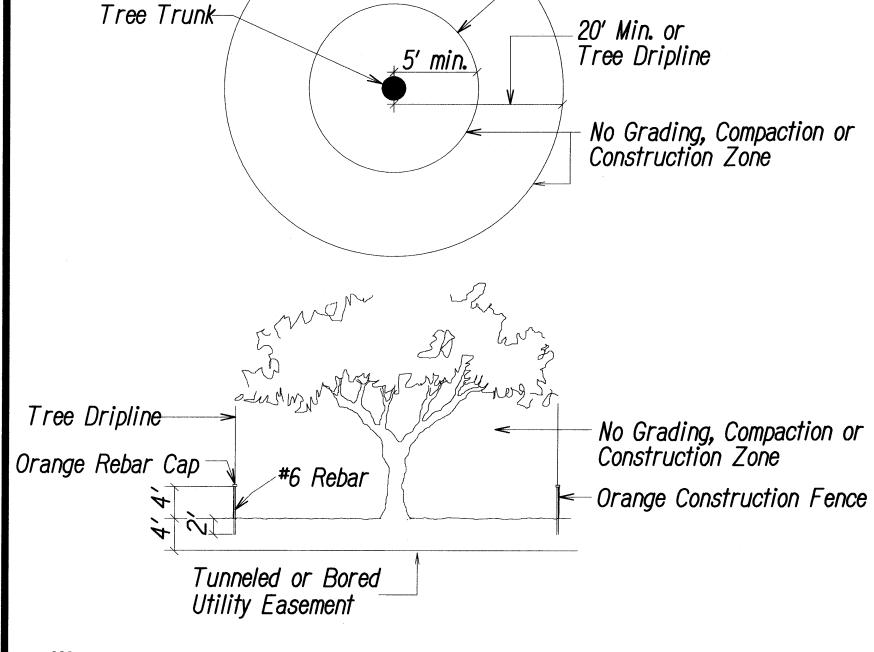
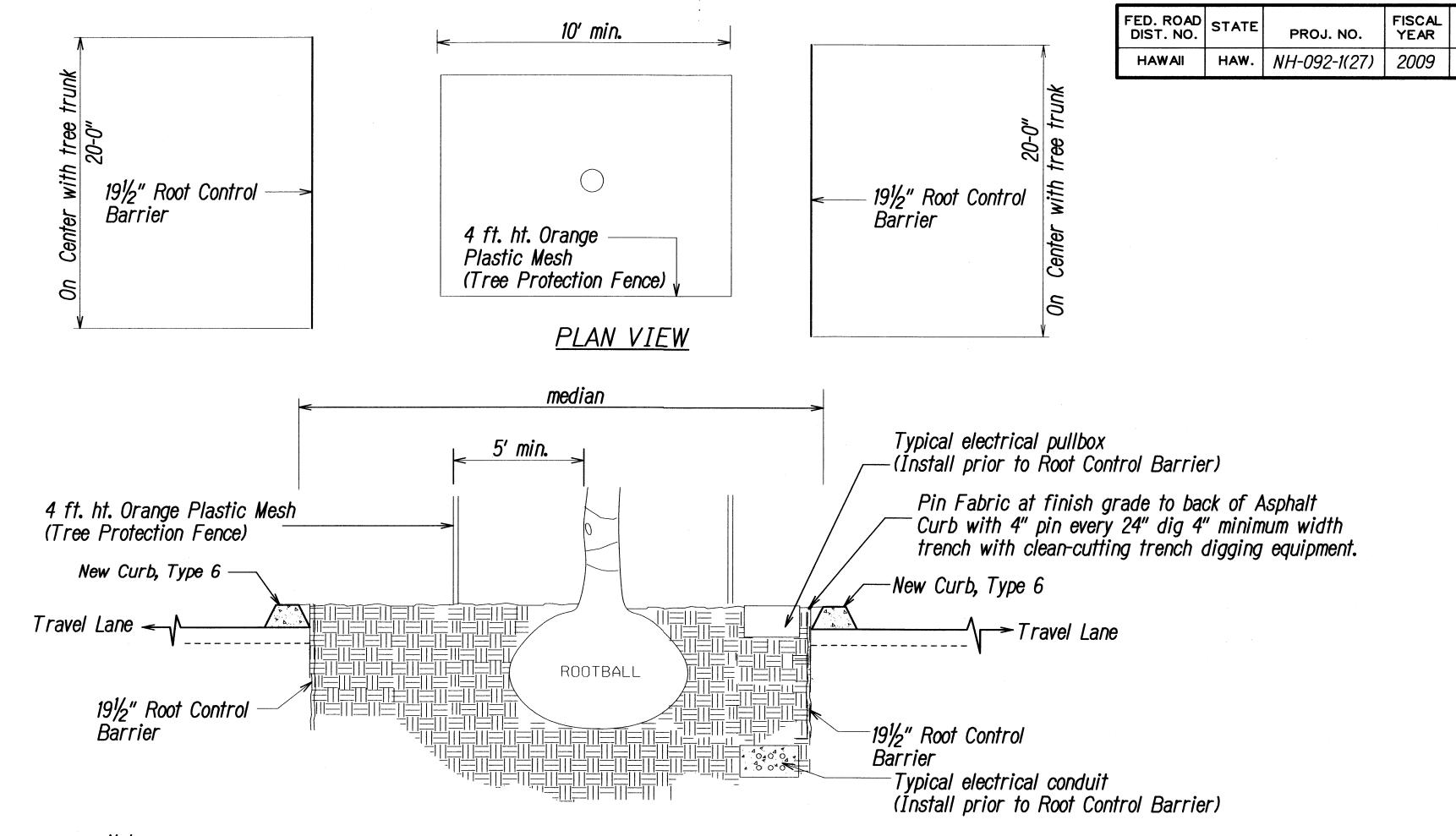
TREE PROTECTION ZONE

