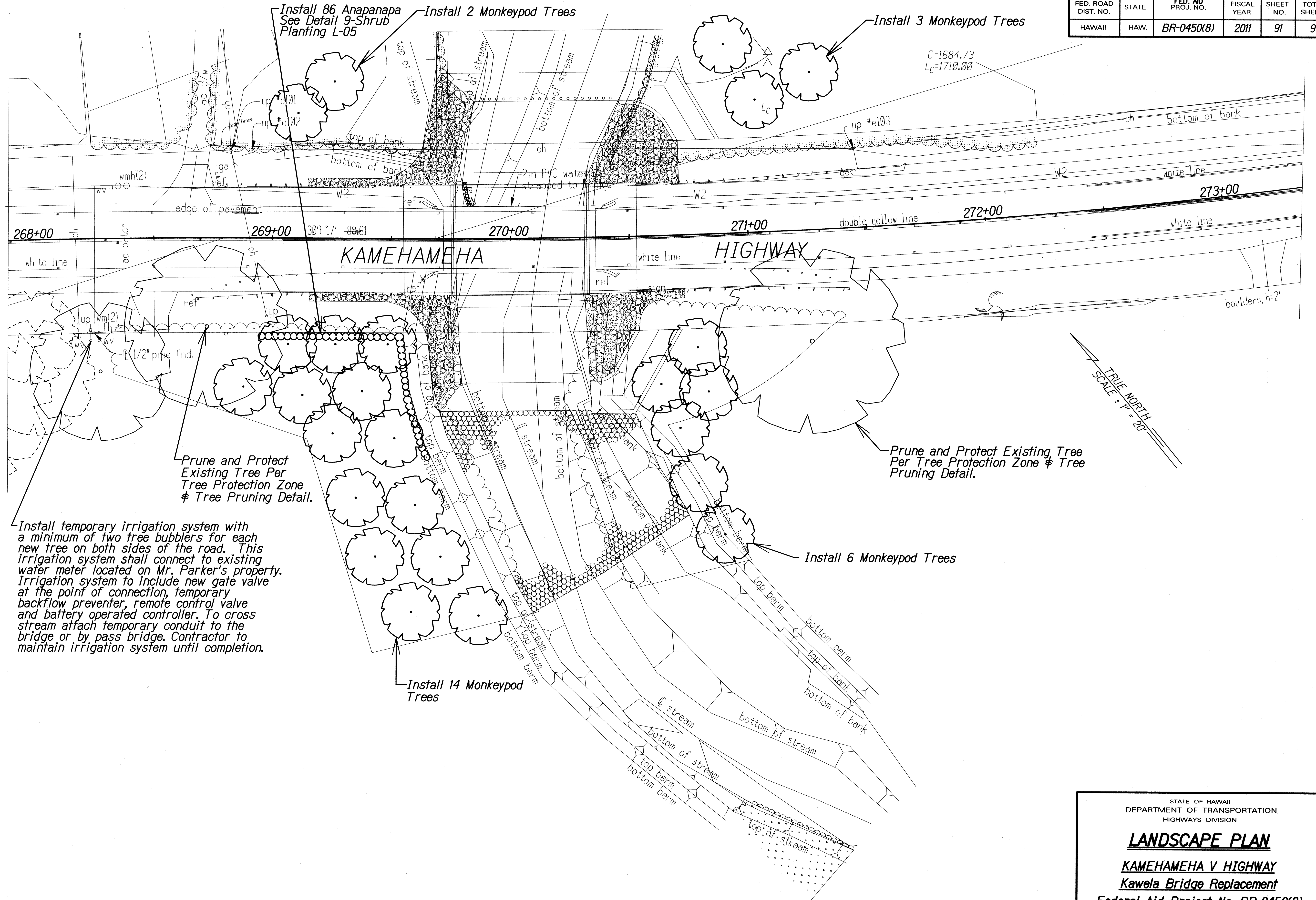


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	91	93



SURVEY PLANNED BY	DATE
DRAWN BY	
CHECKED BY	
APPROVED BY	
DATE	
PROJECT NO.	
SHEET NO.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLAN
KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

