

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS
HONOLULU, HAWAII

SPECIAL PROVISIONS, SPECIFICATIONS, PROPOSAL,
CONTRACT, AND BOND

FOR

MAINTENANCE OF LANDSCAPED AREAS AND
MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION AND PUMP SYSTEM

FORT WEAVER ROAD

HANAKAHI STREET TO VICINITY OF FORT WEAVER INTERCHANGE,

FORT WEAVER ROAD AT H-1 FREEWAY TO

FORT WEAVER ROAD AT EWA BEACH ROAD

PROJECT NO. 76AB-01-24C

DISTRICT OF EWA

ISLAND OF OAHU

NOTICE TO BIDDERS
Hawaii Revised Statutes (HRS),
Chapter 103D

SEALED BIDS for MAINTENANCE OF LANDSCAPED AREAS AND
MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION AND PUMP SYSTEM,
FORT WEAVER ROAD, HANAKAHI STREET TO VICINITY OF FORT WEAVER
INTERCHANGE, FORT WEAVER ROAD AT H-1 FREEWAY TO FORT WEAVER ROAD
AT EWA BEACH ROAD, DISTRICT OF EWA, ISLAND OF OAHU,
PROJECT NO. 76AB-01-24C, will begin as advertised in HIePRO. Bidders shall register and submit complete bids through HIePRO only. Refer to the following HIePRO link for important information on registering: <https://hiepro.ehawaii.gov/welcome.html>

Specifications, proposal, and other documents designated or incorporated by reference shall be available in HIePRO.

DEADLINE TO SUBMIT BIDS is April 1, 2024, at 2:00 p.m., Hawaii Standard Time (HST). **Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered. Any additional supporting documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Do not include confidential and/or proprietary documents with the proposal. The record of each bidder and respective bid shall be open to public inspection. FAILURE TO UPLOAD THE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.**

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 and pump system.

To be eligible for award, bidders shall possess a valid State of Hawaii Specialty Contractors “C-27” Landscaping License, **at the time of bidding**. See Section 10.2 for additional requirements.

All Request for Information (RFI) questions and substitution requests shall be submitted via HlePRO **no later than March 18, 2024, at 2:00 p.m., HST**. RFI questions received after the stated deadline will not be addressed. Verbal RFIs will not receive a response. All responses to RFI questions shall be provided for clarification and information only and issued by formal addendum. Any amendments to the solicitation shall be made by formal addendum and posted in HlePRO.

If there is a conflict between the bid document and information stated in the responses to RFI questions, the solicitation, as amended by formal addendum, shall govern and control.

Campaign contributions by State and County Contractors. Contractors are hereby notified of the applicability of HRS § 11-355 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.

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

The Equal Employment Opportunity Regulations of the Secretary of Labor implementing

Executive Order 11246, as amended, shall be complied with 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 Jennifer Yoza, Project Manager, by phone at (808) 587-2628, or by email at jennifer.y.yoza@hawaii.gov.

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



ROBIN K. SHISHIDO
Deputy Director of Transportation for Highways

Posted on HiePRO: March 8, 2024

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NOTICE TO BIDDERS
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SEALED BIDS for MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION AND PUMP SYSTEM, FORT WEAVER ROAD HANAKAHI STREET TO VICINITY OF FORT WEAVER INTERCHANGE, FORT WEAVER ROAD AT H-1 FREEWAY TO FORT WEAVER ROAD AT EWA BEACH ROAD, DISTRICT OF EWA, ISLAND OF OAHU, PROJECT NO. 76AB-01-24C, will begin as advertised in HIePRO. Bidders shall register and submit complete bids through HIePRO only. Refer to the following HIePRO link for important information on registering: <https://hiepro.ehawaii.gov/welcome.html>.

Plans, specifications, proposal, and other documents designated or incorporated by reference shall be available in HIePRO.

DEADLINE TO SUBMIT BIDS is **March XX, 2024**, at 2:00 p.m., Hawaii Standard Time (HST). **Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Do not include confidential and/or proprietary documents with the proposal. The record of each bidder and respective bid shall be open to public inspection. FAILURE TO UPLOAD THE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.**

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 and pump system.

To be eligible for award, bidders shall possess a valid State of Hawaii Specialty Contractors C-27 Landscaping License, **at the time of bidding**. See Section 10.2 for additional requirements.

All Request for Information (RFI) questions and substitution requests shall be submitted via HlePRO **no later than March xx at 2:00 p.m., HST**. RFI questions received after the stated deadline will not be addressed. Verbal RFIs will not receive a response. All responses to RFI questions shall be provided for clarification and information only and issued by formal addendum. Any amendments to the bid documents shall be made by formal addendum and posted in HlePRO.

If there is a conflict between the bid document and information stated in the pre-bid meeting, the pre-bid meeting minutes and/or responses to RFI questions, the bid document, as amended by formal addendum, shall govern and control.

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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 Jennifer Yoza, Project Manager, by phone at (808) 587-2628, or by email at jennifer.y.yoza@hawaii.gov.

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

ROBIN K. SHISHIDO
Deputy Director of Transportation for Highways

Posted on HIePRO: March xx, 2024

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS
HONOLULU, HAWAII

SPECIAL PROVISIONS

SPECIAL PROVISIONS

The specifications contain herein are amended as follows:

(A) SECTION 1 – DEFINITIONS AND TERMS shall be amended as follows:

1. 1.33 SUBCONTRACTOR shall be amended in its entirety to read as follows:

“1.33 SUBCONTRACTOR – An individual, partnership, firm, corporation, or joint venture, or other legal entity, as licensed or required to be licensed under Chapter 444, Hawaii Revised Statutes, as amended, which enters into an agreement with the Contractor to perform a portion of the work.”

2. 1.38 WORKING DAY shall be amended in its entirety to read as follows:

“1.38 WORKING DAY – Every day, except Saturdays, Sundays, State holidays as applicable and as observed.

Normal State holidays are as follows:

New Year's Day (The first day in January)
Dr. Martin Luther King, Jr. Day (The third Monday in January)
President's Day (The third Monday in February)
Prince Jonah Kuhio Kalaniana'ole Day (The twenty-sixth day in March)
Good Friday (The Friday preceding Easter Sunday)
Memorial Day (The last Monday in May)
King Kamehameha Day (The eleventh day in June)
Independence Day (The fourth day in July)
Statehood Day (The third Friday in August)
Labor Day (The first Monday in September)
General Election Day (The first Tuesday in November following the first Monday of even numbered years)
Veteran's Day (The eleventh day in November)
Thanksgiving Day (The fourth Thursday in November)
Christmas Day (The twenty-fifth day in December)

State Holiday schedules can be obtained online at:

<http://dhrd.hawaii.gov/state-observed-holidays/>”

3. Add the following new subsections:

“1.39 HAWAII ePROCUREMENT SYSTEM (HIePRO) - The State of Hawaii eProcurement System for issuing solicitations, receiving proposals and responses, and issuing notices of award.

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

1.41 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/>

to review the 2005 Standard Specifications and their applicable amendments/Special Provisions.

The Contractor shall utilize the latest revision.

1.42 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.

1.43 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. To review the HMSLM, log on to:

<http://hidot.hawaii.gov/highways/landscape-architecture-program/>

1.44 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/>

1.45 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 shall be amended as follows:

1. 2.3 PROPOSAL GUARANTY is deleted in its entirety.

2. 2.4 DELIVERY OF PROPOSALS shall be amended in its entirety to read as follows:

“2.4 DELIVERY OF PROPOSALS – Bidders shall submit and upload the complete proposal to HiePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered. Original (wet ink, hard copy) proposal documents are not required to be submitted. Contract award shall be based on evaluation of proposals submitted and uploaded to HiePRO. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HiePRO. Do not include confidential and/or proprietary documents with the proposal. The record of each bidder and respective bid shall be open to public inspection.

FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HiePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.

If there is a conflict between the specification document and the HiePRO solicitation, the specifications shall govern and control, unless otherwise specified.”

3. 2.5 WITHDRAWAL OF PROPOSALS shall be amended in its entirety to read as follows:

“2.5 WITHDRAWAL OF PROPOSALS – A bidder may withdraw or revise a proposal after the bidder submits the proposal in HiePRO. Withdrawal or revision of proposal must be completed before the time set for receiving of bids.”

4. 2.6 PUBLIC OPENING OF PROPOSALS is not applicable.

5. Add the following new subsection:

“2.9 CERTIFICATE FOR PERFORMANCE OF SERVICES – Pursuant to Section 103-55, Hawaii Revised Statutes, and unless indicated otherwise, each bidder should submit the “Certificate for Performance of Services” in the event bids are more than \$25,000. The notarized certificate must be submitted to the Contracts Office, Department of Transportation, 869 Punchbowl Street, Honolulu, Hawaii 96813, before entering a contract to perform services. This form is available in the Forms section.

As of July 1, 2023, 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	\$ 23.19
General Laborer II	BU 01	BC-03	\$ 23.84
General Laborer III	BU 01	WS-03	\$ 25.52
Equipment Operator I	BU 01	BC-04	\$ 24.80
Equipment Operator II	BU 01	BC-06	\$ 26.83
Irrigation Service Worker II	BU 01	BC-07	\$ 27.90
Sprinkler System Repairer	BU 01	BC-05	\$ 25.79
Nursery Worker II	BU 01	WS-05	\$ 27.63
Grounds Maintenance Supervisor 1	BU 02	F-103	\$ 27.02
Highway Maintenance Supervisor I &II	BU 02	F-105	\$ 29.61

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 Contractor'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 when work is done on this project. 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, Personnel Management office (587-2229) or online 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 3 – AWARD AND EXECUTION OF CONTRACT shall be amended as follows:

1. 3.1 AWARD OF CONTRACT shall be amended by replacing the entire subsection with:

“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.

Requirement for award. The Bidder, as proof of compliance with the requirements of § 103D-310(c), HRS, upon award of a contract made pursuant to § 103D-302, HRS, shall provide the documents listed below. The documents shall be submitted promptly to the Department. If a valid certificate/clearance is not submitted on a timely basis upon award, a Bidder may be deemed non-responsible.

A. Tax Clearance.

Pursuant to §103D-310(c), 103-53 and 103D-328, HRS, the bidder shall submit a tax clearance certificate from the State of Hawaii Department of Taxation (DOTAX) and the Internal Revenue Service (IRS) subject to § 103D-328, HRS, current within six months of issuance date.

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

<https://tax.hawaii.gov/>

To receive DOTAX Forms by fax or mail, phone (808)587-4242 or 1-800-222-3229.

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 bidder shall submit a certificate of compliance for Hawaii Employment Security Law (Chapter 383, HRS), Workers' Compensation Law (Chapter 386, HRS), Temporary Disability Insurance (Chapter 392, HRS), and Prepaid Health Care Act (Chapter 393, HRS), from the State of Hawaii Department of Labor and Industrial Relations (DLIR), current within six months of issuance date.

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

<https://labor.hawaii.gov/>

Contact the DLIR Unemployment Insurance Division at (808) 586-8926 for additional information.

Inquiries regarding the status of a LIR#27 Form are available from the DLIR Disability Compensation Division at (808)586-9200.

The application for the Certificate of Compliance is the responsibility of the bidder. Bidder shall submit 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 bidder shall submit a certificate of good standing from the Business Registration Division (BREG) of the State of Hawaii Department of Commerce and Consumer Affairs (DCCA), current within six months of issuance date, to demonstrate 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 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 of 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:

<https://cca.hawaii.gov/>

The application for the Certificate of Good Standing is the responsibility of the bidder. Bidder shall submit directly to the DCCA. The approved certificate may then be submitted to the Department.

D. IN LIEU OF the certificates referenced in subsection A, B, and C, bidder may make available proof of compliance through a state procurement office designated certification process.”

(D) SECTION 4 – SCOPE OF WORK shall be amended as follows:

1. 4.2 PERFORMANCE OF WORK shall be amended by adding the following 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 he may terminate the contract.”

(E) SECTION 5 – CONTROL OF WORK shall be amended as follows:

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

“The Contractor shall always have an authorized individual to relate with the State Inspector or Engineer at each work site during scheduled work.

The Contractor shall furnish the State with contract information including a telephone number and an electronic mail address where the Contractor may always be reached. The Contractor shall respond to all notifications within an hour of receipt and no longer than three (3) hours of receipt.”

2. 5.4 INSPECTION shall be amended by adding the following 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.

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 at least every three (3) months or as determined by the Engineer. The Contractor will be rated on performance factors related to compliance with the contract specifications on administrative items and performance of field activities.

The Contractor’s continuous unsatisfactory performance to meet the contract requirements shall be grounds for non-extension of the contract.”

(F) SECTION 6 – CONTROL OF MATERIAL AND EQUIPMENT shall be amended as follows:

1. 6.2 TRADE NAMES AND ALTERNATES is amended as follows:

A. The first paragraph of A. QUALIFICATION BEFORE BID OPENING shall be replaced with the following:

“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 Department. The bidder shall submit a request to the Department for review and approval at the earliest date possible. Requests shall be submitted via email to the Contact person listed in HIePRO for the solicitation and also posted as a question in HIePRO under the question/answer tab referencing the email with the request. The request must be posted in HIePRO no later than fourteen (14) calendar days before the bid opening date.”

B. The first sentence of the second paragraph of A. QUALIFICATION BEFORE BID OPENING shall be replaced with the following:

“It shall be the responsibility of the bidder to submit sufficient evidence based upon which a determination can be made by the Department that the alternate brand is a qualified equivalent.”

(G) SECTION 7 – LEGAL RELATIONS AND RESPONSIBILITY shall be amended as follows:

1. 7.8 LABOR AND COMPENSATION REQUIREMENTS shall be amended by replacing the first two paragraphs with the following:

“7.8 LABOR AND COMPENSATION REQUIREMENTS – Pursuant to Section 103-55, H.R.S., Wages, Hours, Working Conditions of Employees of Contractor’s Supplying Services, 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. The Contractor shall submit certified payroll affidavits in the form approved by the Department.

Additional information on the requirements of Section 103.55, H.R.S. may be obtained at:

https://www.capitol.hawaii.gov/hrscurrent/Vol102_Ch0046-0115/HRS0103/HRS_0103-0055.htm.

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 always conduct maintenance operations with due regard to the convenience and safety of the public. 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 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); the 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.”

- (H) SECTION 8 – PROSECUTION AND PROGRESS shall be amended as follows:

1. 8.2 SUBCONTRACTING shall be 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 always keep the work under his control.

The scope and nature of work required under this contract are such that any licensed Landscape Contractor “C-27” should be able to do 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 shall be amended by adding the following to the end of the subsection:

A. Liquidated Damages for routine and preventative Maintenance and Inspection of Irrigation System.

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. Since the value of damages are difficult to predetermine, the value of such damages is fixed in advance as follows:

1. Plants which die to irrigation failure will be considered to have died due to Contractor’s *negligence, invasive plants, insects, disease or malpractice* 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 values of plants not replaced within the 4-week period after notification from the Engineer. Below is the schedule of liquidated damages:

Item	Unit Size/Description	Unit	Liquidated Damages
Monkeypod [<i>Samanea Saman</i>]	Field Stock 12-15’ ht, 6-8’ Spd, 4-6” cal.	Each	\$650.00
Geiger Tree [<i>Cordia sebestena</i>]	25 Gallon size	Each	\$1,000.00
Manila Palm [<i>Adonidia merrillii</i>]	25 Gallon, 2’ brown trunk height	Each	\$1,000.00
Beach Naupaka [<i>Scaevola taccada</i>]	1 Gallon	Each	\$15.00
Spider Lily [<i>Crinum asiaticum</i>]	2 Gallon Can, 24” ht, 18” spd, 24” O.C.	Each	\$45.00

Table Continued:

Item	Unit Size/Description	Unit	Liquidated Damages
Seashore paspalum [<i>Paspalum vaginatum</i>]	Seeded	Per SF	\$2.50
Bermuda [<i>Cynodon dactylon</i>]	Seeded	Per SF	\$2.50

2. Five percent (5%) of current total monthly billing may be deducted from State’s payment top the Contractor for each time it does not respond within two (2) hours after receipt of an irrigation trouble call request. For the purposes of this paragraph, the definition of the term “respond,” means to have maintenance personnel on the jobsite and working on the equipment which is the subject of request.”
3. \$400.00 for each calendar day for failure to have the required Certified Landscape Technician (CLT) Exterior Maintenance (ornamental and Turf) or equivalent certificate or CLT Exterior Irrigation or equivalent on-site during landscape and/or irrigation maintenance operations as specified in these Contract Specifications.

(I) SECTION 9 – PAYMENT shall be amended as follows:

1. 9.2 RETAINAGE/DEDUCTION FROM PAYMENT shall be amended by adding the following 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 has two options to be paid the retainage amount:
 - 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 extension 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 PAYMENTS shall be amended by adding the following to the end of the subsection:

“The Contractor shall bill the State once a month when a work order is in progress. All monthly payments are approximate only and shall be subject for correction at any time prior to or in the final estimate and payment.

To expedite processing of all payments for services rendered, the Contractor shall forward copies of the invoice as specified in Section 9.4 Progress Payments, of the Specifications, to the following address:

District Engineer – Kauai District Highways Department of Transportation 1720 Haleukana Street Lihue, Hawaii 96766
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Each invoice shall include but not limited to the following information:

- a. Contractor's name, address, and phone number.
- b. Contract number, project number and project title.
- c. Bid item number, 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 invoices as separate subtotal(s) and labeled as either (i), (ii), and/or (iii) below:
 - i. Deductions for failing to maintain the designated landscaped areas satisfactorily.
 - ii. Liquidated Damages.
 - iii. Retainage.
- e. Certification by the Contractor that services as requested under the Contract have been performed as specified in Section 9.4 Progress Payments, of these Specifications.

Pursuant to Section 7.8 Labor and Compensation Requirements, of the Special Provisions, the Contractor shall submit certified copies of the payrolls with the monthly invoice 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

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.

Location plans in Appendix F, and F1 of the Appendices, are attached in the Appendices showing the area(s) for which landscaped maintenance services are to be provided. 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.

Location plan in Appendix F2 of the Appendices, depicts the area for which landscaped maintenance services are to be provided in the shoulders only. The scope of work is different from location plan F and F1 of the appendices. The scope of work consists of maintenance of landscaped areas through continued clearing and mowing, trimming, edging and care of turf, vines and ground covering, shrubs scalping, cleaning and clearing of sidewalks, gutters, swales and ditches, removal and disposal of trash and debris, and other services necessary for the care and upkeep of highway remnant lot areas. Appendix location plan F2 does not have an irrigation system along the project limits.

10.2 - BIDDER REQUIREMENTS

Contractors shall provide documentation of certificates and other requirements listed in the subsection below.

(A) Contractors or Contractor's Responsible Managing Employee (RME) Qualification

1. Copy of the valid State of Hawaii Specialty Contractor's C-27, Landscaping Contractor license.
2. Copy of the valid training completion certificate as Pump Technician (Possess valid training and a valid certification on each of the following systems or equivalent.)
 - a. Oasis Pump Controllers by Flowtronex and
 - b. SSV Series Vertical Multistage Pumps by G & L Pumps and
 - c. ABB Standard Drivers by ABB, Inc.

As a minimum, the Pump Technician shall be knowledgeable in the following:

- a. Irrigation filter types and cleaning and adjustment of filter screens, as applicable.
- b. Electrical concepts, electrical safety and pump control circuits.
- c. Programming and configuring the Pump Controllers(s) as applicable.
- d. System analysis.

3. **Sprinkler Technician**

- a. Working Knowledge. At the time of bidding, the Sprinkler Technician shall be capable of reading plans and following instructions.
- b. Work Experience. At the time of bidding, possess a minimum of one (1) year experience in all phases of sprinkler system installation and maintenance work.
- c. Provide the State with the following: 1) Name of sprinkler technician
2) Work experience 3) Years of experience

4. Copy of the valid certification as a Certified Landscape Technician (CLT) **Exterior/Maintenance or Exterior/Irrigation or equivalent**

5. Copy of valid Disposal Permit.

6. **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 custodial and maintenance projects to include name of company that you worked with or you are currently working with, point of contact, phone number, description of work and size of project (cost wise). The minimum of three (3) different custodial and maintenance projects experience shall be positive on performance evaluation by the respective agency.

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.*
- (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. 1.13, 2.13 & 3.13 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 and pump system 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 1.43 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, Fort Weaver Road, Hanakahi Street to Vicinity of Fort Weaver Interchange, Appendix F1 - Location Plan, Additional Area (Right-of-Way Area), Railroad Right-of-Way and Appendix F2 - Location Plan, Fort Weaver Road at H-1 Freeway to Fort Weaver Road at Ewa Beach Road for the specified areas.*

- (A) **MOWING - All turf shall be mowed according to the Landscape Maintenance Plans with a frequency as specified in Appendix C.**
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 maybe 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. 1.13, 2.13 & 3.13 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. 1.2, 2.2 & 3.2 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. 1.13, 2.13 & 3.13 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.

(E) 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. 1.3, 2.3 & 3.3, 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. 1.13, 2.13 & 3.13 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'	18'	Clear zone extends to bottom of slope
45-55 mph	22'	28'	Clear zone extends to bottom of slope
55mph	24'	32'	Clear zone extends to bottom of slope
60mph	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. 1.3, 2.3 & 3.3 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 flight 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 (phone call) **and** in writing (email, text, correspondence, etc.to include photos) immediately when there is 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 (phone call) **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 and pump 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(E)2 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 approved, the cost shall be negotiated and paid by Bid Item No. 1.13, 2.13 & 3.13 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 bum", 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. Refer to Appendix H1 Sample - Record of Herbicide Application, of the Appendices.* 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. Pre-emergents 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/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** - *These additional tasks shall be included to the Contractor's bid price on maintenance of landscaped areas, Bid Item No. 1.1, 2.1 & 3.1 Maintenance of Landscaped Areas, of the Proposal Schedule.*

The following list includes some plants that require specific maintenance requirements as follows:

TREES	
Kou	Susceptible to the Kou leaf worm if not maintained regularly. Kou trees seed prolifically, and the round, hard fruits may be a hazard for pedestrians. Keep walkways clear of hard round fruits.
Monkeypod	Prune surface roots if used near pavement. Noctuid moths are an occasional problem. Report any pavement damage to the Engineer.

PLANTINGS REQUIRING ADDITIONAL TASKS (continuation):

TREES	
Ginger Tree	The kou leaf worm (<i>Ethmia nigroapicella</i>) attacks and defoliates kou, and severe infestations may kill trees. Root injuries or excessive wetness can lead to diseases. The trees seed prolifically and drop large quantities of hard, marble-sized fruits. People walking on streets or sidewalks with these fruits underfoot could easily slip – a very real hazard
Hala	Remove old brown leaves periodically. Scale and mealy bugs may cause occasional problems if not maintained regularly.
Milo	Susceptible to fungal leaf spot, fungal root rot, and fungal stem rot if not maintained regularly. Milo is prolific seeder. Remove seedlings under mature trees before they grow into a tree.
PALMS	
Manila Palm	Remove brown fronds and ripe fruit. Susceptible to Mealy bugs.
SHRUBS	
Naupaka	Maintain as an irregular, informal massing. Too much moisture can cause wood rot.
Spider Lily	Dead leaves and flower clusters should be removed.
GROUND COVERS	
Seashore Paspalum	Can be occasionally attacked by armyworms, sod webworms, mole crickets and grubs. Use treatments with systemic insecticides such as Merit and/orthene applied a month apart. Weeds are also a common problem in all turf grasses. Be careful when using herbicide as they will injure the grass. Most mixes of 2,4-D, MCPP and dicamba are labeled for seashore and are effective post-emergent controls for broadleaf weeds.
Bermuda Grass	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.

The Engineer may add plantings requiring additional tasks in the future and may request the Contractor to perform these additional services. Modification to the contract and pricing will be in accordance to the procedures as specified in Section 10.3(C) of the Specifications. Payments for services to planting requiring additional tasks will be paid by Bid Item No. 1.13, 2.13 & 3.13 Miscellaneous Work, of the Proposal Schedule.

- (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 Shoebutton.

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 1.43 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. 1.1, 2.1 & 3.1 Maintenance of Landscaped Areas, 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 for all areas covered by this contract** as specified in the Maintenance of Landscaped Areas Task Matrix, of the Appendices. **This shall be strictly enforced.** *Refer to Section 1.45 Debris and Litter, of the Special Provisions for the definition of debris and litter as they apply to this contract.*

The Contractor shall track and provide a log of total number of bags of litter collected, including size of bags and estimated percent full, for each general cleanup day. Weigh tickets documenting the quantity of debris disposed solely from this contract shall be provided monthly to the Engineer and/or shall be readily available upon the request of the Engineer.

Cost of removal, logging in total number of bags of litter collected, weigh tickets and disposal of debris and litter during general cleanup is incidental to the unit cost of maintenance of landscaped areas, Bid Item No. 1.1, 2.1 & 3.1 Maintenance of Landscaped Areas, 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.

4. A disposal permit is required.
 - b. *Cost of disposal of solid/hazardous waste, if approved, shall be paid by allowance in Bid Item No. 1.13, 2.13 & 3.13 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.*
- 3a. **Biohazards** (i.e. drugs, needles, etc.) and **bio-waste** (i.e. human waste, etc.). When found at the highway right-of-way, do NOT touch these materials. Contact/notify the Engineer -Oahu District's representative (Point of Contact) immediately. These materials are infectious or are potentially infectious and shall be handled by trained personnel only. Handling and disposal of these materials shall be performed by a separate State contract.
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.
7. *Refer to Section 10.4(L)3 of this section when disposing solid/hazardous waste materials.*

(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 1.43 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) **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,
 1. 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.

(O) **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. 1.13, 2.13 & 3.13 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.1.13, 2.13 & 3.13 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. 1.10, 2.10 & 3.10 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.
- (8) The Engineer or his authorized representative reserves the right to stop work at any time, 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 **(or**

equivalent certificate) personnel during landscape maintenance operations.

- (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:

Point of Contact:
Mr. Dean Takayama
Horticulturist – (Authorized Representative of the DE)
Phone: 808-831-6700 x 132
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 and Pump 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. 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.

(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 1.43 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. 1.1, 2.1 & 3.1, 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.

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

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. 1.1, 2.1 & 3.1 Maintenance of Landscaped Areas, 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. 1.1, 2.1 & 3.1 Maintenance of Landscaped Areas, 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. Required minimum number of CLT Exterior/Maintenance (or equivalent certificate). 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/REPORT 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	Section 10.2(A)1 through 10.2(A)5	Section 10.2 Qualification of Bidders, of the Specifications.	By award date	As revised	Project Manager Construction & Maintenance (C&M) Branch
2	Names, Telephone Number(s) and Address(es) of Contact for Contractual issues	Section 10.15 Pre-start Meeting, of the Specifications.	Prior to award and three (3) working days prior to the Notice to Proceed (NTP).	As revised	
3	Work schedules	Section 10.13 Work Schedule, of the Specifications.	During pre-start meeting	Monthly	Section 10.9 Point of Contact
4	List of personnel employed under the contract along with individual qualifications	Section 10.2(A) Qualification of Bidders, of the Specifications.	By award date and three (3) working days prior to NTP	As revised	Project Manager C&M Branch
5	Reporting of Hazardous Conditions and Danger	Section 10.4(M) Reporting of Hazardous Conditions and Damages to Landscaped Areas, of the Specifications	As required	As needed	Section 10.9 Point of Contact
6	Weight Tickets	Section 10.4(L) General Clean Up, of the Specifications	Monthly or as requested by the Engineer	As revised	
7	Safety Plan	Section 10.11(G) Safety Plans, of the Specifications	During Pre-start meeting	As needed/as revised	Section 10.9 Point of Contact and Project Manager C&M Branch
8	Safety Data Sheet	Section 10.11(B)2 and Section 10.15 Pre-start Meeting of the Specifications	Two working days prior to use or immediately for emergency situations.	As needed	Section 10.9 Point of Contact

SUBMITTALS/REPORTS SUMMARY CONTINUATION:

Item	Submittals/Reports	Reference	Required	Frequency	Submit to
9	Certified Payroll Report	Section 7.8 Labor and Compensation Requirements, of the Special Provisions.	Within (7) days after the end of each month. Submitted with the monthly invoice.	Monthly	Section 10.9 Point of Contact
10	Certified Payroll Affidavit	Section 7.8 Labor and Compensation Requirements of the Special Provisions	Within seven (7) days after the end of each month. Submitted with the monthly invoice.	Monthly	Section 10.2 Point of Contact
11	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	After each application	As needed	
12	Record of fertilizer application	Section 10.7(A) Fertilizer, of the Specifications	After each application	As needed	
13	Video Training Completion Report	Section 10.11(C)1 of the Specifications	Prior to application		
14	Annual Report of Plant Inventory, Comparison and Requirement Checklist	Section 10.4(O) Landscaped Areas Comprehensive Annual Inspection, of the Specifications		As revised	

Refer to Section 11.16 Submittals/Reports Summary of this Specifications for the required submittals and reports for the maintenance, repair and inspection of the irrigation and pump system.

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 two (2) additional twelve (12) month period or parts thereof without the necessity for re-bidding upon mutual agreement between the State and the Contractor, however, the entire term of contract, including extensions, shall not exceed thirty-six (36) months.

10.18 - ESCALATION CLAUSE – There shall be no price escalation allowed on this project. Contractor shall be paid at unit prices bid on each proposal for each term of the contract, with no additional escalation. For multi-term proposal schedules, at time of bid, bidders may include price escalation for each year after the initial base year, however, escalation for each subsequent year after the base year shall not exceed a maximum of two (2.0) percent over the previous term unit price.

If the State and Contractor mutually agree to extend the contract in accordance with Section 10.16 Option to Extend Term, the Contractor shall perform work at unit prices bid for the respective performance year, as initially bid. No additional escalation shall be allowed.

The bidder shall submit unit prices for each line item, on each proposal, for all three contract terms, as outlined on the proposal schedule. Failure to submit unit prices for each line item for each term shall be grounds for rejection.

10.19 - BASIS FOR PAYMENT – 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:

1. Vehicle logo
2. Employee Uniforms (shirt or T-shirt)
3. Plantings requiring additional tasks
4. Removal and disposal of rubbish and litter

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

- (A) Monthly Earnings. Computed as follows:
 1. For **Bid Item Nos. 1.1 through 1.13, 2.1 through 2.13 & 3.1 through 3.13** -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 and pump 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. 1.10, 2.10 & 3.10**) - 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 1.13, 2.13 & 3.13**) 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:
2. Deductions = Percent (%) estimated by the State as incomplete or unsatisfactory work × 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.

