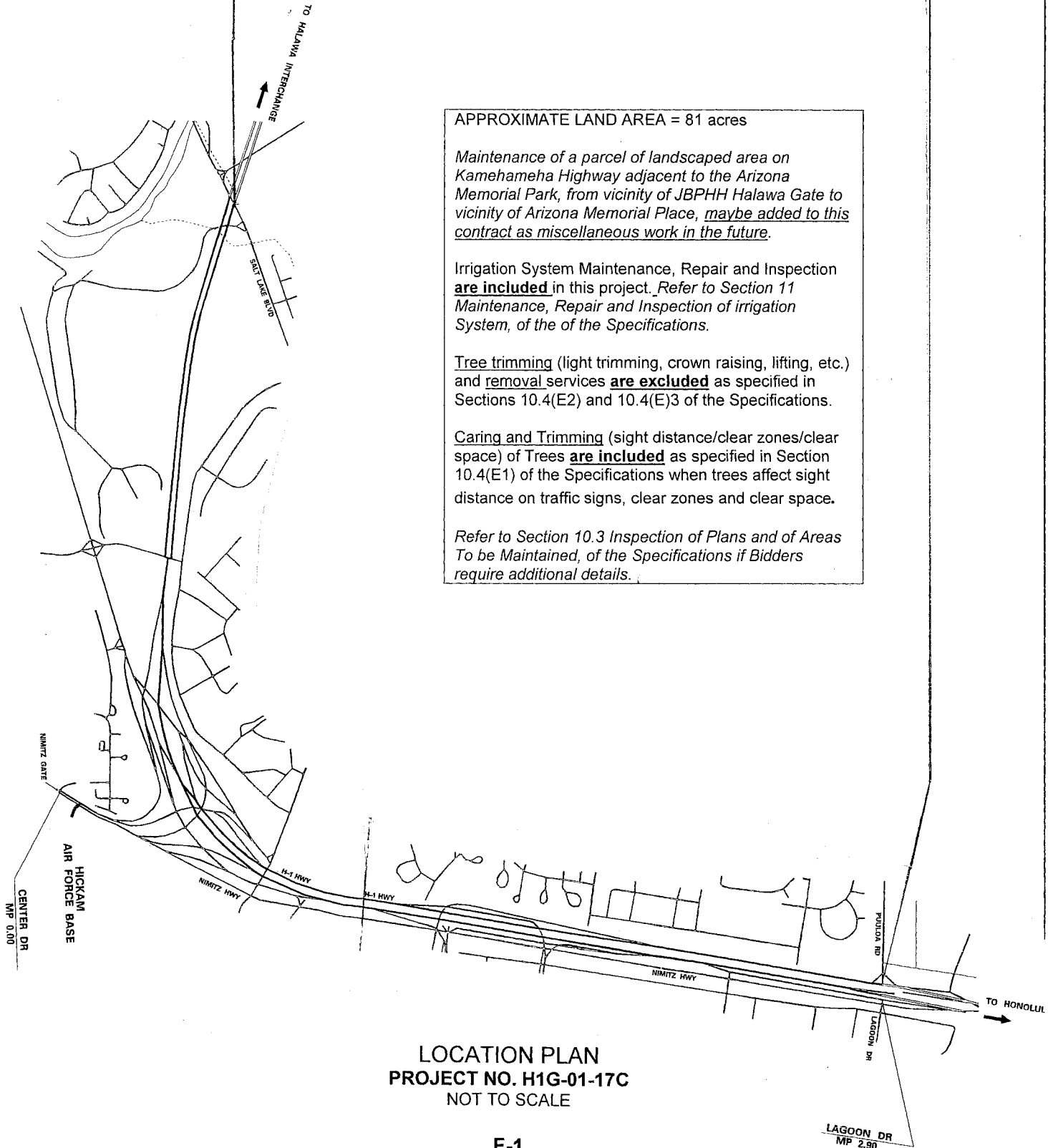
Maintenance of a parcel of landscaped area on Kamehameha Highway adjacent to the Arizona Memorial Park, from vicinity of JBPHH Halawa Gate to vicinity of Arizona Memorial Place, maybe added to this contract as miscellaneous work in the future.

Irrigation System Maintenance, Repair and Inspection **are included** in this project. Refer to Section 11 Maintenance, Repair and Inspection of irrigation System, of the of the Specifications.

Tree trimming (light trimming, crown raising, lifting, etc.) and removal services **are excluded** as specified in Sections 10.4(E2) and 10.4(E)3 of the Specifications.

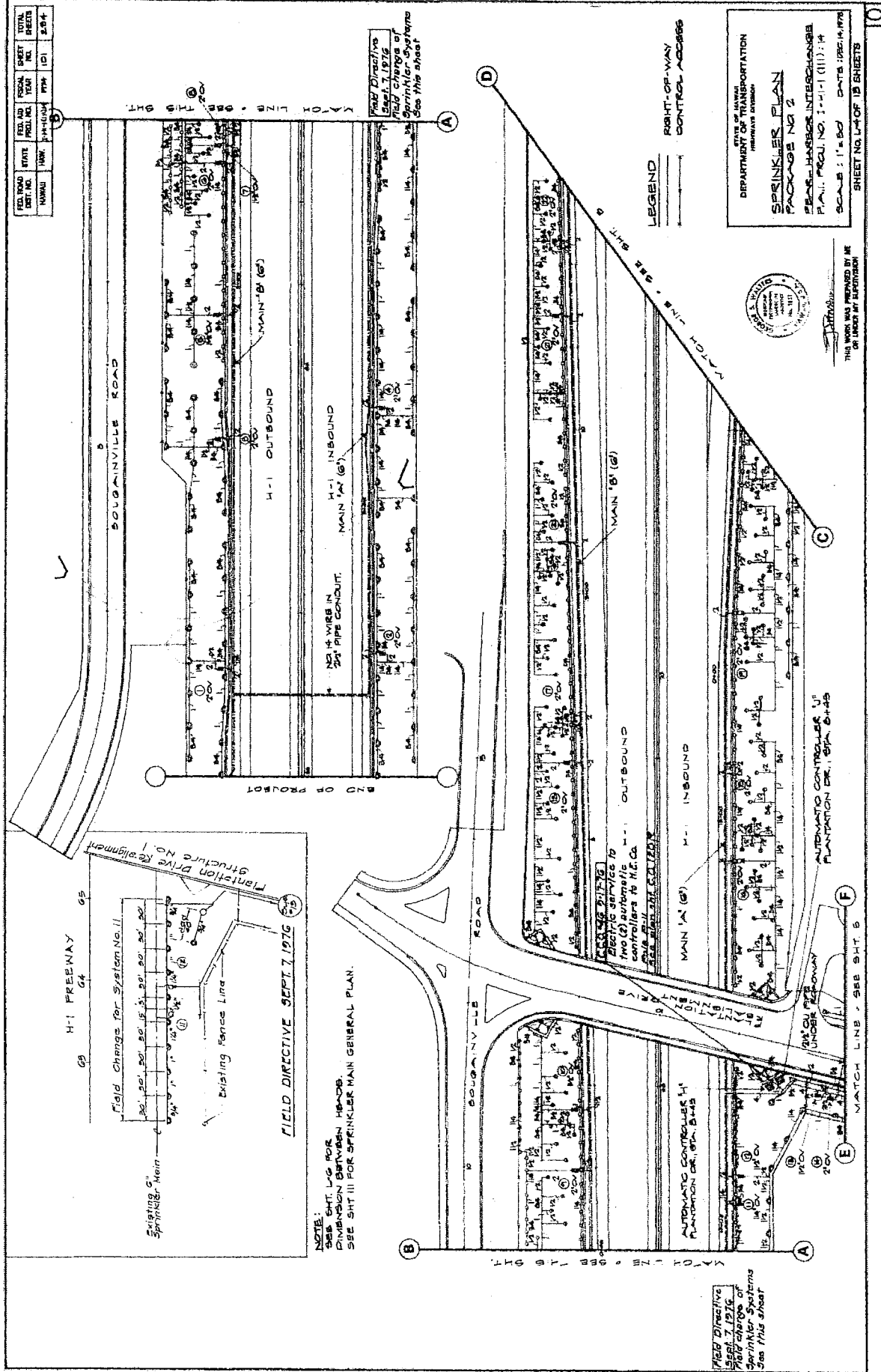
Caring and Trimming (sight distance/clear zones/clear space) of Trees **are included** as specified in Section 10.4(E1) of the Specifications when trees affect sight distance on traffic signs, clear zones and clear space.

Refer to Section 10.3 Inspection of Plans and of Areas To be Maintained, of the Specifications if Bidders require additional details.



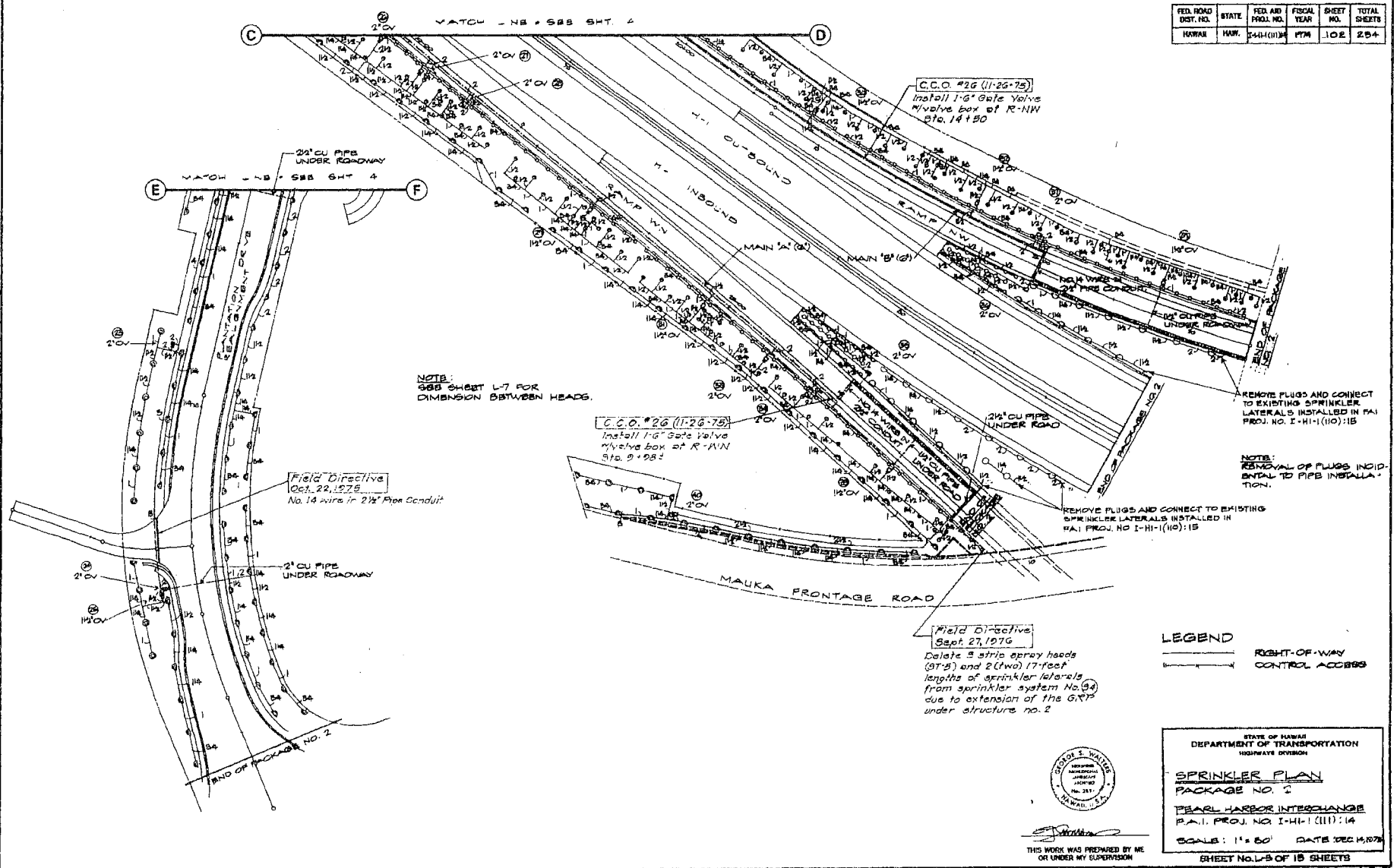
LOCATION PLAN
PROJECT NO. H1G-01-17C
NOT TO SCALE

Appendix F1



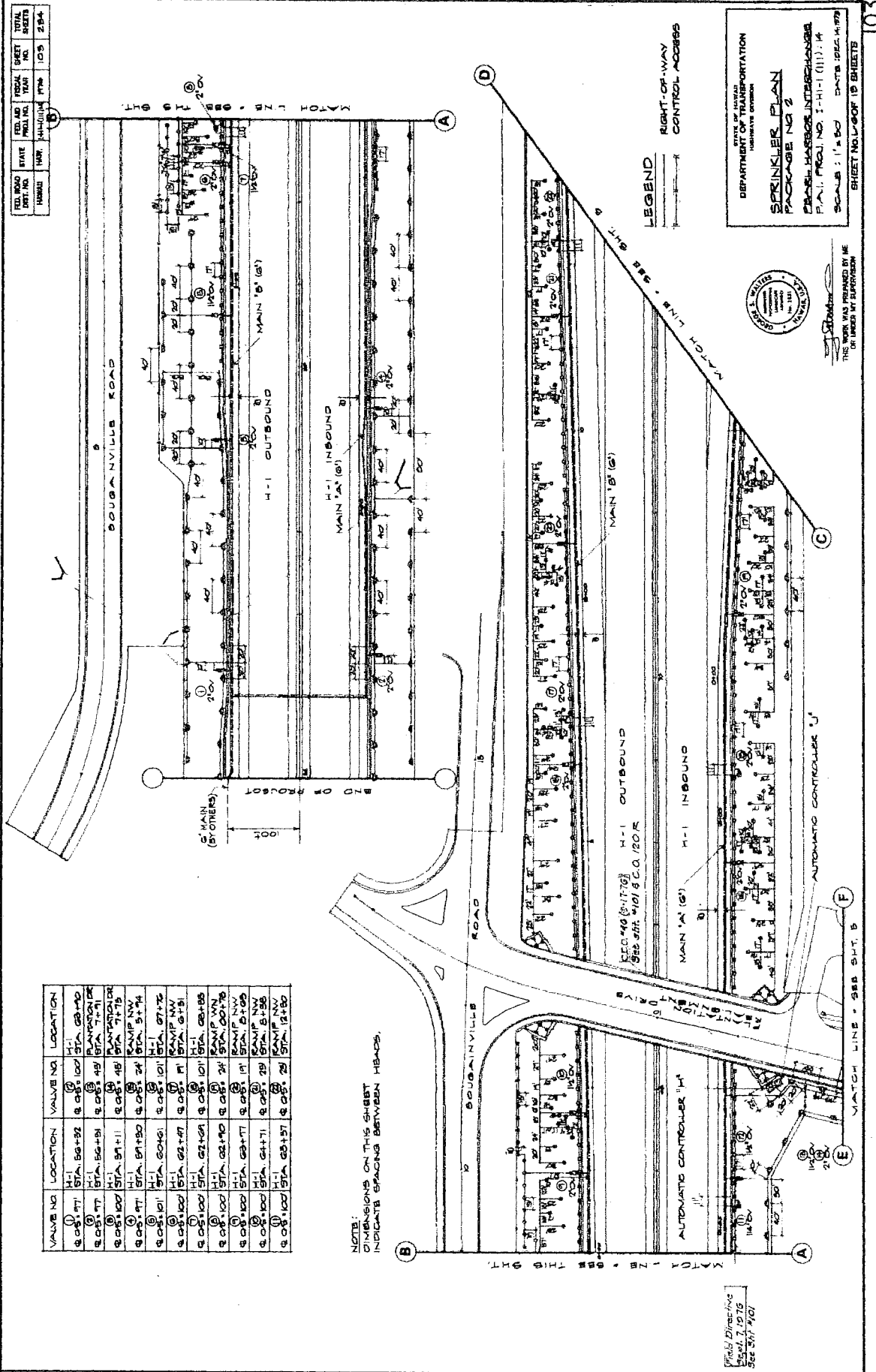
Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	144-0114	1976	102	254