Scale: 1" = 20'
SHEET No. 1 OF 3 SHEETS

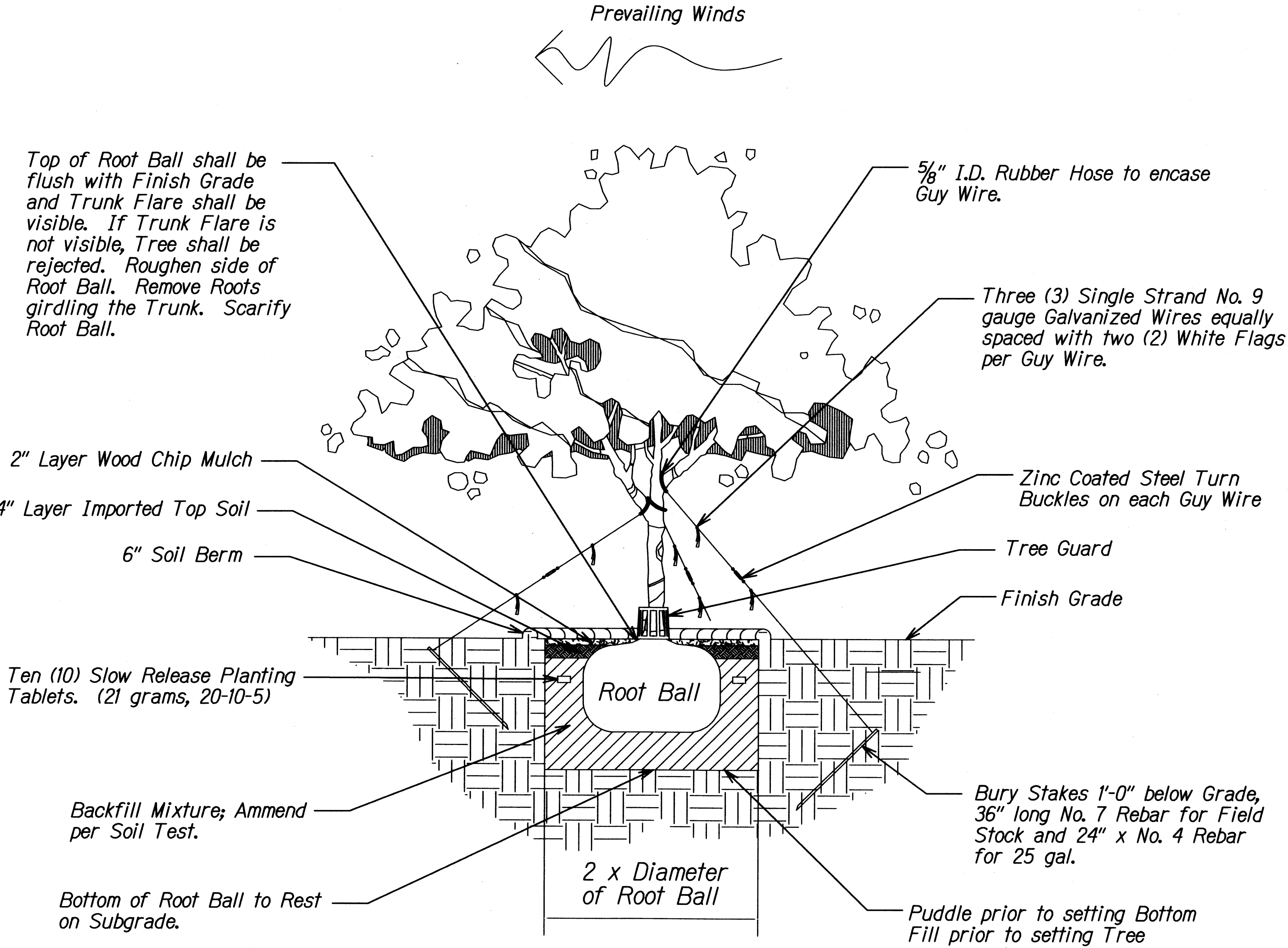
Date: October, 2010

PLANTING 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 discrepancy, the planting plan shall take precedence.
2. Landscape Contractor shall be responsible for location and protecting existing utilities.
3. Prior to tree 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" diameter, pipes, debris, trash, stumps, shrubs; site is neat, orderly, and the Engineer accepts site for planting. Cleaning and Grubbing shall be considered an incidental expense to section 619 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 meet the specified size and height prior to planting.
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 if 5 years to the Engineer minimum 7 days prior to tree pruning.
10. 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.
11. Any planting that obstructs sight distance, signs or traffic lights shall be relocated or removed as determined by the Engineer.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	92	93

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE & NOTES
Mp	25	Samanea Saman	Monkeypod Tree	2-2 1/2" Caliper, 50 Gal. Container
An	58	Colubrina asiatica	Anapanapa	3' O.C. - 3 Gallon Container



TREE PLANTING DETAIL
Not To Scale

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLANTING DETAILS
KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