3. 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.
4. 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(8) 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 AND PUMP 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 following system:

- (A) Irrigation system includes the following:
1. Web-based TUCOR Inc. RKD Series Irrigation Controller. The work also includes adjusting time clocks for proper irrigation schedule as approved by the Engineer.
 2. All appurtenances, from and including the remote control valves to the sprinkler heads. The work includes repair leakages of the sprinkler system portion from and including the remote control valves to the sprinkler heads.
- (B) Pump system, including computerized pump controllers, flow sensors and valves. The current pump system includes the following:
1. G&L SSV Series Vertical Multi-stage Pump, Flowtronex Oasis computerized Controllers, ABB Standard Drives, Data Industrial Insertion Flow Sensors, Goulds Pumps Multi-stage Vertical Butterfly Valves and ValMatic Silent Check Valves.
- (C) Currently Operational Irrigation System(s):
1. *At the date of bidding*, the overall Irrigation System is currently:
 - a. Fort Weaver Road, Hanakahi Street to Vicinity of Fort Weaver Interchange- currently **fifty (50%)** 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. *Refer to Appendix F and F1 of the Appendices.*

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

1. *At the date of bidding*, the overall Irrigation System is currently:
 - a. Fort Weaver Road, Hanakahi Street to Vicinity of Fort Weaver Interchange- currently **fifty (50%)** percent Non-operational. This is due to the limited water output of R1 Honouliuli Plant that is controlled by the City. The water psi is unreliable.
2. To obtain the exact 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.

(D) *Upon approval of the Engineer, replacement parts will be ordered by the Contractor and paid for by the State under Bid Item No. 1.11, 2.11 & 3.11 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 and pump 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 and pump system 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 and

pump system 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 and pump 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 Appendix F1 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 and pump 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 and Pump System (routine/preventive)

1. *As a minimum, perform the maintenance tasks as listed in Appendix D Irrigation System Maintenance Tasks, Frequency, Checklist and Report and Appendix D1A Pump System Maintenance Tasks, Frequency, Checklist, 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 and pump system in performing its work under this contract. *The Contractor shall utilize the form in Appendix E Sample - 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 and Pump System (routine/preventive) shall be in accordance with Section 11.19(A)1 Maintenance and Inspection of Irrigation System (routine/preventive) and Section 11.19(A)2 Maintenance and Inspection of Pump System (routine/preventive), of the Specifications.*
11. ***Liquidated Damages.*** *Refer to Section 8.6.B Maintenance and Inspection of Irrigation and Pump 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 and Pump 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 and pump 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 Nos. 1.6, 2.6, 3.6 & 1.7, 2.7, 3.7 and/or 1.8, 2.8, 3.8)** 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) of the Specifications.*
- b. **Trouble Calls During Off-Hours.** The term "off-hours" as used in these specifications shall mean midnight to 7:00 a.m. and 3:30 p.m. to midnight, Monday through Friday, and all hours on Saturdays, Sundays and State holidays.
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, if the Contractor fails to respond within the specified time.
 2. The off-hours hourly rate of pay shall be based on the applicable hourly bid rate (**Bid Item Nos. 1.6, 2.6, 3.6 & 1.7, 2.7, 3.7 and/or 1.8, 2.8, 3.8**) of the Contractor's proposal for regular working hours plus fifty percent (50%) of the Contractor's hourly bid rate. Work performed during off hours shall be paid by Bid Item No. 1.9, 2.9 & 3.9, **Trouble Calls During Off-Hours**, of the Proposal Schedule.
 3. Time spent at the job site to complete the repair work during off-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. In any event, the Contractor shall receive a minimum of one (1) hour of pay even if the repair work is completed in less than one (1) hour.
 4. ***The Contractor shall secure the Engineer's authorization for any repair work.***
 5. Repair works initiated during working off-hours and finished

during working hours shall be paid accordingly. That is, off-hours hourly rate shall only apply to repair work performed during off-hours, and regular working hours hourly rate shall apply to repair work performed during regular working hour.

6. In order for the Contractor to receive payment, all off-hour completed *"Trouble Call/Equipment Service Maintenance Report"* shall be certified and signed by the Engineer or his authorized representative.
7. Off-hours hourly rate of pay shall be full compensation for furnishing technical knowledge and skills, labor, etc. as specified in Section 11.19, Basis of Payment of the Specifications, necessary to complete the repair work.

(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 and Pump System (routine/preventive), Bid Item Nos. 1.4, 2.4 & 3.4 and/or 1.5, 2.5 & 3.5, 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 (labor and materials). 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, 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 the corresponding labor hour, Bid Item Nos. 1.6 through 1.8, 2.6 through 2.8 & 3.6 through 3.8; Bid Item No. 1.9, 2.9 & 3.9, Trouble Calls During Off-hours; Bid Item No. 1.11, 2.11 & 3.11, Replacement Parts; and/or Bid Item No 1.12, 2.12 & 3.12, Technical Support and Web/Internet Services 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.

C1. Technical Support and Web/Internet Services

- 1. In order for the Contractor to properly comply with the requirements of this contract, the Contractor shall have the option to secure the Technical Hardware and/or manufacturer's representative service(s) upon written request and obtain proper approval from the Engineer.
- 2. Technical Support and Web/Internet Services shall include but not limited to manufacturer or dealer services in the test or repair of the irrigation system and/or pump system. The request shall include the existing condition of the equipment and the Contractor's recommendation as to the necessity for technical support services.
- 3. Any manufacturer's representative technical support service and web/internet services, if elected to be used by the Contractor, shall be secured for the term

of this maintenance contract and all renewals.

4. Technical support and web/internet services shall be paid by Bid Item No. 1.12, 2.12 & 3.12, Technical Support and Web/Internet Services of the Proposal Schedule. *Manufacturer's technical support services within the warranty period of equipment shall not be paid for separately but is considered incidental to the purchase of the said equipment.*

(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)7 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. 1.13, 1.13 & 3.13, *Miscellaneous Work, of the Proposal Schedule and negotiated in accordance with Section 10.19(B) 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.

11.5A - ADVISORY SERVICES AND SUBCONTRACTORS - All advisory services by a foreman or any other Contractor's personnel in performing their work shall be considered as incidental cost to the Contractor's hourly bid rate for regular working hour's trouble calls. *No separate payment shall be made.*

All specifications and hourly bid rates under this contract shall be applicable to subcontractor(s) should their services be required.

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 and pump system.
2. Batteries for battery-powered controllers/valves as applicable and 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 and pump 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 and pump systems.
3. Recycled water to irrigate the landscaped areas.
4. Keys to the booster pump and 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 and Appendix D1A Pump System Maintenance Tasks, Frequency, Checklist and Report, of the Appendices.

11.10 – CERTIFIED LANDSCAPE TECHNICIAN -*Refer to Section 10.2(A) of the Specifications for the required qualification.*

11.10A - PUMP TECHNICIAN - *Refer to Section 10.2(A)2 of the Specifications for the required qualification.*

11.11- SPRINKLER TECHNICIAN - *Refer to Section 10.2(4) Sprinkler Technician, of the Special Provisions for the required qualification.*

11.12 – EQUIPMENT AND VEHICLES – 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. 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.

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 ensure that adequate labor, equipment, and tools are provided for irrigation and pump 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/Certified Landscape Technician (CLT) to supervise the work. *Refer to Section 10.2(A) of the Specifications for more information.*

The contractors Irrigation Lead/ Certified Landscape Technician (CLT) 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 Irrigation Lead Person/CLT 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	Required	Frequency	Submit to
1	List of personnel employed under the contract along with individual qualifications.	By award and three (3) working days prior to the Notice to Proceed date.	As revised	Project Manager, Construction and Maintenance Branch, Highways Division and the District Engineer or authorized representative (Point of Contact).
2	Work schedule, Proposed schedule for routine and preventative maintenance.	During the Pre-start meeting.	As revised by the Engineer	The District Engineer or authorized representative (Point of Contact).
3	Irrigation controller schedule of watering.	One (1) month after the Notice to Proceed date.	As required	The District Engineer or authorized representative (Point of Contact).
4	Monthly Irrigation Report.	Submit with the monthly invoice.	Monthly	The District Engineer or authorized representative (Point of Contact).
5	Parts requirements and maintenance record system and other essential information.	During pre-start meeting.	As required	The District Engineer or authorized representative (Point of Contact).
6	Irrigation Weekly Service Maintenance Report.	Submit with the monthly invoice.	Weekly	The District Engineer or authorized representative (Point of Contact).
7	Irrigation Monthly Service Maintenance Report.	Submit with the monthly invoice.	Monthly	The District Engineer or authorized representative (Point of Contact).
8	Irrigation Annual Service Maintenance Report.	Submit with the monthly invoice.	Annually	The District Engineer or authorized representative (Point of Contact).
9	Irrigation Service Maintenance Report for years ending in "5" or "0".	Month of January, Submit with the monthly invoice.	For years ending in "5" or "0"	The District Engineer or authorized representative (Point of Contact).
10	Irrigation and Pump System Annual Report.	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 District Engineer or authorized representative (Point of Contact).

Refer to Chapter 14 Reporting, of the HMSLM for more reporting information. Refer to Section 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 and pump system as specified in this contract.

Incidental costs include, but not limited to the following:

Item	Reference
Batteries for battery powered controllers/values, as applicable	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 and pump 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 fit!! 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. 1.4, 2.4 and 3.4**)- 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.
2. Maintenance and Inspection of Pump System, routine/preventive maintenance (**Bid Item No. 1.5, 2.5 and 3.5**) - monthly earnings shall be per unit bid price as specified in the Proposal Schedule. *Refer to Appendix DIA of the Appendices for more information.*

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. 1.6, 2.6 & 3.6). 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. Regular working hours trouble calls repair work-per man-hour, **Pump Technician** (Bid Item No. 1.8, 2.8 & 3.8). Monthly payments to the Contractor will be made on the basis of actual number of services performed and the applicable unit bid prices. *Refer to Section 11.4.B.1.a.2 of the Specifications for more information.*
3. Trouble Calls During Off-Hours (**Bid Item No. 1.9, 2.9 & 3.9**). The Contractor shall be paid in accordance with Section 11.4.B.1.b, Trouble Call During Off-Hours of the Specifications.
4. Replacement Parts (**Bid Item No. 1.11, 2.11 & 3.11**) -The Contractor shall be reimbursed for the cost of the new part in accordance with Section 11.4(C) 2.c of the Specifications.
5. Technical Support and Web/Internet Services (**Bid Item No. 1.12, 2.12 & 3.12**). The Contractor shall be paid in accordance with Section 11.4.CI, Technical Support and Web/Internet Services of the Specifications.
6. Miscellaneous Work (**Bid Item No. 1.13, 2.13 & 3.13**) 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 and pump 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 and pump 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 and pump system.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS
HONOLULU, HAWAII

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Project No. CMAQ-076-1(9) (Recycled Water Identification Sign
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(continuation)

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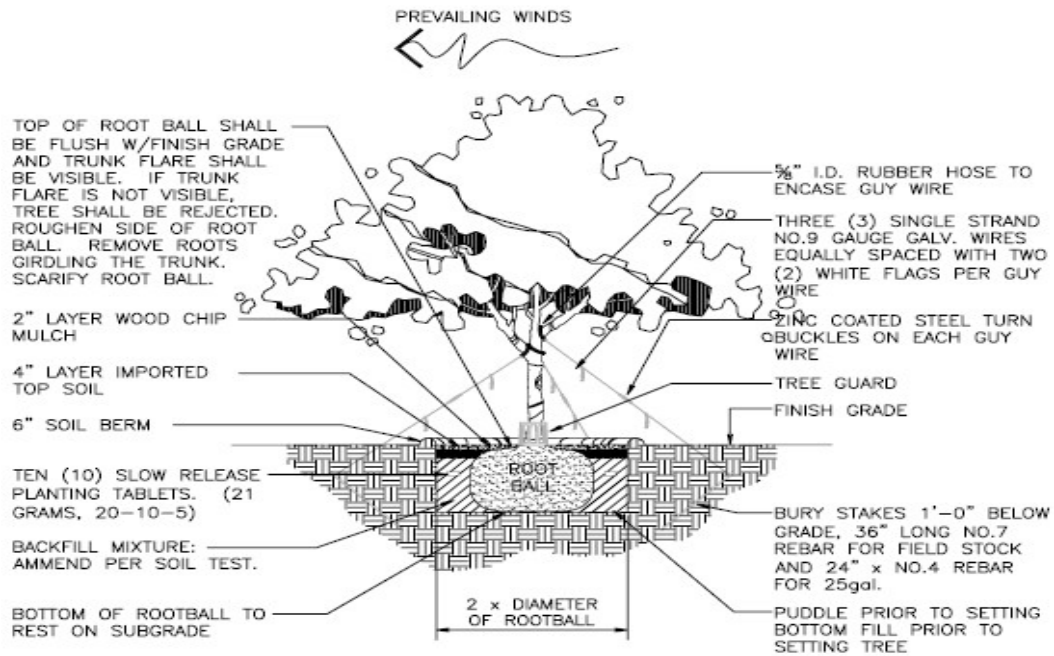
Appendix H1 - Sample- Record of Herbicide Application

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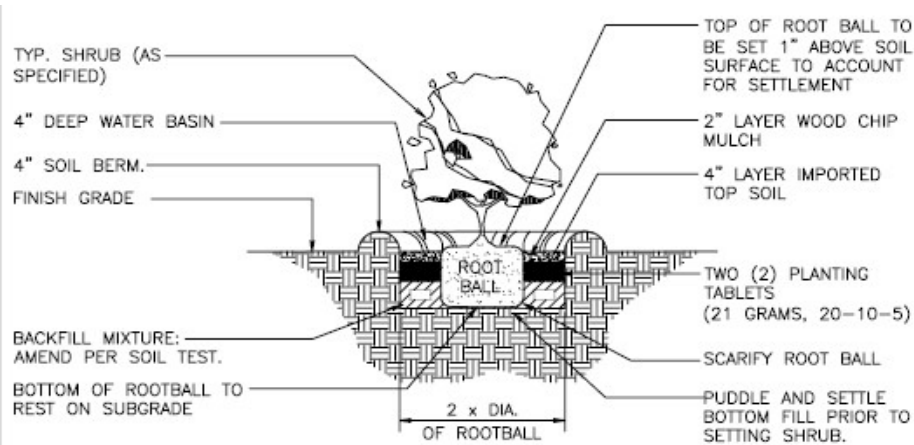
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APPENDIX A TREE AND SHRUB PLANTING DETAIL



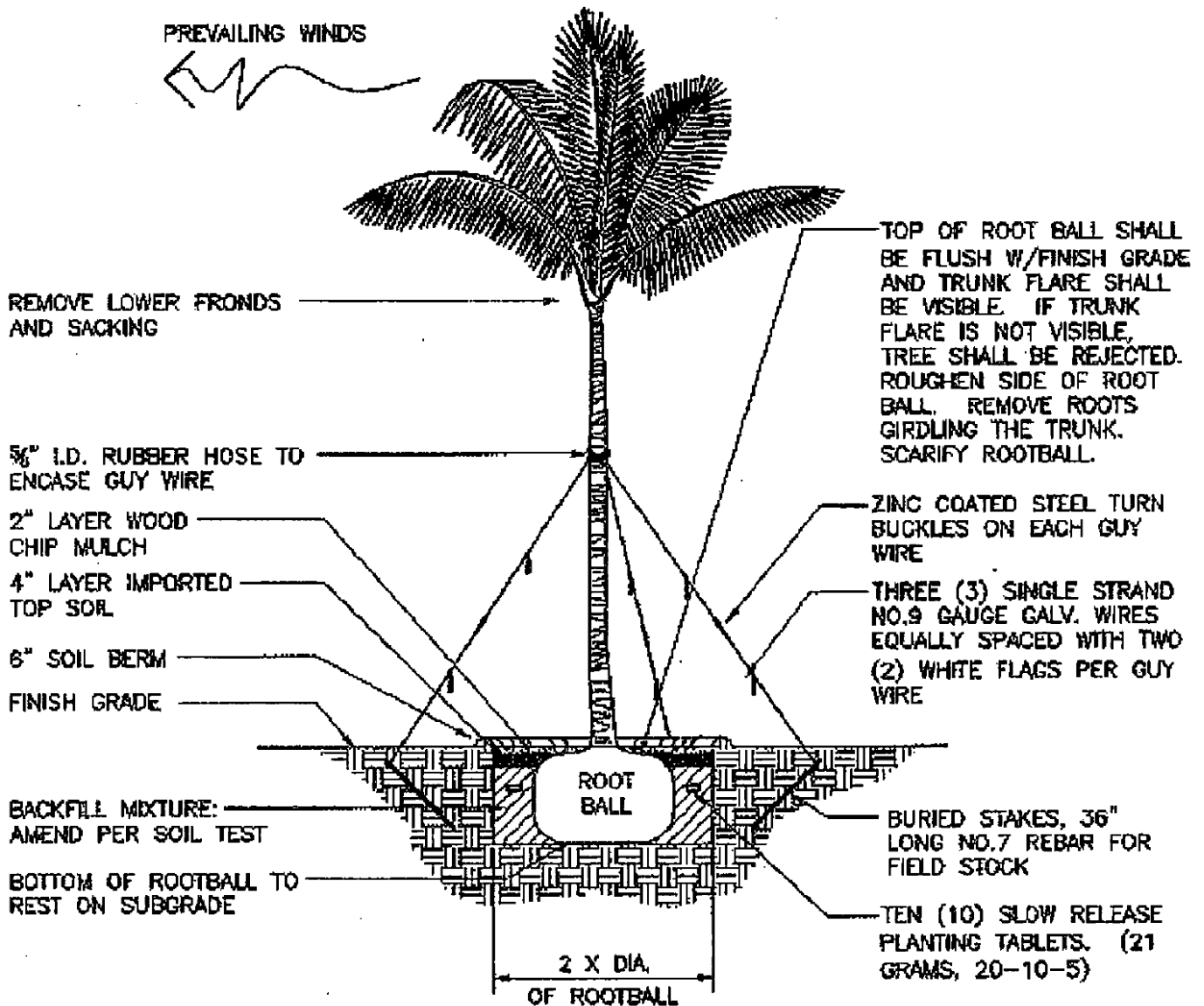
NOTE:
TRUNK MUST BE PROTECTED FROM ROPE SLING BURNS AND ABRASIONS DURING MOVING. TREE SHALL BE PLUMB. IF TREE IS LEANING AT THE END OF THE PLANT ESTABLISHMENT PERIOD, THE TREE SHALL BE REJECTED.

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



⑨ SHRUB PLANTING DETAIL
SCALE: N.T.S.

APPENDIX A1
PALM PLANTING DETAILS



NOTES:

1. TRUNK MUST BE PROTECTED FROM ROPE SLING BURNS AND ABRASIONS DURING MOVING.
2. WATER HEAVILY TO INSURE SOIL SETTLES AROUND ROOTS.
3. TREE SHALL BE PLUMB. IF THERE IS LEANING AT THE END OF THE PLANT ESTABLISHMENT PERIOD, THE TREE SHALL BE REJECTED.
4. PROTECT HEART AND TIP FROM DAMAGE AND BREAKAGE DURING TRANSPORTING AND TRANSPLANTING.

⑦ PALM PLANTING DETAIL
SCALE: N.T.S.

**APPENDIX B
INVASIVE PLANT REMOVAL**

INVASIVE PLANT	REMOVAL INSTRUCTIONS
Guinea Grass [<i>Panicum maximum</i>]	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 [<i>Mimosa pudica</i>]	Very Sensitive to picloram (0.25 lb/acre), sensitive to triclopyr (1 lb/ acre)
Wiregrass [<i>Eleusine indica</i>]	Sensitive to MSMA
Kyllinga [<i>Cyperus brevifolius</i>]	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 [<i>Brachiaria mutica</i>]	Drizzle application of glyphosate at 1 lb/acre.
Maile Pilau [<i>Paederia foetida</i>]	If the Maile Pilau vine is not climbing over desirable vegetation, apply direct application to foliage with triclopyr herbicide and cut stem/stump at the ground and apply herbicide and follow-up at least once with a second application. If Maile Pilau is climbing over desirable vegetation, cut the stump and apply triclopyr herbicide (i.e., Garlon 4, etc.), and follow-up at least once with a second application. Exercise caution when removing the climbing Maile Pilau plant from the desirable vegetation.
Ivy Gourd [<i>Coccoloba grandis</i>]	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 apply the triclopyr to each section that touches the ground. Leave the plants in place. Do not pull plants out of the trees or off of walls or fences, as this multiplies the number of plants and prevents translocation of the herbicide. The 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/ Cat's claw [<i>Caesalpinia decapetala</i>]	Cat's Claw is extremely prickly and attempts at physical control must be done carefully. This plant is sensitive to foliar applications of glyphosate and triclopyr, and to soil applications of tebuthiuron. Adequate coverage of Cat's Claw foliage in dense infestations is difficult. Timely repeat applications (every 3-9 months) of triclopyr ester at 0.25 lb/acre allows gradual reductions and opening of the canopy and eventual control. This strategy not only stresses the Cat's Claw over a longer period but also controls newly germinated Cat's Claw
Shoebuttan [<i>Ardisia elliptica</i>]	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
TASK AND FREQUENCY MATRIX, MAINTENANCE OF LANDSCAPED AREAS

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)	Caring and Trimming of Shrubs	1	1	1	1	1	1	1	1	1	1	1	1	12
(E1)	Caring and Trimming (Sight Distance/Clear Zones/Clear Space) of Trees.	In accordance with the Specifications.												
(E1)	Mulching	In accordance with the Specifications.												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 the Specifications.												
(G)	Fertilizing.	In accordance with the Specifications.												As determined by the Engineer.
	Fertilizing Lawns	In accordance with Section 10.4(G) of the Specifications												
	Fertilizing Shrubs	In accordance with Section 10.4(G) of the Specifications												
	Fertilizing Shrubs	In accordance with Section 10.4(G) of the Specifications												
(H)	Spraying pesticide & herbicides.	In accordance with the Specifications.												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 the Specifications.												
(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.), <u>including waste material resulting from the work activities.</u>	Required after any work activity.												
(L)	General clean up. Removing and disposing rubbish and debris and litter (i.e., paper, cans, bottles, cigarette butts, tree limbs, palm leaves, etc.)	Required after any work activity.												156 (3 times per week)

APPENDIX C
TASK AND FREQUENCY MATRIX, MAINTENANCE OF LANDSCAPED AREAS

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

APPENDIX D
IRRIGATION SYSTEM MAINTENANCE TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacture’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
A. ELECTRIC VALVE				
1	CHECK FLOW CONTROL ON EACH VALVE FOR PROPER ADJUSTMENT. ADJUST AS NEEDED BASED ON HEAD OPERATIONS.	Monthly		
2	CHECK FOR VALVE WEEPING AT THE HEADS, REPLACE VALVE AS NEEDED AND IF APPROVED BY THE ENGINEER.	Monthly		
3	CHECK THE CONDITION OF WIRE SPLICES. REPLACE AS NEEDED AND IF APPROVED BY THE ENGINEER.	Monthly		
4	CHECK FOR LEAKS AT ALL THREADED CONNECTIONS. TIGHTEN AS NEEDED.	Monthly		
5	CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETE CHECKLIST WITH MONTHLY INVOICE.	Monthly		
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 AND NOT WIRE OR CONNECTION ISSUE.	Annual		
7	UNSCREW THE SOLENOID AND CHECK PLUNGER FOR SMOOTH OPERATIONS, CHECK SOLENOID AND PLUNGER FOR RUST OR CORROSION. REPLACE IF RUST OR CORROSION PRESENT AND IF APPROVED BY THE ENGINEER.	Annual		
8	CHECK WIRE LEADS FOR CRACKS OR EXPOSED WIRES.	Annual		
9	CHECK WIRE SPLICES. ENSURE THAT THE SPLICES ARE GOOD AND ARE STILL WATERPROOF. REPLACE AS NEEDED.	Annual		
10	IF VALVES ARE A “DIRTY WATER” VALVE, CHECK AND CLEAN SCREEN/FILTER. REPLACE AS NEEDED.	Annual		
11	CERTIFY PERFORMANCE OF ANNUAL SERVICES AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETE ANNUAL CHECKLIST WITH MONTHLY INVOICE.	Annual		
12	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.	Month of January in years ending in “5” or “0”		

APPENDIX D

IRRIGATION SYSTEM MAINTENANCE TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacture’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
B. SPRAY HEAD AND ROTOR HEAD MAINTENANCE				
1	CHECK THE BODY FOR CRACKS AND LEAKS WHERE THE STEM RISES FROM THE BODY.	WEEKLY		
2	CHECK LEAKS COMPING UP FORM BELOW THE HEAD. REPAIR AS NEEDED.	WEEKLY		
3	CHECK THAT THE NOZZEL IS NOT CLOGGED OR SEMI-CLOGGED. UNCLOG OR REPLACE. CLEAN THE FILTER FOR SPRAY HEAD.	MONTHLY		
4	ON SPRAY HEADS THAT APPREAR CLOGGED, CHECK THE FILTER UNDER THE NOZZLE AND ADJUST ARC AS NECESSARY. REPLACE AS NEEDED AND IF APPROVED BY THE ENGINEER.	WEEKLY		
5	PRUNE OBSTRUCTING PLANTS ON ALL SPRINKLER HEADS.	WEEKLY		
6	CERTIFY PERFORMANCE OF WEEKLY SERVICE REPORT ALL DISCREPANCIES. SUBMIT CERTIFIED AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.			
7	ON ROTOR HEADS CHECK VISUALLY FOR TOO HIGH OR TOO LOW PRESSURE. ADJUST VALVE FLOW CONTROL OR PRESSURE REGULATOR AS NEEDED.	MONTHLY		
8	CERTIFY PERFORMANCE OF WEEKLY SERVICE AND REPORT ALL DISCREPANCIES, SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	MONTHLY		
9	ON ROTOR HEADS, CHECK RADIUS OF HEAD COVERAGE, MAKE SURE THE SET ADJUSTMENT IS NOT SET INCORRECTLY.	MONTHLY		
10	CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES, SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	MONTHLY		
11	REPLACE THE FILTERS UNDER THE NOZZLES AND AT THE BASE OF ALL HEADS.	ANNUALLY		
12	REPLACE WORN NOZZLES AND/OR NOZZELS THAT CANNOT EASILY BE UNPLUGGED.	ANNUALLY		
13	CHECK THAT THE CORRECT NOZZLES IS IN PLACE AND HAS BEEN INADVERTENTLY CHANGED DURING THE YEAR. ON ROTOR HEADS CHECK FOR MATCHED PRECIFITATION RATE AND REPLACE AS NECESSARY.	ANNUALLY		
14	CHECK STEM SEAL AND REPLACE IF LEAKING AND IF APPROVED BY THE ENGINEER.	ANNUALLY		
15	CHECK LOW OR TILTED HEADS AND RAISE AND/OR STRAIGHTEN AS NEEDED.	ANNUALLY		
16	CHECK FOR LOW HEAD DRAINAGE AND REPLACE LOW HEADS WITH HEADS WITH IN-HEAD CHECK VALVES.	ANNUALLY		

APPENDIX D
IRRIGATION SYSTEM MAINTENANCE TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacturer’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
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 EACH ZONE. ADJUST PRESSURE AS NEEDED AND WHERE AVAILABLE. IF A PSI VARIATION IS GREATER THAN 10% EXISTS FROM THE HEAD COMPARED TO THE LAST HEAD IN THE ZONE, CONSIDER PSI REGULATING NOZZLES OR HEADS FOR REPLACEMENT IF NOT CURRENTLY IN USE.	ANNUALLY		
18	ON ROTOR HEADS, USE SIGN PITOT TUBE, CHECK PRESSURE AT THE BEGINNING, MIDDLE, AND END OF ZONE. ADJUST PRESSURE AS NEEDED AND WHERE AVAILABLE. IF A PSI VARIATION IS GREATER THAN 10% EXISTS FROM THE HEAD COMPARED TO THE LAST HEAD IN THE ZONE, CONSIDER PSI REGULATING HEADS FOR REPLACEMENT, IF NOT CURRENTLY IN USE. IF PRESSURE REGULATING ROTOR HEAD ARE NOT AVAILABLE, CONSIDER MAKING NOZZLE CHANGES TO BETTER REGULATE PRESSURE.	ANNUALLY		
19	ON ROTOR HEADS, CHECK ROTATION SPEED. ALL HEADS OF THE SAME TYPE FROM THE SAME MANUFACTURER SHOULD ROTATE AT THE SAME SPEED.	ANNUALLY		
20	ON ROTOR HEADS, CHECK STEM SEAL AND REPLACE IF LEAKING.	ANNUALLY		
21	ON ROTOR HEADS, CHECK FOR LOW OR TILTED HEADS AND RAISE AND/OR STRAIGHTEN AS NEEDED.	ANNUALLY		
22	CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	ANNUALLY		
23	PERFORM A CATCH CAN TEST TO DETERMINE THE ZONE DISTRIBUTION UNIFORMITY (DU).	Month of January in years ending in "5" or "0"		
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.	Month of January in years ending in "5" or "0"		
25	CHECK HEAD LOCATIONS AND MOVE AS NEEDED BASED ON CURRENT LANDSCAPE CONFIGURATION AND PLANT GROWTH.	Month of January in years ending in "5" or "0"		
26	TIGHTEN ALL CONNECTIONS WHERE THE HEAD CONNECTS TO THE UNDERGROUND PIPING.	Month of January in years ending in "5" or "0"		

APPENDIX D

IRRIGATION SYSTEM MAINTENANCE TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacture’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
C. VALVE BOX				
1	TRIM INTRUDING GRASS AROUND BOX COVER.	MONTHLY		
2	CERTIFY PERFORMANCE OF WEEKLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	MONTHLY		
3	CHECK LID FOR DAMAGE. REPLACE IF CRACKED OR BROKEN.	ANNUALLY		
4	CHECK FOR VALVE BOX SETTLING, RAISE, AND LEVEL BOX IF NOT AT FINISH GRADE.	ANNUALLY		
5	CHECK FOR DIRT INTRUSION. CLEAN OUT ALL DIRT IN BOX.	ANNUALLY		
6	CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY.	ANNUALLY		
7	IF APPROVED BY THE ENGINEER, REPLACE BOX IF WARPED OR DAMAGED IN ANYWAY. REINSTALL BOX TO FINISH GRADE.	Month of January in years ending in “5” or “0”		
8	IF APPROVED BY THE ENGINEER, REPLACE LANDSCAPE FABRIC AND GRAVEL IN BOX.	Month of January in years ending in “5” or “0”		
9	CERTIFY PERFORMANCE OF “5” OR “0” SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	Month of January in years ending in “5” or “0”		

APPENDIX D

IRRIGATION SYSTEM MAINTENANCE TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacture’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
D. WIRING				
1	CHECK WIRE CONNECTIONS AT THE CONTROLLER AND AT THE VALVE BOX. TIGHTEN AND/OR REPLACE AS NEEDED.	MONTHLY		
2	CHECK FOR STRESS OR TIGHTNESS ON THE WIRES AND SPLICES IN THE VALVE BOX. REPAIR AS NEEDED.	MONTHLY		
3	CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	MONTHLY		
4	MAKE SURE ALL WIRES ARE LABELED WITH CONTROLLER AND ZONE NUMBERS, CHECK AND REPLACE ANY FADED OR MISSING LABELS.	ANNUALLY		
5	CHECK EVERY SPLICE BOX AND CHECK THAT ALL SPLICES ARE SOUND AND WATERPROOF, REPLACE ALL DAMAGED OR COMPROMISED SPLICES.	ANNUALLY		
6	IDENTIFY, LABEL, AND OHM-OUT ALL EXTRA AND UNUSED WIRES SO THEY CAN BE USED IF NEEDED, IF OTHER WIRES FAIL.	ANNUALLY		
7	CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	ANNUALLY		
8	IF APPROVED BY THE ENGINEER, REPLACE ALL SPLICES IN ALL VALVE BOXES AND JUNCTION BOXES.	Month of January in years ending in “5” or “0”		
9	CHECK AND RE-LABEL ALL WIRES.	Month of January in years ending in “5” or “0”		
10	CERTIFY PERFORMANCE OF “5” OR “0” SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	Month of January in years ending in “5” or “0”		

APPENDIX D

IRRIGATION SYSTEM MAINTENANCE TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacturer’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
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.	MONTHLY		
2	VERIFY THAT THE CONTROLLER HAS ALL THE SEASONAL SCHEDULES PROGRAMMED.	MONTHLY		
3	MANUALLY TEST RAIN SWITCH. REPLACE RAIN SWITCH IF NOT FUNCTIONING.	MONTHLY		
4	CHECK AND REPLACE BACKUP BATTERY AS APPLICABLE AND NECESSARY.	MONTHLY		
5	CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	MONTHLY		
6	RECORD STANDARD WATERING SCHEDULES AND LAMINATE AND KEEP INSIDE CONTROLLER. UPDATE MAINTENANCE DRAWINGS TO REFLECT CURRENT SCHEDULE.	ANNUALLY		
7	CLEAN ALL INSCECTS IN CONTROLLER AND INSTALL MOTH BALLS IN CLOTH BAGS.	ANNUALLY		
8	CHECK THAT CONTROLLER ENCLOSURE IS SECURED AND WATERPROOF, REPAIR WATER-PROOFING AS NECESSARY TO ENSURE ENCLOSURE IS WATERPROFF. IF APPROVED BY THE ENGINEER. REPLACE ENCLOSURE IF LOCK IS NOT REPAIRABLE.	ANNUALLY		
9	IF RAIN SWITCH IS ELECTRONIC. THEN REPLACE BATTERY AT THE CONTRACTOR'S COST.	ANNUALLY		
10	CERTIFY PERFORMANCE OF ANNUAL SERVICE AND REPROT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	ANNUALLY		
11	SUBMIT RECOMMENDATION TO THE ENGINEER AND IF APPROVED. REPLACE ENTIRE CONTROLLER IF NOT FULLY FUNCTIONAL.	Month of January in years ending in "5" or "0"		
12	REPLACE ALL RAIN SWITCHES AND SENSORS.	Month of January in years ending in "5" or "0"		
13	CERTIFY PERFORMANCE OF "5" OR "0" SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	Month of January in years ending in "5" or "0"		

APPENDIX D

IRRIGATION SYSTEM MAINTENANCE TASK, FREQUENCY, CHECKLIST AND REPORT

All routine/preventive maintenance tasks shall be in accordance with the manufacture’s maintenance manual. All equipment/component that requires a replacement shall be approved by the Engineer.