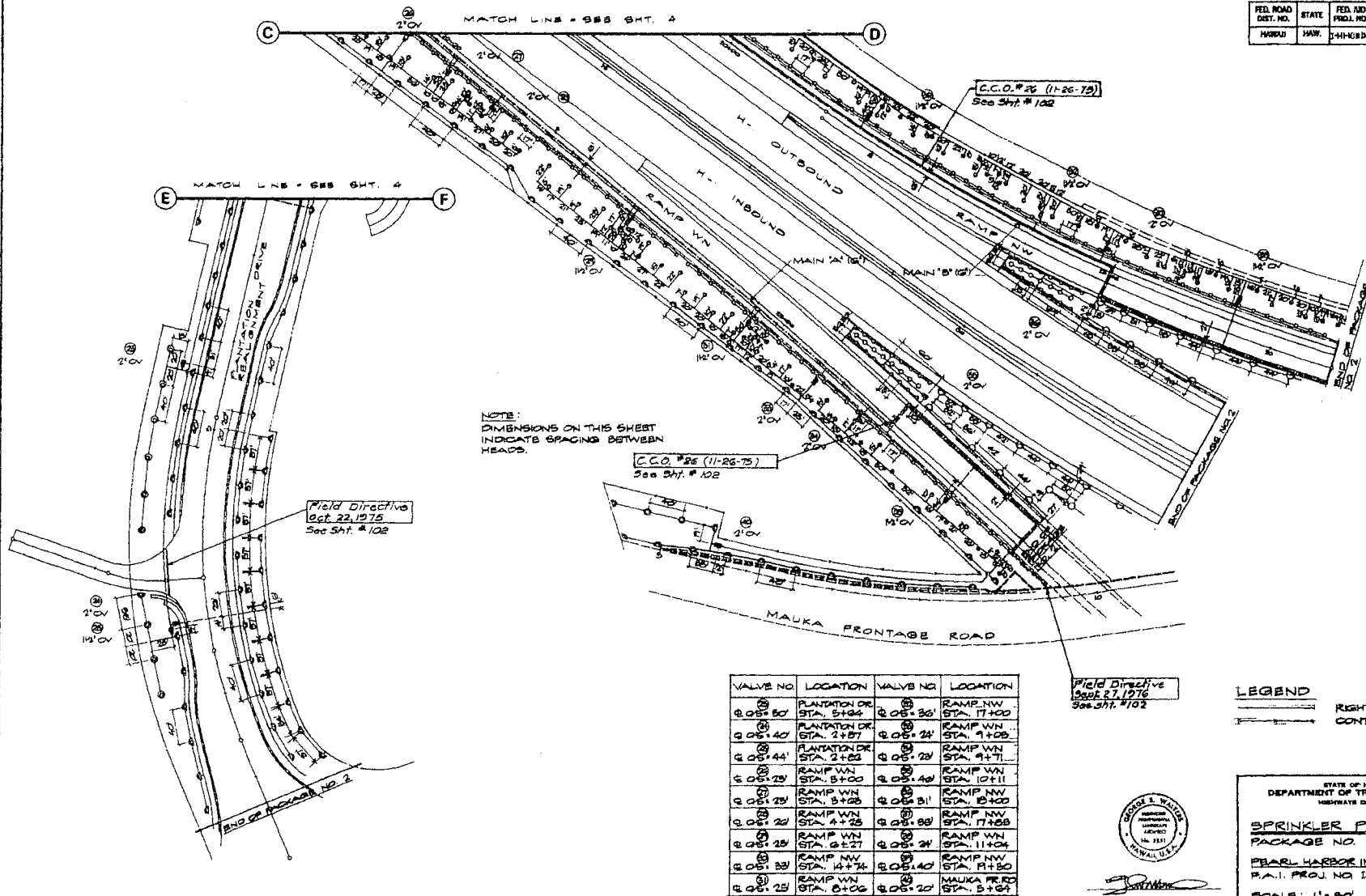
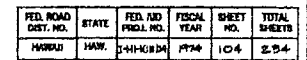
DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
APPROVED BY	
DATE	

Appendix F1 (continuation)



Appendix F1

(continuation)



VALVE NO.	LOCATION	VALVE NO.	LOCATION
Q 05-50 ⁽¹⁾	PLANTATION DR STA. 5+84	Q 05-26 ⁽¹⁾	RAMP NW STA. 17+00
Q 05-40 ⁽¹⁾	PLANTATION DR STA. 2+87	Q 05-24 ⁽¹⁾	RAMP NW STA. 9+08
Q 05-44 ⁽¹⁾	PLANTATION DR STA. 2+83	Q 05-23 ⁽¹⁾	RAMP NW STA. 9+71
Q 05-29 ⁽¹⁾	RAMP NW STA. 5+00	Q 05-19 ⁽¹⁾	RAMP NW STA. 10+21
Q 05-25 ⁽¹⁾	RAMP NW STA. 3+08	Q 05-31 ⁽¹⁾	RAMP NW STA. 15+00
Q 05-22 ⁽¹⁾	RAMP NW STA. 4+25	Q 05-28 ⁽¹⁾	RAMP NW STA. 17+68
Q 05-15 ⁽¹⁾	RAMP NW STA. Q+27	Q 05-24 ⁽¹⁾	RAMP NW STA. 11+04
Q 05-33 ⁽¹⁾	RAMP NW STA. 5+74	Q 05-40 ⁽¹⁾	RAMP NW STA. 13+00
Q 05-23 ⁽¹⁾	RAMP NW STA. 6+06	Q 05-10 ⁽¹⁾	MAUKA PER STN. 5+84

LEGEND

————— RIGHT-OF-WAY
——— CONTROL ACCESS

Field Directive
Sept 27, 1976
See Sht. #102



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

SPRINKLER PLAN
PACKAGE NO. 2

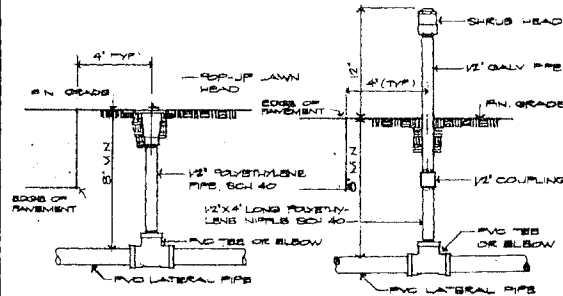
PEARL HARBOR INTERCHANGE
P.A.I. PROJ. NO. I-H-1 (111) : 14

SCALE : 1" = 80' **DATE : DEC. 14, 1978**

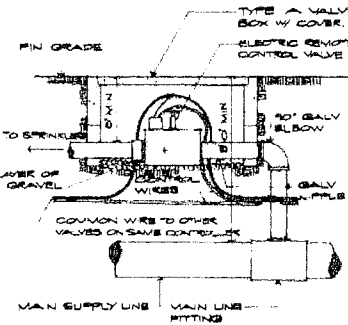
SHEET NO. 6-7 OF 15 SHEETS

Appendix F1
(continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	2-110-0004	1954	105	254

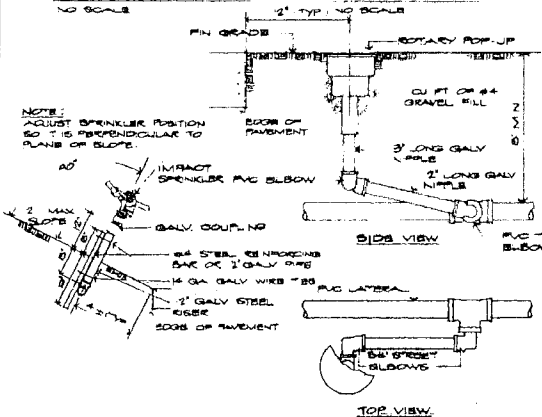


NOTE:
USE 1/2" POLYETHYLENE PIPE ON ALL TOP-UP LAMIN,
STRIP-SPRAY, AND GHRUB HEADS DIRECTLY
ADJACENT TO ROADWAY SHOULDERS. USE
1/2" GALV STEEL PIPE FOR REMAINING
TYPES OF HEADS MENTIONED ABOVE



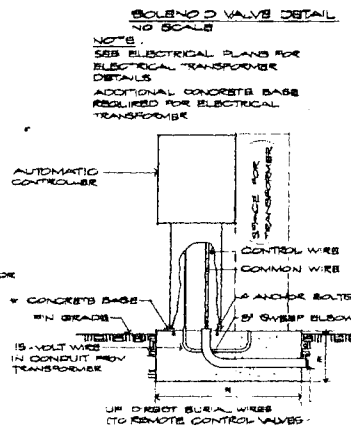
TYPICAL POP-UP AND
STRIP-SPRAY DETAIL
NO SCALE

TYPICAL SHRUB HEAD AND
BUBBLER DETAIL



IMPACT HEAD DETAIL
NO SCALE

ROTARY FOR UP DETAIL
NO SCALE



CONTROLLER DETAIL
NO SCALE

* NOTE:
CONCRETE BASE TO BE 6" THICK
ACCORDING TO MANUFACTURER'S
RECOMMENDATIONS

SPRINKLER SYMBOL	DESCRIPTION	PRESSURE PSI	FLOW GPM	NOZZLE INCHES	RISER INCHES	SPECIAL FEATURES
P-12	POP-UP LAWN - FULL	20	12 RAD	0.2	1/2	3' POP-UP
P-12	POP-UP LAWN - HALF	20	12 RAD	2.5	1/2	
P-12	POP-UP LAWN - QUARTER	20	12 RAD	1.2	1/2	
S-12	SHRUB SPRAY - FULL	20	10 RAD	2.0	1/2	
S-12	SHRUB SPRAY - HALF	20	10 RAD	2.5	1/2	
S-12	SHRUB SPRAY - QUARTER	20	10 RAD	1.2	1/2	
B-10	BUBBLER HEAD	15	0	0.1	1/2	
ST-6	STRIP SPRAY	15	6X12	1.5	1/2	
I-35P	IMPACT - FULL	30	51 RAD	6.5	3/4	BRASS/BRONZE CONSTRUCTION W/ BRASS NOZZLE W/ BREAK- UP PIN.
I-35P	IMPACT - PART	30	56 RAD	5.1	1/2	
R-40P	ROTARY POP-UP - FULL	40	46 RAD	7.5	1	BRASS/BRONZE CONSTRUCTION W/ BRASS NOZZLE W/ BREAK- UP PIN.
R-40P	ROTARY POP-UP - PART	40	40 RAD	4.6	3/4	
	AUTOMATIC CONTROLLER - 10 STATION (MINIMUM)					PBDBSTAL MOUNTED
	ELECTRIC REMOTE CONTROL VALVE					24V WATERPROOF SOLENOID INSTALL IN VALVE BOX W/COVER

NOTES TO CONTRACTOR:

1. ALL WIRING UNDER ROADWAY TO BE INSTALLED IN 2 1/2" PIPE CONDUITS.
 2. PVC PIPE AND FITTINGS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 3. NO ROCKS OR SHARP OBJECTS ONE INCH OR LARGER SHALL BE USED IN THE BACKFILLING OF TRENCHES EXCEPT IN TYP-CUT SLOPES.
 4. FINAL LOCATIONS OF CONTROL VALVES SHALL BE DETERMINED BY THE ENGINEER.
 5. CONTRACTOR SHALL ADJUST ALL SPRINKLER HEADS FOR PROPER COVERAGE.
 6. CONCRETE REACTION BLOCK SHALL BE CLASS B.
 7. PROVIDE TWO 30" LONG HEAVY PLATED IRON KEY FOR CONTROL VALVE (INCIDENTAL TO VALVE CAST).
 8. USES OF OTHER TYPES OF CONNECTIONS, THE STANDARD TRIANGULAR SPACING BETWEEN VARIOUS TYPES OF SPRINKLER HEADS ARE AS FOLLOWS:

		PART	FULL
POP-UP LAWN - 15'	IMPACT	- 40'	48'
SHRUB SPRAY - 15'	ROTARY POP-UP	- 44'	51'

THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER DETAILS
PACKAGE NO. 2

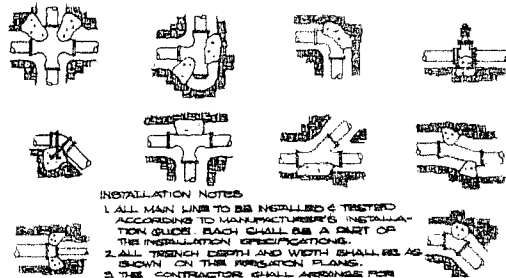
PEARL HARBOR INTERCHANGE
P.A.I. PROJ. NO. I-HI-1 (111)' 14

SCALE: NONE DATE: DEC. 14, 1973

SHEET NO. 6 OF 13 SHEETS

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	141-401194	1974	106	254

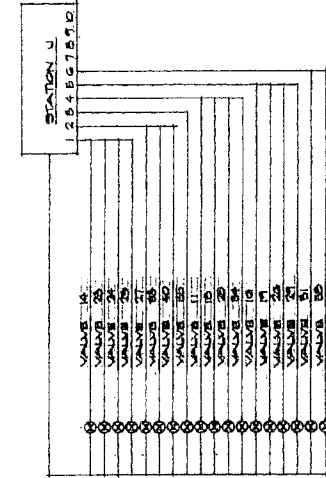
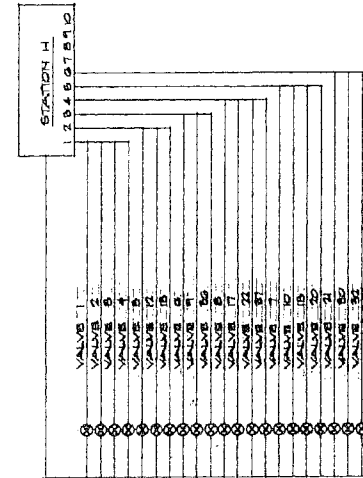
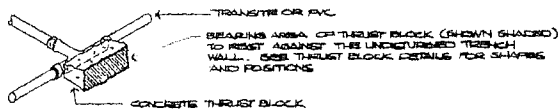


INSTALLATION NOTES

1. ALL MAIN LINES TO BE INSTALLED & TESTED ACCORDING TO MANUFACTURER'S INSTALLATION GUIDE. EACH SHALL BE A PART OF THE INSTALLATION SPECIFICATIONS.
2. ALL TRENCH DEPTH AND WIDTH SHALL BE AS SHOWN ON THE PROPOSED PLANS.
3. THE CONTRACTOR SHALL ARRANGE FOR THE SERVICES OF THE MANUFACTURER'S QUALIFIED INSTALLER.

