FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	92A-01-11M	2011	39	42

IRRIGATION NOTES:

1. Contractor shall install controllers, 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 sprinklers 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.
3. This irrigation system was designed with a minimum static water pressure of 75 psi at the point of connection. Notify the Project Engineer if water pressure is less than 50 psi or greater than 100 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. 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. No 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 back fill until there is no further sign of leakage.
10. Perform coverage test. Before planting period, run automatic controller through all it's 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. If plans do not specify depth of excavation, provide minimum cover to finish grade as follows:
    a. 18 inches for irrigation main.
    b. 10 inches for irrigation lateral.
    c. for controller wires and conduits in unpaved areas, depth equal to that of pressure irrigation pipe.
12. Contractor shall prefabricate as much of the irrigation system as possible off site for quick on site installation.
13. All valve boxes shall be concrete Valve Boxes. All valve box covers shall be Cast Iron covers. Plastic valve boxes will not be accepted.
14. All irrigation components except PVC pipe in good working order between Waiakamilo Road ℄ STA. 54+00 and Vicinity of Alakawa Street at ℄ STA. 86+50 shall be turned over to HDOT attention Mikel Onaka Phone: 831-8046.
15. Contractor at final acceptance to program all controllers with 3 programs for maximum water conservation - Dry Season Program, Wet Season Program, and Transition Season Program.

IRRIGATION MAINLINE BRIDGE CONDUIT NOTES:

1. Existing Reinforcing Bars Shall Not be Damaged.
2. All Embedded Anchors Shall be Embedded with Epoxy Including Expansion or Wedge Type Anchors.
3. All Anchorages/Connections to Existing Concrete Shall be of Type 316 Stainless Steel.
4. All Abandoned Drilled Holes Shall be Filled with an Approved Non-Shrink Grout or Epoxy Grout.
5. If Existing Reinforcing Bars are Damaged. The Contractor Shall Notify the District Engineer for Appropriate Action.
6. Drilling into Prestressed Concrete Members for Utility Attachments are not Permitted.
7. Contractor to Ensure no Debris Enters the Stream.

ORIGINAL PLAN
NOTE BOOK
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION DETAILS & NOTES

NIMITZ HWY. MEDIAN IMPROVEMENTS
Sand Island Access Road
to Vicinity of Alakawa Street
Project No. 92A-01-11M
Date: March, 2011

SHEET No. 1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	92A-01-11M	2011	40	42

IRRIGATION SCHEDULE

SYMBOL	QUANTITY	DESCRIPTION	P.S.I.	RADIUS	G.P.M.
	297	Rainbird 4" Pop-Up 1804-SAM-PRS-9SST	30	9X18	1.73
	14	Rainbird 4" Pop-Up 1804-SAM-PRS-15SST	30	4X30	1.21
	123	Rainbird 4" Pop-Up 1804-SAM-PRS-U8H	20	6	0.42
	59	Rainbird 4" Pop-Up 1804-SAM-PRS-U8F	20	6	0.86
	252	Rainbird 4" Pop-Up 1804-SAM-PRS-U10H	30	10	0.79
	76	Rainbird 4" Pop-Up 1804-SAM-PRS-U10F	30	10	1.58
	155	Rainbird 4" Pop-Up 1804-SAM-PRS-U15H	25	14	1.65
	55	Rainbird 4" Pop-Up 1804-SAM-PRS-U15F	25	14	3.30
	414	Rainbird 4" Pop-Up 1804-SAM-PRS-5H-B	30	5	1.00
	5	Rainbird 100-GB-PRS-D w/actuator and plastic adapter			
	10	Rainbird 125-GB-PRS-D w/actuator and plastic adapter			
	14	Rainbird 150-GB-PRS-D w/actuator and plastic adapter			
	13	Rainbird 200-GB-PRS-D w/actuator and plastic adapter			
	15	Rainbird 44-RC 1" quick coupler valve w/Leemco Stabilizer LS-120. Provide a minimum of one per median island			
	5	2" Reduced pressure principle backflow preventer - Wilkins model 975XL-2 with Wilkins model 600 pressure reducing valve on downpipe in security enclosure Strongbox SBBC-45SS			
	5	2" U.S. Bronze Nibco T-113-2" gate valve			
	2	DIG LEIT 4 Station Solar Controller Model 4004 in Stainless Steel Security Enclosure ENC4000 with Rain Sensor Hunter Model Miniclik in Stainless Steel Security Enclosure with Sensor Kit Skit8821. Controller on Mounting Column MCOL4000.			
	6	DIG LEIT 6 Station Solar Controller Model 4006 in Stainless Steel Security Enclosure ENC4000 with Rain Sensor Hunter Model Miniclik in Stainless Steel Security Enclosure with Sensor Kit Skit8821. Controller on Mounting Column MCOL4000.			