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
F. RAIN SENSOR				
1	REMOVE DEBRIS.	MONTHLY		
2	CERTIFY PERFORMANCE OF MONTHLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATON AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	MONTHLY		

IRRIGATION SYSTEM COMPONENTS/TASK		FREQUENCY	Technicians Initial and Date after completion of task.	
			Date	Initial
G. SITE INSPECTION				
1	ANNUAL COMPREHENSIVE INSPECTION, SUPPLEMENTAL IRRIGATION SYSTEM MAINTENANCE.	ANNUALLY		
2	CERTIFY PERFORMANCE OF ANNUAL SITE INSPECTION AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	ANNUALLY		

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

APPENDIX D1
SUPPLEMENTAL IRRIGATION SYSTEM MAINTENANCE INFORMATION

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.

- (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.

APPENDIX D1
SUPPLEMENTAL IRRIGATION SYSTEM MAINTENANCE INFORMATION

(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.
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.

Appendix D1A

PUMP SYSTEM MAINTENANCE TASKS, FREQUENCY AND CHECKLIST

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

	PUMP SYSTEM COMPONENT/TASKS	WEEKLY	TECHNICIAN'S INITIAL AFTER COMPLETION OF TASK
A. PUMP SYSTEM. AS A MINIMUM, THE CONTRACTOR, SHALL PERFORM THE FOLLOWING TASKS, AS APPLICABLE:			
1	CHECK FOR LEAKS THROUGHOUT THE PUMP STATION MAKING REPAIRS AND ADJUSTMENTS AS NECESSARY.	X	
2	PRE-SCREEN FILTERS: CHECK UPSTREAM AND DOWNSTREAM PRESSURES, REMOVING AND CLEANING THE PERFORATED SCREEN AS NECESSARY AND APPLICABLE.	X	
3	AUTOMATIC SUCTION SCREEN FILTER: MANUALLY INITIATE A FLUSHING CYCLE AND CHECK FOR PROPER OPERATION AS APPLICABLE.	X	
4	AUTOMATIC SUCTION SCREEN FILTER: CHECK FOR GREASE ON THE DRIVE SHAFT AND DRIVE BUSHING ADDING GREASE AS NECESSARY AND APPLICABLE.	X	
5	AUTOMATIC SUCTION SCREEN FILTER: CHECK FOR GREASE ON THE DRIVE SHAFT AND DRIVE BUSHING ADDING GREASE AS NECESSARY AND APPLICABLE.	X	
6	VISUALLY AND AUDIBLY CHECK OPERATION OF BOOSTER PUMPS.	X	
7	CHECK FOR UNUSUAL VIBRATIONS IN PUMP AND MOTOR		
8	LUBRICATE THE FRAME BEARINGS AND MOTOR BEARINGS AS RECOMMENDED BY THE PUMP MANUFACTURER.	X	
9	CHECK PRESSURE-SUSTAINING VALVE AND ADJUST AS NECESSARY.	X	
10	CLEAN FLOW SENSORS AND WYE STRAINERS IN SYSTEM CONTROLS AS APPLICABLE.	X	
11	PROGRAMMING AND/OR RE-PROGRAMMING OF PUMP CONTROLLER AS NECESSARY, AS APPLICABLE AND AS REQUIRED BY THE ENGINEER.		
12	CERTIFY PERFORMANCE OF WEEKLY SERVICE AND REPORT ALL DISCREPANCIES. SUBMIT CERTIFICATION AND THIS COMPLETED CHECKLIST WITH MONTHLY INVOICE.	X	
B. FLOWTRONEX OASIS PUMP CONTROLLER. ALL ROUTINE/PREVENTIVE MAINTENANCE TASKS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED MAINTENANCE MANUAL.			
C. ABB INC. PUMP DRIVES. ALL ROUTINE/PREVENTIVE MAINTENANCE TASKS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED MAINTENANCE MANUAL.			

**APPENDIX D2
IRRIGATION CONTROLLER SCHEDULE (SAMPLE)**

Project No: 76AB-01-24C

Contract No.: _____

Date: _____

Project Title: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation and Pump System, Fort Weaver Road, Hanakahi Street to Vicinity of Fort Weaver Interchange, Fort Weaver Road at H-1 Freeway to Fort Weaver Road at Ewa Beach Road, District of Ewa, Island of Oahu

Contractor: _____

Controller No.	Valve No.	Valve Location			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
IRRIGATION TROUBLE CALL/EQUIPMENT SERVICE MAINTENANCE REPORT (SAMPLE)

Date: _____

Sheet No.: _____

Project No.: **76AB-01-24C**

Contract No.: _____

Project Title: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation and Pump System, Fort Weaver Road, Hanakahi Street to Vicinity of Fort Weaver Interchange, Fort Weaver Road at H-1 Freeway to Fort Weaver Road at Ewa Beach Road, District of Ewa, 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: _____

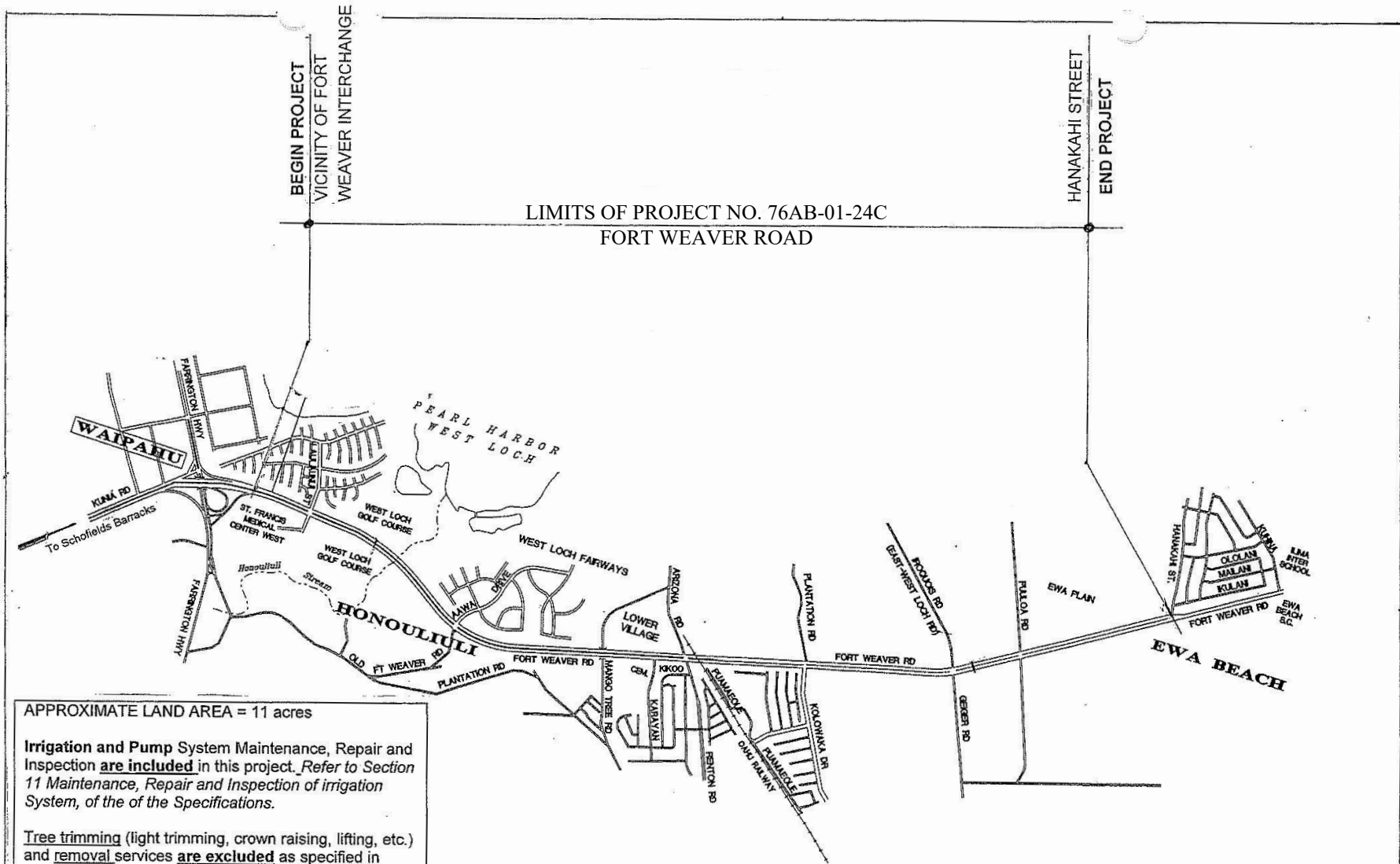
Name of Service Call – (Routine Maintenance or Emergency – Explain) _____

Equipment Readings and Maintenance Performed (Listed all items serviced): _____

Remarks and Recommendation: _____

Printed Name of Submitter: _____

Signature of Submitter.: _____



APPROXIMATE LAND AREA = 11 acres

Irrigation and Pump 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
FORT WEAVER ROAD
PROJECT NO. 76AB-01-24C

NOT TO SCALE

Appendix F (continuation)

INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
1	Title Sheet
2	Standard Plans Summary
3 - 14	General & Utility Notes
15 - 18	Typical Sections
19	Construction Phasing Plan
20 - 31	Alignment Plans
32 - 62	Roadway Plans & Details
63 - 67	Bus Shelter Details
68 - 73	Guardrail Details
74 - 77	Underdrain & Trench Restoration Details
78 - 79	Spot Elevations
80 - 103	Curb Ramp Plan & Details
104 - 110	Portable Concrete Barrier Details
111 - 144	Drainage Plan, Profile & Details
145 - 158	Erosion Control Notes & Plan
159 - 173	Traffic Signal Plans & Details
174 - 206	Utility Plans and Details
207 - 240	New Site Electrical & Lighting Plan & Details
249 - 264	Signing & Pavement Marking Notes & Plans
265 - 289	Traffic Control Notes and Plans
290 - 298	Cane Haul Road Pedestrian Bridge
299 - 312	Retaining Wall Plans and Details
313 - 341	Irrigation & Planting Plans and Details
342 - 371	Cross Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII
"AS-BUILT"
DESIGN BUILD PLANS FOR
FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

PACKAGE 2

FEDERAL AID PROJECT NO. CMAQ-076-1(9)

DISTRICT OF EWA
ISLAND OF OAHU

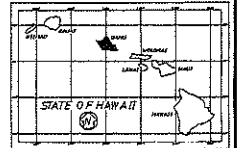
DESIGN DESIGNATION

<u>Aawa Drive to Kolowaka Drive</u>	<u>Kolowaka Drive to Geiger Road</u>
ADT (2003) 55,700	ADT (2003) 35,500
ADT (2023) 77,800	ADT (2023) 49,800
DHV (2023) 5,300	DHV (2023) 4,000
D 70/30	D 60/40
T 6.5%	T 5.0%
T24 5.5%	T24 4.0%
V 45 MPH	V 45 MPH

SUPPLEMENTARY SHEETS TO THIS PROJECT ARE SHEET NOS:
C.O. 14S-1, C.O. 14S-2, C.O. 136S-1, 137S-1, 137S-2, C.O. 192S-1,
206S-1, C.O. 326S-1

TOTAL SHEET COUNT AFTER "AS-BUILT" POSTINGS
379 SHEETS

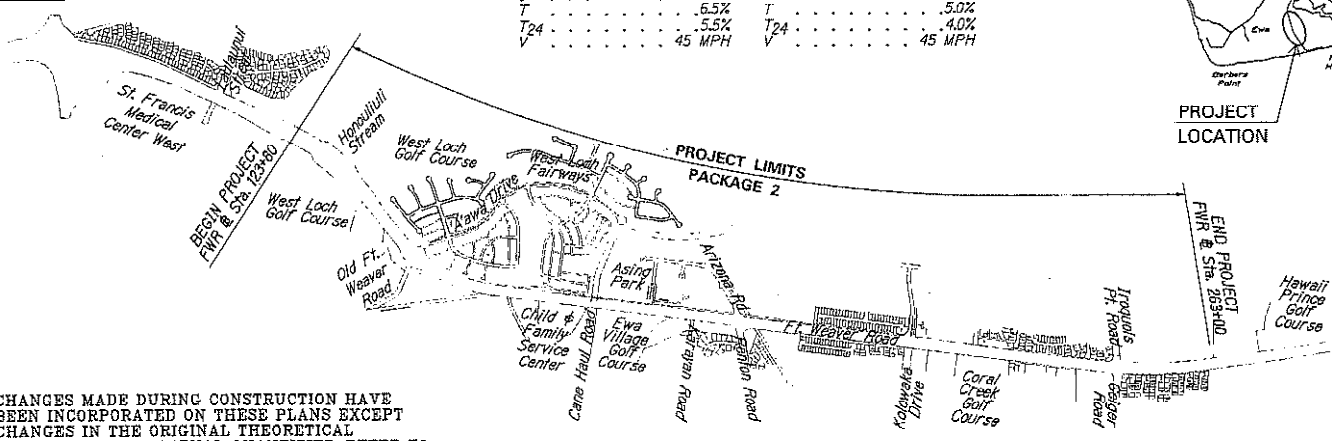
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HA	CMAQ-076-1(9)	2006	1	371



PROJECT LOCATION



DATE: 1-11
 FILE: 1-11
 MANAGED BY: PA MERLOS, INC.
 PHONE: 609-7545
 DATE: FEB. 22, 2006



CHANGES MADE DURING CONSTRUCTION HAVE BEEN INCORPORATED ON THESE PLANS EXCEPT CHANGES IN THE ORIGINAL THEORETICAL QUANTITIES. FOR ACTUAL QUANTITIES, REFER TO PROJECT LEDGER AND/OR COMPUTATION BOOK.

RESIDENT ENGINEER
 DATE: 2/2/06

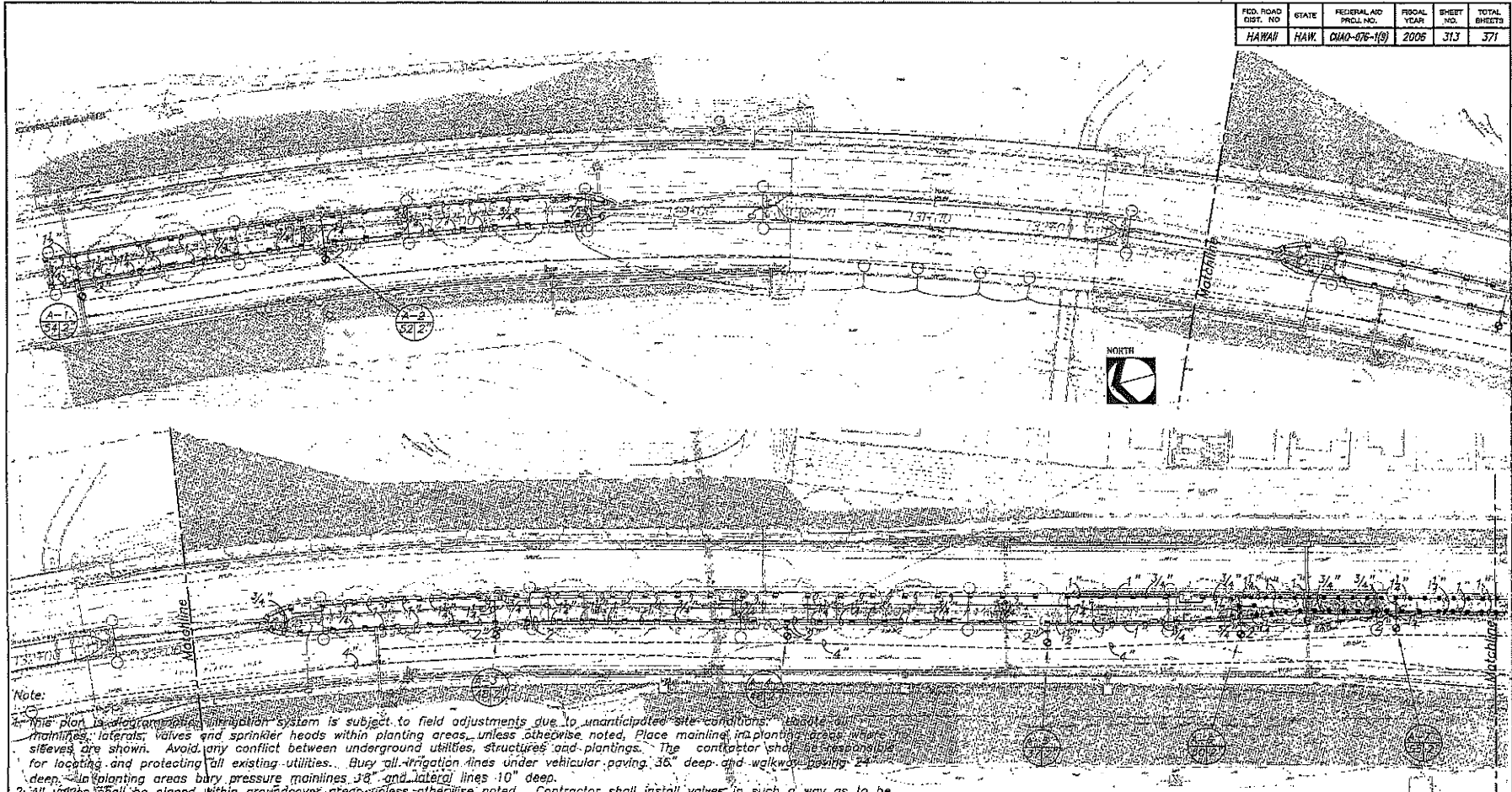
LAYOUT PLAN
NOT TO SCALE

DEPARTMENT OF TRANSPORTATION
 STATE OF HAWAII
 APPROVED:

 DIR. OF TRANSPORTATION
 DATE: 5-5-08

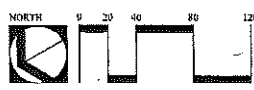
Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	01A0-076-109	2006	313	371



- Note:
- This plan is a schematic irrigation system is subject to field adjustments due to unanticipated site conditions. Locate all mainlines, laterals, valves and sprinkler heads within planting areas unless otherwise noted. Place mainline in planting areas where sieves are shown. Avoid any conflict between underground utilities, structures and plantings. The contractor shall be responsible for locating and protecting all existing utilities. Bury all irrigation lines under vehicular paving 36" deep and walkway paving 24" deep. In planting areas bury pressure mainlines 38" and lateral lines 10" deep.
 - All valves shall be placed within groundcover areas unless otherwise noted. Contractor shall install valves in such a way as to be as inconspicuous as possible.
 - See Civil plans for sleeve and conduit roadway crossings for mainlines.
 - Contractor shall verify and replace all existing permanent irrigation equipment damaged by roadway widening. Replacement irrigation equipment and materials shall conform with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002.
 - Contractor shall provide an automatic temporary irrigation system in locations where no permanent existing irrigation system exists. Temporary irrigation equipment shall comply with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002. Contractor shall submit proposed temporary irrigation plan to the State Department of Health for review and approval prior to installation.
 - Contractor shall retrofit all existing irrigation between Sta. 100+50 and 123+80 for use with non-potable water. Replacement irrigation equipment and materials shall conform with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002.

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
PROJECT NO.	



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF HAWAII.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION PLAN

STA. 124+00 TO STA. 144+00

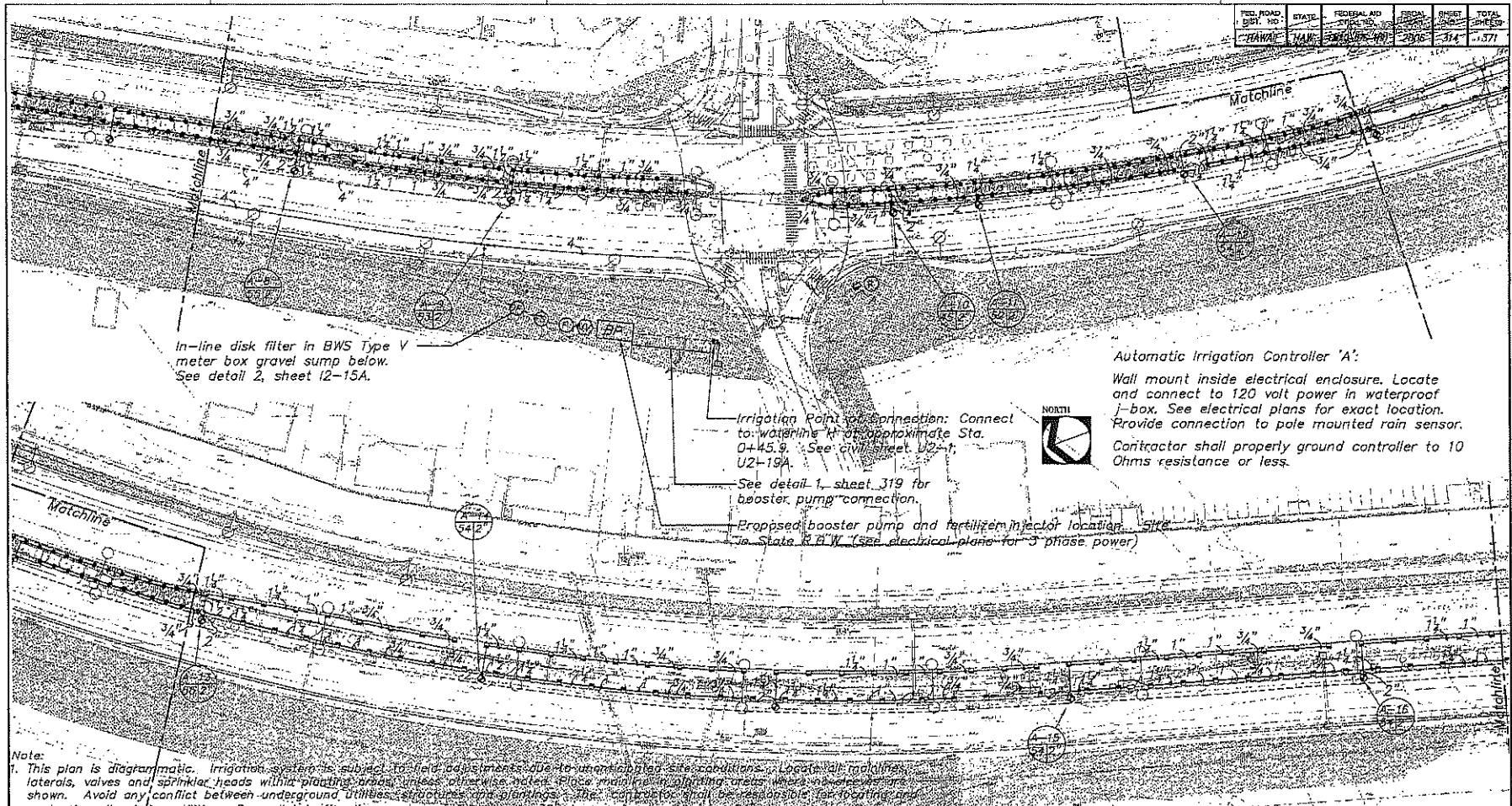
FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GRIGER ROAD

Scale: 1"=40' Date: Jan. 25, 2004

SHEET No. 12-01 OF 15 SHEETS

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID	FEDAL	SHEET	TOTAL SHEETS
HAWAII	HA	90%	2006	314	1,571



- Note:**
- This plan is diagrammatic. Irrigation system is subject to field adjustments due to unanticipated site conditions. Locate all mainlines, laterals, valves and sprinkler heads within planting areas unless otherwise noted. Place mainlines in planting areas unless otherwise shown. Avoid any conflict between underground utilities, structures and plantings. The contractor shall be responsible for locating and protecting all existing utilities. Bury all irrigation lines under vehicular paving 36" deep and walking paving 24" deep in planting areas. Bury pressure mainlines 18" and lateral lines 10" deep.
 - All valves shall be placed within groundcover areas unless otherwise noted. Contractor shall install valves in such a way as to be as inconspicuous as possible.
 - See Civil plans for sleeve and conduit roadway crossings for mainlines.
 - Contractor shall verify and replace all existing permanent irrigation equipment damaged by roadway widening. Replacement irrigation equipment and materials shall conform with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002.
 - Contractor shall provide an automatic temporary irrigation system in locations where no permanent existing irrigation system exists. Temporary irrigation equipment shall comply with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002. Contractor shall submit proposed temporary irrigation plan to the State Department of Health for review and approval prior to installation.

DESIGNED BY	DATE
CHECKED BY	DATE
IN CHARGE	DATE
PROJECT	NO.

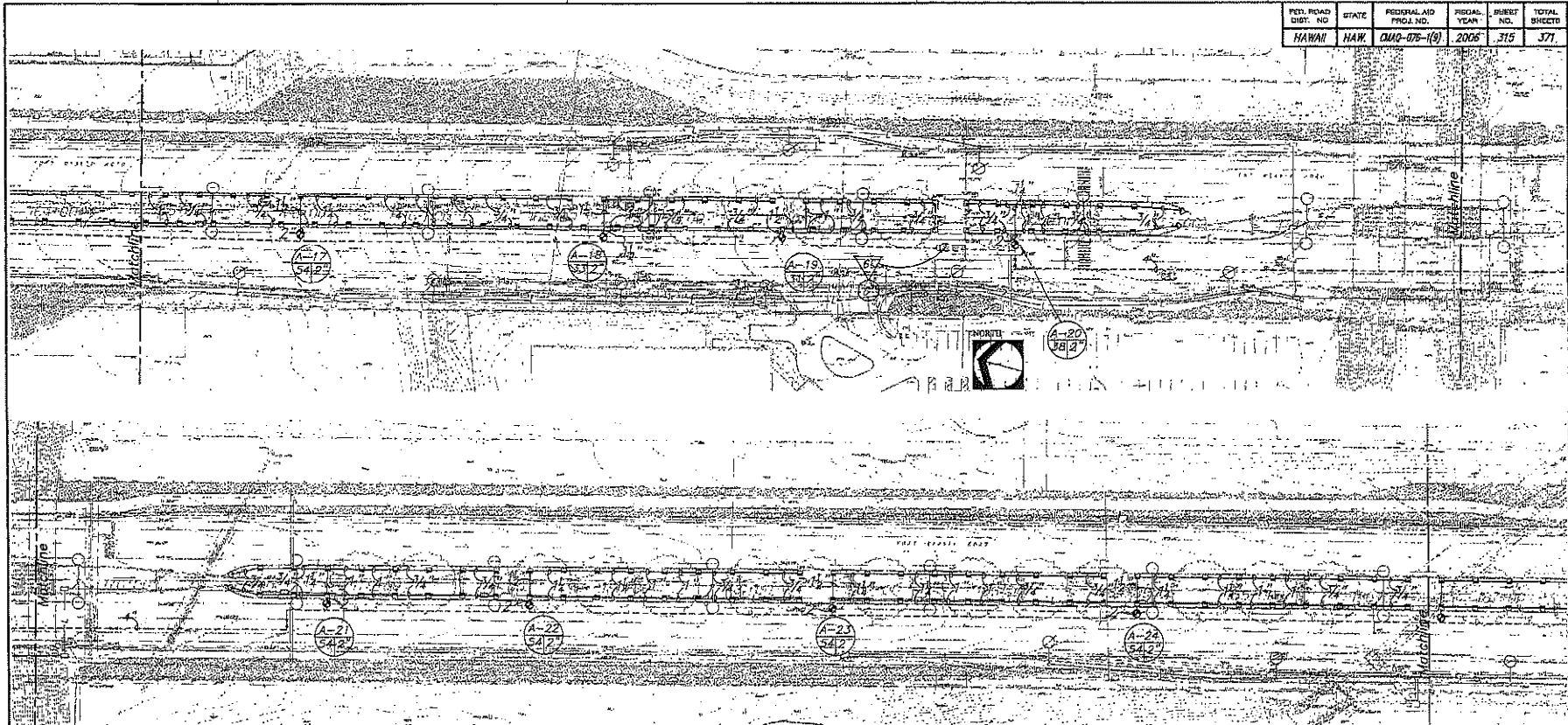
NORTH

0 20 40 80 120

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
IRRIGATION PLAN
STA. 144+00 TO 165+00
FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEEGER ROAD
Scale: 1" = 40' Date: Jan. 25, 2008
SHEET No. 12 - 02 OF 15 SHEETS

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	040-075-19	2006	315	377



Note:

1. This plan is diagrammatic. Irrigation system is subject to field adjustments due to unanticipated site conditions. Locate all mainlines, laterals, valves and sprinkler heads within planting areas, unless otherwise noted. Place mainline in planting areas where no sleeves are shown. Avoid any conflict between underground utilities, structures and plantings. The contractor shall be responsible for locating and protecting all existing utilities. Bury all irrigation lines under vehicular paving 36" deep and walkway paving 24" deep. In planting areas bury pressure mainlines 18" and lateral lines 10" deep.
2. All valves shall be placed within groundcover areas unless otherwise noted. Contractor shall install valves in such a way as to be as inconspicuous as possible.
3. See Civil plans for sleeve and conduit roadway crossings for mainlines.
4. Contractor shall verify and replace all existing permanent irrigation equipment damaged by roadway widening. Replacement irrigation equipment and materials shall conform with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002.
5. Contractor shall provide an automatic temporary irrigation system in locations where no permanent existing irrigation system exists. Temporary irrigation equipment shall comply with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002. Contractor shall submit proposed temporary irrigation plan to the State Department of Health for review and approval prior to installation.