TYPICAL THRUST BLOCK DETAILS FOR TRANSITE OR PVC PIPE NO SCALE

BEARING AREA REQUIRED FOR THRUST BLOCKS (SQ. FT.)						
PIPE SIZE	8"	24"	2'	1 1/2'	1 1/4'	4"
TRENCH DEPTH	1.00	0.50	0.50	0.50	0.50	1.25
90° BEND	1.25	0.75	0.50	0.50	0.50	2.00
45° BEND	0.75	0.50	0.50	0.50	0.50	1.00



SCHEMATIC WIRING DIAGRAM

NOTE:
ALL WIRES ARE NO. 14 WIRE.

OPERATING SCHEDULE			
STATION NO.	H	J	
DAY OF OPERATION	MTWTFSS	MTWTFSS	
STARTING TIME	8:00 A.M. 3:00 P.M.	8:00 A.M. 3:00 P.M.	
1	42 MIN.	42 MIN.	
2	42	42	
3	7	7	
4	4	4	
5	2	2	
6	2	2	
7			
8			
9			
10			

Field Directive
Feb. 5, 1976
All automatic sprinkler system controllers shall be set to operate only between 8:00 a.m. and 3:00 p.m.



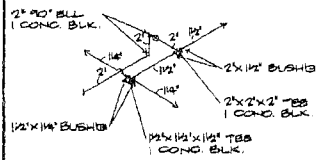
THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
SPRINKLER DETAILS
PACKAGE NO. 2
PEARL HARBOR INTERCHANGE P.A.I. PROJ. NO. I-H-1(111):14
SCALE: NONE DATE: DEC. 14, 1973
SHEET NO. 1-9 OF 18 SHEETS

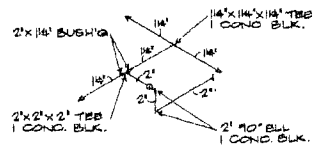
Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-1-1-1-1	1974	107	114

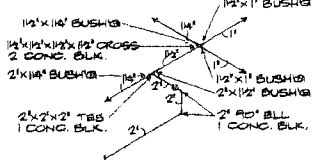
VALVE ① - 2"



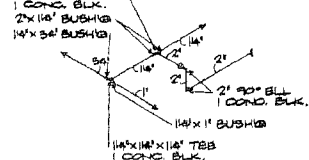
VALVE ② - 2"



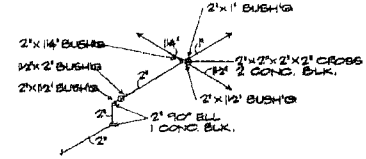
VALVE ③ - 2"



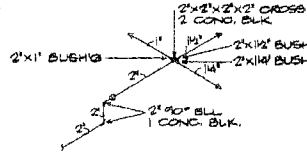
VALVE ④ - 2"



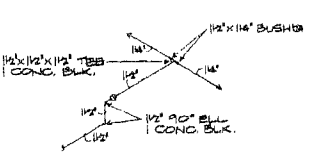
VALVE ⑤ - 1 1/2"



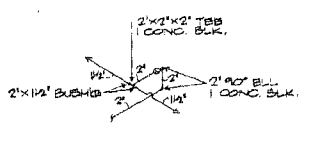
VALVE ⑥ - 2"



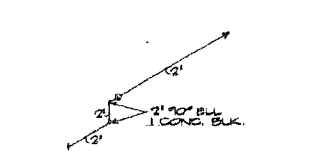
VALVE ⑦ ⑧ ⑨ - 1 1/2"



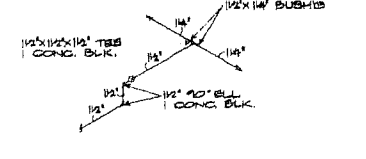
VALVE ⑩ ⑪ - 2"



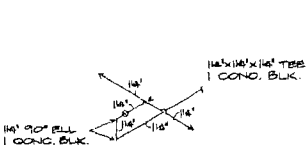
VALVE ⑫ - 2"



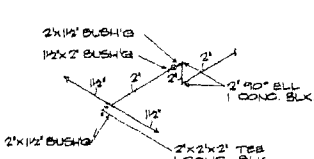
VALVE ⑬ - 1 1/2"



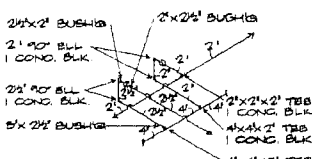
VALVE ⑭ - 1 1/2"



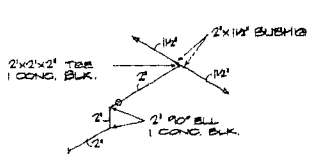
VALVE ⑮ - 1 1/2"



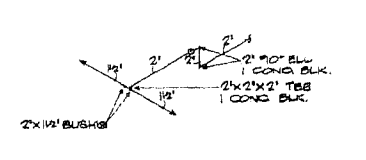
VALVES ⑯ ⑰ ⑱ - 1 1/2"



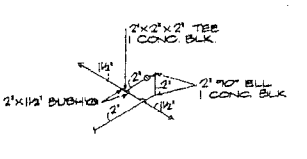
VALVE ⑲ - 2"



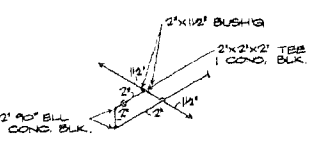
VALVES ⑳ ㉑ ㉒ - 2"



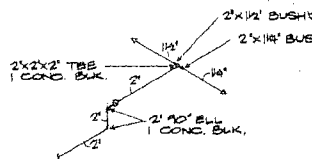
VALVE ㉓ ㉔ - 2"



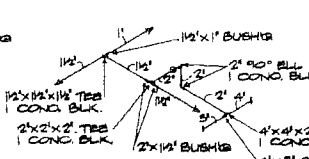
VALVE ㉕ ㉖ ㉗ - 2"



VALVE ㉘ - 2"



VALVE ㉙ - 2"



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER DETAILS
PACKAGE NO. 2

PEARL HARBOR INTERCHANGE
P.L. 1, PROJ. NO. 1-11-1 (111) : 14

SCALE: NONE DATE: DEC. 14, 1973

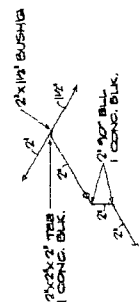
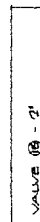
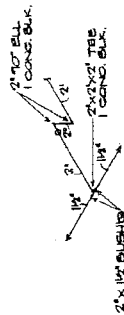
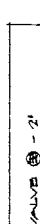
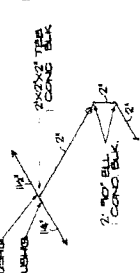
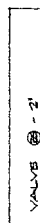
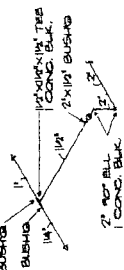
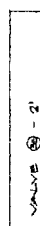
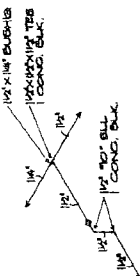
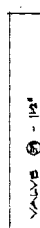
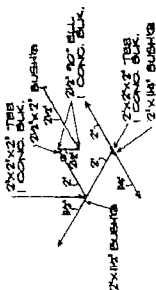
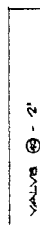
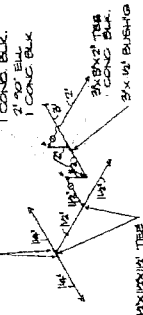
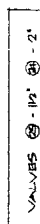
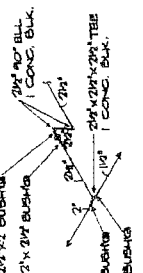
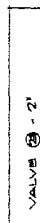
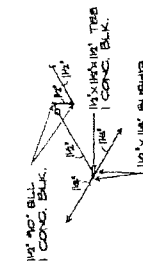
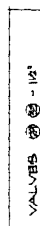
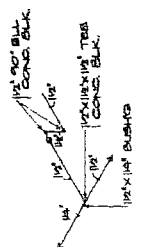
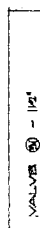
SHEET NO. 107 OF 113 SHEETS



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION

Appendix F1
(continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7-41-10000	1974	108	254



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
NEWBATH SPRING

SPRINKLER DETAILS
PACKAGE NO. 2

PEARL HARBOR INTERCHANGE
P.A.I. PROJ. NO. 1-H-1 (11):14

SCALE: NONE DATE: DEC. 14, 1978

SHEET NO. 11 OF 13 SHEETS

THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION

Appendix F1

(continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	3-11-11111	1974	109	254

SPRINKLER

SUMMARY

ESTIMATED

QUANTITIES

[illegible]

ORIGINAL	SUBJECT PLANTED BY	DATE
PLAN	DRAWN BY	
BOOTS ROOM	TRAINED BY	
	RECORDED BY	
	QUANTIFIED BY	
	DESIGNED BY	

CCQ#22 (10-6-75)

DATE	REVISION
10-18-75	CHANGED IN DEPT AT BUREAU CABLE WITH #00202



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER SUMMARY
PACKAGE NO. 2

PEARL HARBOR INTERCHANGE
PAL PROJ. NO I-H-1 (11) : 14

SCALE: NONE DATE: DEC. 14, 1973

SHEET NO. 1-20 OF 15 SHEETS

Appendix F1 (continuation)

SPRINKLER

SUMMARY

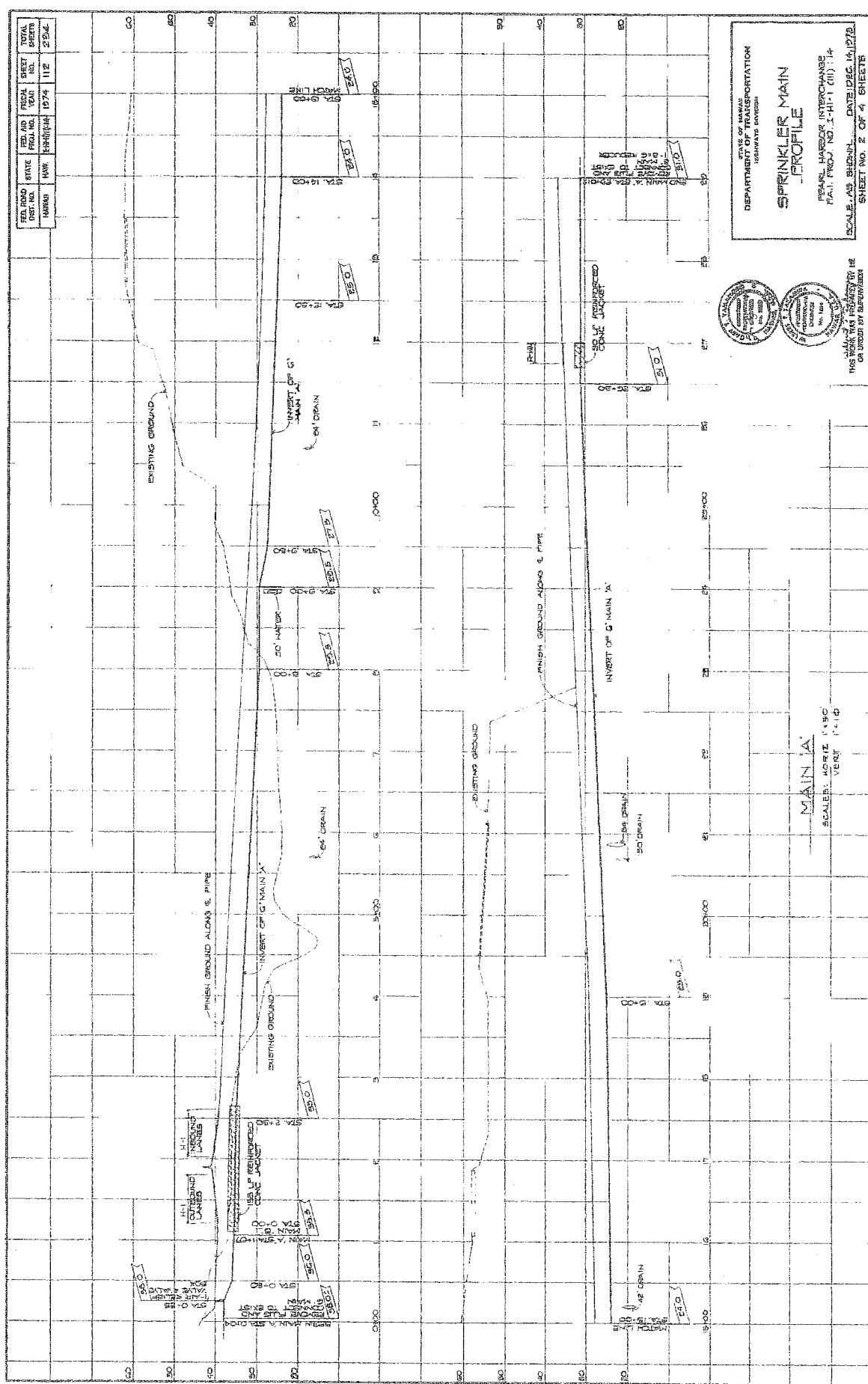
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-44-1011M	1974	110	234