IRRIGATION SCHEDULE

SYMBOL	QUANTITY	DESCRIPTION	P.S.I.	RADIUS	G.P.M.
	3	DIG LEIT 10 Station Solar Controller Model LEITX10 in Stainless Steel Security Enclosure ENCLX with Rain Sensor Hunter Model Miniclik in Stainless Steel Security Enclosure with Sensor Kit Skit8821. Controller on Mounting Column MCOLXS.			
		Concrete Type 'B' valve box & cast iron cover marked Irrigation			
————		Main line PVC irrigation pipe			
- - - - - - - - - - - - - -		Lateral line PVC irrigation pipe			

NOTE

1. Quantities shown on Irrigation Schedule are for reference only, verify actual quantities as shown on plans. If there is a discrepancy the irrigation plans shall take precedence.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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No.	TRACED BY	
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

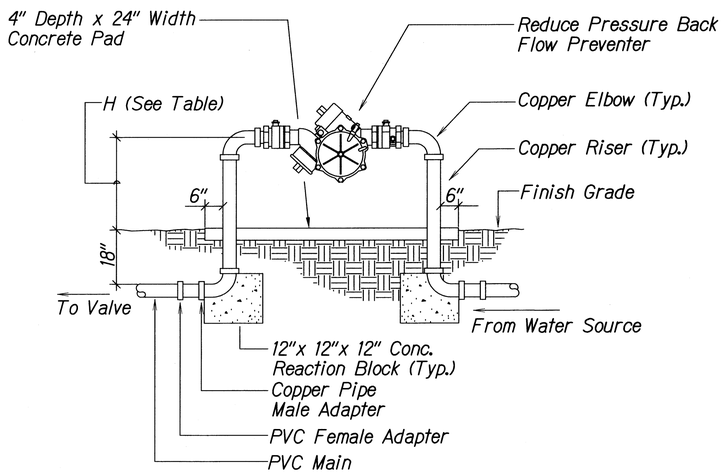
IRRIGATION DETAILS & NOTES

NIMITZ HWY. MEDIAN IMPROVEMENTS
Sand Island Access Road
to Vicinity of Alakawa Street
Project No. 92A-01-11M

Scale: NTS Date: March, 2011

SHEET No. 2 OF 4 SHEETS

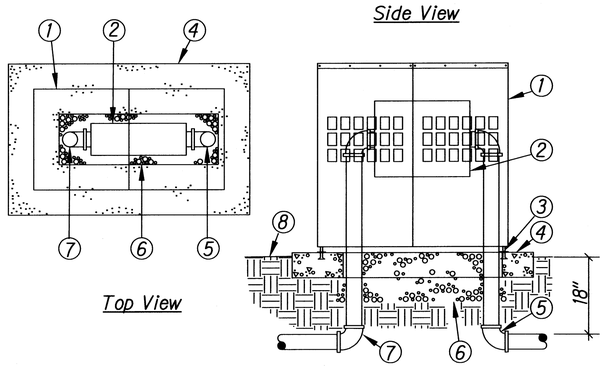
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	92A-01-11M	2011	41	42



Size (Inches)	H (Inches)
3/4 to 1-1/2	18
2 to 3	24

Notes:
1. All pipes and fittings installed above grade shall be either Copper or Bronze only.
2. Back Flow Preventer shall plumb.
3. Back Flow Preventer shall be located in an area well protected from vehicles (Clear Zone). If the Back Flow Preventor is located in an unprotected area, then four (4) 6" Pipe Bollards filled with concrete shall surround the Back Flow Preventer.