DESIGNED BY	DATE
CHECKED BY	DATE
IN CHARGE	DATE
APPROVED BY	DATE

SHEET NO. 12-03 OF 15 SHEETS



STAN DUNBAR
LICENSED PROFESSIONAL ENGINEER
NO. 10000
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
1420 WAYS DIVISION

IRRIGATION PLAN

STA. 165+00 TO 187+00

FORT HEAVER ROAD WIDENING

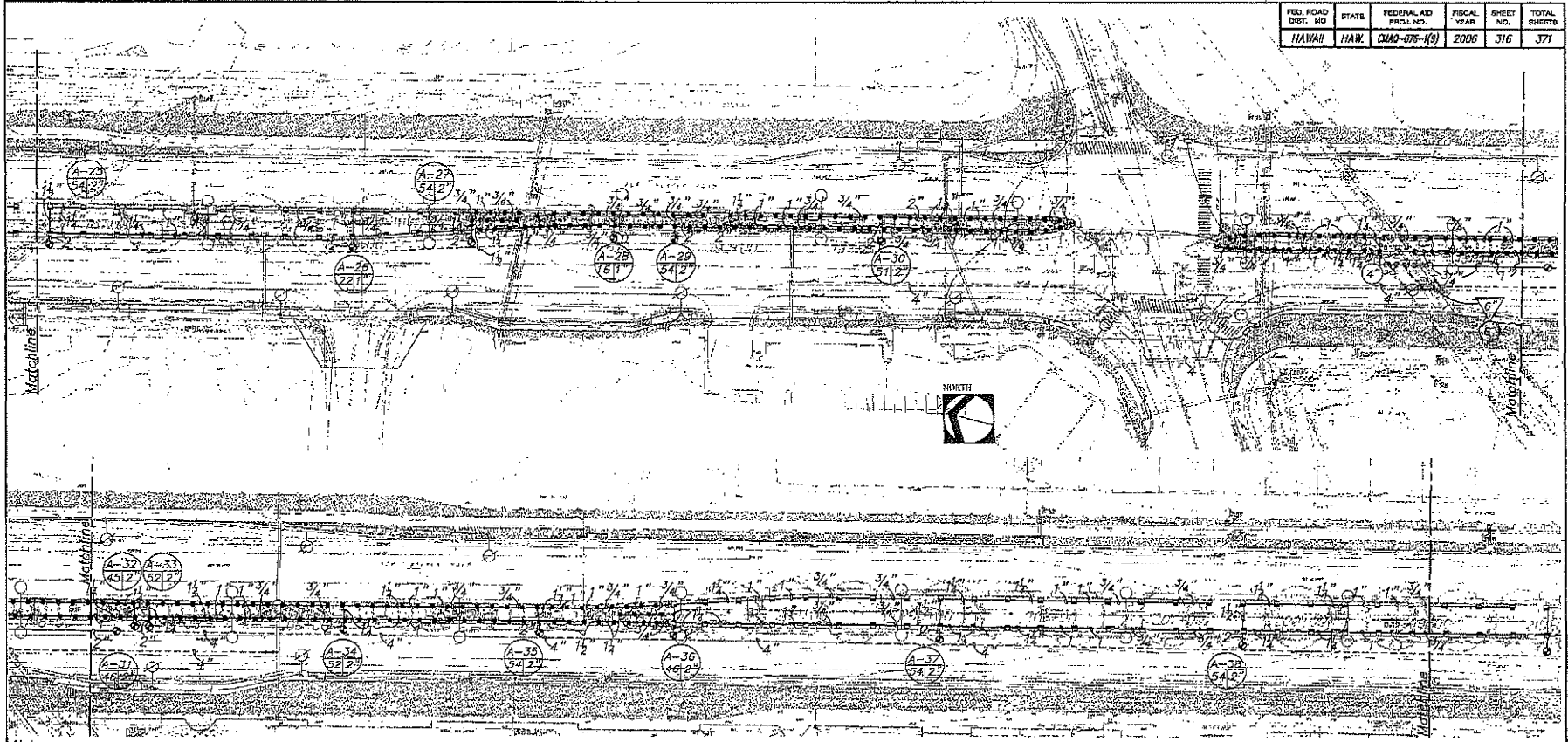
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1"=40' Date: Jan 25, 2006

SHEET No. 12-03 OF 15 SHEETS

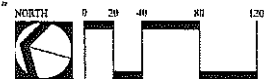
Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	040-076-1(9)	2006	316	371



- Note:
1. This plan is diagrammatic. Irrigation system is subject to field adjustments due to unanticipated site conditions. Locate all mainlines, laterals, valves and sprinkler heads within planting areas, unless otherwise noted. Place mainline in planting areas where no sleeves are shown. Avoid any conflict between underground utilities, structures and plantings. The contractor shall be responsible for locating and protecting all existing utilities. Bury all irrigation lines under vehicular paving 36" deep and walkway paving 24" deep. In planting areas bury pressure mainlines 18" and lateral lines 10" deep.
 2. All valves shall be placed within groundcover areas unless otherwise noted. Contractor shall install valves in such a way as to be as inconspicuous as possible.
 3. See Civil plans for sleeve and conduit roadway crossings for mainlines.
 4. Contractor shall verify and replace all existing permanent irrigation equipment damaged by roadway widening. Replacement irrigation equipment and materials shall conform with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002.
 5. Contractor shall provide an automatic temporary irrigation system in locations where no permanent existing irrigation system exists. Temporary irrigation equipment shall comply with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002. Contractor shall submit proposed temporary irrigation plan to the State Department of Health for review and approval prior to installation.

DESIGNED BY	DATE
CHECKED BY	
IN CHARGE	
SCALE	
PROJECT NO.	
SHEET NO.	



THE SEAL SHALL BE PREPARED BY THE LICENSEE OR SURVEYOR.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION PLAN

STA. 187+00 TO STA. 209+00

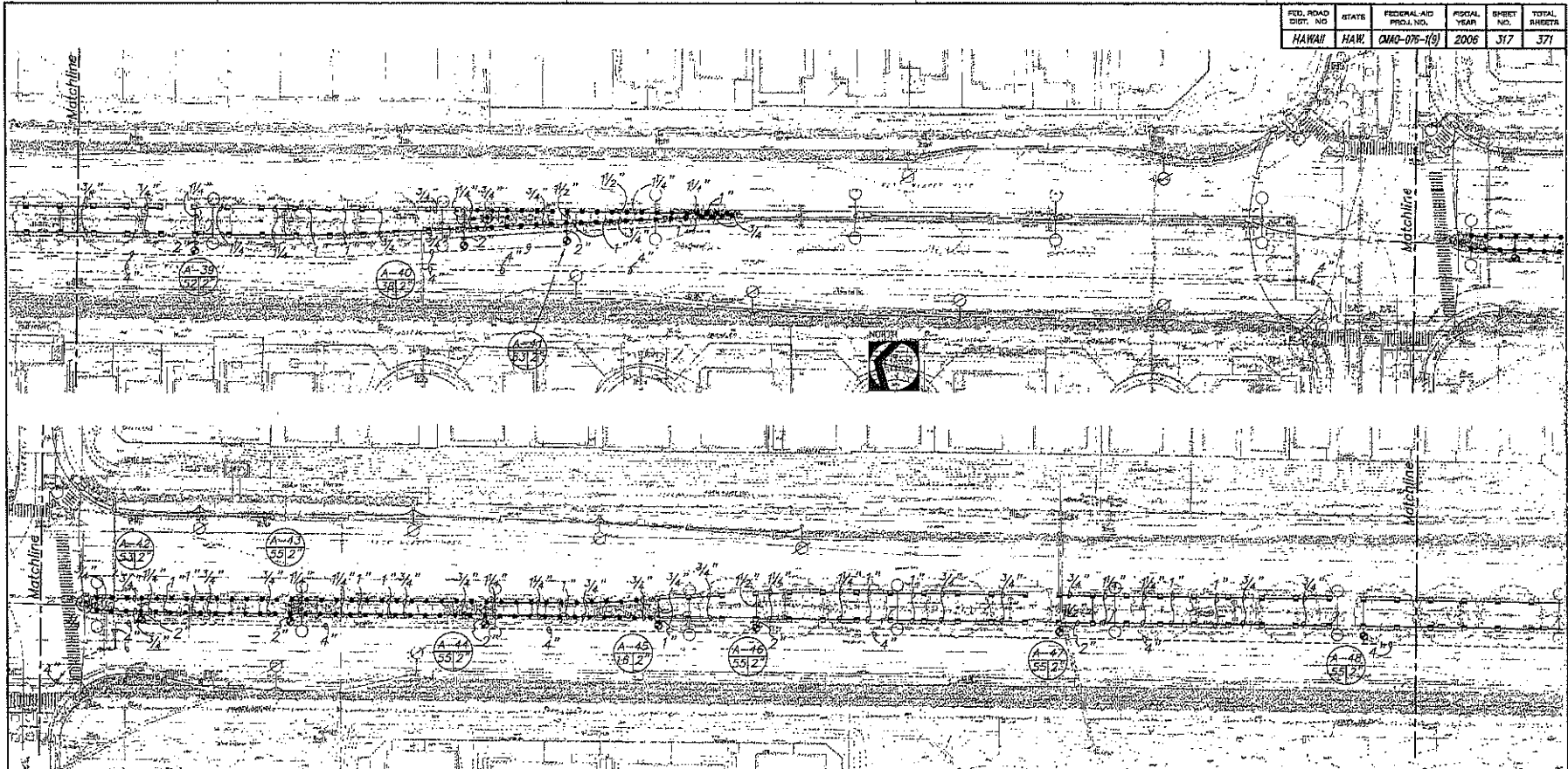
FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEEBEE ROAD

Scale: 1"=40' Date: Jan. 25, 2008

SHEET No. 12-04 OF 15 SHEETS

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	040-075-1(9)	2006	317	371



Note:

1. This plan is diagrammatic. Irrigation system is subject to field adjustments due to unanticipated site conditions. Locate all mainlines, laterals, valves and sprinkler heads within planting areas, unless otherwise noted. Place mainline in planting areas where no sleeves are shown. Avoid any conflict between underground utilities, structures and plantings. The contractor shall be responsible for locating and protecting all existing utilities. Bury all irrigation lines under vehicular paving 36" deep and walkway paving 24" deep. In planting areas bury pressure mainlines 18" and lateral lines 10" deep.
2. All valves shall be placed within groundcover areas unless otherwise noted. Contractor shall install valves in such a way as to be as inconspicuous as possible.
3. See Civil plans for sleeve and conduit roadway crossings for mainlines.
4. Contractor shall verify and replace all existing permanent irrigation equipment damaged by roadway widening. Replacement irrigation equipment and materials shall conform with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002.
5. Contractor shall provide an automatic temporary irrigation system in locations where no permanent existing irrigation system exists. Temporary irrigation equipment shall comply with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002. Contractor shall submit proposed temporary irrigation plan to the State Department of Health for review and approval prior to installation.

DATE	BY

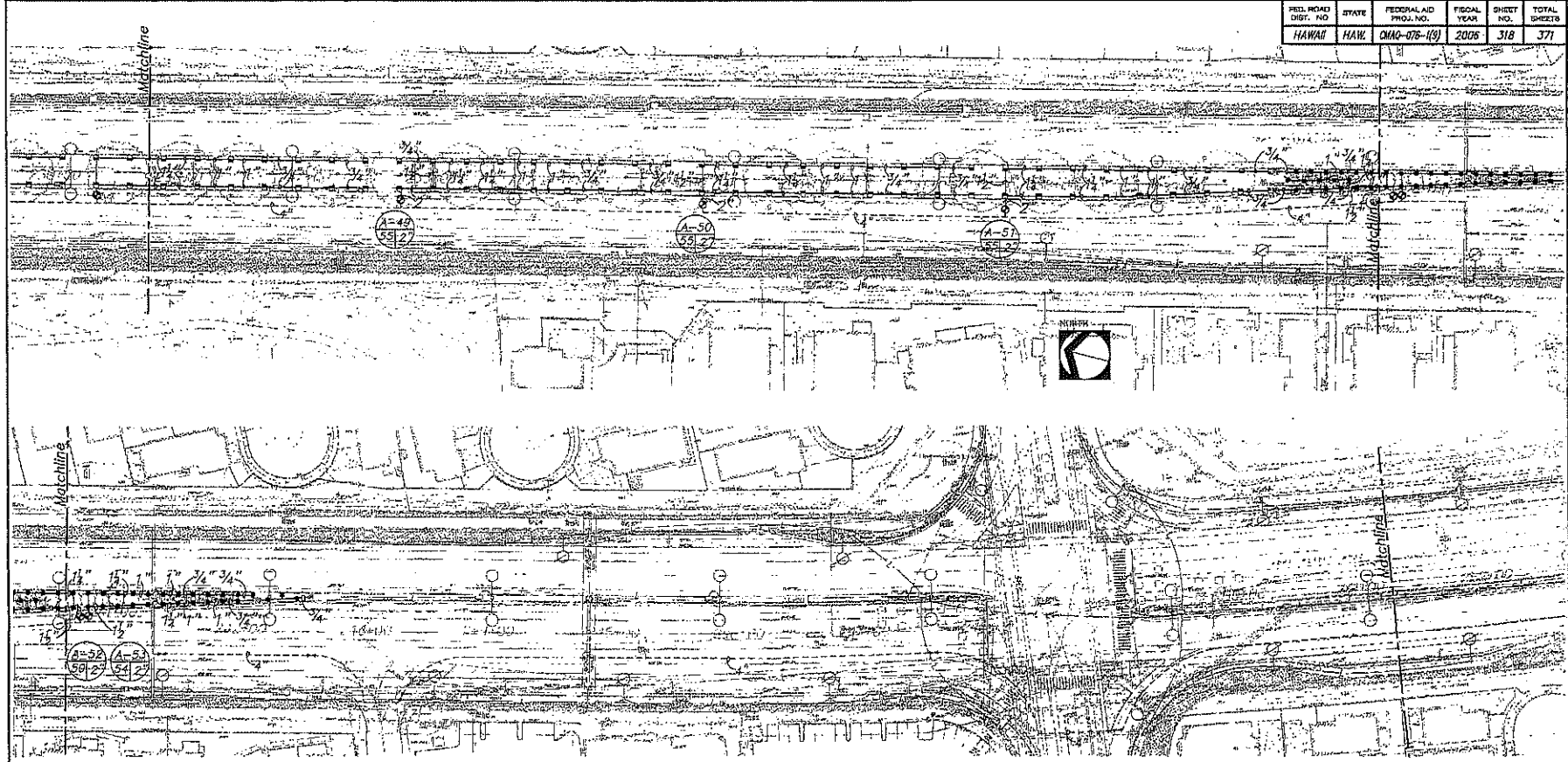
AS-BUILT

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION IRRIGATION PLAN STA 209+00 TO 230+00 FORT WEAVER ROAD WIDENING VICINITY OF AAWA DRIVE TO GEBER ROAD Scale: 1"=40' Date: Jan. 25, 2008 SHEET No. 12-05 OF 15 SHEETS

AS-BUILT 317

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	01AG-078-1(9)	2006	318	377

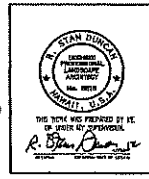
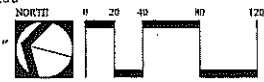


Note:

1. This plan is diagrammatic. Irrigation system is subject to field adjustments due to unanticipated site conditions. Locate all mainlines, laterals, valves and sprinkler heads within planting areas, unless otherwise noted. Place mainline in planting areas where no sleeves are shown. Avoid any conflict between underground utilities, structures and plantings. The contractor shall be responsible for locating and protecting all existing utilities. Bury all irrigation lines under vehicular paving 36" deep and walkway paving 24" deep. In planting areas bury pressure mainlines 18" and lateral lines 10" deep.
2. All valves shall be placed within groundcover areas unless otherwise noted. Contractor shall install valves in such a way as to be as inconspicuous as possible.
3. See Civil plans for sleeve and conduit roadway crossings for mainlines.
4. Contractor shall verify and replace all existing permanent irrigation equipment damaged by roadway widening. Replacement irrigation equipment and materials shall conform with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002.
5. Contractor shall provide an automatic temporary irrigation system in locations where no permanent existing irrigation system exists. Temporary irrigation equipment shall comply with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002. Contractor shall submit proposed temporary irrigation plan to the State Department of Health for review and approval prior to installation.

DESIGNED BY: _____
 CHECKED BY: _____
 DRAWN BY: _____
 DATE: _____

2/27/07 REVISION 001/002/003/004/005/006/007



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

IRRIGATION PLAN
 STA. 230+00 TO STA. 251+00
 FORT WEAVER ROAD WIDENING
 VICINITY OF AAWA DRIVE TO GEEGER ROAD

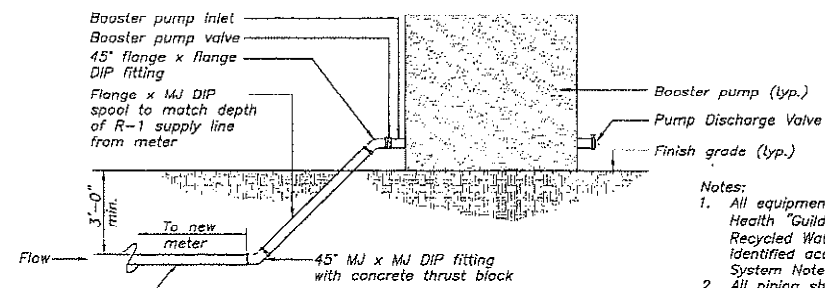
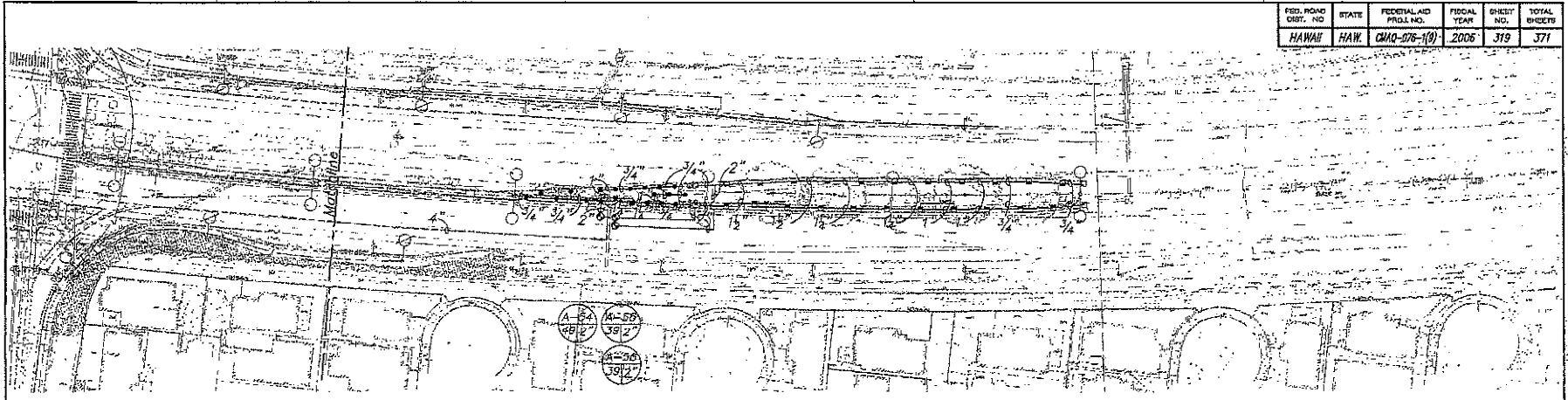
Scale: 1" = 40' Date: Jan. 25, 2006

SHEET No. 12-06 OF 15 SHEETS

AS-BUILT 318

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	040-076-1(9)	2006	319	371



Install new mainline to waterline H at approx. Sta. 0+45.9 (see civil sheet U2-1, U2-19A for location). Mainline and fittings shall match civil specifications. Install all fittings and material as required by BWS standards.

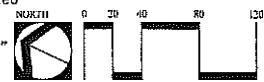
BOOSTER PUMP (SECTION ELEVATION)
1 SURFACE/SUBSURFACE TRANSITION DETAIL
 SCALE: 1/2" = 1'-0"

- Notes:**
- All equipment shall comply with the Department of Health "Guidelines for the Treatment and use of Recycled Water" dated May 15, 2002 and shall be identified according to the Recycled Water Irrigation System Notes on sheet 326.
 - All piping shall be installed per BWS standards and requirements.

- Note:**
- This plan is diagrammatic. Irrigation system is subject to field adjustments due to unanticipated site conditions. Locate all mainlines, laterals, valves and sprinkler heads within planting areas, unless otherwise noted. Place mainline in planting areas where no sleeves are shown. Avoid any conflict between underground utilities, structures and plantings. The contractor shall be responsible for locating and protecting all existing utilities. Bury all irrigation lines under vehicular paving 36" deep and walkway paving 24" deep. In planting areas bury pressure mainlines 18" and lateral lines 10" deep.
 - All valves shall be placed within groundcover areas unless otherwise noted. Contractor shall install valves in such a way as to be as inconspicuous as possible.
 - See Civil plans for sleeve and conduit roadway crossings for mainlines.
 - Contractor shall verify and replace all existing permanent irrigation equipment damaged by roadway widening. Replacement irrigation equipment and materials shall conform with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002.
 - Contractor shall provide an automatic temporary irrigation system in locations where no permanent existing irrigation system exists. Temporary irrigation equipment shall comply with the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002. Contractor shall submit proposed temporary irrigation plan to the State Department of Health for review and approval prior to installation.

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
PROJECT NO.	
REVISIONS BY	
DATE	

L:\PROJ\BERRY ROAD\0319\0319.dwg



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

IRRIGATION PLAN

STA 25+00 TO STA 26+00

FORT HEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GERGER ROAD

Scale: 1"=40' Date: Jan. 25, 2006

SHEET No. 12 OF 15 SHEETS

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	QWA-078-1(9)	2006	320	371

Note:

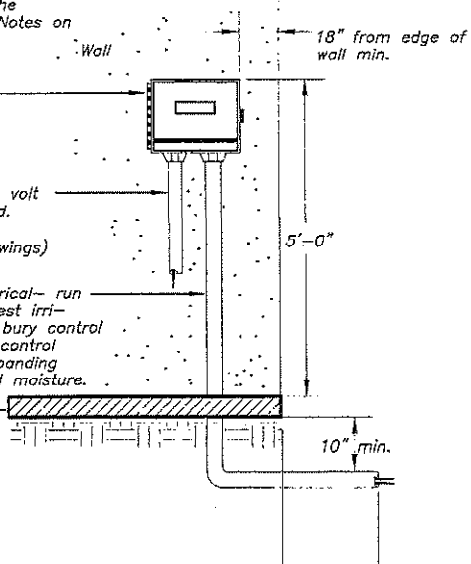
1. Install irrigation controller at locations shown on drawings and according to Manufacturer's recommendations
2. Irrigation controller shall be clearly identified inside and outside according to the Recycled Water Irrigation System Notes on sheet 326

Irrigation controller: fasten securely to inside wall of vandal resistant electrical enclosure (see Electrical plans)

Power source conduit - provide 120 volt cord and plug or hard wire if required. Connect to waterproof electrical outlet provided by others (see Electrical drawings)

Control wire conduit provided by Electrical - run control wires in elec. Conduit to nearest irrigation pipe. Beyond this point, direct bury control wire below irrigation pipe to remote control valves. Seal conduit opening with expanding sealant to protect against insects and moisture.

Finish floor



1 WALL MOUNT IRRIGATION CONTROLLER DETAIL
SCALE: N.T.S.

6" round valve box w/cover flushed with lawn and/or 3" above ground cover area

Bronze gate valve

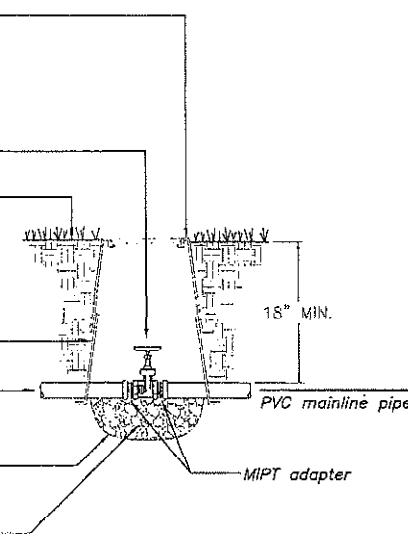
Finish grade

Valve box extension

From water source

Filter fabric-tape to side of valve box

3" layer no. 3 gravel



Note:

1. All valve box covers shall be labeled recycled water, valve type, zone number and controller.
2. All irrigation equipment shall be identified according to the Recycled Water Irrigation System Notes on sheet 326.

2 GATE VALVE DETAIL
SCALE: N.T.S.

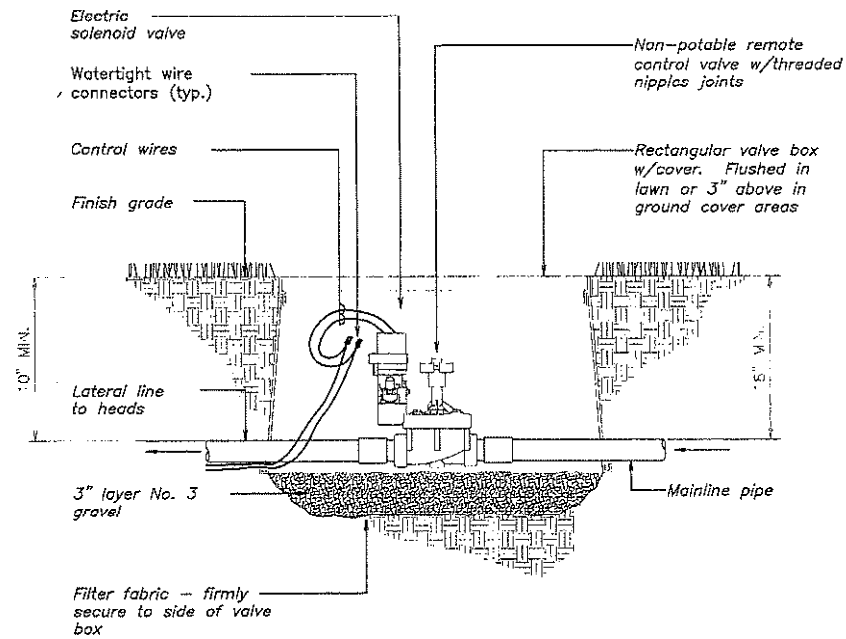
NO.	DATE	BY	REVISION

2/2007 (REVISED) 2/2007/2/2008

	<p>STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION</p> <p>IRRIGATION DETAILS</p> <p>FORT WEAVER ROAD WIDENING VICINITY OF AAWA DRIVE TO GEEGER ROAD</p> <p>Scale: NTS Date: Jan. 26, 2008</p>
<p>SHEET No. 12 OF 15 SHEETS</p>	

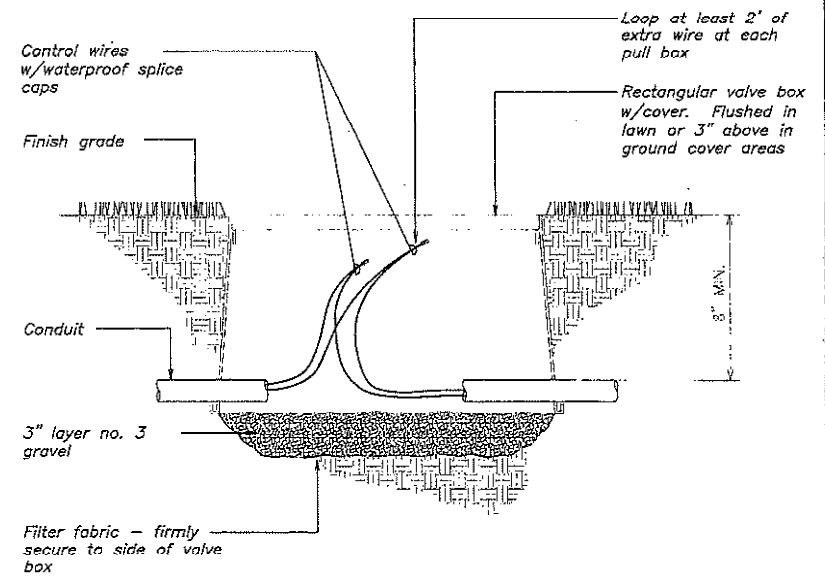
Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	DM-0-076-1(3)	2006	321	371



- Note:
1. All valve box covers shall be labeled recycled water, valve type, zone number and controller number.
 2. All irrigation equipment shall be identified according to the Recycled Water Irrigation System Notes on sheet 326.

③ NON POTABLE REMOTE CONTROL VALVE DETAIL
SCALE: N.T.S.



- Notes:
1. All valve box covers shall be labeled valve type, zone number and, controller number.
 2. Provide minimum of one pull box for every 250 linear feet of controller wire and at each grouping of valves and, prior to all road pavement crossings.
 3. Do not splice wires except in valve boxes and pull boxes.
 4. All irrigation equipment shall be identified according to the Recycled Water Irrigation System Notes on sheet 326.

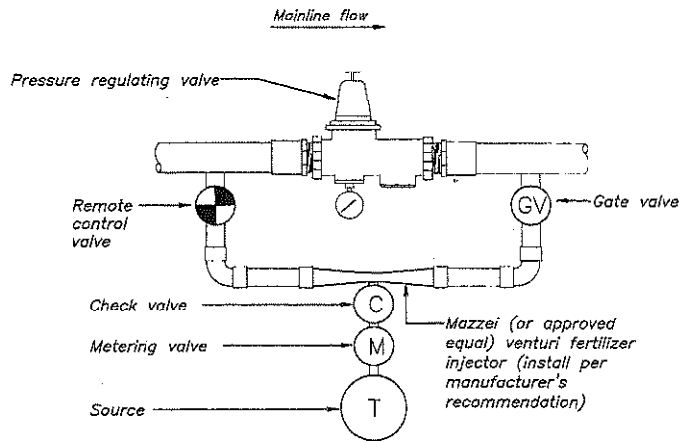
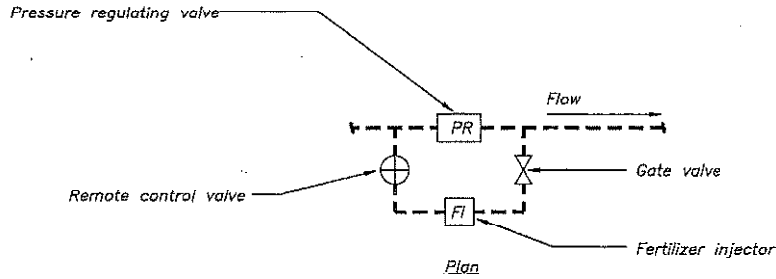
④ PULL BOX DETAIL
SCALE: N.T.S.