ESTIMATED QUANTITIES

SYSTEM NO.	ITEM NO.	VALVE LOCATION	UNIT USED	Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64	Q65	Q66	Q67	Q68	Q69	Q70	Q71	Q72	Q73	Q74	Q75	Q76	Q77	Q78	Q79	Q80	Q81	Q82	Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90	Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99	Q100	Q101	Q102	Q103	Q104	Q105	Q106	Q107	Q108	Q109	Q110	Q111	Q112	Q113	Q114	Q115	Q116	Q117	Q118	Q119	Q120	Q121	Q122	Q123	Q124	Q125	Q126	Q127	Q128	Q129	Q130	Q131	Q132	Q133	Q134	Q135	Q136	Q137	Q138	Q139	Q140	Q141	Q142	Q143	Q144	Q145	Q146	Q147	Q148	Q149	Q150	Q151	Q152	Q153	Q154	Q155	Q156	Q157	Q158	Q159	Q160	Q161	Q162	Q163	Q164	Q165	Q166	Q167	Q168	Q169	Q170	Q171	Q172	Q173	Q174	Q175	Q176	Q177	Q178	Q179	Q180	Q181	Q182	Q183	Q184	Q185	Q186	Q187	Q188	Q189	Q190	Q191	Q192	Q193	Q194	Q195	Q196	Q197	Q198	Q199	Q200	Q201	Q202	Q203	Q204	Q205	Q206	Q207	Q208	Q209	Q210	Q211	Q212	Q213	Q214	Q215	Q216	Q217	Q218	Q219	Q220	Q221	Q222	Q223	Q224	Q225	Q226	Q227	Q228	Q229	Q230	Q231	Q232	Q233	Q234	Q235	Q236	Q237	Q238	Q239	Q240	Q241	Q242	Q243	Q244	Q245	Q246	Q247	Q248	Q249	Q250	Q251	Q252	Q253	Q254	Q255	Q256	Q257	Q258	Q259	Q260	Q261	Q262	Q263	Q264	Q265	Q266	Q267	Q268	Q269	Q270	Q271	Q272	Q273	Q274	Q275	Q276	Q277	Q278	Q279	Q280	Q281	Q282	Q283	Q284	Q285	Q286	Q287	Q288	Q289	Q290	Q291	Q292	Q293	Q294	Q295	Q296	Q297	Q298	Q299	Q300	Q301	Q302	Q303	Q304	Q305	Q306	Q307	Q308	Q309	Q310	Q311	Q312	Q313	Q314	Q315	Q316	Q317	Q318	Q319	Q320	Q321	Q322	Q323	Q324	Q325	Q326	Q327	Q328	Q329	Q330	Q331	Q332	Q333	Q334	Q335	Q336	Q337	Q338	Q339	Q340	Q341	Q342	Q343	Q344	Q345	Q346	Q347	Q348	Q349	Q350	Q351	Q352	Q353	Q354	Q355	Q356	Q357	Q358	Q359	Q360	Q361	Q362	Q363	Q364	Q365	Q366	Q367	Q368	Q369	Q370	Q371	Q372	Q373	Q374	Q375	Q376	Q377	Q378	Q379	Q380	Q381	Q382	Q383	Q384	Q385	Q386	Q387	Q388	Q389	Q390	Q391	Q392	Q393	Q394	Q395	Q396	Q397	Q398	Q399	Q400	Q401	Q402	Q403	Q404	Q405	Q406	Q407	Q408	Q409	Q410	Q411	Q412	Q413	Q414	Q415	Q416	Q417	Q418	Q419	Q420	Q421	Q422	Q423	Q424	Q425	Q426	Q427	Q428	Q429	Q430	Q431	Q432	Q433	Q434	Q435	Q436	Q437	Q438	Q439	Q440	Q441	Q442	Q443	Q444	Q445	Q446	Q447	Q448	Q449	Q450	Q451	Q452	Q453	Q454	Q455	Q456	Q457	Q458	Q459	Q460	Q461	Q462	Q463	Q464	Q465	Q466	Q467	Q468	Q469	Q470	Q471	Q472	Q473	Q474	Q475	Q476	Q477	Q478	Q479	Q480	Q481	Q482	Q483	Q484	Q485	Q486	Q487	Q488	Q489	Q490	Q491	Q492	Q493	Q494	Q495	Q496	Q497	Q498	Q499	Q500	Q501	Q502	Q503	Q504	Q505	Q506	Q507	Q508	Q509	Q510	Q511	Q512	Q513	Q514	Q515	Q516	Q517	Q518	Q519	Q520	Q521	Q522	Q523	Q524	Q525	Q526	Q527	Q528	Q529	Q530	Q531	Q532	Q533	Q534	Q535	Q536	Q537	Q538	Q539	Q540	Q541	Q542	Q543	Q544	Q545	Q546	Q547	Q548	Q549	Q550	Q551	Q552	Q553	Q554	Q555	Q556	Q557	Q558	Q559	Q560	Q561	Q562	Q563	Q564	Q565	Q566	Q567	Q568	Q569	Q570	Q571	Q572	Q573	Q574	Q575	Q576	Q577	Q578	Q579	Q580	Q581	Q582	Q583	Q584	Q585	Q586	Q587	Q588	Q589	Q590	Q591	Q592	Q593	Q594	Q595	Q596	Q597	Q598	Q599	Q600	Q601	Q602	Q603	Q604	Q605	Q606	Q607	Q608	Q609	Q610	Q611	Q612	Q613	Q614	Q615	Q616	Q617	Q618	Q619	Q620	Q621	Q622	Q623	Q624	Q625	Q626	Q627	Q628	Q629	Q630	Q631	Q632	Q633	Q634	Q635	Q636	Q637	Q638	Q639	Q640	Q641	Q642	Q643	Q644	Q645	Q646	Q647	Q648	Q649	Q650	Q651	Q652	Q653	Q654	Q655	Q656	Q657	Q658	Q659	Q660	Q661	Q662	Q663	Q664	Q665	Q666	Q667	Q668	Q669	Q670	Q671	Q672	Q673	Q674	Q675	Q676	Q677	Q678	Q679	Q680	Q681	Q682	Q683	Q684	Q685	Q686	Q687	Q688	Q689	Q690	Q691	Q692	Q693	Q694	Q695	Q696	Q697	Q698	Q699	Q700	Q701	Q702	Q703	Q704	Q705	Q706	Q707	Q708	Q709	Q710	Q711	Q712	Q713	Q714	Q715	Q716	Q717	Q718	Q719	Q720	Q721	Q722	Q723	Q724	Q725	Q726	Q727	Q728	Q729	Q730	Q731	Q732	Q733	Q734	Q735	Q736	Q737	Q738	Q739	Q740	Q741	Q742	Q743	Q744	Q745	Q746	Q747	Q748	Q749	Q750	Q751	Q752	Q753	Q754	Q755	Q756	Q757	Q758	Q759	Q760	Q761	Q762	Q763	Q764	Q765	Q766	Q767	Q768	Q769	Q770	Q771	Q772	Q773	Q774	Q775	Q776	Q777	Q778	Q779	Q780	Q781	Q782	Q783	Q784	Q785	Q786	Q787	Q788	Q789	Q790	Q791	Q792	Q793	Q794	Q795	Q796	Q797	Q798	Q799	Q800	Q801	Q802	Q803	Q804	Q805	Q806	Q807	Q808	Q809	Q810	Q811	Q812	Q813	Q814	Q815	Q816	Q817	Q818	Q819	Q820	Q821	Q822	Q823	Q824	Q825	Q826	Q827	Q828	Q829	Q830	Q831	Q832	Q833	Q834	Q835	Q836	Q837	Q838	Q839	Q840	Q841	Q842	Q843	Q844	Q845	Q846	Q847	Q848	Q849	Q850	Q851	Q852	Q853	Q854	Q855	Q856	Q857	Q858	Q859	Q860	Q861	Q862	Q863	Q864	Q865	Q866	Q867	Q868	Q869	Q870	Q871	Q872	Q873	Q874	Q875	Q876	Q877	Q878	Q879	Q880	Q881	Q882	Q883	Q884	Q885	Q886	Q887	Q888	Q889	Q890	Q891	Q892	Q893	Q894	Q895	Q896	Q897	Q898	Q899	Q900	Q901	Q902	Q903	Q904	Q905	Q906	Q907	Q908	Q909	Q910	Q911	Q912	Q913	Q914	Q915	Q916	Q917	Q918	Q919	Q920	Q921	Q922	Q923	Q924	Q925	Q926	Q927	Q928	Q929	Q930	Q931	Q932	Q933	Q934	Q935	Q936	Q937	Q938	Q939	Q940	Q941	Q942	Q943	Q944	Q945	Q946	Q947	Q948	Q949	Q950	Q951	Q952	Q953	Q954	Q955	Q956	Q957	Q958	Q959	Q960	Q961	Q962	Q963	Q964	Q965	Q966	Q967	Q968	Q969	Q970	Q971	Q972	Q973	Q974	Q975	Q976	Q977	Q978	Q979	Q980	Q981	Q982	Q983	Q984	Q985	Q986	Q987	Q988	Q989	Q990	Q991	Q992	Q993	Q994	Q995	Q996	Q997	Q998	Q999	Q1000	Q1001	Q1002	Q1003	Q1004	Q1005	Q1006	Q1007	Q1008	Q1009	Q1010	Q1011	Q1012	Q1013	Q1014	Q1015	Q1016	Q1017	Q1018	Q1019	Q1020	Q1021	Q1022	Q1023	Q1024	Q1025	Q1026	Q1027	Q1028	Q1029	Q1030	Q1031	Q1032	Q1033	Q1034	Q1035	Q1036	Q1037	Q1038	Q1039	Q1040	Q1041	Q1042	Q1043	Q1044	Q1045	Q1046	Q1047	Q1048	Q1049	Q1050	Q1051	Q1052	Q1053	Q1054	Q1055	Q1056	Q1057	Q1058	Q1059	Q1060	Q1061	Q1062	Q1063	Q1064	Q1065	Q1066	Q1067	Q1068	Q1069	Q1070	Q1071	Q1072	Q1073	Q1074	Q1075	Q1076	Q1077	Q1078	Q1079	Q1080	Q1081	Q1082	Q1083	Q1084	Q1085	Q1086	Q1087	Q1088	Q1089	Q1090	Q1091	Q1092	Q1093	Q1094	Q1095	Q1096	Q1097	Q1098	Q1099	Q1100	Q1101	Q1102	Q1103	Q1104	Q1105	Q1106	Q1107	Q1108	Q1109	Q1110	Q1111	Q1112	Q1113	Q1114	Q1115	Q1116	Q1117	Q1118	Q1119	Q1120	Q1121	Q1122	Q1123	Q1124	Q1125	Q1126	Q1127	Q1128	Q1129	Q1130	Q1131	Q1132	Q1133	Q1134	Q1135	Q1136	Q1137	Q1138	Q1139	Q1140	Q1141	Q1142	Q1143	Q1144	Q1145	Q1146	Q1147	Q1148	Q1149	Q1150	Q1151	Q1152	Q1153	Q1154	Q1155	Q1156	Q1157	Q1158	Q1159	Q1160	Q1161	Q1162	Q1163	Q1164	Q1165	Q1166	Q1167	Q1168	Q1169	Q1170	Q1171	Q1172	Q1173	Q1174	Q1175	Q1176	Q1177	Q1178	Q1179	Q1180	Q1181	Q1182	Q1183	Q1184	Q1185	Q1186	Q1187	Q1188	Q1189	Q1190	Q1191	Q1192	Q1193	Q1194	Q1195	Q1196	Q1197	Q1198	Q1199	Q1200	Q1201	Q1202	Q1203
------------	----------	----------------	-----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

(continuation)





FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	BEST EST.	TOTAL SAVINGS
HAZARD	MASS.	4-10-11-14	1974	112	25.56-

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATIONSPRINKLER MAIN
PROFILE

2024-01-11 11:11:11

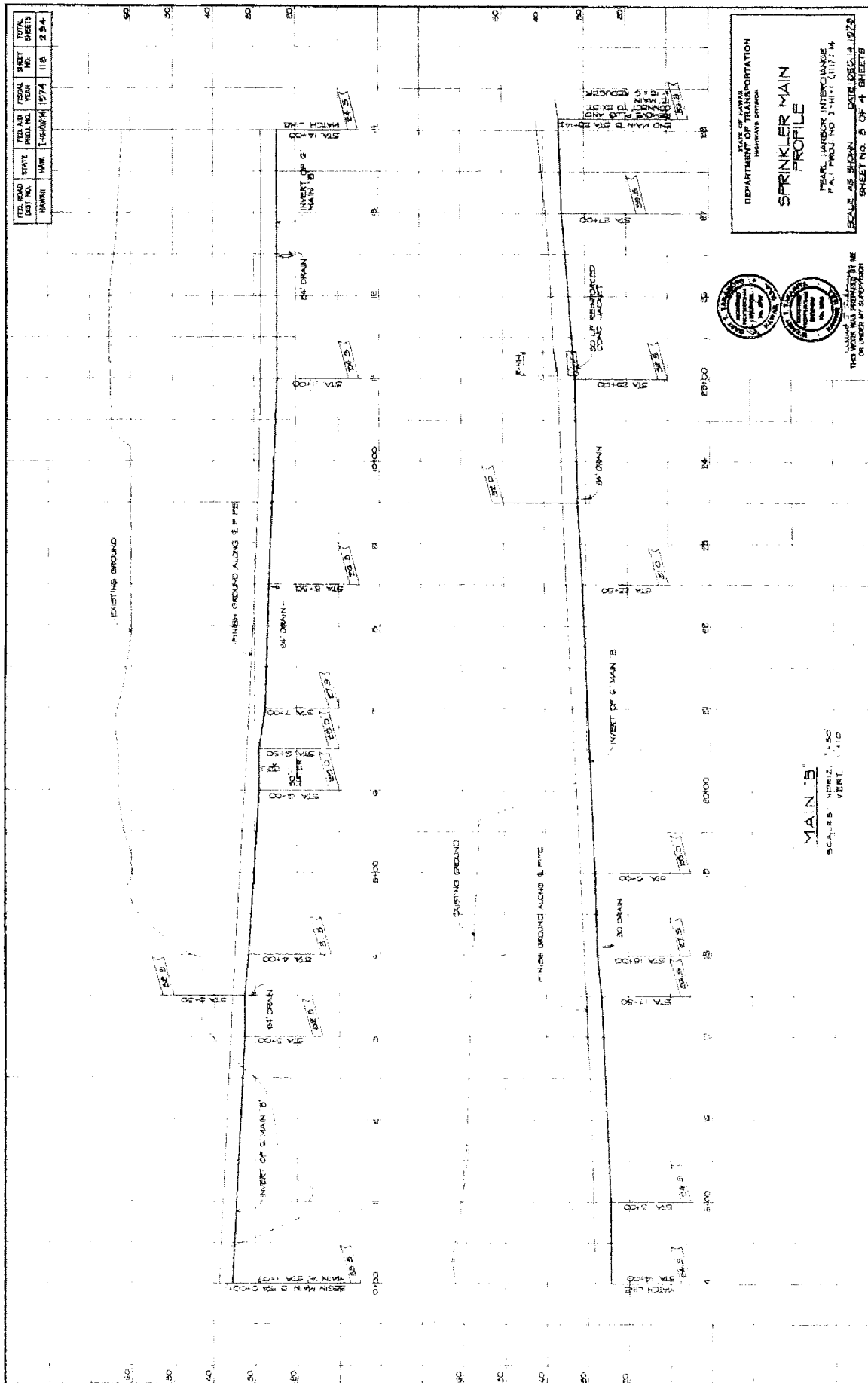
SCALE, APP. 8400 IN. DATE: DEC. 14, 1973
SHEET NO. 2 OF 4 SHEETS

THE AIR FORCE AND THE ARMY
THE AIR FORCE AND THE ARMY
THE AIR FORCE AND THE ARMY

MAIN: A
SCALES: HORIZ
VERT

	IN CHARGE	
AS STATIONARY		
AS STATIONARY		
IN CHARGE		
AS STATIONARY		
IN CHARGE		

Appendix F1 (continuation)

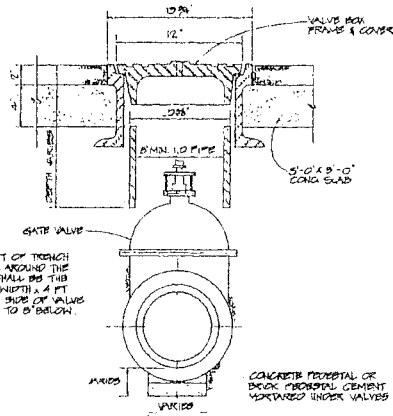


Appendix F1 (continuation)

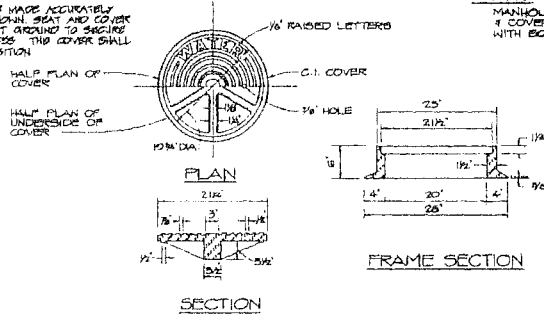
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HURONT	HAW.	1-10-10034	1974	114	234

NOTE:

ALL CASTINGS SHALL BE MADE ACCURATELY TO THE DIMENSIONS SHOWN. SEAT AND COVER SHALL BE MACHINED NOT BORED TO SURELY FLAT AND TRUE SURFACES. THE COVER SHALL NOT RATTLE IN ANY POSITION.