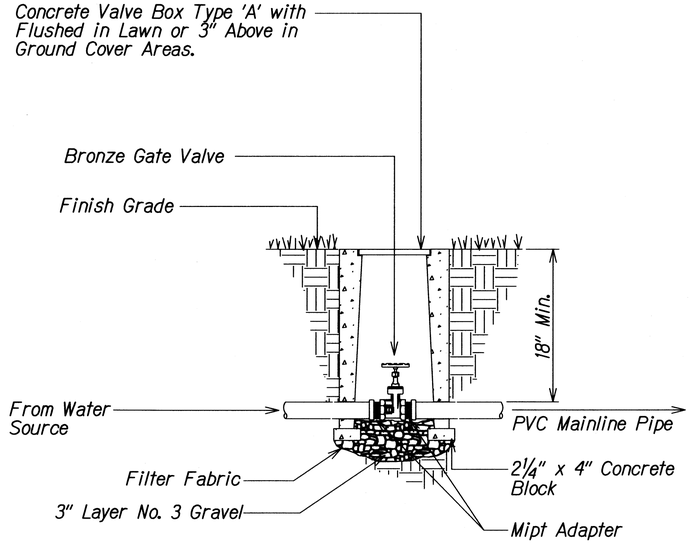
39 REDUCED PRESSURE BACKFLOW PREVENTION DEVICE DETAIL
Scale: N.T.S.



Legend
1. Aluminum Back Flow Preventer Enclosure, w/"DOT Irrigation Back Flow Preventor" manner acceptable to Engineer.
2. Back Flow Preventer
3. Anchor Rod (Typ.)
4. Poured Concrete Base - 6" Min. Thickness Extend 4" beyond outside dimensions of enclosure
5. Water Service Inlet Piping.
6. 4" Layer 3/4" dia. washed rock.
7. Water Service Outlet Piping.
8. Finish Grade.

Notes:
1. Contractor shall provide padlock for duration of the project.
2. Back Flow Preventer shall be located in an area well protected from vehicles (Clear Zone). If the Back Flow Preventor is located in an unprotected area, then four (4) 6" Pipe Bollards filled with concrete shall surround the Back Flow Preventer

40 BACKFLOW PREVENTION DEVICE ENCLOSURE DETAIL
Scale: N.T.S.



Note:
All Valve Box Covers shall be labeled Valve Type, Zone Number and, Controller Number.

44 GATE VALVE DETAIL
Scale: N.T.S.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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STATE OF HAWAII
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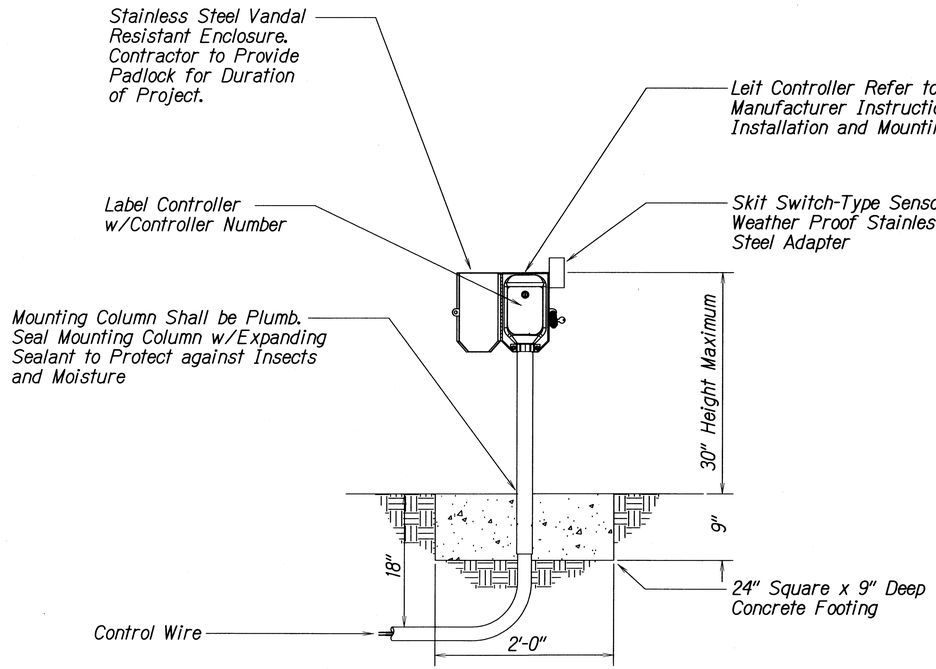
IRRIGATION DETAILS & NOTES
NIMITZ HWY. MEDIAN IMPROVEMENTS
Sand Island Access Road
to Vicinity of Alakawa Street
Project No. 92A-01-11M