SHEET PRINTED BY: JMS
 DESIGNED BY: JMS
 CHECKED BY: JMS
 DATE: 01/25/08
 PROJECT: FORT WEAVER ROAD WIDENING
 SHEET NO.: 321 OF 371

	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
	IRRIGATION DETAILS FORT WEAVER ROAD WIDENING VICINITY OF AAWA DRIVE TO GEIGER ROAD Scale: N.T.S. Date: Jan. 25, 2008
SHEET NO. 12-09 OF 15 SHEETS AS-BUILT 321	

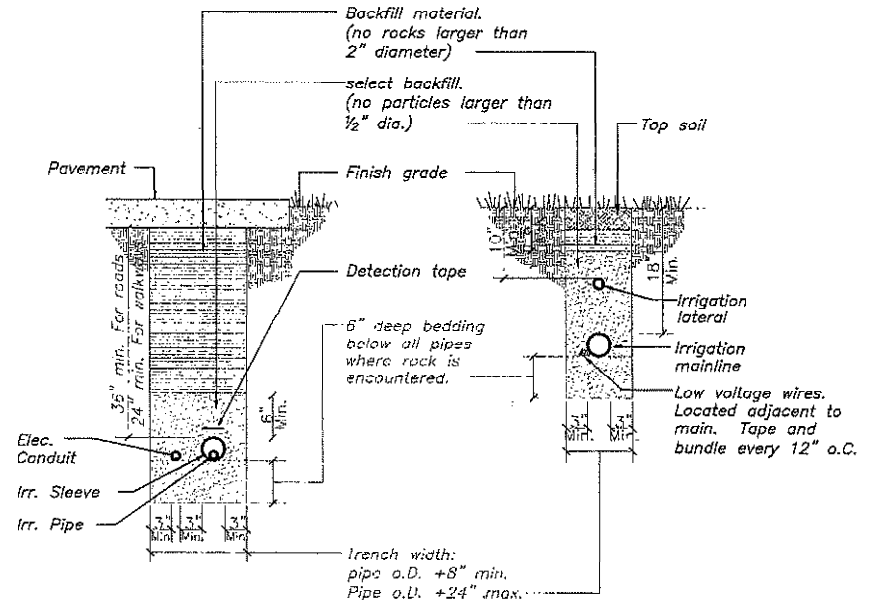
Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	DMO-076-119	2006	322	371



Note:
All irrigation equipment shall be identified according to the Recycled Water Irrigation System Notes on sheet 326.

⑤ TYPICAL VENTURI-TYPE FERTILIZER INJECTOR DETAIL
SCALE: N.T.S.



Note:
All irrigation equipment shall be identified according to the Recycled Water Irrigation System Notes on sheet 326.

⑥ IRRIGATION TRENCH & WIRING DETAIL
SCALE: N.T.S.

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
IN CHARGE	DATE
APPROVED BY	DATE

J. PERST KEISLER ROAD/0000/1002.000

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

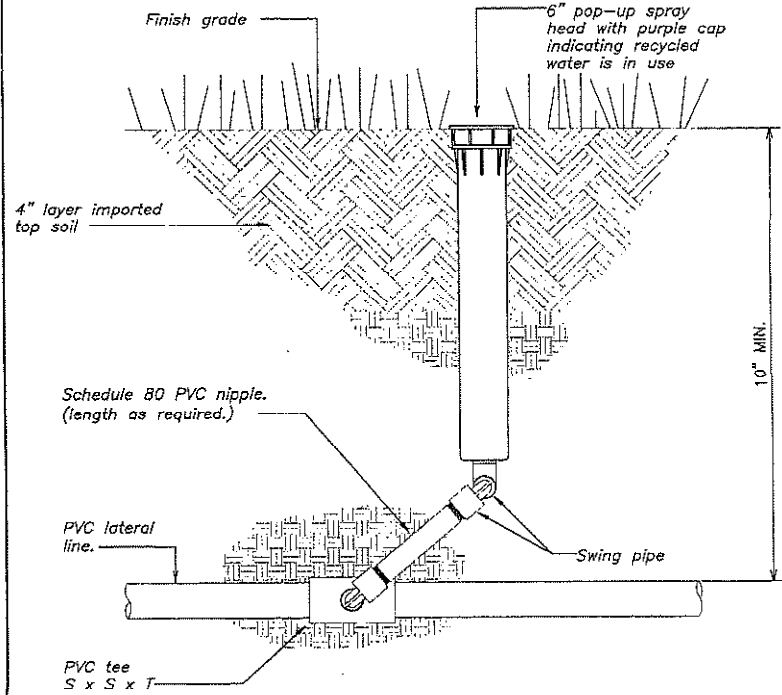
IRRIGATION DETAILS

FORT HEAVER ROAD WIDENING
VICINITY OF AANA DRIVE TO GEIGER ROAD

Scale: N.T.S. Date: Jan. 25, 2008

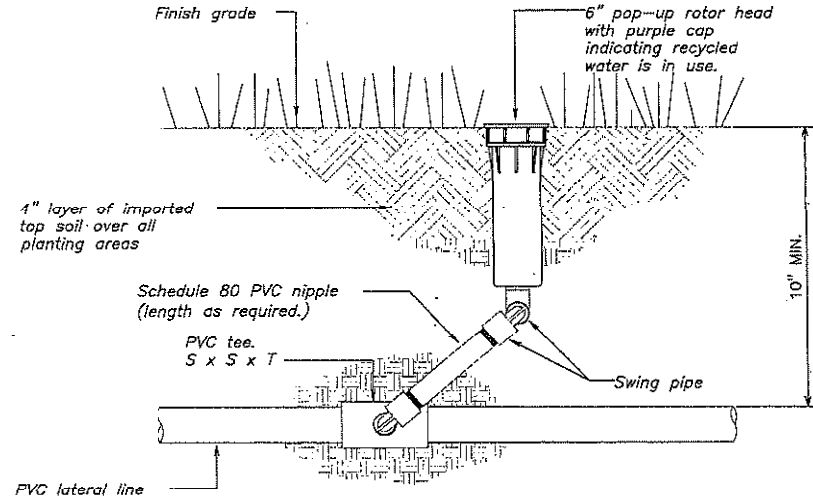
Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	CONTRACT NO.	TOTAL SHEETS
HAWAII	HAW.	DMAO-076-1(9)	2006	323	371



- Note:
1. KBI or Lasco swing joints may be used upon approval by Engineer.
 2. Install part circle pop-up heads 6" from edge of paved areas.
 3. All irrigation equipment shall be identified according to the Recycled Water Irrigation System Notes on sheet 326.

⑦ 6" POP-UP SPRAY HEAD DETAIL
SCALE: N.T.S.



- Note:
1. KBI or Lasco swing joints may be used upon approval by Engineer
 2. Install part circle pop-up heads 6" from edge of paved areas.
 3. All irrigation equipment shall be identified according to the Recycled Water Irrigation System Notes on sheet 326.

6" ROTOR POP-UP
⑧ SPRINKLER DETAIL
SCALE: N.T.S.

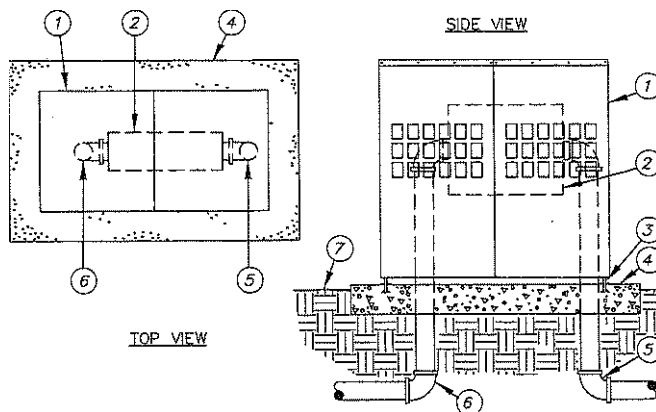
DESIGNED BY	
CHECKED BY	
DATE	
PROJECT NO.	
SCALE	
BY	
DATE	

F:\PROJECTS\HWY\2007\2007\2007

	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
	IRRIGATION DETAILS FORT WEAVER ROAD WIDENING VICINITY OF AAWA DRIVE TO BERGER ROAD Scale: N.T.S. Date: Jan. 25, 2008

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	0M0-076-(8)	2006	324	371



LEGEND

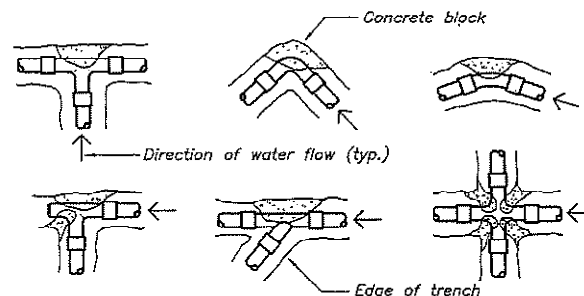
- | | |
|---|---------------------------------|
| 1. Aluminum backflow enclosure. | 6. Water service outlet piping. |
| 2. Backflow preventer. | 7. Finish grade. |
| 3. Anchor rod (typical). | |
| 4. Poured concrete base - 6" min. thickness - extend 4" beyond outside dimensions of enclosure. | |
| 5. Water service inlet piping. | |

Note:
All Irrigation equipment shall be identified according to the Recycled Water Irrigation System Notes on sheet 326.

10 ALUMINUM BACKFLOW ENCLOSURE
SCALE: N.T.S.

THRUST BLOCK BEARING AREA (SQ. FT.)				
PIPE SIZE	1 1/4" - 2 1/2"	3"	4"	6"
TEES/ELLS	1.00	1.00	1.25	3.2
90 BENDS	1.00	1.25	2.00	4.5
45 BENDS	1.00	1.00	1.00	2.4

Notes:
1. Install thrust block at all machine bends, tees or ells as shown below. Thrust blocks shall be minimum of (1) cu. ft. Redi-mix concrete or 2500 psi 28 day concrete.
2. Set all thrust blocks against undisturbed soil.



Note:
All Irrigation equipment shall be identified according to the Recycled Water Irrigation System Notes on sheet 326.

9 THRUST BLOCK DETAIL
SCALE: N.T.S.

DESIGNED BY	DATE
CHECKED BY	
IN CHARGE	
APPROVED BY	
NO. _____	

FORT HEAVER ROAD WIDENING

	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
	IRRIGATION DETAILS FORT HEAVER ROAD WIDENING VICINITY OF AAWA DRIVE TO GEIGER ROAD.
<i>Note:</i> Do not use proposed or in use in a project.	
Scale: N.T.S. Date: Jan. 25, 2006	

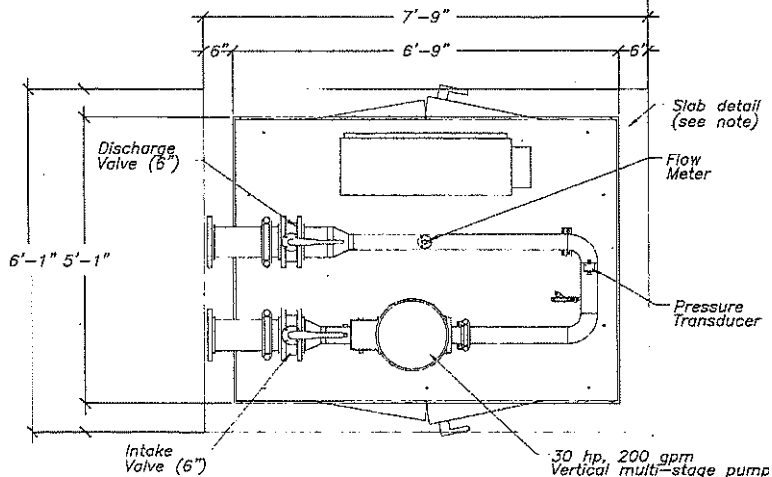
Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	GM0-078-1(9)	2006	325	371

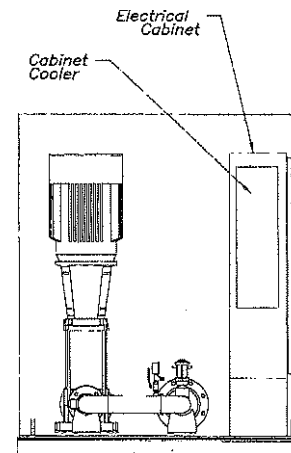
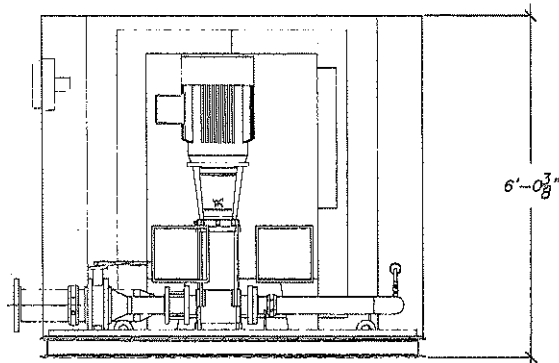
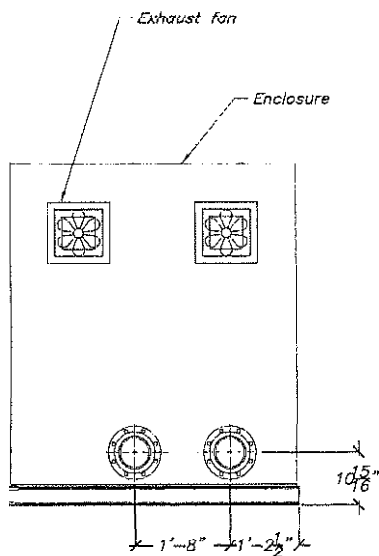
Notes:

1. Dimensions shown are minimum recommended clearances from pump station to slab edge.
2. Slab detail is provided for illustration only. The Architect or Project Engineer should be consulted for construction detail.
3. Slab and pump house must be built in accordance with local building codes.
4. All supply and discharge piping shall be painted purple (suggested color Pantone 512 or equal) to clearly identify reclaimed water is in use.

-not to be used for construction contact factory for certified drawing



Power: 208/60/3 v/hz/ph
 Service req: 200 a
 Flow: 200 gpm
 Suction pressure: 30 psi
 Discharge pressure: 200 psi
 Boost pressure: 170 psi



10 BOOSTER PUMP DETAIL
SCALE: N.T.S.

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

P:\PWP\HETLEY ROAD\2002\2002.dwg

R. Star Duncker
Professional Engineer
License No. 5791
State of Hawaii

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

IRRIGATION DETAILS

FORT WEAVER ROAD, WIDENING,
VICINITY OF AAWA DRIVE TO GEEGER ROAD

Scale: NTS Date: Jan. 25, 2008

SHEET No. 12-13 OF 15 SHEETS

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	0MA2-076-1(9)	2006	326	371

Irrigation notes:

1. Contractor shall install irrigation lines, wires, valves and heads per specifications. Existing gate valves, point of connection, etc. Are derived from the best available information and on-site inspection. The contractor shall verify those points of connection noted and report any discrepancies to the engineer.
2. This plan is diagrammatic. Irrigation system is subject to field adjustments due to unanticipated site conditions. Locate all mainlines, laterals, valves and sprinkler heads within planting areas, unless otherwise noted. Place mainline in planting areas where no sleeves are shown. Avoid any conflict between underground utilities, structures and plantings. The contractor shall be responsible for locating and protecting all existing utilities. Bury pressure mainlines 18" and lateral lines 10" deep minimum.
3. This irrigation system was designed with a minimum static water pressure of 30 psi The point of connection. Notify the project engineer, if water pressure is less than 30 psi or greater than 60 psi.
4. Contractor shall secure all necessary permits and observe all local codes and regulations. The contractor shall confirm all sites dimensions and conditions, and report any discrepancies to the engineer.
5. Contractor shall coordinate the installation of all sleeves, conduits, mainlines and laterals under pavement and through walls. Contractor shall assure that these items are laid prior to placement of pavement or wall structures.
6. Locate and install all sprinkler heads 6" from sidewalks, curbs, driveways, building and wall unless otherwise noted. Flex tubing shall be installed on all sprinkler head along sidewalks, driveways, and parking spaces. Adjust all sprinkler heads and flow control for maximum coverage and minimum overthrow and misting. Operate only one valve at a time per controller.
7. Within 30 days after award of the contract, submit for the Engineer's acceptance six (6) copies of detailed scaled drawings and wiring diagrams for permanent and temporary irrigation systems. Not proposed deviations from the contract. include samples of materials, if required by contract.
8. Perform Hydrostatic Test by applying continuous static pressure of 60 psi for one (1) hour. Notify the Engineer at least three (3) days in advance of test. Repair leaks that develop and repeat test. Do not backfill until there is no further sign of leakage.
9. Perform operability test by opening remote control valve and test circuits for leaks around barbed and threaded pvc fittings. Repair leaks and repeat tests. Notify the Engineer at least three (3) days in advance of test. Do not backfill until there is no further sign of leakage.
10. Perform coverage test. Before planting period, run automatic controller through all its cycles. Check watering for coverage and uniformity in company of the engineer. Run system until there are puddles or there is sheet flow to determine initial irrigation time and number of cycles per week needed to water requirements of plants.
11. Locate valve boxes so that the outer edges are no closer than five feet to roadway pavement. Group valve boxes as feasible.
12. If plans do not specify depth of excavation, provide minimum cover to finish grade as follows:
 - (a) 4 inches for drip irrigation main.
 - (b) 18 inches for irrigation main.
 - (c) 10 inches for irrigation lateral
 - (d) 24 inches for sleeve or conduit under landscape pavement.
 - (e) 36 inches for sleeve or conduit under roadway pavement.
 - (f) for controller wires and conduits in unpaved areas, depth equal to that of pressure irrigation pipe.

Recycled water irrigation system notes

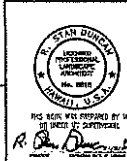
1. The Recycled Water irrigation system shall comply with the Department of Health Guidelines for the Treatment and Use of Recycled Water, May 15, 2002.
2. All new buried irrigation piping in the Reclaimed Water System, including service lines, valves, and other appurtenances shall both be colored purple, suggested color pantone 512 or equal, and embossed or be integrally stamped/marked "Recycled Water - Do Not Drink", or be installed with purple identification tape, or purple polyethylene wrap, suggested color pantone 512 or equal.
3. Valve boxes shall be the standard concrete or fiberglass box conforming with "Water System Standards" Volume 1, State of Hawaii, 1985. All valve covers on recycled water lines shall be colored purple, suggested color Pantone 512 or equal, and contain "Recycled Water - Do Not Drink" inscriptions on the top surface.
4. Notification signs indicating that recycled water is being utilized for landscape irrigation shall be posted at conspicuous locations throughout the project. The signs shall indicate both in writing and pictorially that recycled water is not suitable for drinking. The location of the signs shall be noted on a signage plan.
5. Before construction of the irrigation system commences, the State Department of Health must approve the recycled water irrigation system design.
6. Engineer, has the right to stop construction should any work be found contrary to the approved plans and specifications, Department of Health Guidelines for the Treatment and Use of Recycled Water Rules, or detrimental to public interest.
7. Prior to startup of the irrigation system, representatives of the State Department of Health shall inspect the Recycled Water irrigation system along with the Irrigation System Contractor and Engineer. Once the irrigation system passes inspection, permits for Recycled Water use shall be issued to the Engineer.
8. All existing and new exposed above ground piping, fittings, pumps, valves, and other appurtenances shall be painted purple, suggested color index 77742 violet #16, Pantone 512 or equal, or clearly identified with signage informing the user that recycled water is in use. In addition, all piping shall be identified using an acceptable means of labeling reading "CAUTION: RECYCLED WATER-DO NOT DRINK."
9. Recycled water irrigation system shall utilize automatic irrigation controllers to automatically open and close on-site distribution valves.
10. Automatic irrigation controllers for the recycled water irrigation system shall be clearly identified inside and outside, warning that the system is utilizing recycled water. Identification shall be permanently attached to the inside and outside of the controller. The labels should also alert the system's owner/maintenance personnel of any important constraints on the operation of the system in accordance with Chapter V Sections C-7 and C-9 of the Department of Health "Guidelines for the Treatment and Use of Recycled Water," dated May 15, 2002.
11. Controllers of recycled water shall be color-coded to differentiate the recycled water from the potable water in accordance with Chapter V Sections A-4 and A-6 of the Department of Health Guidelines for the Treatment and Use of Recycled Water.
12. All recycled water irrigation system piping shall be colored purple, suggested color Pantone 512 or equal for pipe, appurtenances, marking tapes, labels and signs, and markings, differentiating them from potable water piping. The words "CAUTION: RECYCLED WATER-DO NOT DRINK," shall be printed on the pipe or identification tape. This statement shall be stamped on opposite sides of the pipe, repeated every three feet. All piping and valves shall also be appropriately labeled or continuously taped with appropriate identification.
13. Identification tape shall be installed on pressure and non-pressure laterals. Purple tape, color Pantone 512 or equal, with black lettering stating "CAUTION: RECYCLED WATER-DO NOT DRINK," shall be fastened directly to the top of the pipe. The tape shall run continuously the entire length of the pipe. The overall width of the tape shall be at least three inches in width. Identification tape shall be a locator type marking tape.
14. Hose bibs are not allowed on the recycled water irrigation system.
15. Horizontal and vertical clearances between potable water and recycled water lines shall conform with the "Water System Standards" Vol. 1 [28].
16. Identify all valve box covers with Reclaimed Purple Valve Box Nameplate such as Christy's Model #3800 Recycled/Reclaimed Water Valve Box Identification Nameplates with tamper-proof attachment rivets.

DESIGNED BY	DATE
CHECKED BY	DATE
IN CHARGE	DATE
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

NON POTABLE IRRIGATION NOTES
SCALE: N.T.S.

CHIEF, ENVIRONMENTAL MANAGEMENT DIVISION, DEPARTMENT OF HEALTH
STATE OF HAWAII

DATE



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION NOTES

FORT HEAVER ROAD WIDENING
VICINITY OF AANA DRIVE TO CRIGER ROAD

Scale: N1S Date: Jan. 25, 2009

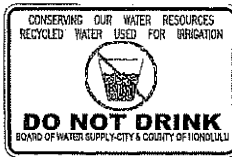
IRRIGATION NOTES
SCALE: N.T.S.

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	0MA0-076-(19)	2006	372	371

2" GALV. STEEL PIPE SLT IN BREAKAWAY COUPLER SYSTEM

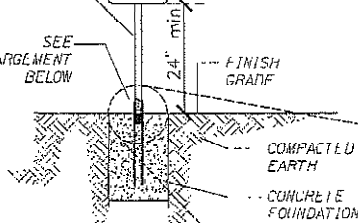
WARNING SIGN (N.T.S.) SECURE TO PIPE WITH 1/2" CADMIUM PLATED BOLTS, NUTS AND WASHERS



TYPE "A" 14" W x 12" H
TYPE "B" 12" W x 8" H

DETAIL - WARNING SIGN

SEE ENLARGEMENT BELOW



WARNING SIGN INSTALLATION DETAIL
SCALE: N.T.S.

NOTES:

1. INSTALL WARNING SIGNS IN AREAS AS SHOWN ON SHEET
2. CONTACT ENGINEER FIVE DAYS PRIOR TO INSTALLATION FOR APPROVAL AND ORIENTATION OF SIGN LOCATION.

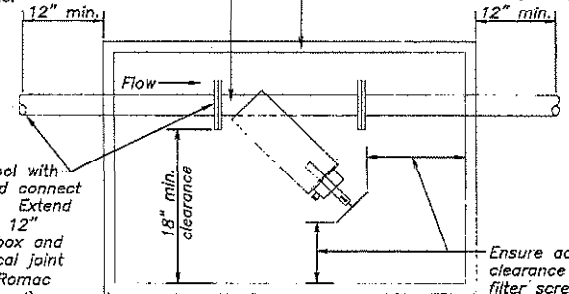
BREAKAWAY COUPLER ENLARGEMENT

ROUND PUMP BREAKAWAY COUPLER
MANUFACTURER: SIGN SUPPORT SYSTEMS CORP.
www.signsupport.com

① RECYCLED WATER IDENTIFICATION SIGN DETAIL
SCALE: N.T.S.

3" Steel Spin Clean filter by Agricultural Products Inc. Install per manufacturer's recommendations.

BWS approved Type V meter box, frame, and cover. Refer to BWS Standard Details M9, M10, and M26.



Plan View

Ensure adequate clearance to access filter screen for servicing

Ductile iron spool with flanged end and connect to filter flange. Extend spool minimum 12" beyond meter box and install mechanical joint with restraint (Romac Romagrip or equal), typical both sides.

Note:

Paint cast iron cover with purple marine grade paint (Pantone 512 or equal) to identify recycled water use

BWS approved Type V meter box, frame, and cover. Refer to BWS Standard Details M9, M10, and M26.

Ductile iron spool flanged X MJ with restraint (typ.)

8" deep gravel layer with filter fabric below

Section Elevation

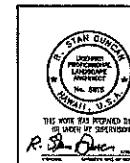
Finish grade

Ductile iron spool flanged X MJ with restraint (typ.)

② IN-LINE FILTER DETAIL
SCALE: N.T.S.

DATE	BY	REVISION

3. FORT WEAVER ROAD/0001/0001/0001



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RECYCLED WATER IDENTIFICATION SIGN DETAIL

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: NTS Date: Jan. 25, 2006

SHEET No. 12-15A OF 15 SHEETS

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	040-076-109	2008	327	371

Irrigation notes:

- Irrigation systems are diagrammatic and subject to minor adjustments due to unanticipated field conditions. Irrigation heads shall be installed where shown, adjustments to head placement may be made in the field only to avoid obstacles or to improve coverage. Heads shall not be spaced further than shown on the drawings. Valves shall be installed in groundcover areas whenever possible and be accessible for service and use. Avoid conflicts with plantings, utilities and architectural elements.
- Prior to excavation for irrigation lines, the contractor shall verify in the field the exact location and depth of all utilities in the area and exercise caution when excavating.
- Coordinate with other trades to insure installation of irrigation lines and appurtenances. It shall be the responsibility of the Irrigation Contractor to coordinate with other contractors on the job to insure their installation and to provide proper clearances for connections.
- Refer to Electrical drawings for 120v wiring to controller(s). Contractor shall provide surge protection for controller and pulse transmitter.
- The irrigation system design is based on a minimum static pressure of 30 psi at the point of connection with a 170 psi water pressure boost at the booster pump. No backflow prevention device is required on the non-potable water system. Test the pressure at point of connection and notify Engineer if pressure is less than 30 psi prior to proceeding.
- Install the irrigation controllers as noted on the drawings and in accordance with the manufacturer's recommendations. The Contractor, together with the appropriate Owner's Representative, shall program the controller to accommodate the landscape and site requirements.
- Irrigation systems shall be operated during "off peak" evening hours. Operation during other times shall be with the approval of the Project Manager.
- The Landscape Contractor shall ensure all controllers are grounded to 10 ohm resistance or less.
- All electrical splicing shall comply with NEC standards. Contractor shall use 3M DBY-6 or DBR-6 electrical splices listed for use in wet environments.