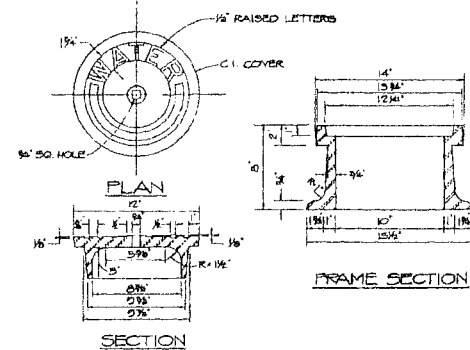
GATE VALVE AND VALVE BOX
NOT TO SCALE



TYPICAL MANHOLE FRAME & COVER
NOT TO SCALE

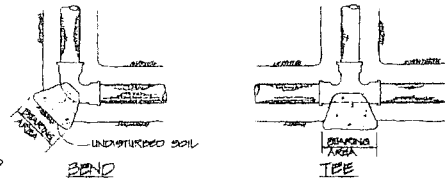
NOTE:

MANHOLE AND VALVE BOX FRAME & COVER TO BE IN ACCORDANCE WITH BOARD OF WATER SUPPLY STANDARDS.

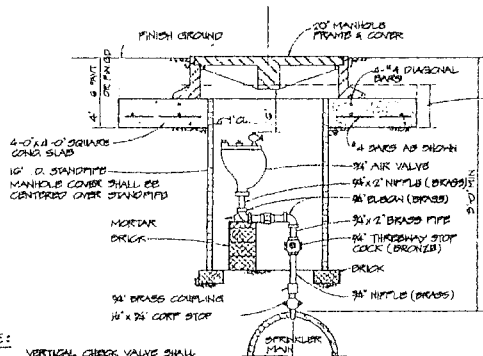


TYPICAL VALVE BOX FRAME & COVER
NOT TO SCALE

NOTE:
BREAKING AREA
4 SQ. FT. MINIMUM



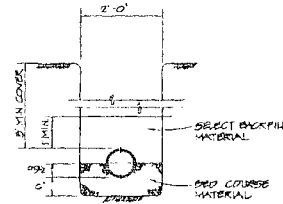
CONCRETE BLOCK DETAILS
(FOR HORIZONTAL BENDS)
NOT TO SCALE



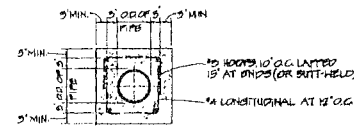
AIR RELIEF VALVE AND VALVE BOX
NOT TO SCALE

NOTE:

VERTICAL CHECK VALVE SHALL BE USED IN LIEU OF CONFLUENT WHEN THIRDSWAY STOP COCK IS IMMERSED IN WATER.



TRENCH DETAIL
NOT TO SCALE



REINFORCED CONCRETE JACKET
NOT TO SCALE



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION	
SPRINKLER MAIN DETAILS	
HAWAIIAN INTERCHANGE P.A.C. Proj. No. 1-11-1(11):14	
Scale: As Shown	Date: DEC. 14, 1973
SHEET NO. 4 OF 4 SHEETS	

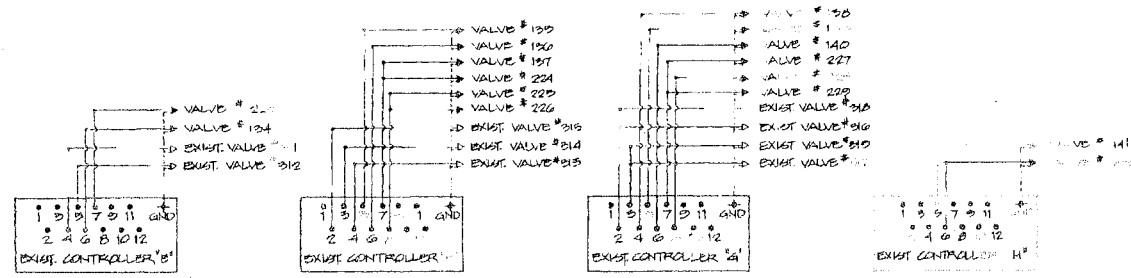
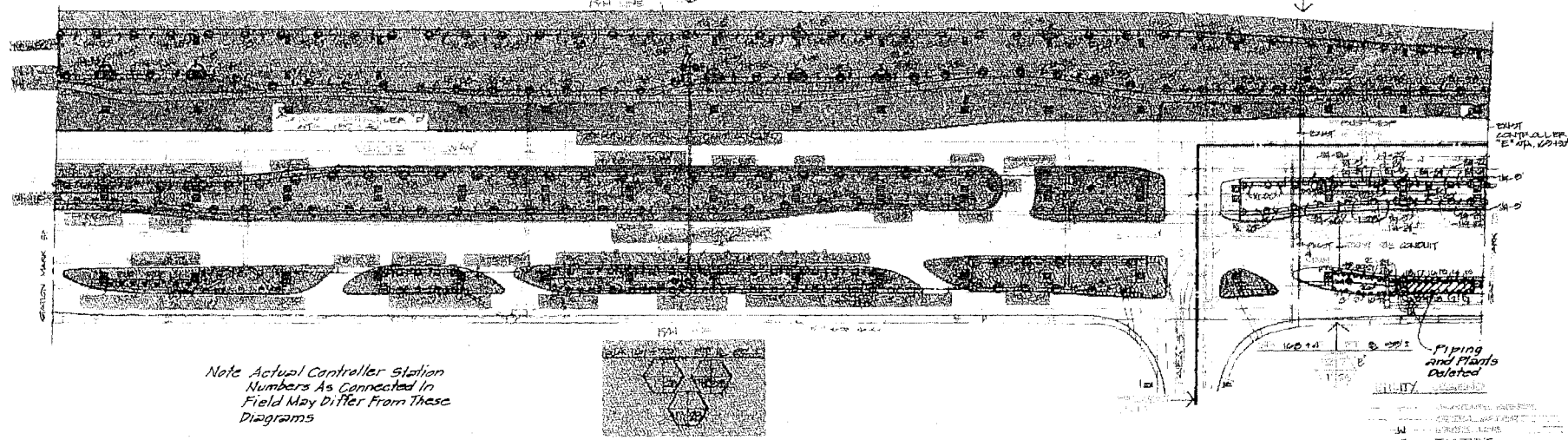
DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
REVISIONS	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Appendix F1 (continuation)

WIRING irrigation

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAVERHILL	MASS.	14-4411-170-1	1952	2	22

VALVE NO. 130
CONTROLLER DESIGNATION 130
VALVE SIZE 12" DIA.
TOTAL GPM 11.5 + 0.7 = 12.2



VALVE NO.	SIZE	LOCATION	DATE	BY
1	12"	17	10	10
2	12"	18	10	10
3	12"	19	10	10
4	12"	20	10	10
5	12"	21	10	10
6	12"	22	10	10
7	12"	23	10	10
8	12"	24	10	10
9	12"	25	10	10
10	12"	26	10	10
11	12"	27	10	10
12	12"	28	10	10

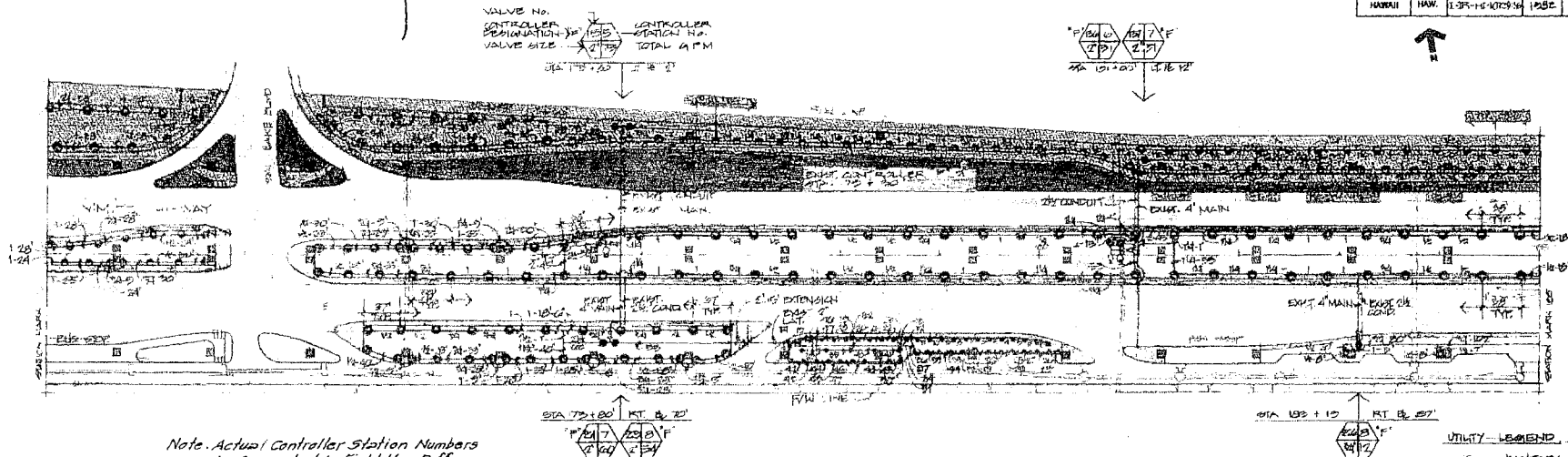
STATE OF MASSACHUSETTS
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

PROJECT NO. 14-4411-170-1
SHEET NO. 2 OF 22 SHEETS

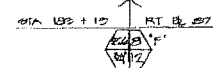
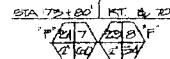
Appendix F1 (continuation)

WATER IRRIGATION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-35-1-1073-14	1980	5	22



Note: Actual Controller Station Numbers As Connected In Field May Differ From These Tables



UTILITY LEGEND

- S- BATTERY CABLE
- GG- GROUND CABLE
- W- WATER LINE
- G- GAS LINE
- O- OIL LINE
- E- COMMUNICATION CABLE
- E- ELECTRIC CABLE
- T- TELEPHONE CABLE
- V- VALVE
- C- CONTROLLER
- I- IRRIGATION AREA

PARTIAL IRRIGATION PLAN
SCALE: 1" = 50'

VALVE SYSTEM 225

VALVE NO.	SIZE	LENGTH	VALVE NO.	SIZE	LENGTH
1	1/2"	12'	27	1/2"	12'
2	1/2"	12'	28	1/2"	12'
3	1/2"	12'	29	1/2"	12'
4	1/2"	12'	30	1/2"	12'
5	1/2"	12'	31	1/2"	12'
6	1/2"	12'	32	1/2"	12'
7	1/2"	12'	33	1/2"	12'
8	1/2"	12'	34	1/2"	12'
9	1/2"	12'	35	1/2"	12'
10	1/2"	12'	36	1/2"	12'
11	1/2"	12'	37	1/2"	12'
12	1/2"	12'	38	1/2"	12'
13	1/2"	12'	39	1/2"	12'
14	1/2"	12'	40	1/2"	12'
15	1/2"	12'	41	1/2"	12'
16	1/2"	12'	42	1/2"	12'
17	1/2"	12'	43	1/2"	12'
18	1/2"	12'	44	1/2"	12'
19	1/2"	12'	45	1/2"	12'
20	1/2"	12'	46	1/2"	12'
21	1/2"	12'	47	1/2"	12'
22	1/2"	12'	48	1/2"	12'
23	1/2"	12'	49	1/2"	12'
24	1/2"	12'	50	1/2"	12'

WATERING SCHEDULES FOR IRRIGATION CONTROLLERS

EXISTING STARTS: 11 PM. 3 A.M.

STATION NO.	VALVE NO.	SPRINKLER	TIME MIN.	TOTAL GAL.
6	134	5-28	8	408
7	223	6-12	8	72

EXISTING STARTS: 12 AM. 2 A.M.

STATION NO.	VALVE NO.	SPRINKLER	TIME MIN.	TOTAL GAL.
5	135	5-28	10	408
6	136	5-28	10	510
7	223	5-28	10	510
8	225	5-2	8	172
9	226	5-2	8	228

EXIST. STARTS: 3 A.M. 5 A.M.

STATION NO.	VALVE NO.	SPRINKLER	TIME MIN.	TOTAL GAL.
4	135	5-28	10	2,000
5	136	5-28	10	570
6	137	5-28	5	175
7	227	5-21	6	240
8	228	5-12	8	172

EXISTING STARTS:

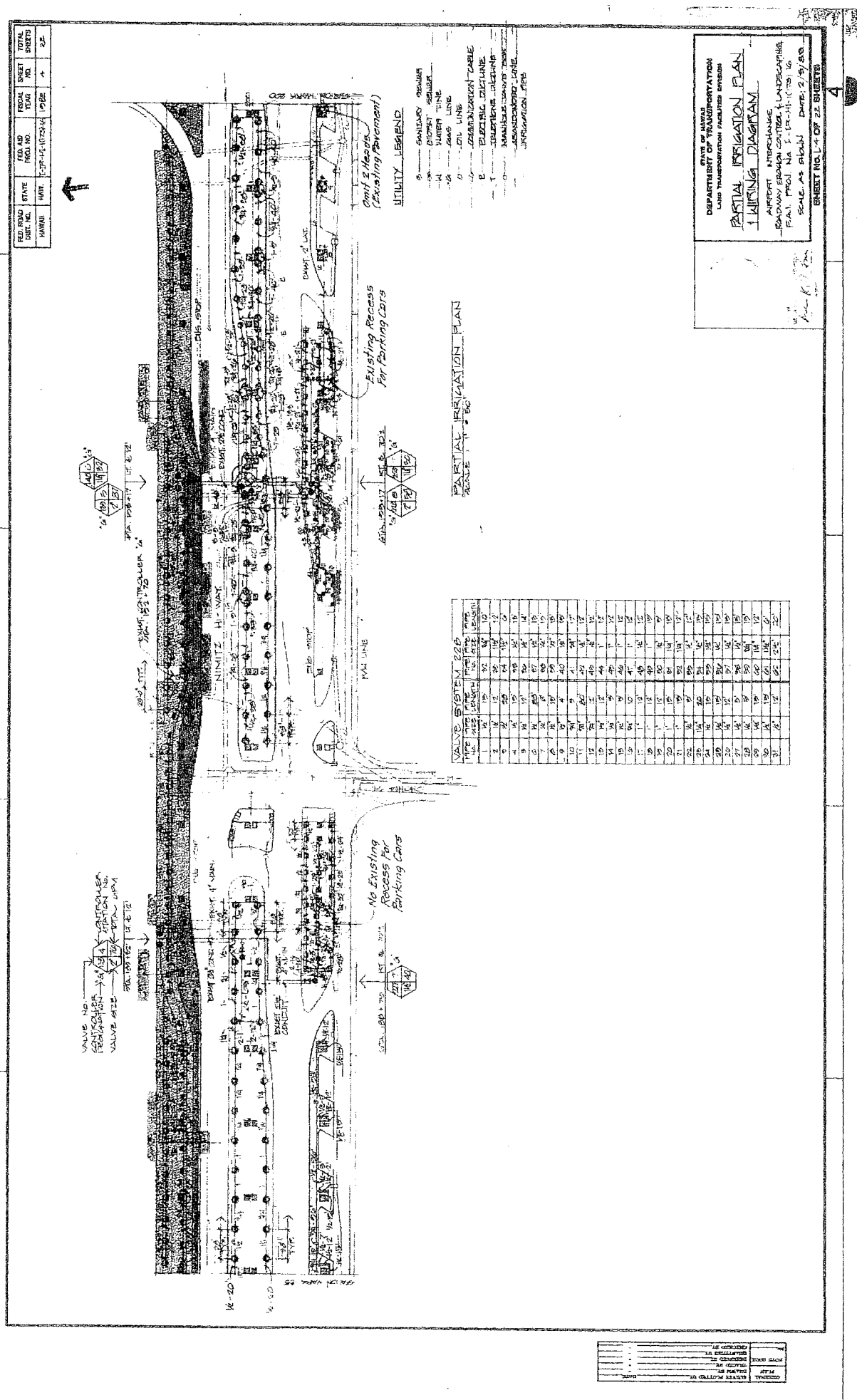
STATION NO.	VALVE NO.	SPRINKLER	TIME MIN.	TOTAL GAL.
5	141	5-53	10	1,125
6	250	5-21	6	320