Scale: Not to Scale Date: March, 2011

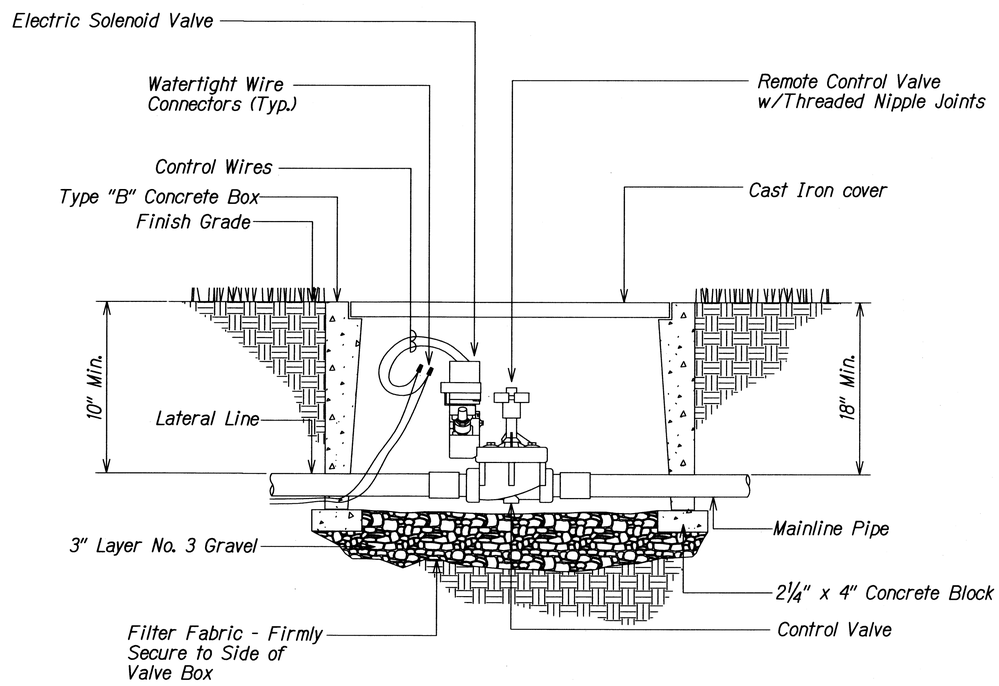
SHEET No. 3 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	92A-01-11M	2011	42	42



Note:
Controller location shall be located in an area well protected from vehicles. If the Controller is located in an unprotected area, then four (4) 6" Pipe Bollards filled w/Concrete shall surround Controller. Provide one (1) Leit Key per Controller.

(22) SOLAR POWERED CONTROLLER DETAIL
Scale: N.T.S.



Note:
All Valve Box Covers shall be labelled Irrigation, Valve Type, Zone Number and Controller Number.

(25) REMOTE CONTROL VALVE DETAIL
SCALE: N.T.S.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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STATE OF HAWAII
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IRRIGATION DETAILS & NOTES

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Scale: Not to Scale Date: March, 2011

SHEET No. 4 OF 4 SHEETS