IRRIGATION MATERIAL SCHEDULE		
SYMBOL	DESCRIPTION	MANUFACTURER/ CATALOG NUMBER
[Symbol]	AUTOMATIC IRRIGATION CONTROLLER OUTDOOR WALL MOUNT	TUCOR RKD CONTROLLER (100 STATION), ACCESSIBLE OVER THE INTERNET, MOUNTED IN ELEG ENCLOSURE OR APPROVED EQUAL
	COMMUNICATION MODUL*	TUCOH GPRS MODULE FOR RKD CONTROLLER
	1 YEAR SERVICE PLAN	TUCOR 1 YEAR SERVICE PLAN
	LIGHTNING PROTECTION	4"x3"-0" GROUNDING PLATES AND POWERSET GROUND ENHANCEMENT MATERIAL. CONTRACTOR SHALL GROUND CONTROLLER TO 10 Ohms OR LESS.
[Symbol]	REMOTE CONTROL VALVE	RAINBIRD PLSBR-PRS-D, SIZE AS NOTED OR APPROVED EQUAL
	2-WIRE DECODER	TUCOR RKLK SERIES DECODER OR APPROVED EQUAL
[Symbol]	MANUAL ANGLE VALVE	BUCKNER VHM-20, SAME SIZE AS LARGEST DOWNSTREAM REMOTE CONTROL VALVE OR APPROVED EQUAL
[Symbol]	GATE VALVE (FULL LINE SIZE)	1. NIBCO T-11J, 2.5" OR LESS, OR APPROVED EQUAL
		2. EPOXY COATED AWWA RESILIENT SEAT 3" OR LARGER
[Symbol]	BOOSTER PUMP 200 GPM @ 170 PSI BOOST	RAIN BIRD VERTICAL MULTI-STAGE INLINE VFD BOOSTER PUMP MODEL VM13000230 W/ CONTROLS IN MARINE GRADE STAINLESS STEEL ENCLOSURE
[Symbol]	MASTER VALVE(NORMALLY OPEN)	CLA VAL MODEL 136-01/636-01 OR BERMAID MODEL 710, 200 GPM OR APPROVED EQUAL
[Symbol]	POLE MOUNTED RAIN SENSOR	HUNTER MINI-CLICK ON 7'-0" TALL, 3" DIA. GALVANIZED POLE (APPLY 2 COATS OF RUSTPROOF PRIMER AND 2 COATS OF BLACK MARINE GRADE PAINT TO POLE) OR APPROVED EQUAL
[Symbol]	VENTURI-TYPE FERTILIZER INJECTOR	MAZZEI MODEL 1583-A OR APPROVED EQUAL
	VANDAL RESISTANT ENCLOSURE	STRONGBOX SBBC-30A11
[Symbol]	PRESSURE RELIEF VALVE	CLA VAL MODEL OR APPROVED EQUAL
[Symbol]	FLOW SENSOR	DATA INDUSTRIAL SERIES 200 IR SENSOR, 3" SIZE
	COM CABLE FOR FLOW SENSOR	HAIN MASTER EV-CAB-SEN OR APPROVED EQUAL
[Symbol]	NON-POTABLE IRRIGATION MAINLINE - PVC	SCH 40 PVC 2" OR SMALLER (LAVENDER W/ "DO NOT DRINK WARNING") C 900 24" OR LARGER (LAVENDER W/ DO NOT DRINK WARNING) (SIZE AS SHOWN - SEE SPECS - 18" MIN. DEPTH OR APPROVED EQUAL
[Symbol]	NON POTABLE IRRIGATION MAINLINE DUCTILE IRON	4" DUCTILE IRON PIPE CONFORMING TO AWWA C151 STANDARDS CONTRACTOR SHALL PROVIDE ALL NECESSARY DUCTILE IRON FITTINGS FOR TRANSITION BETWEEN PVC AND DUCTILE IRON MAINLINE, SEE SPECS. 24" DEPTH MINIMUM OR APPROVED EQUAL
[Symbol]	IRRIGATION LATERAL	CLASS 200 PVC, SIZE AS NOTED, 18" MIN. DEPTH OR APPROVED EQUAL (LAVENDER W/ DO NOT DRINK WARNING)
[Symbol]	COPPER IRRIGATION LATERAL	COPPER TYPE K HARD, SIZE AS NOTED OR APPROVED EQUAL WITH DETECTABLE WARNING TAPE AND "DO NOT DRINK" WARNING
[Symbol]	PVC SLEEVE UNDER PAVEMENT	SCH 40 PVC PIPE (SIZE AS NOTED) 36" DEPTH BELOW VEHICULAR PAVING, 24" DEPTH BELOW WALKWAY PAVING, OR APPROVED EQUAL
[Symbol]	IRRIGATION CONDUIT	SCH 80 PVC UL LISTED, SIZE AS NOTED, 36" DEPTH BELOW VEHICULAR PAVING, 24" DEPTH BELOW WALKWAY PAVING, OR APPROVED EQUAL

IRRIGATION SPRINKLER SCHEDULE					
HEAD SYMBOL	ANGLE	MANUFACTURER/ CATALOG NUMBER	G.P.M.	P.S.I.	RAD.
LAWN SPRAY SPRINKLER					
RAINBIRD 1804-SAM-PRS					
4" POP-UP					
[Symbol]	90°	1804-SAM-PRS-10Q	0.29-0.39	15-30	7'-10'
[Symbol]	180°	1804-SAM-PRS-10H	0.58-0.79	15-30	7'-10'
[Symbol]	360°	1804-SAM-PRS-10F	1.16-1.58	15-30	7'-10'
[Symbol]		VAN 1804-SAM-PRS-10VAN	0.48-2.60	15-30	7'-10'
[Symbol]	90°	1804-SAM-PRS-15Q	0.65-0.92	15-30	11'-15'
[Symbol]	180°	1804-SAM-PRS-15H	1.30-1.85	15-30	11'-15'
[Symbol]	360°	1804-SAM-PRS-15F	2.60-3.70	15-30	11'-15'
[Symbol]		VAN 1804-SAM-PRS-15VAN	0.65-3.70	15-30	11'-15'
[Symbol]		SST 1804-SAM-PRS-15SST	0.88-1.21	15-30	4'x26'-4'x30'
[Symbol]		EST 1804-SAM-PRS-15EST	0.45-0.61	15-30	4'x13'-4'x15'
ROTOR HEAD					
HUNTER I-20 SERIES					
4" POP-UP					
[Symbol]		I-20-ARS-2.0LA	2.10	50	28'
[Symbol]		I-20-ARS-2.5LA	2.80	50	33'
[Symbol]		I-20-3RS-4.5LA	4.40	50	35'
CONTROLLER AND STATION No.					
FLOW THROUGH VALVE (GPM)					
SLEEVE & CONDUIT SIZING CHART:			LATERAL PIPE SIZING CHART:		
PIPE SIZE:	SIZE OF SLEEVE/CONDUIT	FLOW	PIPE SIZE		
WIRE	3"	0 - 10 GPM	3/4"		
3/4"-1"	2"	11 - 16 GPM	1"		
1-1/4" - 2"	4"	17 - 26 GPM	1-1/4"		
2-1/2" - 4"	6"	27 - 35 GPM	2"		
		36 - 55 GPM	2"		
		56 - 80 GPM	2-1/2"		
		81 - 90 GPM	3"		
[Symbol]	GATE VALVE SIZE	GATE VALVE SIZE			
[Symbol]	ANGLE VALVE SIZE	ANGLE VALVE SIZE			
[Symbol]	SLEEVE SIZE	SLEEVE SIZE			
[Symbol]	CONDUIT RACEWAY SIZE	CONDUIT RACEWAY FOR 24V WIRING (INSTALL ONE EXTRA WIRE THROUGH RACEWAY FOR FUTURE USE)			

10 IRRIGATION LEGEND
SCALE: N.T.S.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

IRRIGATION LEGEND

FURT WEAVER ROAD HOVING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: NTS Date: Jan. 25, 2008

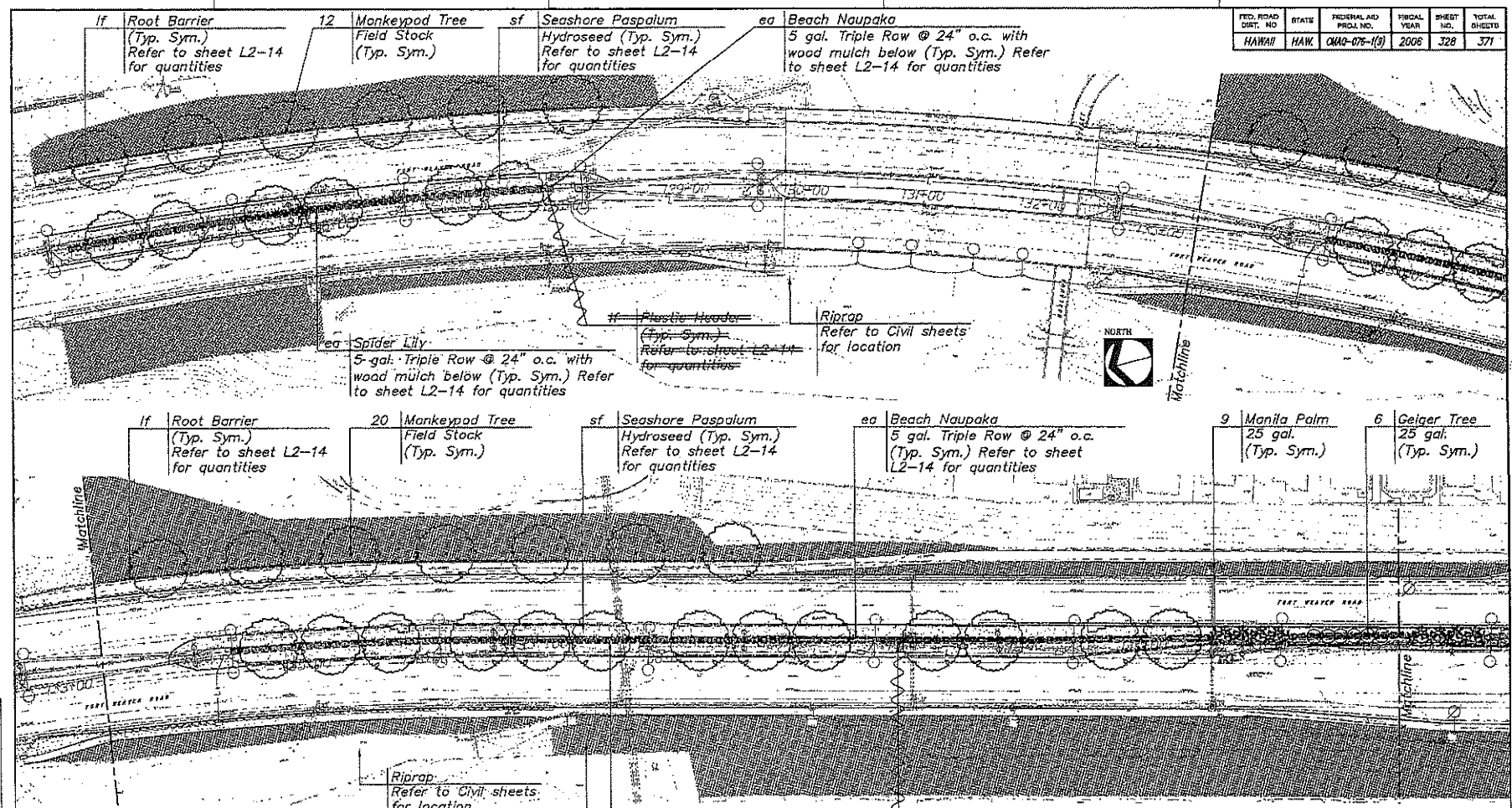
SHEET No. 12-15 OF 15 SHEETS

CHECKED BY: []
 DRAWN BY: []
 DATE: []
 SCALE: []
 SHEET NO.: []
 TOTAL SHEETS: []

J. FORT, BEAVER ROAD, HONOLULU, HI

Appendix F (continuation)

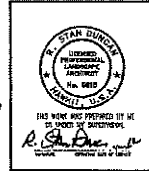
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	QAO-076-1(9)	2006	328	371



Notes:
 1. Quantities are for this sheet only and provided only for convenience. The Contractor shall verify all quantities prior to construction.
 2. Contractor shall repair & regrass all areas affected by construction.

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
	Text for as-built posting

ea Spider Lily	5 gal. Triple Row @ 24" o.c. (Typ. Sym.) Refer to sheet L2-14 for quantities
sf Common Bermuda	Hydroseed (Shoulders Only) Refer to sheet L2-14 for quantities
# Plastic Header	(Typ. Sym.) Refer to sheet L2-14 for quantities

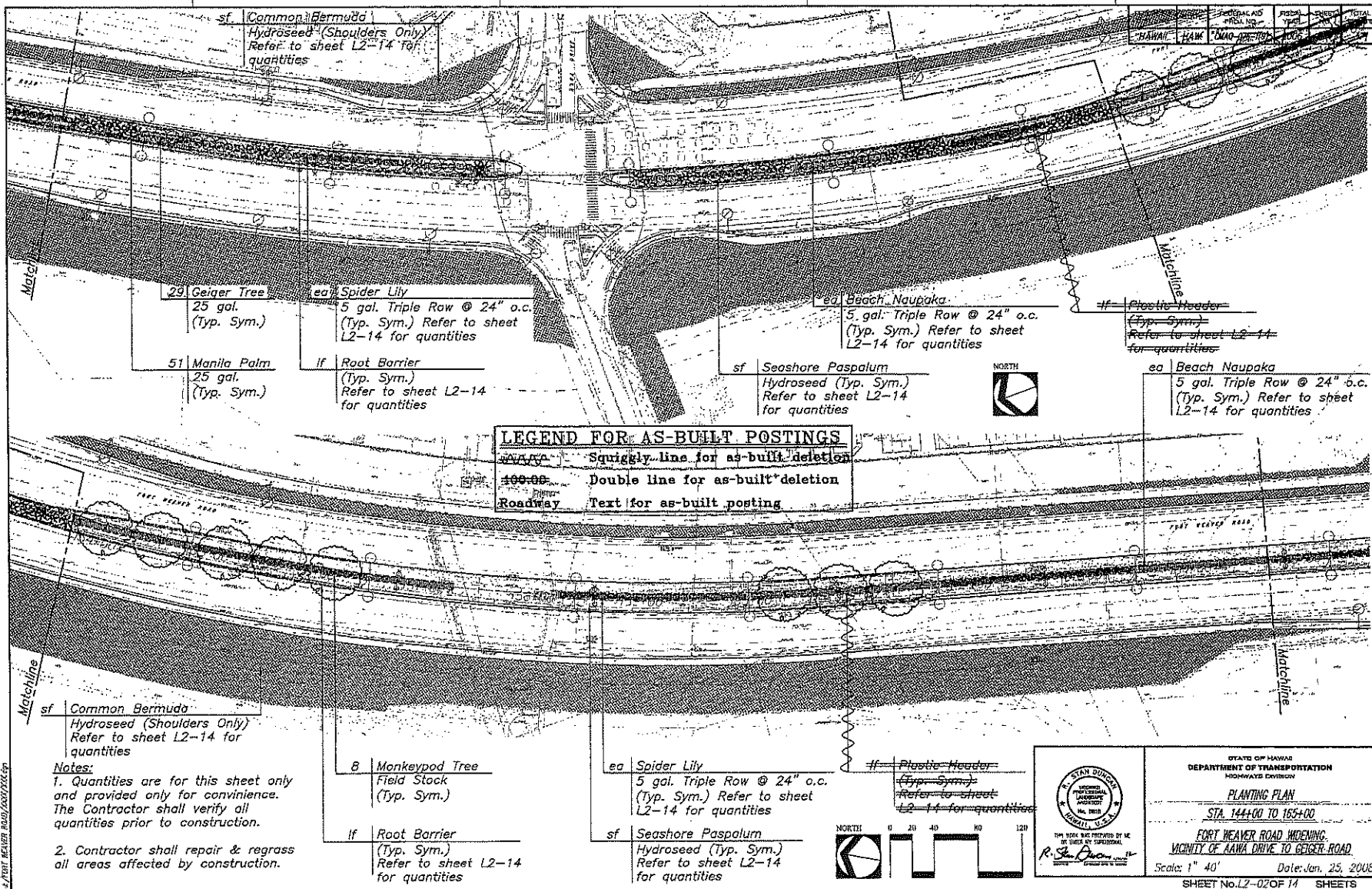


STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

PLANTING PLAN
 STA 124+00 TO 144+00
 FORT WEAVER ROAD WIDENING
 VICINITY OF AANA DRIVE TO GEIGER ROAD

Scale: 1"=40' Date: Jan. 25, 2008
 SHEET No. L2-01 OF 14 SHEETS

Appendix F (continuation)



DATE	
BY	
FOR	
BY	
BY	
BY	
BY	
BY	
BY	
BY	

L:\PRINT\BETTER ROAD\2007\2008\F

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLANTING PLAN

STA. 144+00 TO 165+00

FORT HEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

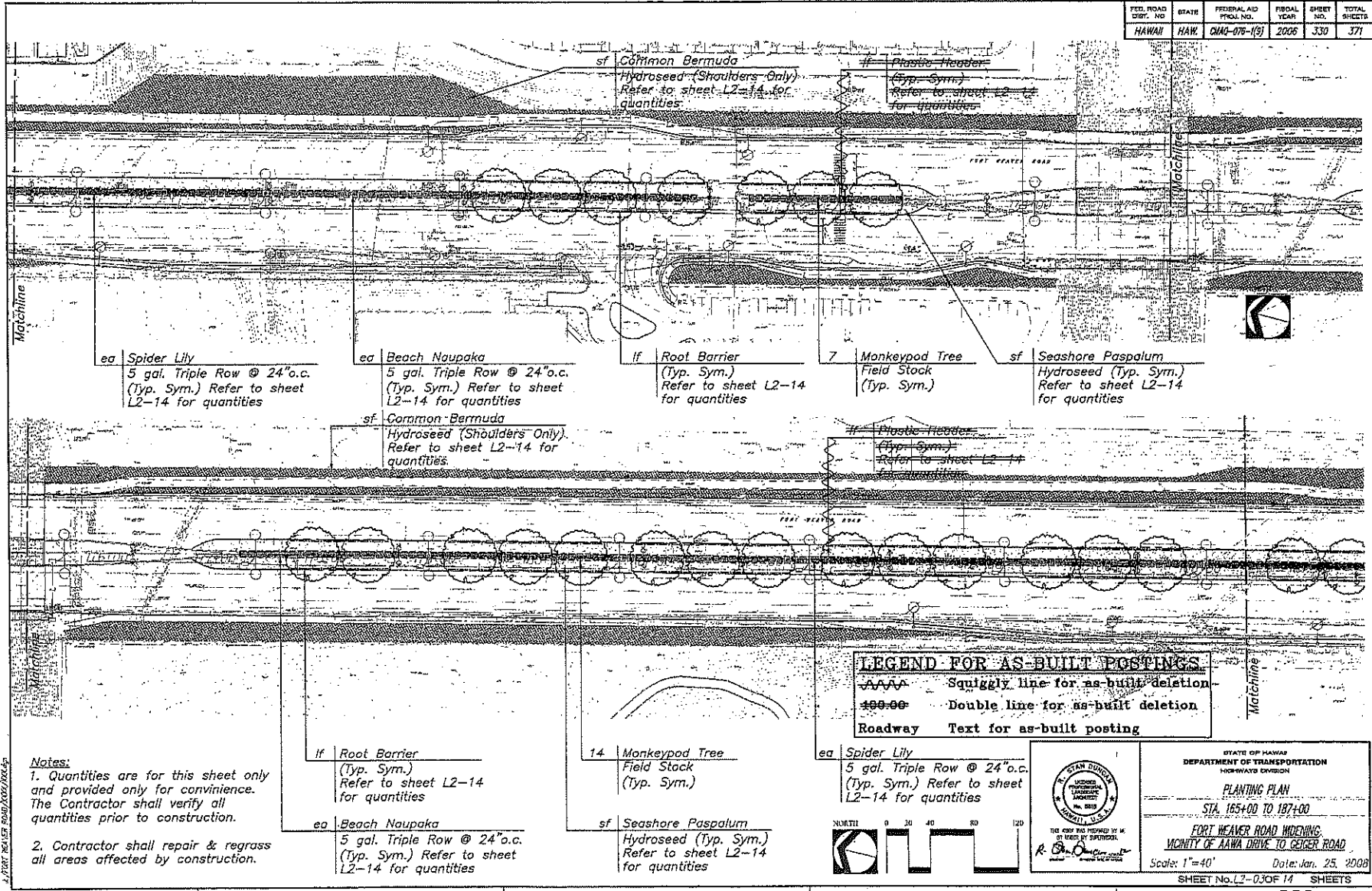
Scale: 1" = 40' Date: Jan. 25, 2008

SHEET No. L2-02 OF 14 SHEETS

AS-BUILT 329

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID FISCAL YEAR	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	040-076-1(9)	2006	330	371



DATE	BY	REVISION

1. PREP. REFER TO SHEET L2-01 OF 14 SHEETS

R. S. D.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLANTING PLAN

STA. 165+00 TO 187+00

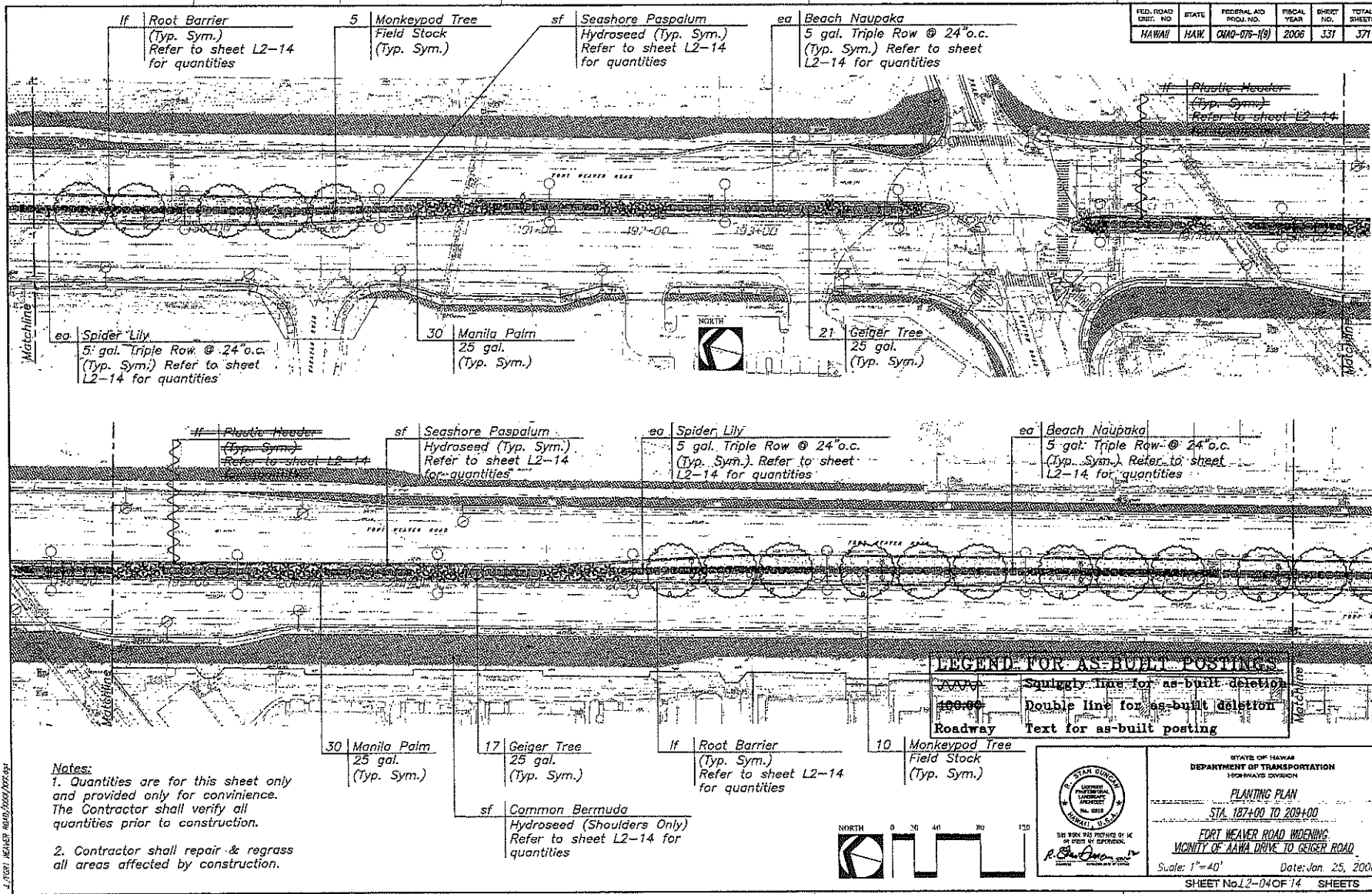
FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1" = 40' Date: Jan. 25, 2008

SHEET No. L2-03 OF 14 SHEETS

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMO-075-1(9)	2006	331	371



Notes:
 1. Quantities are for this sheet only and provided only for convenience. The Contractor shall verify all quantities prior to construction.
 2. Contractor shall repair & regrass all areas affected by construction.

LEGEND FOR AS-BUILT POSTINGS
 Squiggly line for as-built deletion
 Double line for as-built deletion
 Roadway
 Text for as-built posting

DESIGNED BY: _____
 CHECKED BY: _____
 DATE: _____

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

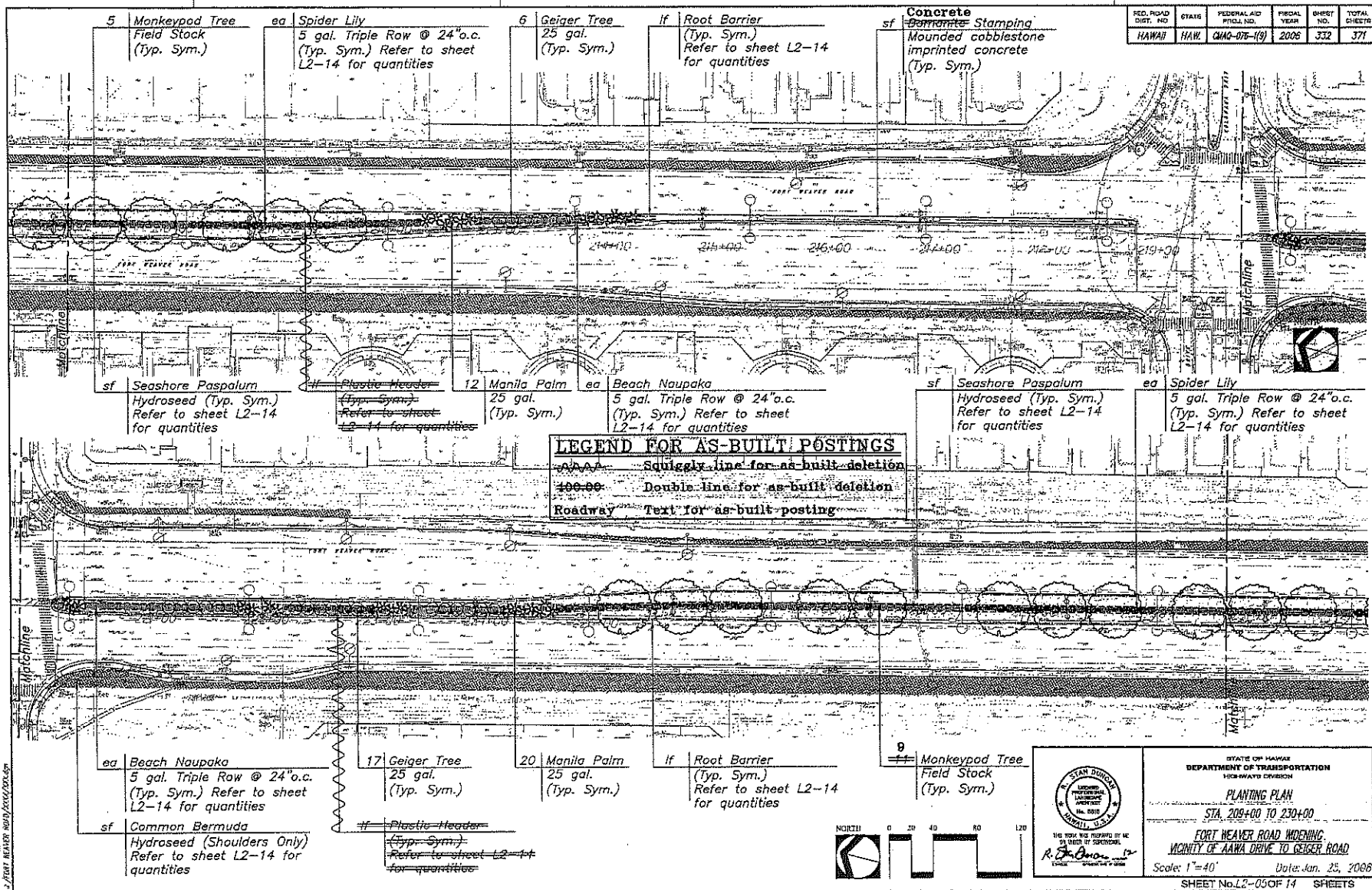
PLANTING PLAN
 STA. 187+00 TO 209+00
 FORT WEAVER ROAD WIDENING,
 VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1"=40' Date: Jan 25, 2008

SHEET No. 12-04 OF 14 SHEETS

AS-BUILT 331

Appendix F (continuation)



REG. ROAD DIST. AND NO.	STATS	FEDERAL AID PROJECT NO.	FISCAL YEAR	BIBET NO.	TOTAL SHEETS
HAWAII	HAW.	QAG-078-(19)	2006	332	377

DRAWN BY: []
 CHECKED BY: []
 DATE: []
 SCALE: []
 SHEET NO.: []

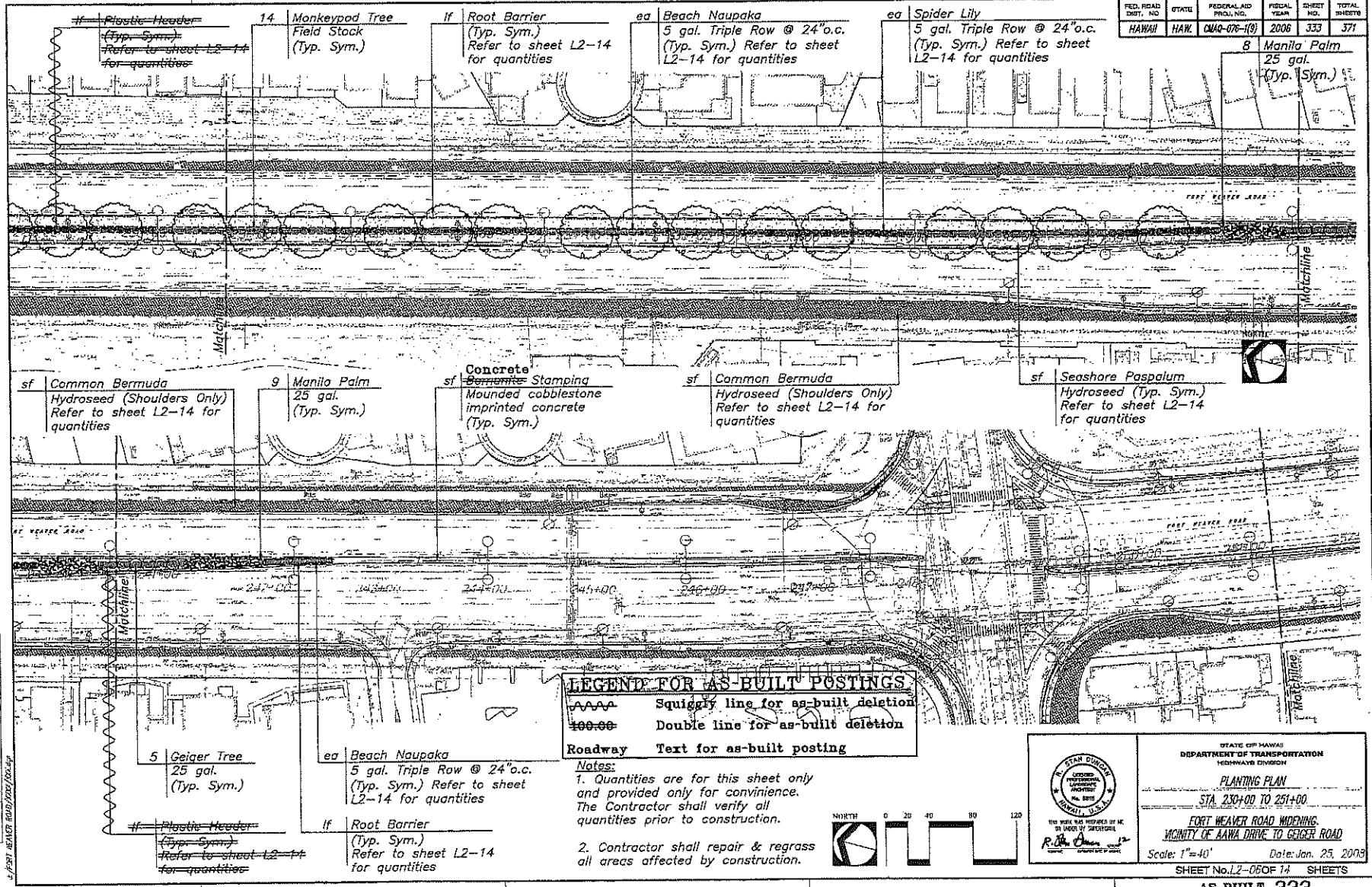
R. J. Brown
Professional Engineer
State of Hawaii
License No. 10000

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PLANTING PLAN
STA. 209+00 TO 230+00
FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD
Scale: 1"=40' Date: Jan. 25, 2006
SHEET No. L2-05 OF 14 SHEETS



Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	OWA-678-1(9)	2006	333	371



DESIGNED BY	
CHECKED BY	
DATE	
PROJECT NO.	
DATE	
PROJECT NO.	
DATE	

R. Chan
Professional Engineer
State of Hawaii
License No. 10000

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

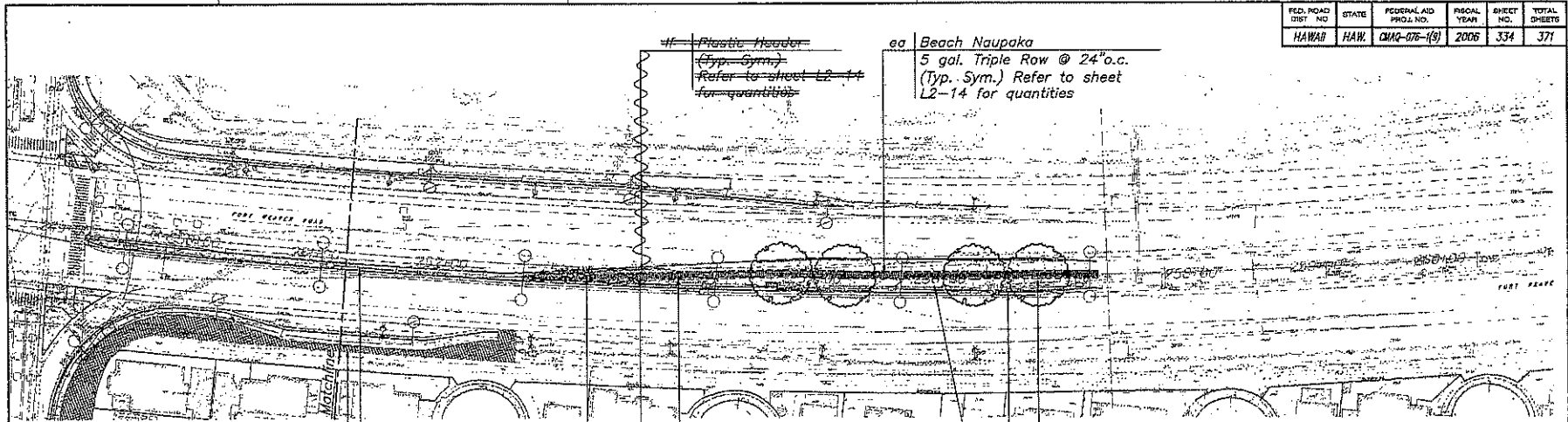
PLANTING PLAN
STA. 230+00 TO 251+00
FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1"=40' Date: Jan. 23, 2008

SHEET No. L2-06DF 11 SHEETS

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	0MA2-076-1(9)	2006	334	371



LEGEND FOR AS-BUILT POSTINGS

AAAAA Squiggly line for as-built deletion

±±±±± Double line for as-built deletion

Roadway Text for as-built posting

Concrete
sf ~~Bannerite Stamping~~
Mounded cobblestone imprinted concrete (Typ. Sym.)

sf Common Bermuda
Hydroseed (Shoulders Only)
Refer to sheet L2-14 for quantities

ea ~~Plastic Header~~
(Typ. Sym.)
Refer to sheet L2-14 for quantities

ea Beach Naupaka
5 gal. Triple Row @ 24" o.c.
(Typ. Sym.) Refer to sheet L2-14 for quantities

ea Spider Lily
5 gal. Triple Row @ 24" o.c.
(Typ. Sym.) Refer to sheet L2-14 for quantities

3 Geiger Tree
25 gal.
(Typ. Sym.)

3 Manila Palm
25 gal.
(Typ. Sym.)

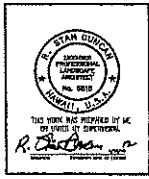
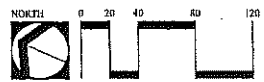
4 Monkeypod Tree
Field Stock
(Typ. Sym.)

lf Root Barrier
(Typ. Sym.)
Refer to sheet L2-14 for quantities

sf Seashore Paspalum
Hydroseed (Typ. Sym.)
Refer to sheet L2-14 for quantities

DATE	BY
DESIGNED BY	CHKD BY
DRAWN BY	APP'D BY
CHECKED BY	DATE
SCALE	

4-DIST. REVISION DRAWING/2002/11/25/2007



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLANTING PLAN

STA. 251+00 TO STA. 260+00

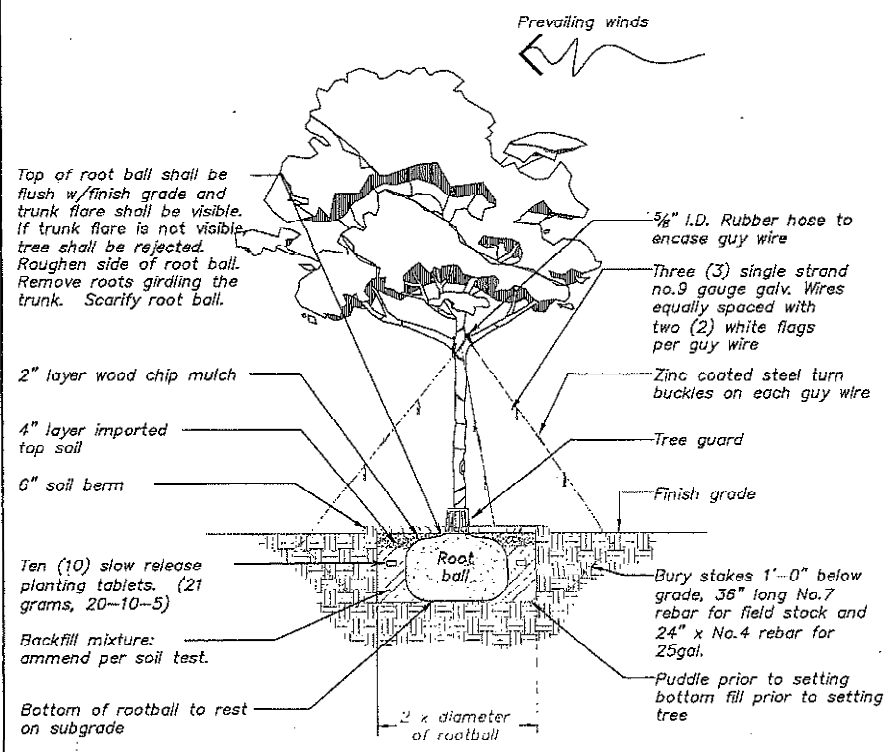
FORT HEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1"=40' Date: Jan 25, 2008

SHEET No. 12-07 OF 14 SHEETS

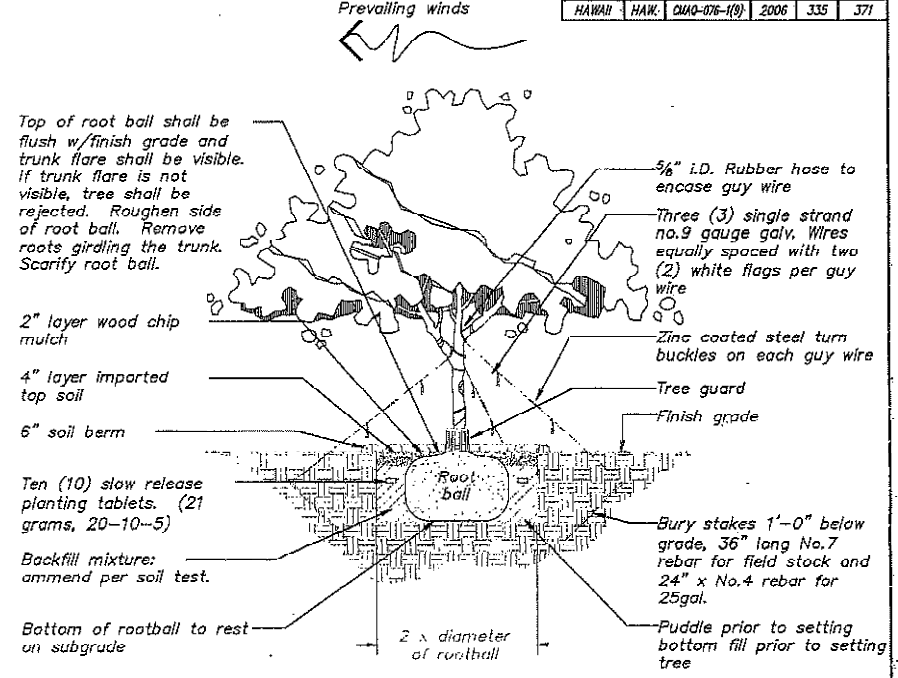
Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMO-076-1(9)	2006	335	371



Note:
Tree shall be plumb. If tree is leaning at the end of the plant establishment period, the tree shall be rejected.

① Field Stock Tree Planting Detail
SCALE: N.T.S.



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.

② Container Tree Planting Detail
SCALE: N.T.S.

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
SCALE	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

1/2" SET HEAVY ROAD/2007/2008/09

R. St. Denis
Professional Engineer

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLANTING DETAILS

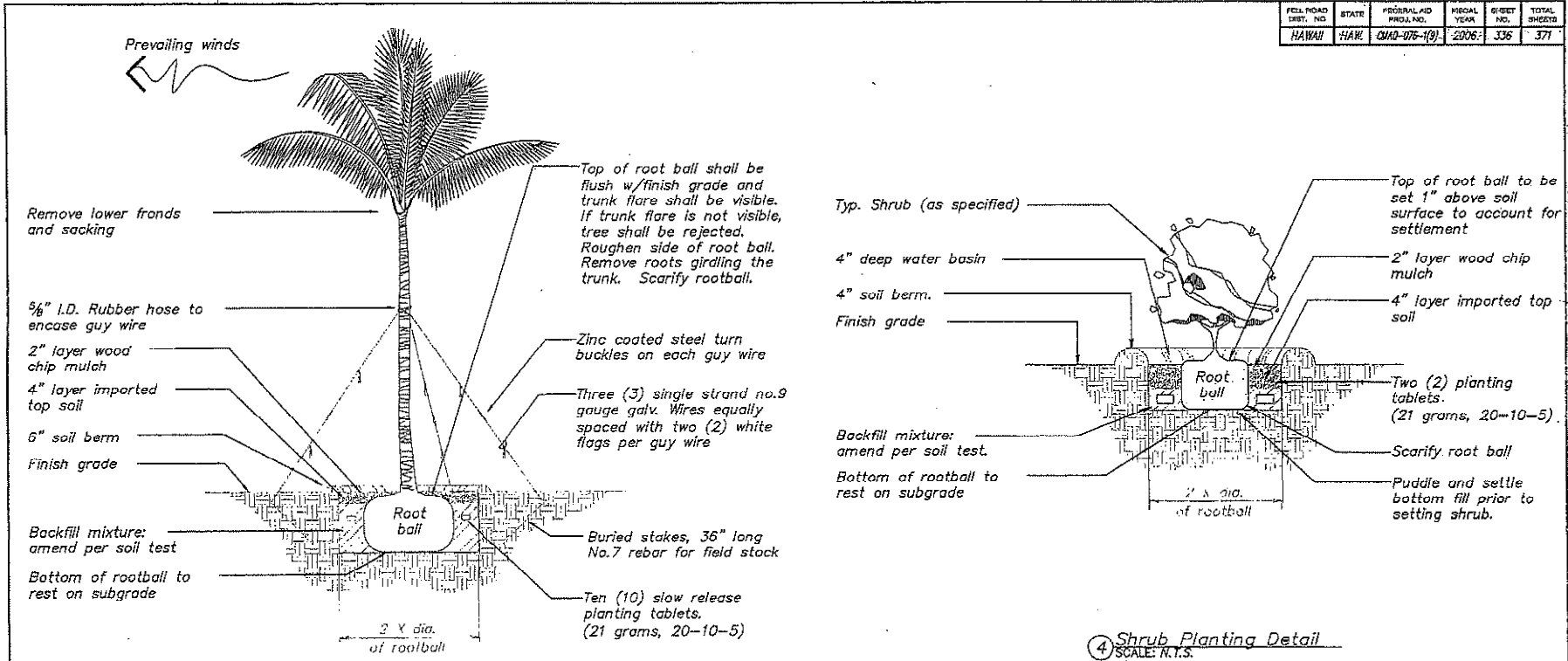
FORT HEAVER ROAD WIDENING
VICINITY OF AANA DRIVE TO GEIGER ROAD

Scale: NTS Date: Jan. 25, 2008

SHEET No. 13-09 OF SHEETS

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	DM-076-1(9)	2006	336	371



DESIGNED BY	DATE
CHECKED BY	
APPROVED BY	
REVISIONS	

SHEET HEAVY ROAD/002/01/04/05

THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

R. Stan Dickey
Professional Engineer

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLANTING DETAILS

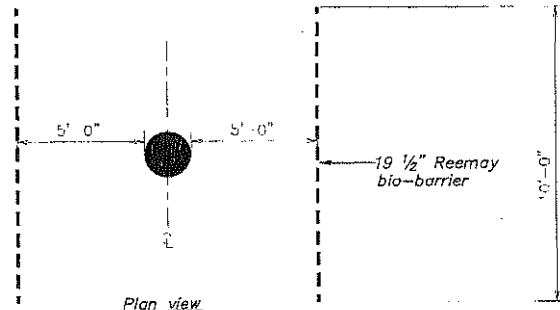
**FORT HEAVER ROAD WIDENING -
VICINITY OF AANA DRIVE TO GAGER ROAD**

Scale: NTS Date: Jan. 25, 2009

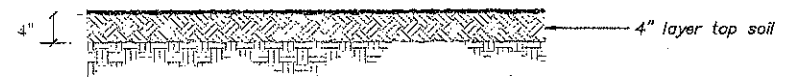
SHEET No. 12-9 OF 14 SHEETS

Appendix F (continuation)

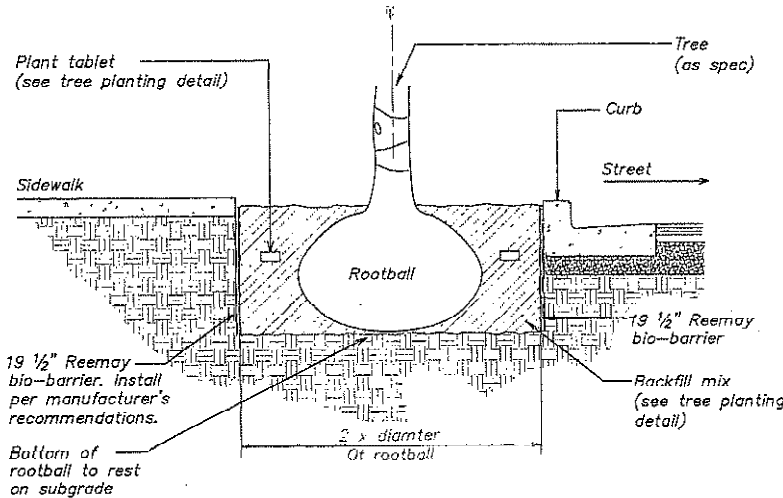
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAG-076-119	2006	337	371



Hydro seed/ hydro sprig:
 Shall be specifically processed fiber containing no growth or germination inhibiting factors. It shall be such that after addition and agitation in the hydraulic equipment with seeds/sprigs, fertilizer, water and, other additives not detrimental to plant growth. The fibers will form a homogeneous slurry. When hydraulically sprayed on the soil, the fibers shall form a blotter-like ground cover which readily absorbs water and allows infiltration, complete coverage of the surface shall be attained.

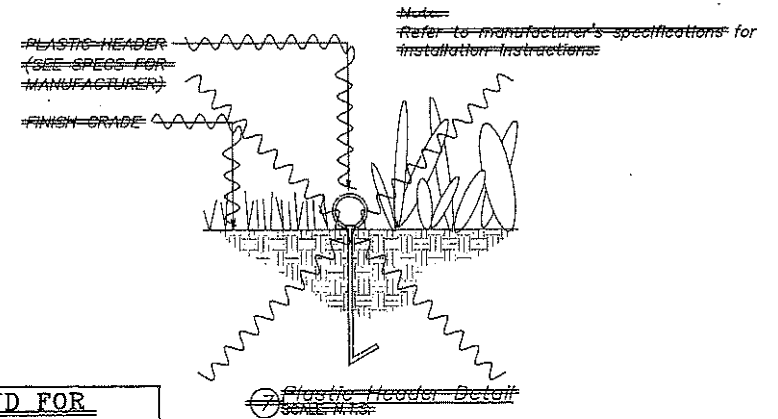


⑥ Hydro Seed/Sprig Detail
 SCALE: N.T.S.



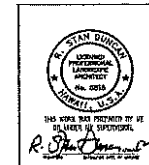
Note:
 Nodules to face tree place top edge of bio-barrier at finish grade and secure w/manufacturer provided pins. Seams shall have minimum 3" overlap. Refer to manufacturer instructions for bonding the seam. Do not allow gaps in fabric during installation or backfilling. Bio-barrier should not be left exposed to surface water or sunlight for more than 12 hours since high temperatures and sunlight reduce effective life of product. Refer to product label and MSDS sheet for safety information. Gravel backfill for bio-barrier shall be considered incidental.

⑤ Root Barrier Detail
 SCALE: N.T.S.



⑦ Plastic Header Detail
 SCALE: N.T.S.

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
	Text for as-built posting



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

PLANTING DETAILS

FORT WEAVER ROAD WIDENING
 VICINITY OF KAWA DRIVE TO BERGER ROAD

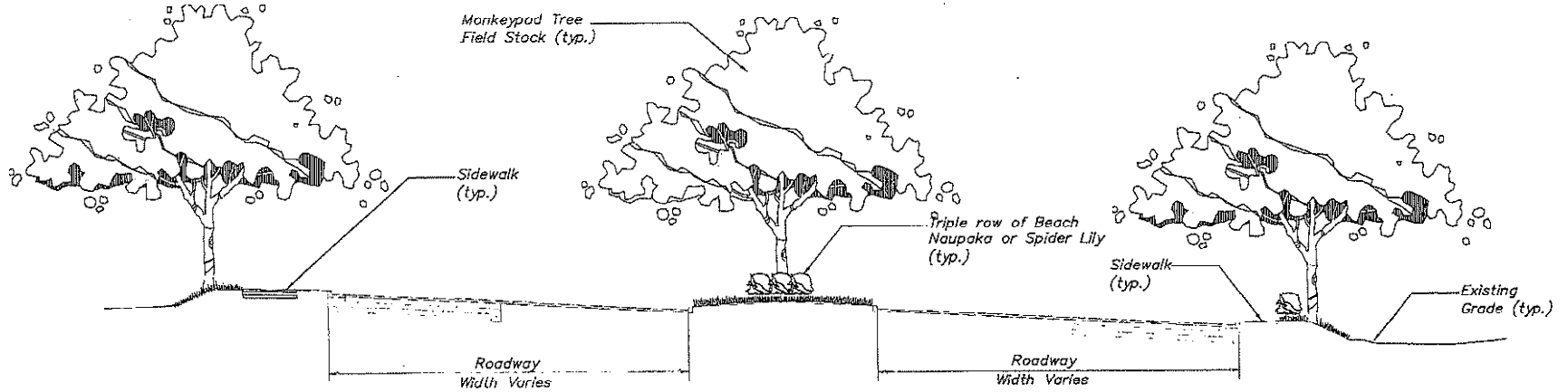
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SHEET No. 12 OF 14 SHEETS

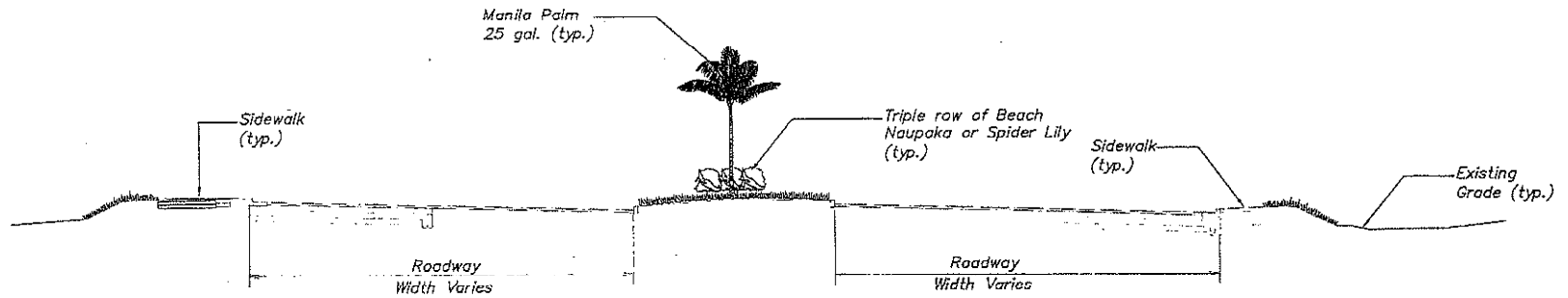
DRAWN BY: [Name]
 CHECKED BY: [Name]
 DATE: [Date]
 PROJECT: FORT WEAVER ROAD WIDENING

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	0MA0-075-(9)	2006	338	371



① Typical Roadway Section Through 20'-0" Wide Median
SCALE: N.T.S.



② Typical Roadway Section Through 7'-0" to 19'-0" Wide Median
SCALE: N.T.S.

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

EVERETT REPAIR ROAD 7/20/2006/06-65

R. John Danner
Professional Engineer
License No. 10000
State of Hawaii

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL PLANTING SECTIONS

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: N.T.S. Date: Jan. 25, 2006

SHEET No. 12-11 OF 14 SHEETS

AS-BUILT 338

Appendix F (continuation)


FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	040-076-1(9)	2006	339	371

Plant notes:

1. Landscape Contractor shall field verify all plant quantities and dimensions prior to installation. Quantities shown on plant list are for reference only, verify actual quantities as shown on plan. If there is a discrepancy, the planting plan shall take precedence.
2. Landscape Contractor shall be responsible for locating and protecting existing utilities.
3. Prior to tree and shrub hole excavation, all planting locations shall be staked out by Contractor for approval by Engineer. Do not plant until ground has been prepared and free of stones greater than 1/2", dia., site is neat, orderly, and the engineer accepts site for planting.
4. Notify Engineer of any discrepancies in plant locations or insufficient plant quantities due to difference in plans and actual field conditions.
5. Notify Engineer 30 days prior to planting operations for approval of all plant material at place of growth. All plant material not approved by the Engineer will be subject to rejection.
6. The Engineer will inspect plants at the place of growth and after the delivery to the project. Each tree shall be tagged by the Engineer with a consecutively numbered plastic tamper-resistant and self-locking seal. Seals shall remain on trees and only be removed by the Engineer at the completion of the plant establishment period. Trees delivered to the project without Engineers seal will be rejected.
7. Plants shall meet size indicated by minimum height and spread. Plants shall be straight and uniformly shaped, unless unique or special characteristics are specified, and shall be undamaged, sound, healthy, vigorous and free of disease and insect infestation. Plants not conforming to these requirements on delivery to the project and at the end of the plant establishment period will be rejected.
8. Contractor shall be solely responsible for the complete removal and damages resulting from planting any plant species listed on the Hawaii Department of Agriculture 'Noxious Weed Rules' as defined in the statute, Hawaii Administrative Rules 4:68:1 or the 'Federal Noxious Weed List' as defined in Title 7 of the Code of Federal Regulations (CFR), parts 360 and 361.
9. All tree work must adhere to American National Standard Institute (or ANSI) - a300 Tree Care Standards and ANSI-z133 safety standards for tree work. Work shall be contracted to arborists that has been certified in good standings as an isa certified arborist for at least 5 years to assure that tree work is performed properly and trees are not damaged by practices such as topping, flush cuts, over-thinning, or climbing with spikes. Contractor shall submit a copy of the isa arborist certification of good standing of 5 years to the Engineer minimum 7 days prior to tree pruning.
10. For the duration of construction within the drip line of trees to remain there must be: no changes, alterations or disturbance to the grade by adding fill, excavating or scraping except as noted on plans; no storage of construction material or equipment; no stockpiling of any construction material or any excavated material no disposal of any liquids (E.G. Concrete sleuth, gas, oil, paint); no vehicular traffic, equipment or excessive pedestrian traffic no attachment of any wires, ropes, lights, or any other such attachment other than those of protective nature to any tree to be preserved; and no cleaning of equipment or material under the canopy of any tree or group of trees to remain.
11. If trees other than those specifically designated for removal are damaged beyond survival conditions as determined by Engineer, the Contractor shall remove such trees and replace the tree with a same species and size and maintain for the duration of construction or 12 months whichever is greater at no cost to the state.
12. Provide even four-inch layer of planting soil over all planting areas. Representative samples of soil from project site shall be submitted to the University of Hawaii Agricultural Extension Service or laboratory acceptable to the Engineer for analysis of required soil amendments. Test results and fertilization schedule shall be presented to the engineer for review and acceptance before placing planting soil. Uniformly distribute fertilizer and amendments over planting areas as recommended by the soil analysis report. Rototill top four-inches of soil to evenly incorporate fertilizer and amendments. Fer completion of soil amendments, retest to meet soil analysis. Continue amending until meets soil test recommendations. Provide copy of all soil tests to engineer
13. Guy wires, flagging, stakes, windbreakers, etc. shall be maintained and replaced if necessary by the contractor until the tree or shrub is able to stand by itself. The Contractor shall remove and dispose at the end of plant establishment period.
14. Any planting that obstructs sight distance, signs or traffic lights shall be relocated or removed as determined by the Engineer.

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
IN CHARGE	
DATE	

A-1581 HEAVER ROAD/040/076/022/06

 <p>STATE ENGINEER DEPARTMENT OF TRANSPORTATION HAWAII</p>	<p>STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION</p>
	<p>PLANTING NOTES</p> <p>FORT HEAVER ROAD WIDENING VICINITY OF AAWA DRIVE TO GEIGER ROAD</p> <p>Scale: NTS Date: Jan. 25, 2006</p>

SHEET No. 12-12 OF 14 SHEETS

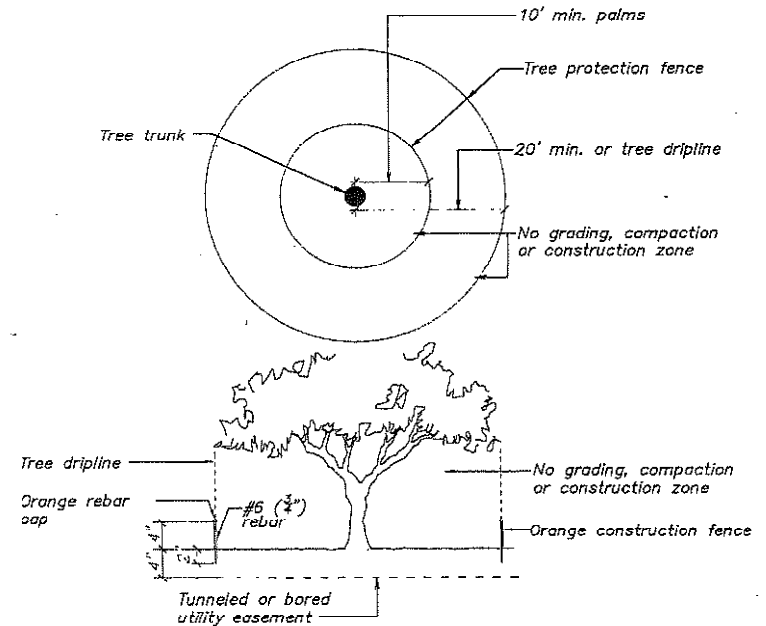
AS-BUILT 339

Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	QMAO-076-1(9)	2006	340	371

Tree Protection Zone.

1. All trees shall be protected. All trees 24" caliper or greater (as measured at 4 1/2 feet height) shall be protected. If trees other than those designated for removal are damaged beyond survival condition as determined by the Engineer, the Contractor shall remove such trees and replace with a tree of the same specie and size and maintain for the duration of the construction or 12 months whichever is greater at no increase in contract price or contract time.
2. The recommended tree protection zone should be located at the outer drip line of the canopy of the tree. However, the minimum protection zone around a tree should be at least 20 feet from the external surface of the tree's trunk. For all palms, the minimum protection zone should be at least 10 feet.
3. All underground utilities and irrigation lines should be routed outside of the tree protection zone. If utilities must traverse the tree protection zone, they shall be tunneled or bored at a depth of 4 feet or greater within the tree protection zone.
4. All trees shall remain unless shown for removal. All protected trees shall be listed on the demolition, landscape, grading and utilities plans. If there is a discrepancy with all plans, Contractor shall contact Engineer immediately.
5. Protective fences shall be erected around trees identified on plan or trees with a trunk diameter greater than 24 inches (as measured at a height of 4 1/2 feet.) Protective fence shall be 4 feet high orange plastic mesh or approved equivalent supported on steel T-post a minimum of 6 feet long. Protective fence shall surround tree at a minimum of 20 feet from tree trunk with steel T-post at a minimum of 5 feet on center. Fence shall be installed and accepted by Engineer prior to any demolition work and shall remain in place until site work is completed. Signs shall be posted on all four sides to read "Tree Protection Zone [TPZ] - no grade change, storage or equipment permitted within TPZ."
6. For the duration of construction within the drip line of the trees to remain there must be:
 - no changes, alteration or disturbance to the grade by adding fill, excavating or scraping except as noted on plans;
 - no storage on construction materials or equipment;
 - no stockpiling of any construction materials or excavated materials;
 - no disposal of any liquids E.G. Concrete slough, gas, oil, paint;
 - no vehicular traffic, equipment or excessive pedestrian traffic;
 - no attachment of any wires, ropes, lights or any other such attachment other than those of a protective nature to any tree to be preserved;
 - no cleaning of equipment or material under the canopy of any tree or group of trees to be preserved
7. Auger tunneling, not trenching, shall be used where possible for utility placement within the drip line of the tree. If trenching is necessary it shall be hand dug within the drip line of the tree.



① Tree/Palm Protection Zone (TPZ) Detail
SCALE: N.T.S.

	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION
	PLANTING NOTES FORT WEAVER ROAD WIDENING VICINITY OF AAWA DRIVE TO GEIGER ROAD Scale: N.T.S. Date: Jan. 25, 2008

SHEET No. 12-13 OF 14 SHEETS

AS-BUILT 340

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
PROJECT NO.	
SHEET NO.	