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

**PARTIAL IRRIGATION PLAN
& WATERING SCHEDULES**

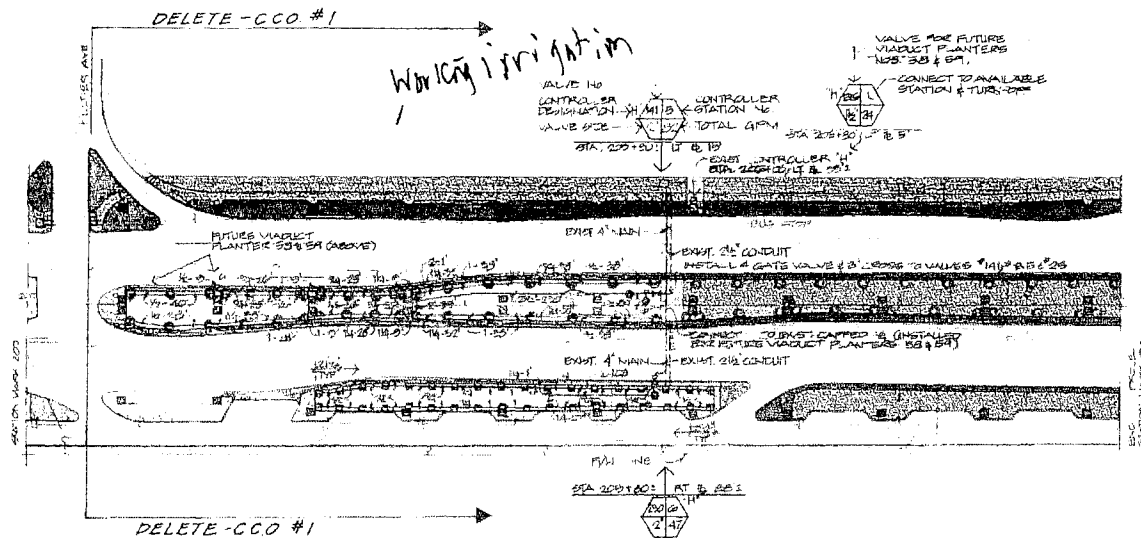
AIRPORT INTERCHANGE
RUNWAY EXCHANGE CONTROL & LANDSCAPING
P.A.I. PROJ. NO. 1-1A-1E-1(K)15-16
SCALE: AS SHOWN DATE: 2/8/83
SHEET NO. 13 OF 22 SHEETS

Appendix F1 (continuation)



Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	111R-1-1-10734	1982	5	22



PARTIAL IRRIGATION PLAN
SCALE: 1" = 50'

LEGEND FOR UTILITIES

- SANITARY SEWER
- SEWER
- WATER LINE
- GAS LINE
- OIL LINE
- COMMUNICATION CABLE (ARMY OR NAVY)
- TELEPHONE CABLE
- ELECTRIC CABLE
- MANHOLE, VALVE BOX
- ABANDONED LINE
- IRRIGATION PIPE

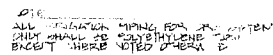
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

PARTIAL IRRIGATION PLAN

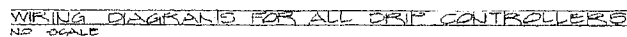
INTEREST INTERCHANGE
ROADWAY EROSION CONTROL & LANDSCAPING
"A" I. PROJ. No. I IR-HI-1(175) 16
SCALE: AS SHOWN DATE 12.8/88

SHEET NO. 5 OF 22 SHEETS

Workday 1

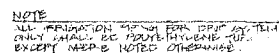


SCALE 1" = 50'

[illegible]

SHEET NO. 16 OF 22 SHEETS

Working irrigation



PARTIAL DRIP IRRIGATION PLAN
SCALE: 1" = 50'

JULY LEEND

5	sanitary - toilet
6	room - toilet
W	water line
G	gas line
O	oil line
CC	communication - cable
B	electricity - cable
T	telephone picture
	hollow, where you
	advertisement line
	indication line

[illegible]

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

PARTIAL DRIP
IRRIGATION PLAN

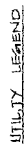
AIRPORT INTERCHANGE
ROADWAY EROSION CONTROL & LANDSCAPE
F.A.I. PROJ. NO I-17411-1173 16
SCALE AS SHOWN DATE 3/9/86

SHEET NO. 7 OF 22 SHEETS

POSTED HEREIN BY
STATE OF MICHIGAN
JAN 8 1986
JAN 8 1986

Working irregularly

←



W - SANITARY SYSTEM
W - TROPHY SYSTEM
W - WATER LINE
D - GAS LINE
D - OIL LINE
E - COMMUNICATION CABLE
E - FIB. OPT. LINE
E - MANHOLE UNDER BRIDGE
E - LANDSCAPED IRRIGATION PIPE

PARTIAL DRYF RIGATION PLAN

NOTE
ALL INFORMATION
ONLY HAVE TO
EXCEPT WHERE
INDICATED OTHERWISE
POL-ETHYLENE TUBING
MAY BE USED FOR
NOTES

No Existing
Recess For
Parking Cars

Existing
Access For
Parking Cars

STATE OF IOWA
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACTURES DIVISION

PARTIAL DRIP
IRRIGATION PLAN

AIRPORT INTERCHANGE
SOUTHWAY BOOMAY CENTER, IOWA
F.A.I. PROJ. NO. I-7-H-1173-16
SCALE AS SHOWN DATE 7/3/88

SHEET NO. 1 OF 22 SHEETS

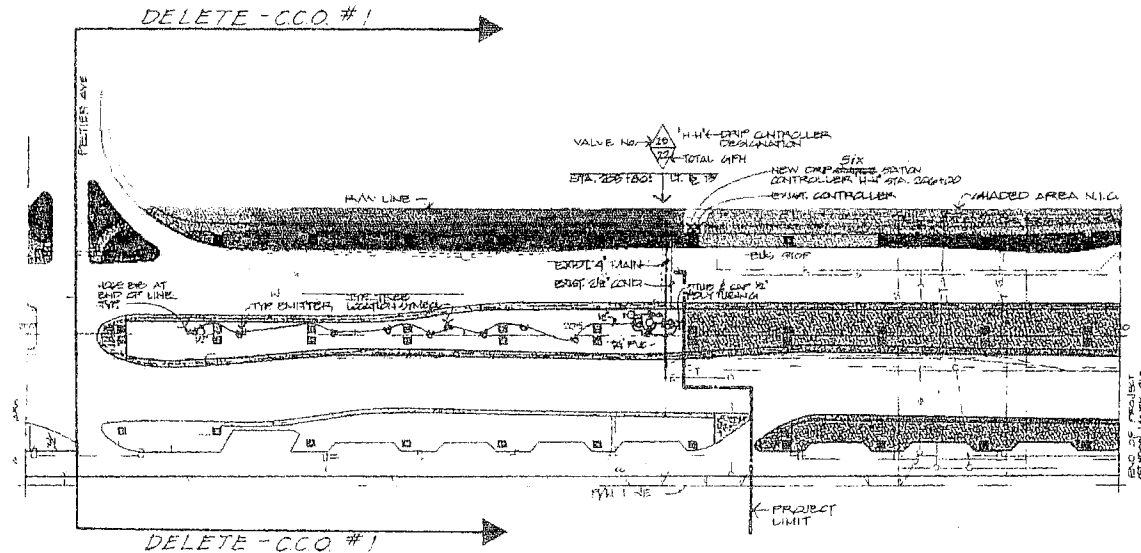
[Faint handwritten notes and markings]

MEETING NO. 1-8 OF 22 SHEETS

18

Appendix F1 (continuation)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-17-1-E-102916	1986	10	21



PARTIAL DRIP IRRIGATION PLAN
SCALE: 1" = 50'

LEGEND FOR UTILITIES

- S — SANITARY SEWER
- D — DRAIN SEWER
- W — WATER LINE
- G — GAS LINE
- O — OIL LINE
- C — COMMUNICAT. N. CABLE (CARRY OR NAVE)
- T — TELEPHONE CABLE
- E — ELECTRIC CABLE
- M — MANHOLE VALVE BOX
- A — ABANDONED LINE
- I — IRRIGATION PIPE

C.C.O. #1

DELETE ALL WORK OF
PELTIER AVE.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

PARTIAL DRIP IRRIGATION PLAN

AIRPORT INTERCHANGE
ROADWAY EROSION CONTROL & LANDSCAPING
F.A.H. PROJ. NO. I-17-1-E-102916

SCALE: AS SHOWN DATE: 2/10/83

SHEET NO. 12 OF 22 SHEETS

Appendix F2

Summary of Required Annual Inspections

Type of Inspection	Required for contract extension	Required for contract closing	Includes the following:	Reference
	2 nd Monday on the 4 th month after the Notice to Proceed date and 2 nd Monday on the 4 th month from the beginning of each contract term	Sixty (60) days prior to the end of the last term of the contract [i.e. after four (4) contract extensions, etc.]		
Comprehensive Annual Inspection (Landscaped Areas)	X	X	<ul style="list-style-type: none"> (a) Plant inventory, (b) Plant list comparison and replacement list, (c) Liquidated damages assessed, (d) Soil tests of troubled planting areas, (e) Fertilization schedule review, (f) Herbicide schedule review, (g) Invasive species, (h) Discretionary fund projects for coming year, (i) Professional credential review and (j) Maintenance sustainability recommendations. 	Section 10.4(O) Comprehensive Annual Inspection, of the Specifications
Comprehensive Annual Inspection (Irrigation System)	X	X	<ul style="list-style-type: none"> (a) Irrigation inventory. (b) Each valve shall be individually operated and checked for any deficiencies. (c) The Contractor shall start repairing any damages of the sprinkler system within forty-eight (48) hours of detection or from the time of notification by the State maintenance inspector. 	Paragraph (J), Comprehensive Annual Inspection, Appendix D Supplemental Irrigation System Maintenance Information, of the Appendices.

Appendix G

APPLICATION & PERMIT FOR THE OCCUPANCY & USE OF STATE HIGHWAY RIGHT-OF-WAY

POLICE CHECKLIST: ITEMS 1 THRU 5.

Application Date _____, 20 ____

Pursuant to the provisions of Chapter 264, Hawaii Revised Statutes as amended, application is hereby made to perform the following work activity or event upon the state highway described below and at the location(s) specified and at no other place, activity or event.

1. Name of Highway _____ Route #/Section _____

2. Location or limits on said highway _____

3. Description of work, activity or event to be performed

() Engineering Survey () Maintenance () Inspection () Landscaping () Other

4. Dates between which work, activity or event to be performed: _____

5. General Conditions

- a. No digging or disturbing of the highway will be permitted under this permit.
- b. The work, activity or event may be performed only during off-peak hours unless otherwise approved in writing. Peak hours are from 6:00 AM to 8:30 AM and from 3:00 PM to 6:00 PM, Monday through Friday excluding State Holidays.
- c. All lanes shall be open to traffic during the hours from 6:00 AM to 8:30 AM, during the hours of 3:00 PM to 6:00 PM, and when no work is being done under this permit. Only one lane traffic may be closed at any other time unless otherwise approved in writing.
- d. Parking permitted only in designated areas for vehicles actively engaged in, or loading or unloading materials for, the specified work, activity or event. Unattended vehicles will not be permitted.

6. Special Conditions and/or Restrictions _____

7. Submittals required

- a. () Traffic Control Plan (whenever there are lane closures)
- b. () Approved Landscaping Plan: It is agreed that upon the final acceptance of the approved landscape work by the State, all improvements placed on said premises shall be and remain of the State and may be removed or otherwise disposed of by the State at any time.
- c. Proof of State Indemnity
 Certificate of Insurance naming State of Hawaii as an additional insured, having minimum coverages for Bodily Injury or Death Per Person; Bodily Injury or Death Per Accident; and Property Damages Per Accident of:
 () \$100,000, \$300,000 and \$50,000 respectively; or
 () combined single limit of \$500,000.
 () Certificate attached or with Permit No. _____
 () Federal Non-Liability Clause (See Item 11 on the back of this permit)
 () Waived
- d. () Permit Fee \$ _____ (make check payable to Dept. of Transportation, State of Hawaii)

The applicant hereby agrees that any agreement heretofore made or hereafter to be made, and the covenants and conditions stated on the reverse side hereof shall be binding upon him, his heirs, personal representatives, successors, contractors and assigns.

APPLICANT: _____
(Name of owner whether individual firm, partnership, corporation, governmental agency, etc.)

ADDRESS: _____

TELEPHONE NO.: _____

(Print name & Title of Applicant or Authorized Rep.)

(Signature)

PERMIT NO. _____ DATE _____, 20 ____

Permission to perform the above described work, activity or event at the location(s) stated and between the dates set forth in said application is hereby granted. The applicant shall notify the issuing office in writing at least 24 hours before commencing work.

Director of Transportation or his Authorized Representative

Appendix G1

Sample – Notice to Proceed Letter for Miscellaneous Work

(pursuant to Section 10.4(P) and/or Section 11.4(D) of the Specifications, this Notice to Proceed Letter is required prior to commencing performance of all Miscellaneous Work)

**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
OAHU DISTRICT
727 KAKOI STREET
HONOLULU, HAWAII 96819**

Landscape Services
1234 Any Street
Honolulu, Hawaii 12345

Gentlemen:

Subject: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation System, H-1 Freeway, Salt Lake Boulevard to Puuloa Road, Districts of Ewa and Honolulu, Island of Oahu, Project No. H1G-01-17C, Contract No. _____

In accordance to the contract, you are hereby given notice to proceed with miscellaneous work at the agreed upon price of \$3,000.00, including State tax, to plant three (3) each coconut trees along Name Highway adjacent to Name Park.

The funds will be paid from the “Allowance” for “Miscellaneous Work”.