Not To Scale Date: October, 2010

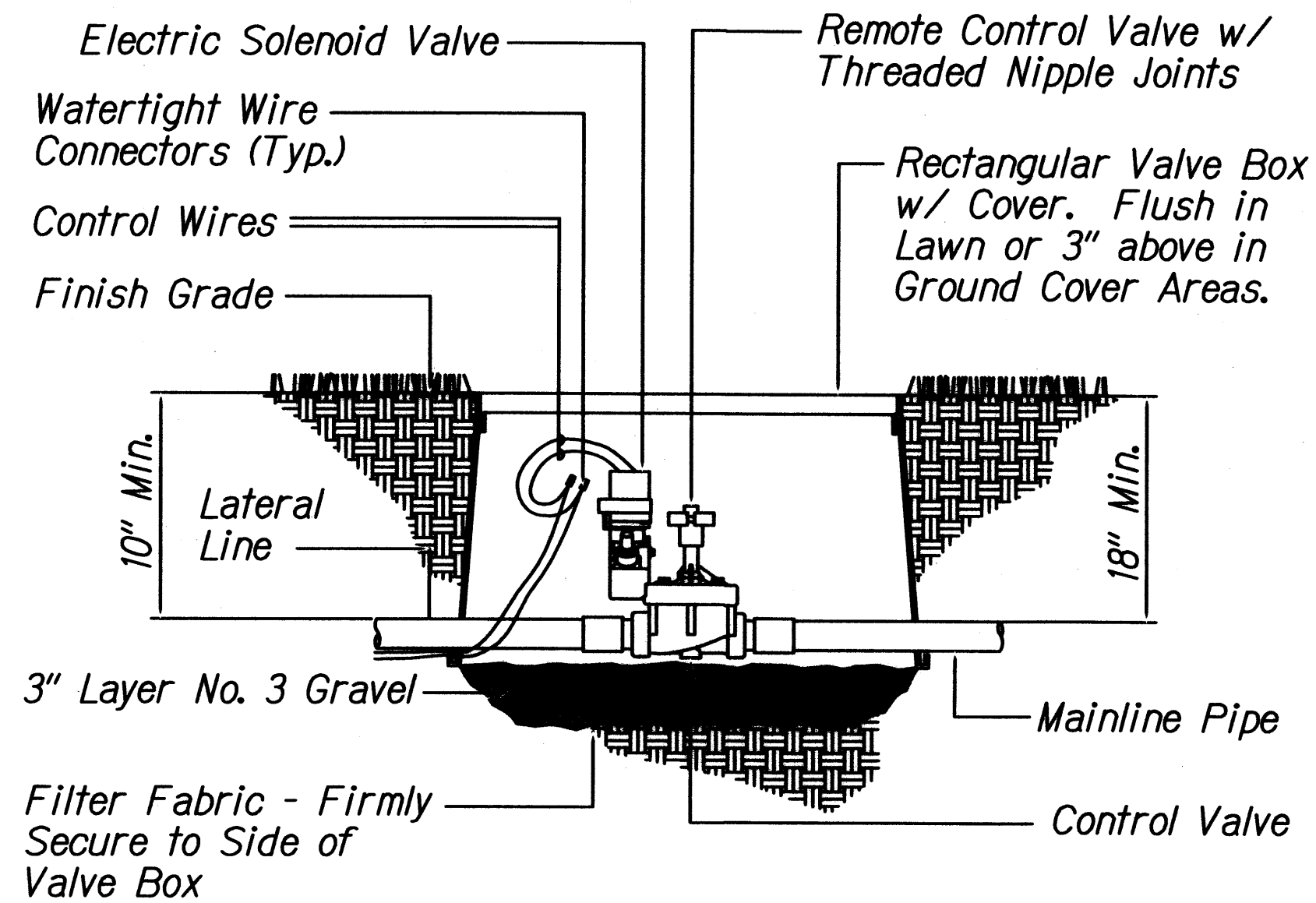
SHEET No. 2 OF 3 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	93	93

IRRIGATION NOTES:

1. This irrigation system shall connect to water meters located on Mr. Parker's property.
2. Install temporary irrigation system with a minimum of two tree bubblers for each new tree. Irrigation system to include new gate valve at point of connection, temporary backflow preventer, remote control valve, battery operated controller. Contractor to maintain irrigation system until completion.
3. Provide engineer with all documentation, manuals, and appurtenances for the battery operated controller.
4. At completion of project remove the temporary irrigation system and turn over to the engineer the gate valve, temporary backflow preventer, remote control valve, and the battery operated controller.
5. Contractor shall install irrigation lines, wires, valves and heads per specifications. Existing point of connection, etc. are derived from the best available informations and on-site inspection. The Contractor shall verify those points of connection noted and report any discrepancies to the Engineer.
6. 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.
7. This irrigation system was designed with a minimum static water pressure of 50 psi at the point of connection. Notify the Project Engineer if water pressure is less than 50 psi or greater than 75 psi.
8. 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.
9. Contractor shall coordinate the installation of all sleeves, conduits, mainlines and lateral under pavement and through walls. Contractor shall assure that these items are laid prior to placement of pavement or wall structures.
10. 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.
11. Perform operability test by opening remote control valve and test circuits for leaks around barbed and threaded pvc fittings. Repair leaks and repeat test. Notify the Engineer at least three (3) days in advance of test. Do not backfill until there is no further sign of leakage.
12. 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.
13. Locate valve boxes so that the outer edges are no closer than five feet to roadway pavement.



26 REMOTE CONTROL VALVE DETAIL
Scale: N.T.S.

IRRIGATION EQUIPMENT LIST

Symbol	Quantity	Description	G.P.M.	Radius	P.S.I.
	2	1" Remote Control Valve w/ Actuator			
	2	1 Station Battery Operated Irrigation Controller			
	2	3/4" Backflow Preventer approved by Board of Water Supply.			
		Irrigation Mainline PVC 40			
	50	4" Pop-up Nozzle Half Circle Tree Bubbler	0.5		30

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
9/2/2010	CHECKED BY	
9/2/2010	QUANTITIES BY	
9/2/2010		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION DETAILS

KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

Not To Scale Date: October, 2010

SHEET No. 3 OF 3 SHEETS