F. FORT WEAVER ROAD WIDENING/REPAIR


Appendix F (continuation)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	040-075-(B)	2006	341	371

LEGEND FOR AS-BUILT POSTINGS	
~~~~~	Squiggly line for as-built deletion
<del>=====</del>	Double line for as-built deletion
Roadway	Text for as-built posting

STREET TREE PLANT LIST						
SYMBOL	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	HEIGHT	REMARK
<b>TREES</b>						
○	<del>125</del> 108 ea	Monkeypod Tree	<i>Samanea saman</i>	F.S.	12'-15' Min.	5"-8" cal. min.
○	104 ea	Geiger Tree	<i>Cordia sebestena</i>	25 gal.	8'-10' Min.	2" cal. min.
<b>PALMS</b>						
*	172 ea	Manila Palm	<i>Veitchia merrillii</i>	25 gal.	8'-10' trunk ht.	
<b>SHRUBS</b>						
▨	9,017 ea	Beach Naupaka	<i>Scaevola sericea</i>	$\frac{1}{8}$ gal.	3'-4' Min., bushy	Triple row, 24" O.C.
▨	6,245 ea	Spider Lily	<i>Crinum asiaticum</i>	$\frac{1}{8}$ gal.	3'-4' Min., bushy	Triple row, 24" O.C.
<b>GRASS</b>						
•••••	697,450 sf	Seashore Paspalum	<i>Paspalum vaginatum</i>	Hydroseed		Medians Only.
▨	sf	Common Bermuda	<i>Cynodon dactylon</i>	Hydroseed		Shoulder areas only
<b>MISC. ITEMS</b>						
-----	17,335 lf	Root Barrier				
~~~~~	<del>20,725 lf</del>	<del>Plastic Header</del>				

CHECKED BY: _____
 DRAWN BY: _____
 DATE: _____
 PROJECT NO.: _____
 SHEET NO.: _____



R. S. Dyer
Professional Engineer
State of Hawaii
License No. 1010

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

PLANTING LEGEND

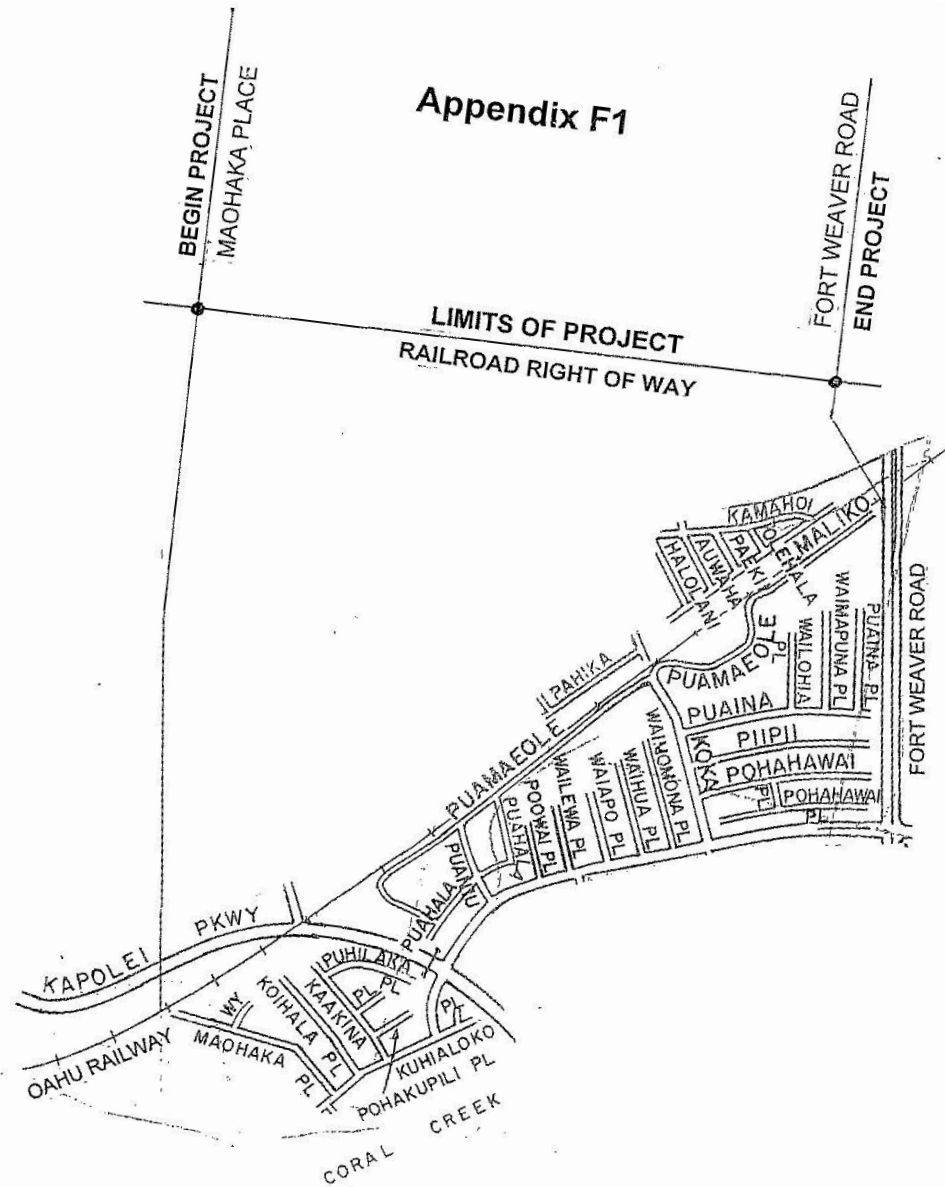
**FORT HEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD**

Scale: N15 Date: Jan. 25, 2006

SHEET No. 12-14 OF 14 SHEETS

AS-BUILT 341

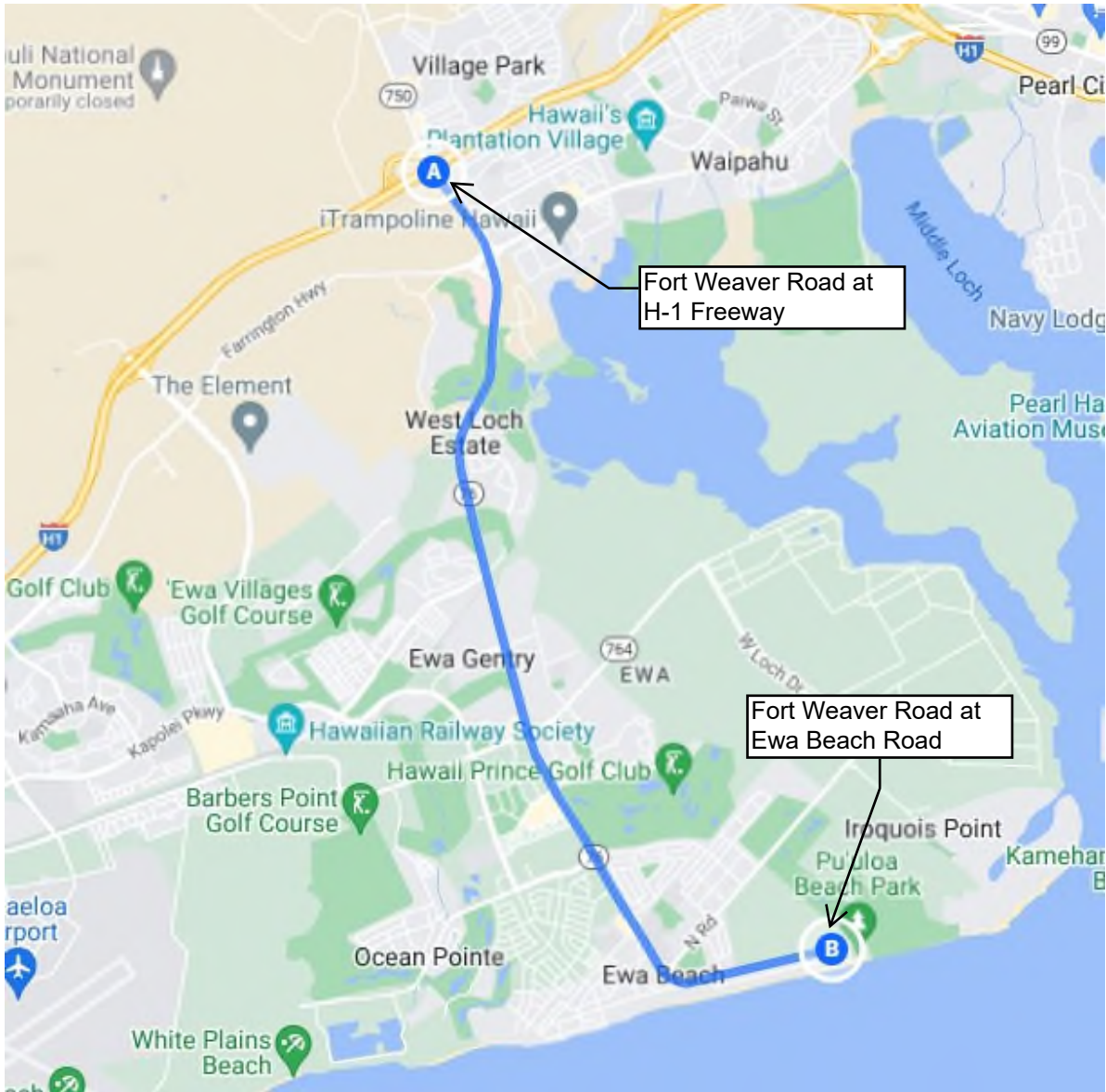
Appendix F1



LOCATION PLAN
ADDITIONAL AREA (RIGHT-OF-WAY AREA)
RAILROAD RIGHT-OF-WAY
PROJECT NO. 76AB-01-24C

NOT TO SCALE

APPENDIX F2 - Area Map (Shoulders Only)



LOCATION PLAN
ADDITIONAL AREA (Shoulder Only)
PROJECT NO. 76AB-01-24C
NOT TO SCALE

APPENDIX G
SUMMARY OF REQUIRED ANNUAL INSPECTIONS

Type of Inspection	Required for contract extension	Required for contract closing	Include the following
	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.
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.

APPENDIX G1

DOT 4-689 (HWY-CM 6/15)

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

Application date _____, 20____

POLICE CHECKLIST: ITEMS 1 THRU 5.

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 below and at no other place.

1. Name of Highway _____ Route # /Section _____

2. Locations 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 will 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.
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.
d. Parking permitted only in designated areas for vehicles actively engaged in, or loading or unloading materials for, the specified work, activity, or event.

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 final acceptance of the approved landscape work by the State, all improvements placed on said premises shall be and remain the property 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 \$500,000 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 or owner, whether individual firm, partnership, corporation, governmental agency, etc)

ADDRESS: _____

TELEPHONE NUMBER: _____

(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 Authorized Representative

OAHU 831-6712 HAWAII 933-8866 MAUI 873-3535 KAUAI 274-3111

APPENDIX G2
NOTICE TO PROCEED LETTER FOR MISCELLANEOUS WORK (SAMPLE)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS
OAHU DISTRICT
727 KAKAI STREET
HONOLULU, HAWAII 96819

Landscaped Services
1234 Any Street
Honolulu, Hawaii 12345

Dear Colleagues:

Subject: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation and Pump System, Fort Weaver Road, Hanakahi Street to Vicinity of Fort Weaver Interchange, Fort Weaver Road at H-1 Freeway to Fort Weaver Road at Ewa Beach Road District of Ewa, Island of Oahu, Project No. 76AB-01-24C, Contract No. _____

In accordance with 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 H-1 Freeway adjacent to Name Park.

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

Sincerely,

Ryan Nakata
Engineering Program Manager

Enclosure (attach price quotation, etc.)

Appendix H
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS

LANDSCAPE MAINTENANCE CONTRACTOR PERFORMANCE RATING

Project No.: 76AB-01-24C

Contract No.: _____

Project Title: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation and Pump System, Fort Weaver Road, Hanakahi Street to Vicinity of Fort Weaver Interchange, Fort Weaver Road at H-1 Freeway to Fort Weaver Road at Ewa Beach Road, District of Ewa, Island of Oahu

Contractor.: _____

Date.: _____

ITEM	SPECIFIC- ATION SECTION	TASK DESCRIPTION	MEETS SPECIFIC ATION	DOSEN'T MEET SPECIFIC ATIONS	REMARKS (ATTACH A BLANK SHEET FOR MORE SPACE)
1	10.4(A)	MOWING			
2	10.4(B)	EDGING AND TRIMMING OF GRASS			
3	10.4(C)	WEEDING			
4	10.4(D)	EDGING AND TRIMMING OF VINES AND GROUND COVER			
5	10.4(E)	CARING OF SHRUBS (COMPOST APPLICATION)			
6	10.4(E)	SHRUB TRIMMING (NATURAL APPEARANCE)			
7	10.4(F)	CONTROLLING VEGETATION INTRUSION OF RIGHT-OF-WAY LINE			
8	10.4(F1)	MANUAL WATERING			
9	10.4(G)	FERTILIZING LAWNS			
10	10.4(G)	FERTILIZING SHRUBS			
11	10.4(G)	FERTILIZING TREES & PALMS			
12	10.4(H)	SPRAYING PESTICIDE & HERBICIDE			
13	10.4(I)	CLEARING GUTTERS, SWALES AND DITCHES			
14	10.4(J)	PLANTINGS REQUIRING ADDITIONAL TASKS			
15	10.4(K)	INVASIVE PLANT REMOVAL			
16	10.4(L)	REMOVAL OF RUBBISH, DEBRIS AND SOLID HAZARDOUS WASTE – DEBRIS AND LITTER ON ROADWAYS, WHICH ORIGINATE FROM THE LANDSCAPE MAINTENANCE WORK			

Appendix H
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS

Table Continued:

ITEM	SPECIFICATION SECTION	TASK DESCRIPTION	MEETS SPECIFICATION	DOESN'T MEET SPECIFICATIONS	REMARKS (ATTACH A BLANK SHEET FOR MORE SPACE)
17	10.4(L)	REMOVAL OF RUBBISH, DEBRIS AND SOLID HAZARDOUS WASTE – GENERAL CLEAN UP			
18	10.4(L)	REMOVAL OF RUBBISH, DEBRIS AND SOLID HAZARDOUS WASTE – HAZARDOUS WASTE			
19	10.4(M)	REPORTING OF HAZARDOUS CONDITIONS AND DAMAGES TO LANDSCAPE AREAS			
20	10.4(N)	LANDSCAPE AREAS & IRRIGATION SYSTEM COMPREHENSIVE ANNUAL INSPECTION			
21	APPENDIX D	IRRIGATION INSPECTION WEEKLY			
22	APPENDIX D	PREVENTIVE MAINTENANCE – IRRIGATION SYSTEM			
23	APPENDIX D	PREVENTIVE MAINTENANCE – IRRIGATION SYSTEM CONTROLLER			
24	APPENDIX D	SUBMITTAL OF MONTHLY AND ANNUAL SERVICE IRRIGATION MAINTENANCE REPORT			
25	APPENDIX D1A	PREVENTIVE MAINTENANCE – PUMP SYSTEM			
26	APPENDIX D1A	PREVENTIVE MAINTENANCE – PUMP SYSTEM - CONTROLLER			
27	APPENDIX D1A	PREVENTIVE MAINTENANCE – PUMP SYSTEM ABB DRIVES			

REMARKS: _____

RATED BY: _____

 ENGINEER OR REPRESENTATIVE PRINTED NAME OF SIGNER DATE

ACCEPTED BY:

 ENGINEER OR REPRESENTATIVE PRINTED NAME OF SIGNER DATE

**APPENDIX H1
Herbicide Application Record (Sample)**

ONLY QUALIFIED AND TRAINED APPLICATOR ARE ALLOWED TO APPLY ANY HERBICIDE.

Project No.: **76AB-01-24C** Contract No.: _____ Date Applied: _____ Sheet No.: _____

Project Title: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation and Pump System, Fort Weaver Road, Hanakahi Street to Vicinity of Fort Weaver Interchange, Fort Weaver Road at H-1 Freeway to Fort Weaver Road at Ewa Beach Road, District of Ewa, Island of Oahu, Project No. 76AB-01-24C, Contract No.

A. ROUTE LOCATION (i.e. H-1 Freeway, etc). _____ From milepost: _____ To milepost: _____
Check as applicable: Median Shoulder Drainage Other location description: _____

B. HERBICIDE APPLICATION

Herbicide name brand: _____ Active Ingredients: _____
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 (DO NOT APPLY DURING HIGH WINDS, RAINING, OR IS FORCAST TO RAIN)

CLEAR SKY CLOUDY OVERCAST Time of day: _____ Temperature range: _____
Wind speed and direction: _____ NO RAIN EXPECTED TODAY(yes/no _____)

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 License Number

Applicator's Signature/Date

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 - Kauai District
Highways
Department of Transportation
727 Kakoi Street
Honolulu, Hawaii 96819

Date: _____
Invoice No.: _____
Contract No: _____
Project No: _____

Project Title: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation and Pump System, Fort Weaver Road, Hanakahi Street to Vicinity of Fort Weaver Interchange, Fort Weaver Road at H-1 Freeway to Fort Weaver Road at Ewa Beach Road, District of Ewa, Island of Oahu.

Period covered by this invoice: **July 1, 2023 to July 31, 2023** (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.	Item Description	Qty (a)	Unit (b)	Unit Price (c)	Amount (a x c)
1.1	Maintenance of Landscaped Areas	X	Month	\$ _____	\$ _____
1.2	Caring and Trimming of Shrubs	X	Month	\$ _____	\$ _____
1.3	Caring and Trimming of Trees (Sight Distance/Clear Zone/Clear Space) - Continuous	X	Month	\$ _____	\$ _____
1.4	Maintenance of Irrigation System, routine/preventive	X	Month	\$ _____	\$ _____
1.5	Maintenance of Pump System, routine/preventive	X	Month	\$ _____	\$ _____
1.8	Regular working hours trouble calls repair work	100	Man-Hours	\$ _____	\$ _____
1.13	Miscellaneous Work [Refer to Section 10.20 of the Specifications]	ALLOWANCE		ALLOWANCE	\$ _____
Subtotal					\$ _____
Less Deductions					\$ _____
Less Liquidated Damages per Section 8.6 of the Special Provisions and Proposal					\$ _____
Subtotal					\$ _____
Less 5% Retainage per Section 9.2 Retainage/ Deduction from Payment, of the Specifications.					\$ _____
Subtotal Current Service Period					\$ _____
Amount Past Due					\$ _____
Total Amount Due					\$ _____

Pursuant to Section 9.4 Progress Payments and Section 9.4.e 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

Print Name: _____

Past Due: Invoice Nos. _____

APPENDIX II CERTIFIED PAYROLL REPORT (SAMPLE)

STATE OF HAWAII		CERTIFIED PAYROLL REPORT										DAGS.ECP v1.0_06/10									
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES												REPORT SUBMISSION DATE: 26-Aug-05									
Public Works Division																					
Name is of: Contractor: <input type="text"/>		Subcontractor: <input type="text"/>				THIS IS AN AMENDED FORM PAYMENTS MADE ON SAME DAY TO ALL EMPLOYEES															
NAME: <input type="text"/>																					
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, NO ADDRESS, AND LAST 4 DIGITS OF SOCIAL SECURITY NUMBER OF EMPLOYEE	NO. OF WITHHOLDING EXEMPTIONS	WORK CLASSIFICATION	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 XXX-XX-9999		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	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 xxx-xx-5678		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						\$0.000		
		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						\$0.000		
		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						\$0.000	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						\$0.000		
		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						\$0.000		
		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

Landscape Services

1234 Any Street, Honolulu, Hawaii 12345

Phone: (808) 123-1235

Email: name@email.com

Date:

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

Dear Colleagues:

Pursuant to Section 9.5.B, of the Specifications, I hereby certify that all debts resulting from Contract No _____, Project No. 76AB-01-24C. Project Title: Maintenance of Landscaped Areas and Maintenance, Repair and Inspection of Irrigation and Pump System, Fort Weaver Road, Hanakahi Street to Vicinity of Fort Weaver Interchange, Fort Weaver Road at H-1 Freeway to Fort Weaver Road at Ewa Beach Road, District of Ewa, Island of Oahu, have been fully paid or satisfactorily secured.

Cordially,

First J. Name
President
Custodial Services

Subscribed and sworn to me
This _____ day of _____, 202____.

Notary Public, First Judicial Circuit,
State of Hawaii

My Commission Expires:

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS
HONOLULU, HAWAII

PROPOSAL

PROPOSAL TO THE STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS

PROJECT: MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION AND PUMP SYSTEM, FORT WEAVER ROAD, HANAKAHI STREET TO VICINITY OF FORT WEAVER INTERCHANGE, FORT WEAVER ROAD AT H-1 FREEWAY TO FORT WEAVER ROAD AT EWA BEACH ROAD, DISTRICT OF EWA, ISLAND OF OAHU

PROJECT NO.: 76AB-01-24C

CONTRACT TIME: Twelve (12) months from date indicated in the Notice to Proceed from the Department with options to extend as provided for in Section 10.17 of the Specifications.

LIQUIDATED DAMAGES: Refer to Section 8.6 Liquidated Damage, of the Special Provisions and Section 10.19 Basis of Payment, of the Specification for applicable deductions.

PROJECT MANAGER CONTACT INFORMATION: Jennifer Yoza
869 Punchbowl Street, Room 404, Honolulu, HI 96813
(808) 587-2628
jennifer.y.yoza@hawaii.gov

ELECTRONIC SUBMITTAL: **Bidders shall submit and upload the complete proposal to HiePRO prior to the bid opening date and time. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HiePRO. See SPECIAL PROVISIONS 2.3 DELIVERY OF PROPOSALS for complete details. FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HiePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.**

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 (Company Name)

By _____
Authorized Signature

Print Name and Title

Business Address

Business Telephone

Date

Contact Person (If different from above)

Phone: _____ Email: _____

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 AND PUMP SYSTEM FORT WEAVER ROAD,
HANAKAHI STREET TO VICINITY OF FORT WEAVER INTERCHANGE,
FORT WEAVER ROAD AT H-1 FREEWAY TO FORT WEAVER ROAD AT EWA BEACH ROAD,
DISTRICT OF EWA, ISLAND OF OAHU
PROJECT NO. 76AB-01-24C

Initial Year – Year 1

Bid Item No.	Description	Qty (a)	Unit (b)	Unit Price (c)	Amount (a × c)
1.1	Maintenance of Landscaped Areas [Refer to Section 10.4 of the Specifications]	12	Month	\$ _____	\$ _____
1.2	Caring and Trimming of Shrubs [Refer to Section 10.4 of the Specifications]	12	Month	\$ _____	\$ _____
1.3	Caring and Trimming of Trees (Sight Distance/Clear Zones/Clear Space only) continuous	12	Month	\$ _____	\$ _____
1.4	Maintenance and Inspection of Irrigation System, routine/preventive	12	Month	\$ _____	\$ _____
1.5	Maintenance of Pump System routine/preventive	12	Month	\$ _____	\$ _____
1.6	Irrigation Trouble call repair work, Repair working hours – per man-hour, Sprinkler Technician	50	Man-hour	\$ _____	\$ _____
1.7	Regular working hours trouble calls repair work – per man-hour, Web-based Irrigation Controller Technician	100	Man-hour	\$ _____	\$ _____
1.8	Regular working hours trouble calls repair work – per man-hour, Pump Technician	100	Man-hour	\$ _____	\$ _____
1.9	Trouble Calls During Off-Hours	Allowance		Allowance	\$1,000.00
1.10	Pesticide and Herbicide	Allowance		Allowance	\$2,000.00
1.11	Replacement Parts	Allowance		Allowance	\$40,000.00
1.12	Technical Support and Web/Internet Services	Allowance		Allowance	\$1,000.00
1.13	Miscellaneous Work [Refer to Section 10.19(B) of the Specifications]	Allowance		Allowance	\$70,000.00
SUBTOTAL 1 (For comparison of bids, sum of items 1.1 and 1.13)					\$ _____

PROPOSAL SCHEDULE
FOR
MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE,
REPAIR AND INSPECTION OF IRRIGATION AND PUMP SYSTEM FORT WEAVER ROAD,
HANAKAHI STREET TO VICINITY OF FORT WEAVER INTERCHANGE,
FORT WEAVER ROAD AT H-1 FREEWAY TO FORT WEAVER ROAD AT EWA BEACH ROAD,
DISTRICT OF EWA, ISLAND OF OAHU
PROJECT NO. 76AB-01-24C

Additional Option Term No. 2

Bid Item No.	Description	Qty (a)	Unit (b)	Unit Price (c)	Amount (a × c)
2.1	Maintenance of Landscaped Areas [Refer to Section 10.4 of the Specifications]	12	Month	\$ _____	\$ _____
2.2	Caring and Trimming of Shrubs [Refer to Section 10.4 of the Specifications]	12	Month	\$ _____	\$ _____
2.3	Caring and Trimming of Trees (Sight Distance/Clear Zones/Clear Space only) continuous	12	Month	\$ _____	\$ _____
2.4	Maintenance and Inspection of Irrigation System, routine/preventive	12	Month	\$ _____	\$ _____
2.5	Maintenance of Pump System routine/preventive	12	Month	\$ _____	\$ _____
2.6	Irrigation Trouble call repair work, Repair working hours – per man-hour, Sprinkler Technician	50	Man-hour	\$ _____	\$ _____
2.7	Regular working hours trouble calls repair work – per man-hour, Web-based Irrigation Controller Technician	100	Man-hour	\$ _____	\$ _____
2.8	Regular working hours trouble calls repair work – per man-hour, Pump Technician	100	Man-hour	\$ _____	\$ _____
2.9	Trouble Calls During Off-Hours	Allowance		Allowance	\$1,000.00
2.10	Pesticide and Herbicide	Allowance		Allowance	\$2,000.00
2.11	Replacement Parts	Allowance		Allowance	\$40,000.00
2.12	Technical Support and Web/Internet Services	Allowance		Allowance	\$1,000.00
2.13	Miscellaneous Work [Refer to Section 10.19(B) of the Specifications]	Allowance		Allowance	\$70,000.00
SUBTOTAL 2					\$ _____
(For comparison of bids, sum of items 2.1 and 2.13)					

PROPOSAL SCHEDULE
FOR
MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE,
REPAIR AND INSPECTION OF IRRIGATION AND PUMP SYSTEM FORT WEAVER ROAD,
HANAKAHI STREET TO VICINITY OF FORT WEAVER INTERCHANGE,
FORT WEAVER ROAD AT H-1 FREEWAY TO FORT WEAVER ROAD AT EWA BEACH ROAD,
DISTRICT OF EWA, ISLAND OF OAHU
PROJECT NO. 76AB-01-24C

Additional Option Term No. 3

Bid Item No.	Description	Qty (a)	Unit (b)	Unit Price (c)	Amount (a × c)
3.1	Maintenance of Landscaped Areas [Refer to Section 10.4 of the Specifications]	12	Month	\$ _____	\$ _____
3.2	Caring and Trimming of Shrubs [Refer to Section 10.4 of the Specifications]	12	Month	\$ _____	\$ _____
3.3	Caring and Trimming of Trees (Sight Distance/Clear Zones/Clear Space only) continuous	12	Month	\$ _____	\$ _____
3.4	Maintenance and Inspection of Irrigation System, routine/preventive	12	Month	\$ _____	\$ _____
3.5	Maintenance of Pump System routine/preventive	12	Month	\$ _____	\$ _____
3.6	Irrigation Trouble call repair work, Repair working hours – per man-hour, Sprinkler Technician	50	Man-hour	\$ _____	\$ _____
3.7	Regular working hours trouble calls repair work – per man-hour, Web-based Irrigation Controller Technician	100	Man-hour	\$ _____	\$ _____
3.8	Regular working hours trouble calls repair work – per man-hour, Pump Technician	100	Man-hour	\$ _____	\$ _____
3.9	Trouble Calls During Off-Hours	Allowance		Allowance	\$1,000.00
3.10	Pesticide and Herbicide	Allowance		Allowance	\$2,000.00
3.11	Replacement Parts	Allowance		Allowance	\$40,000.00
3.12	Technical Support and Web/Internet Services	Allowance		Allowance	\$1,000.00
3.13	Miscellaneous Work [Refer to Section 10.19(B) of the Specifications]	Allowance		Allowance	\$70,000.00
SUBTOTAL 3					\$ _____
(For comparison of bids, sum of items 3.1 and 3.13)					

PROPOSAL SCHEDULE
 FOR
 MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE,
 REPAIR AND INSPECTION OF IRRIGATION AND PUMP SYSTEM FORT WEAVER ROAD,
 HANAKAHI STREET TO VICINITY OF FORT WEAVER INTERCHANGE,
 FORT WEAVER ROAD AT H-1 FREEWAY TO FORT WEAVER ROAD AT EWA BEACH ROAD,
 DISTRICT OF EWA, ISLAND OF OAHU
 PROJECT NO. 76AB-01-24C

Bid Summary	
Subtotal 1 – Initial Year - Year 1	\$ _____
Subtotal 2 – Additional Option Term No. 2	\$ _____
Subtotal 3 – Additional Option Term No. 3	\$ _____
Total Amount for Comparison of Bids..... (For comparison of bids, subtotal 1 through 3)	\$ _____

Notes:

1. Bids shall include all Federal, State, County and other applicable taxes and fees.
2. The TOTAL AMOUNT FOR COMPARISON OF BIDS shall be used to determine the lowest responsible bidder.
3. Bidder shall complete all unit price and amounts for all three years. Failure to do so shall be grounds for rejection of bid. At the time of bid, bidders may include price escalation for each year after the initial base year, however, escalation for each subsequent year after the base year shall not exceed a maximum of two (2.0) percent over the previous term unit price.
4. In case of a discrepancy occurs between unit bid price and the bid price, the unit bid price shall govern.
5. The bidder shall refer to Section 10.14 Submittals/Reports Summary, prior to submitting his or her bids.
6. Bidder’s bid price shall be inclusive of all direct and indirect costs a specified in Section 10.9 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.

Notes (continued):

8. **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 (60) days from the date of receipt of the contract documents for execution as determined by the Director. 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.
9. **By submitting a proposal, the bidder acknowledges he has read and understands all the provisions of the Special Provisions, Specifications and is fully aware of all the conditions to be encountered in performing the work.**
10. **Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered.** Original (wet ink, hard copy) proposal documents are not required to be submitted. **Contract award shall be based on evaluation of proposals submitted and uploaded to HIePRO. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Do not include confidential and/or proprietary documents with the proposal. The record of each bidder and respective bid shall be open to public inspection.**

FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.

If there is a conflict between the specification document and the HIePRO solicitation, the specifications shall govern and control, unless otherwise specified.

11. The bidder needs to completely fill out the proposal schedule for all three (3) years, otherwise the State will deem the bidder nonresponsive.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HONOLULU, HAWAII

FORMS

Contents:

Sample Contract

Performance Bond (Surety)

Performance Bond

Certificate of Performance Services

CONTRACT

THIS AGREEMENT, made this day _____, by and between the STATE OF HAWAII, by its Director of Transportation, hereinafter referred to as "STATE", and «CONTRACTOR», «STATE_OF_INCORPORATON» 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 Amount 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 «WORKING_DAYS» from the date indicated in the Notice to Proceed from the State, with an option to extend for TWO (2) additional TWELVE (12) MONTH periods subject to the terms specified in Section «SECTION_REFERENCING_OPTION_YEAR» of the Specifications. The total term of this contract shall not exceed THIRTY SIX (36) MONTHS.

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.

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»

Signature

Print name

Print Title

Date

SAMPLE

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

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

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

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

KNOW TO ALL BY THESE PRESENTS:

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

as Contractor, hereinafter called Principal, and _____

(Name and Street Address of Bonding Company)

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

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

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

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

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

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

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

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

In the event of Default by the Principal, of the obligations under the Contract, then after written Notice of Default from the Oblige 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 Oblige 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**

CERTIFICATE FOR PERFORMANCE OF SERVICES

The undersigned bidder does hereby certify that in performing the services required for MAINTENANCE OF LANDSCAPED AREAS AND MAINTENANCE, REPAIR AND INSPECTION OF IRRIGATION AND PUMP SYSTEM, FORT WEAVER ROAD, HANAKAHI STREET TO VICINITY OF FORT WEAVER INTERCHANGE, FORT WEAVER ROAD AT H-1 FREEWAY TO FORT WEAVER ROAD AT EWA BEACH ROAD, DISTRICT OF EWA, ISLAND OF OAHU, PROJECT NO. 76AB-01-24C, 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 _____, 20_____.

Name of Corporation, Partnership, or Individual

Signature and Title of Signer

NOTARY ACKNOWLEDGEMENT

Subscribed and sworn before me this _____ day of _____

Notary signature
Notary public, State of _____
My Commission Expires: _____

Doc. Date: _____
#Pages: _____
Notary Name: _____ Circuit
Doc. Description: _____

Notary signature
Date _____

NOTARY CERTIFICATION