Sincerely,

George Abcede
Oahu District Engineer

Enclosure (*attach price quotation, etc.*)

APPENDIX H
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE MAINTENANCE CONTRACTOR PERFORMANCE RATING

PROJECT NO.: H1G-01-17C CONTRACT NO.: _____
 PROJECT TITLE: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation System, H-1 Freeway, Salt Lake Boulevard to Puuloa Road, Districts of Ewa and Honolulu, Island of Oahu
 CONTRACTOR: _____

ITEM	SPECIFICATION SECTION	TASK DESCRIPTION	MEETS SPECIFICATIONS	DOESN'T MEET SPECIFICATIONS	REMARKS (ATTACH A BLANK SHEET FOR MORE SPACE.)
1	10.4(A)	MOWING OF TURF AREAS.			
2	10.4(B)	EDGING AND TRIMMING OF TURF			
3	10.4(C)	WEEDING			
4	10.4(D)	EDGING AND TRIMMING OF VINES AND GROUND COVER.			
5	10.4(E)	SHRUB HEDGE TRIMMING			
6	10.4(E)	SHRUB TRIMMING (NATURAL APPEARANCE)			
7	10.4(F)	CONTROLLING VEGETATION OF RIGHT-OF-WAY LINE.			
8	10.4(F1)	WATERING			
9	10.4(G)	FERTILIZE LAWNS. (AS REQUESTED BY THE ENGINEER)			
10	10.4(G)	FERTILIZE SHRUBS. (AS REQUESTED BY THE ENGINEER)			
11	10.4(G)	FERTILIZE TREES. (AS REQUESTED BY THE ENGINEER)			
12	10.4(H)	APPLICATION OF PESTICIDES/HERBICIDES.			
13	10.4(I)	CLEARING OF GUTTERS, SWALES, AND DITCHES.			
14	10.4(J)	MAINTAINING PLANTINGS REQUIRING ADDITIONAL TASKS.			
15	10.4(K)	INVASIVE PLANT REMOVAL.			
16	10.4(L)	REMOVING AND DISPOSING RUBBISH AND DEBRIS, INCLUDING WASTE MATERIAL RESULTING FROM THE WORK ACTIVITIES.			
17	10.4(L)	REMOVING AND DISPOSING OF LITTER IN LANDSCAPED AREAS, GUTTERS AND SHOULDERS (PAPERS, CANS, ETC.)			
18	10.4(L)	REMOVING AND DISPOSING OF SOLID/HAZARDOUS WASTE (I.E. BATTERIES, MECHANICAL PARTS, LARGE FURNITURE, ETC.)			
19	10.4(M)	REPORTING OF HAZARDOUS CONDITIONS AND DAMAGES TO LANDSCAPED AREAS			
20	10.4(N)	CLOSING OF LANES/TRAFFIC CONTROL			
21	App. D	IRRIGATION INSPECTION WEEKLY.			
22	App. D	PREVENTIVE MAINTENANCE-IRRIGATION SYSTEM			
23	App. D	PREVENTIVE MAINTENANCE-IRRIGATION SYSTEM-CONTROLLER			
24	App. D	SUBMITTAL OF MONTHLY AND ANNUAL SERVICE IRRIGATION MAINTENANCE REPORT			
25	10.4(O) & App. D	LANDSCAPE AREAS & IRRIGATION SYSTEM COMPREHENSIVE ANNUAL INSPECTION			

RATED BY: _____
 ENGINEER OR REPRESENTATIVE

DATE _____

Appendix H1
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SAMPLE - RECORD OF HERBICIDE APPLICATION
(LANDSCAPING WORK)

*(Pursuant to Sections 10.3(H) and Item 10, Section 10.14 Submittals /Reports Summary, of the Specifications, the Contractor shall submit
a copy of this record weekly or as requested by to the Engineer – Oahu District representative (point of contact).*

Project No.: H1G-01-17C Contract No. _____ Date applied: _____ Sheet No. _____
Project Title: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation System, H-1 Freeway, Salt Lake Boulevard
to Puuloa Road, Districts of Ewa and Honolulu, Island of Oahu

A. ROUTE LOCATION *(i.e. H-1 FREEWAY, etc.)* _____

From milepost: _____ To milepost: _____ **Median/Shoulder/Drainage area** *(circle as applicable)*

Other location description: _____

B. HERBICIDE APPLICATION

Herbicide name brand: _____ Active Ingredient: _____ Surfactant name brand/amount: _____

Chemical rate/amount: _____ Total amount of mixed herbicide used (gallons): _____

Application method (s) (check as applicable): Backpack Sprayer and spray nozzle _____ Backpack Sprayer and wick applicator: _____

Boom sprayer _____ Other *(describe)*: _____

C. WEATHER CONDITIONS

Time of day: _____ Temperature range: _____

Wind speed and direction: _____ *(High wind DO NOT SPRAY)*

Sky *(circle as applicable)* CLEAR CLOUDY OVERCAST

Rain expected today *(yes or no)* _____ *(If yes, DO NOT SPRAY)* Raining (yes or no): _____ *(If yes, DO NOT SPRAY)*

Rain not expected today: _____

D. NOTES AND RECOMMENDATIONS: _____

E. CERTIFICATION: I hereby certify that product was used in accordance with the manufacturer's recommendations and in compliance
with all federal, State and local laws and regulations.

Contractor *(name of company)*: _____

Printed Name of Applicator: _____ Applicator's signature: _____

Applicator License number (if applicable): _____

Is applicator trained in accordance with Section 10.10(C)1? *(yes or no)* _____ *(If no, DO NOT SPRAY)*

APPENDIX I
Sample – Monthly Invoice

Landscape Services

1234 Any Street, Honolulu, Hawaii 12345 Phone: (808)123-1234 Fax: (808)123-1235 Email: name@email.com

Bill To: District Engineer- Oahu District
Highways Division
Department of Transportation
727 Kakoi Street
Honolulu, Hawaii 96819

Date: _____
Invoice No.: _____
Contract No: _____
Project No: H1G-01-17C

Project Title: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation System, H-1 Freeway, Salt Lake Boulevard to Puuloa Road, Districts of Ewa and Honolulu, Island of Oahu

Periods covered by this invoice: June 22, 2016 to July 21, 2016 (full month pay period, **head-to-tail format**, first pay period from the NTP date to the following month similar to this sample)

Bid Item No.	Description	Qty	Unit	Unit Price	Amount
1	Maintenance of Landscaped Areas	1	Month	\$ _____	\$ _____
2	Caring and Trimming of Shrubs	1	Month	\$ _____	\$ _____
3	Caring and Trimming of Trees (Sight Distance/Clear Zones/Clear Space) – continuous	1	Month	\$ _____	\$ _____
4	Maintenance of Irrigation System, routine/preventive	1	Month	\$ _____	\$ _____
5	Irrigation Trouble call repair, Regular working hours work - per man-hour, Sprinkler Technician	8	Man-hours	\$ _____	\$ _____
6	Pesticide and Herbicide		Allowance	\$ _____	\$ _____
7	Replacement Parts		Allowance	\$ _____	\$ _____
8	Miscellaneous Work		Allowance	\$ _____	\$ _____
Subtotal					\$ _____
Less Deductions per Sections 10.19(C)1 of the Specifications					\$ _____
Less Liquidated Damages per Section 8.6 Liquidated Damages, of the Special Provisions					\$ _____
Subtotal					\$ _____
Less 5% Retainage per Section 9.2 Retainage/ Deduction from Payment, of the Specifications. <i>Refer to Section 9.2 of the Special Provisions for information on how to obtain payment for the total retainage amount.</i>					\$ _____
Total Amount Due					\$ _____

Pursuant to Section 9.4 Progress Payments, of the Specifications and Section 9.4.3 of the Special Provisions, I certify that services requested under the contract have been performed by *Landscape Services* according to the contract.

First J. Name
President, Landscape Services

Appendix I1

(Pursuant to Item No. 12a, Section 10.14 Submittals /Reports Summary, of the Specifications, the Contractor shall submit this report to the to the Engineer, Oahu District representative (Point of Contact) with the monthly invoice.)

STATE OF HAWAII

CERTIFIED PAYROLL REPORT

DAGS.ECP v1.0_06/10

DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

Public Works Division

REPORT SUBMISSION DATE: 26-Aug-05

Name is of: Contractor: ☐

Subcontractor: ☐

☐ THIS IS AN AMENDED FORM
PAYMENTS MADE ON SAME DAY TO ALL EMPLOYEES

NAME:

PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION										PROJECT NO.	VENDOR CODE								
34	June 29, 2005	CHERRY COURTHOUSE, FIX ROTTEN TREES										99-99-9999	000003-98								
NAME OF EMPLOYEE	NO. OF WITHHOLDING EXEMPTIONS	WORK CLASSIFICATION (Refer to Class Title, Section 2.9 of the Special Provisions)	OT OR ST.	DAY AND DATE							TOTAL HOURS	RATE OF PAY	GROSS AMOUNT EARNED	TOTAL DEDUCTIONS						NET WAGES PAID FOR WEEK	DATE PAID TO EMPLOYEE
				S	M	T	W	TH	F	S				FICA	FED. WITH- HOLDING TAX	STATE WITH- HOLDING TAX	MEDICARE	OTHER DEDUC.	TOTAL DEDUCT		
				HOURS WORKED EACH DAY																	
Jack Sprat		Runner	S	7.00	7.00	7.00	7.00	8.00	8.00	9.00	53.00	\$30.00	\$1,590.000	\$3.00	\$2.00	\$2.00	\$1.00	\$2.00	\$10.00	\$4,100.000	17-Jun-05
			O	8.00	8.00	8.00	8.00	8.00	8.00	8.00	56.00	\$45.00	\$2,520.000								
			T	15.00	15.00	15.00	15.00	16.00	16.00	17.00	109.00		\$4,110.000								
Leap Frog		Jumper	S	2.00				6.00		4.00	12	\$20.00	\$240.000	\$4.00	\$5.00	\$6.00	\$6.00	\$3.00	\$24.00	\$216.000	
			O								0	\$30.00	\$0.000								
			T	2.00	0.00	0.00	6.00	0.00	0.00	4.00	12.00		\$240.000								
			S							0		\$0.000						\$0.00	\$0.000		
			O								0	\$0.00	\$0.000								
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000								
			S							0		\$0.000						\$0.00	\$0.000		
			O								0	\$0.00	\$0.000								
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000								
			S							0		\$0.000						\$0.00	\$0.000	27-Jan-05	
			O								0	\$0.00	\$0.000								
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000								
			S							0		\$0.000						\$0.00	\$0.000		
			O								0	\$0.00	\$0.000								
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000								
			S							0		\$0.000						\$0.00	\$0.000		
			O								0	\$0.00	\$0.000								
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000								
			S							0		\$0.000						\$0.00	\$0.000		
			O								0	\$0.00	\$0.000								
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000								
			S							0		\$0.000						\$0.00	\$0.000		
			O								0	\$0.00	\$0.000								
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000								
			S							0		\$0.000						\$0.00	\$0.000		
			O								0	\$0.00	\$0.000								
			T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		\$0.000								

APPENDIX J

Sample – Satisfactory Evidence by Affidavit for Final Payment

(pursuant to Section 9.5.B of the Specifications, the Contractor must submit this affidavit to the Department in order for the Final Payment to be made)

Landscape Services

1234 Any Street, Honolulu, Hawaii 12345 Phone: (808)123-1234 Fax: (808)123-1235 Email: name@email.com

Date:

State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Sir/Madam:

Pursuant to Section 9.5.B, of the Specifications, I hereby certify that all debts resulting from Contract No. _____, Project No. H1G-01-17C, Project Title: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation System, H-1 Freeway, Salt Lake Boulevard to Puuloa Road, Districts of Ewa and Honolulu, Island of Oahu, have been fully paid or satisfactorily secured.

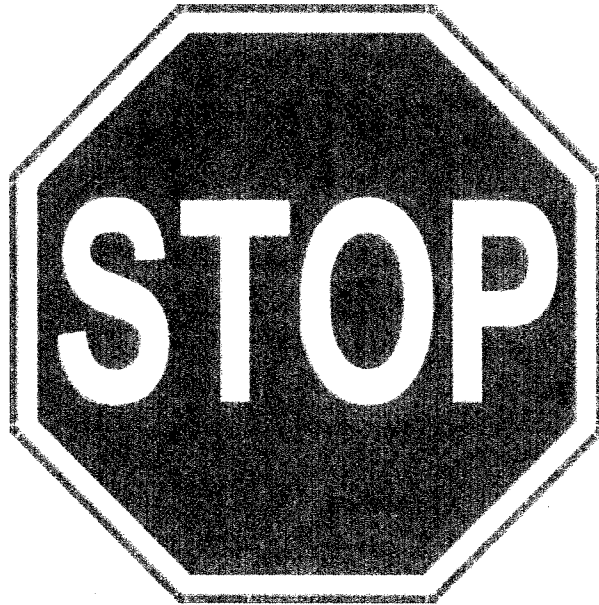
Cordially,

First J. Name
President
Landscape Services

Subscribed and sworn to me
this _____ day of _____, 2018.

Notary Public, First Judicial Circuit,
State of Hawaii

My Commission Expires: _____



*The bidder shall refer to Section 10.2(B) Schedule of Submitting Required Documents, of the Specifications **and be familiar with the requirements prior** to submitting his or her bids. The bidder, **starting with the lowest bidder**, is required to submit specific documents prior to award.*

***Failure by the bidder to submit.** The bidder maybe considered non-compliant with the requirements of the Special Provisions and the Specifications if the bidder fails to submit the documents to the Project Manager no later than **seven (7) working days** from the date of request (date of receipt of the written request) from the State. This failure may result in an adverse decision of an award by the Department of Transportation.*

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HONOLULU, HAWAII

P R O P O S A L

PROPOSAL TO THE STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

PROJECT: MAINTENANCE OF LANDSCAPED AREAS AND
MAINTENANCE, REPAIR AND INSPECTION OF
IRRIGATION SYSTEM, SALT LAKE BOULEVARD TO
PUULOA ROAD, DISTRICTS OF EWA AND
HONOLULU, ISLAND OF OAHU

PROJECT NOS: H1G-01-17C

CONTRACT TIME: Twelve (12) months from date indicated in the Notice to
Proceed from the Department. The contract maybe
extended as provided for in Section 10.17 Option to Extend
Term, of the Specifications.

LIQUIDATED DAMAGES: Refer to Section 8.6 Liquidated Damages, of the Special
Provisions and Section 11.19 (C) 1 of the Specifications.
Refer to Section 10.19(C) 1 Basis for Payment, of the
Specifications for applicable deductions for incomplete
work.

NOTE: **PERFORMANCE BOND IS REQUIRED FOR THE
FIRST YEAR OF THIS PROJECT.**

BID AND PAYMENT BONDS ARE NOT REQUIRED
FOR THIS PROJECT.

Director of Transportation
AliiAIMoku Hale
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Sir:

The undersigned bidder declares the following:

1. It has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal.
2. It has not been assisted or represented on this matter by any individual who has, in a State capacity, been involved in the subject matter of this contract within the past two years.
3. It has not and will not, either directly or indirectly offered or given a gratuity (i.e. an entertainment or gift) to any State or County employee to obtain a contract or favorable treatment under a contract.

The undersigned bidder further agrees to the following:

1. If this proposal is accepted, it shall execute a contract with the Department to provide all necessary labor, machinery, tools, equipment, apparatus and any other means of construction, to do all the work and to furnish all the materials specified in the contract in the manner and within the time therein prescribed in the contract, and that it shall accept in full payment therefore the sum of the unit and/or lump sum prices as set forth in the attached proposal schedule for the actual quantities of work performed and materials furnished and furnish satisfactory security in accordance with Section 103D-324, Hawaii Revised Statutes, within 10 days after the award of the contract or within such time as the Director of Transportation may allow after the undersigned has received the contract documents for execution, and is fully aware that non-compliance with the aforementioned terms will result in the forfeiture of the full amount of the bid guarantee required under Section 103D-323, Hawaii Revised Statutes.

2. That the quantities given in the attached proposal schedule are approximate only and are intended principally to serve as a guide in determining and comparing the bids.
3. That the Department does not either expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary or advisable by the Director of Transportation, and that all increased or decreased quantities of work shall be performed at the unit prices set forth in the attached proposal schedule except as provided for in the specifications.
4. In case of a discrepancy between unit prices and the totals in said Proposal Schedule, the unit prices shall prevail.
5. Agrees to begin work within 10 working days after the date of notification to commence with the work, which date is in the notice to proceed, and shall finish the entire project within the time prescribed.
6. The Director of Transportation reserves the right to reject any or all bids and to waive any defects when in the Director's opinion such rejections or waiver will be for the best interest of the public.

Receipt is hereby acknowledged and complete examination is hereby expressly guaranteed of the following listed items: the specifications, the notice to bidders, the special provisions, if any, the proposal, the plans, if any, and the contract form.

The undersigned acknowledges receipt of any addendum, issued by recording in the space below the date of receipt.

Addendum No. 1 _____ Addendum No. 3 _____

Addendum No. 2 _____ Addendum No. 4 _____

The undersigned hereby certifies that the bid prices contained in the attached proposal schedule have been carefully checked and are submitted as correct, final and are net prices.

Bidder

By _____
Authorized Signature

Title

Business Address

Business Telephone

Date

Contact Person and Phone Number
(If different from above.)

NOTE:

If bidder is a CORPORATION, the legal name of the corporation shall be set forth above, the corporate seal affixed, together with the signature(s) of the officer(s) authorized to sign contracts on behalf of the corporation. Please attach to this page current (not more than six months old) evidence of the authority of the officer(s) to sign on behalf of the corporation.

If bidder is a PARTNERSHIP, the true name of the partnership shall be set forth above with the signature(s) of the general partner(s) authorized to sign contracts on behalf of the partnership. Please attach to this page current (not more than six months old) evidence of the authority of the partner(s) to sign on behalf of the partnership.

If bidder is an INDIVIDUAL, the bidder's signature shall be placed in the space provided therefore on page PF-4.

If signature is by an agent, other than an officer of a corporation or a partner of a partnership, a POWER OF ATTORNEY must be on file with the Department prior to the opening of bids or submitted with the bid; otherwise, the bid may be rejected as irregular and unauthorized.

PROPOSAL SCHEDULE
FOR
MAINTENANCE OF LANDSCAPED AREAS AND
MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION SYSTEM
SALT LAKE BOULEVARD TO PUULOA ROAD
PROJECT NO. H1G-01-17C
DISTRICT OF WAHIAWA
ISLAND OF OAHU

Bid Item No.	Item Description	Qty (a)	Unit (b)	Unit Price (c)	Amount (a x c)
1	Maintenance of Landscaped Areas <i>[Refer to Sections 10.4(A) thru (D), (F) and (I) thru (O) of the Specifications and Appendix C of the Appendices]</i>	12	Month	\$ _____	\$ _____
2	Caring and Trimming of Shrubs <i>Refer to Sections 10.4(E) and 10.4(E1) of the Specifications.]</i>	12	Month	\$ _____	\$ _____
3	Caring and Trimming of Trees (Sight Distance/Clear Zones/Clear Space only) – continuous <i>[tree trimming (i.e. light trimming, crown raising, lifting, etc.) and removal is <u>excluded</u> from this contract. Refer to Sections 10.4(E1) of the Specifications and Note No. 2 of the Proposal Schedule]</i>	12	Month	\$ _____	\$ _____
4	Maintenance and Inspection of Irrigation System, routine/preventive <i>[Refer to Section 11.4(A) of the Specifications and Appendix D of the Appendices]</i>	12	Month	\$ _____	\$ _____
5	Irrigation Trouble call repair work, Regular working hours - per man-hour, Sprinkler Technician <i>[Refer to Section 11.4(B) of the Specifications]</i>	50	Man-hour	\$ _____	\$ _____
6	Pesticide and Herbicide <i>[Refer to Section 10.4(H) of the Specifications]</i>		Allowance	Allowance	\$ <u>2,000.00</u>
7	Replacement Parts <i>[Refer to Section 11.4(C) of the Specifications]</i>		Allowance	Allowance	\$ <u>20,000.00</u>
8	Miscellaneous Work <i>[Refer to Section 10.19(B) and 11.19(B) of the Specifications]</i>		Allowance	Allowance	\$ <u>50,000.00</u>
TOTAL (For comparison of bids, sum of items 1 through 8)					\$ _____

Notes (refer to the notes on the following pages):

PROPOSAL SCHEDULE
FOR
MAINTENANCE OF LANDSCAPED AREAS AND
MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION SYSTEM
SALT LAKE BOULEVARD TO PUULOA ROAD
PROJECT NO. H1G-01-17C
DISTRICT OF WAHIAWA
ISLAND OF OAHU

Notes

1. *The bidder shall refer to Section 10.2 (B) Schedule of Submitting Required Documents prior to submitting his or her bids.*

***Failure by the bidder to submit.** The bidder maybe considered non-compliant with the requirements of the Special Provisions and the Specifications if the bidder fails to submit the documents to the Project Manager no later than **seven (7) working days** from the date of request (date of receipt of the written request) from the State. This failure may result in an adverse decision of an award by the Department of Transportation.*

2. ***Bidder shall make no changes to the items.** Pursuant to the Hawaii Administrative Rule §3-122-97 (b) (2) (B), bids submitted with changes to the item(s) are considered **rejectable bids**.*
3. ***Any bid item lacking a price disqualifies the bidder and shall be grounds for rejection of bids.***
4. ***In case of a discrepancy between unit prices and the totals in said Proposal Schedule, the unit prices shall prevail.** Refer to pages PF-2 and PF-3 of the Proposal Schedule for other conditions that the bidder must agree with. To obtain the extension amount, the bidder shall use the formula as provided in this Proposal Schedule, column (a) multiplied by column (c).*
5. *Bidder's bid price shall be inclusive of all direct and indirect costs as specified in Section 10.19 Basis of Payment, of the Specifications.*
 - a. *Refer to Section 10.3 Inspection of Plans and of Areas to be Maintained if bidder is requesting to review the plans for the right of way areas.*
 - b. *This project excludes tree trimming (light trimming, crown raising, lifting, etc.) and removal services specified in Sections 10.4(E2) and 10.4(E)3 of the Specifications.*
 - c. *This project includes Caring and Trimming (sight distance/clear zones/clear space) of Trees as specified in Section 10.4(E1) of the Specifications when trees affect sight distance on traffic signs, clear zones and clear space.*

PROPOSAL SCHEDULE
FOR
MAINTENANCE OF LANDSCAPED AREAS AND
MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION SYSTEM
SALT LAKE BOULEVARD TO PUULOA ROAD
PROJECT NO. H1G-01-17C
DISTRICT OF WAHIAWA
ISLAND OF OAHU

Notes (continuation):

6. The number of hours of irrigation trouble call repair work, Bid Item No. 5 is an estimate for bidding purposes only. Payments to the Contractor will be made on the basis of actual number of performances and the unit bid price. *Refer to 11.19(B)1 Basis of Payment, of the Specifications.*
7. **Prior to commencing with the work, the successful Bidder is required to submit a Certificate of Insurance.** *Refer to Section 7.9 Insurance, of the Specifications for more information.*
8. Closing of lanes and traffic control shall be performed in accordance with Section 10.4(N) Closing of Lanes/Traffic Control, of the Specifications. Subcontracting work like traffic control shall be in accordance with Section 8.2 Subcontracting, of the Special Provisions and approval process shall be in accordance with Section 2.1.B.2.b of the Special Provisions.
9. This project requires a Safety Plan in accordance with Section 10.11(D), Safety Plan; Fall Protection Plan, in accordance with Section 10.11(E), Fall Protection Plan; Traffic Control Plan for all lane closures in accordance with Section 10.4(K) 3 and Permit for the Occupancy & Use of State Highway Right-Of-Way in accordance with Section 10.4(K) 4 of the Specifications.

Refer to Sections 2.1.B.1.c of the Special Provisions for the required minimum number of CLT-Exterior Maintenance per two (2) awarded landscaping contracts and Section 2.1.B.3 of the Special Provisions for the required Fall Protection Competent and Fall Protection training.
10. Irrigation system is **currently one hundred (80%)** percent operational. *Refer to Section 11.1 of the Specifications for more information.*
11. **Performance bond is required for the first year of this project.** *For planning purposes, since this project is of high visibility to the community and pursuant to Section 3.5 Execution of Contract, of the Specifications, the successful bidder is required to return the executed contract documents, together with the contract bonds, within ten (10) days after the award of the contract, but no later than sixty (60) days from the date of the receipt of the contract documents for execution as determined by the Director. The successful bidder shall be notified in writing with regards to the 60-day requirement as mentioned above. Award shall be cancelled and proposal guaranty shall be forfeited if the successful bidder fails to execute the contract and file acceptable bonds in accordance with Section 3.6 Failure to Execute Contract, of the Specifications.*

PROPOSAL SCHEDULE
FOR
MAINTENANCE OF LANDSCAPED AREAS AND
MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION SYSTEM
SALT LAKE BOULEVARD TO PUULOA ROAD
PROJECT NO. H1G-01-17C
DISTRICT OF WAHIAWA
ISLAND OF OAHU

Notes (continuation):

12. *By submitting a proposal, the bidder acknowledges he or she has read and understand all the provisions of the special provisions, specifications and has inspected the project site and is fully aware of all the conditions to be encountered in performing the work.*

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

F O R M S

Contents:

Sample Contract

Performance Bond (Surety)

Performance Bond

Certificate for Performance of Services

CONTRACT

THIS AGREEMENT, made this _____ day of _____, by and between the STATE OF HAWAII, by its Director of Transportation, hereinafter referred to as "STATE", and «CONTRACTOR», «STATE OF INCORPORATION» whose business/post office address is «ADDRESS», hereinafter referred to as "CONTRACTOR";

WITNESSETH: That for and in consideration of the payments hereinafter mentioned, the CONTRACTOR hereby covenants and agrees with the STATE to furnish, perform and/or deliver and pay for all labor, supplies, materials, equipment and services called for in

"«PROJECT NAME AND NO»",

or such a part thereof as shall be required by the STATE, the total amount of which labor, supplies, materials, equipment and services shall be computed at the unit and/or lump sum prices set forth in the attached proposal schedule and shall be the sum of «BASIC»--
--DOLLARS (\$«BASIC_NUMERIC») as follows:

TOTAL FOR COMPARISON OF BIDS\$«BASIC_NUMERIC»

which sum shall be provided from State funds, all in accordance with the specifications, the special provisions, if any, the notice to bidders, the instructions to bidders, the proposal and plans, if any, for «PROJECT_NO_ONLY», on file in the office of the Director of Transportation. These documents, together with all alterations, amendments, and additions thereto and deductions therefrom, are attached hereto or incorporated herein by reference and made a part of this contract.

The CONTRACTOR hereby covenants and agrees to furnish, perform and/or deliver all labor, supplies, materials, equipment and services as provided herein for a period of «WORKING_DAYS» from the date indicated in the Notice to Proceed from the State, with an option to extend for FOUR (4) additional ONE (1) YEAR periods subject to the terms specified in Section «SECTION_REFERENCING_OPTION_YEAR» of the Specifications. The total term of this contract shall not exceed FIVE (5) YEARS.

For and in consideration of the covenants, undertakings and agreements of the CONTRACTOR herein set forth and upon the full and faithful performance thereof by the CONTRACTOR, the STATE hereby agrees to pay the CONTRACTOR the sum of «BASIC» ---- DOLLARS (\$«BASIC_NUMERIC») in lawful money, such payment to be made, subject to such additions hereto or deductions therefrom heretofore or hereafter made, in the manner and at the time prescribed in the specifications and this contract.

An additional sum of «EXTRAS»---- DOLLARS (\$«EXTRA_NUMERIC») is hereby provided for extra work and shall be provided from State funds.

The CONTRACTOR further agrees to execute the attached Certification of Compliance for Final Payment form prior to payment of the final payment by the STATE.

All words used herein in the singular shall extend to and include the plural. All

words used in the plural shall extend to and include the singular. The use of any gender shall extend to and include all genders.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be duly executed the day and year first above written.

STATE OF HAWAII

Director of Transportation

«CONTRACTOR»

(Seal)

Signature*

Title

*Signatures must be acknowledged
by a notary public.

PERFORMANCE BOND (SURETY)

(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

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

as Contractor, hereinafter called Principal, and _____

(Name and Street Address of Bonding Company)

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

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

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

WHEREAS, the above-bound Principal has signed a Contract with Obligor on

_____, for the following project: _____

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

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

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

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

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

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

PERFORMANCE BOND

KNOW TO ALL BY THESE PRESENTS:

That we, _____
(full legal name and street address of Contractor)

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

(State/County entity)

its successors and assigns, as Obligee, hereinafter called Obligee, in the amount

(Dollar amount of Contract) DOLLARS \$ _____).

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

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

WHEREAS:

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

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

NOW THEREFORE,

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

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

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

Signed and sealed this _____ day of _____, _____.

(Seal) _____

Name of Contractor

Signature*

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

CERTIFICATE FOR PERFORMANCE OF SERVICES

The undersigned bidder does hereby certify that in performing the services required for the MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION SYSTEM, SALT LAKE BOULEVARD TO PUULOA ROAD, PROJECT NO. H1G-01-17C, DISTRICTS OF EWA AND HONOLULU, ISLAND OF OAHU, it will fulfill the following conditions:

1. All applicable laws of the Federal and State governments relating to workers compensation, unemployment compensation, payment of wages, and safety will be fully complied with; and

2. The services to be rendered shall be performed by employees paid at wages or salaries not less than the wages paid to public officers and employees for similar work, with the exception of professional, managerial, supervisory, and clerical personnel who are not covered by Section 103-55, HRS.

I understand that failure to comply with the above conditions during the period of the contract shall result in cancellation of the contract, unless such noncompliance is corrected within a reasonable period as determined by the Director of Transportation. Payment in the final settlement of the contract or the release of bonds, if applicable, or both shall not be made unless the Director of Transportation has determined that the noncompliance has been corrected; and

I further understand that all payments required by Federal and State laws to be made by employers for the benefit of their employees are to be paid in addition to the base wage required by Section 103-55, HRS.

DATED at Honolulu, Hawaii, this ____ day of _____.

Name of Corporation, Partnership, or Individual

Signature and Title of Signer

Subscribed and sworn before me this __ day of _____.

Notary Public, _____ Judicial Circuit, State of Hawaii

My Commission Expires: _____