- 1. All trees identified on the plans should be protected. All trees 6" caliper or greater (as measured at 4½ 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 cost to the state.
- 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.
- 3. All trees shall remain unless shown for removal. All protected trees shall be listed on the roadway plans. If there is a discrepancy, contractor shall contact the Engineer immediately.
- 4. Protective fences shall be erected around trees identified on the plans or trees with a trunk diameter greater than 6 inches (as measured at a height of 4½ feet.) Protective fence shall be 4 feet high orange plastic mesh or approved equivalent supported on #6 Rebar a minimum of 6 feet long. Protective fence shall surround the tree at a minimum of 5 feet from the tree trunk with #6 Rebar at a minimum of 5 feet on center. Fence shall be installed and approved by Landscape Architect or 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 Changed, Storaged or Equipment Permitted Within TPZ."
- 5. For the duration of construction within the drip line of the trees to remain, there must be:
 - No changed, alternation 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 example concrete sleuth, gas, oil or 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, and - No cleaning of equipment or material under the canopy of any tree or group of
 - trees to be preserved.

Tree Protection Fence





Note:

Nodules to face tree. Place top edge of root control barrier at finish grade and secure with manufacturer provided pins. Seams shall have minimum 3 inches overlap. Refer to manufacturer instructions for bonding the seam. Do not allow gaps in fabric during installation or backfilling. Root control 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 label and MSDS sheet for safety information.

MEDIAN DETAIL WITH ROOT CONTROL BARRIER INSTALLATION DETAIL Not to Scale

Leader not Pruned -Parallel Branch Removed Shoots Cut Back to another Lateral Branch

Water Sprouts Removed Crossing Branches Removed

Suckers Removed

Note: 1. Positions of first and second cuts may be reversed in some cases, particulary when cutting a large branch with a chainsaw. 2. Do not make flush cuts or leave stubs.

3. Do not paint cuts. 4. Remove dead, broken or malformed branches.

5. Remove all vines entwined in the tree or around its trunk.

6. All pruning shall be completed using clean sharp tools. All cuts shall be clean and smooth, with the bark intact with no rough edaes or tears.

7. Dispose of all cuttings outside of right of way.

8. Retain the normal shape of the plant.



AND HIGHWAY LIGHTING REPLACEMENT Fort Street to Kalakaua Avenue Federal Aid Project No. NH-092-1(27)

Scale: Not to Scale Date: February 2008 SHEET No. 1 OF 3 SHEETS

Tree roots shall not be cut unless cutting is unavoidable. When root cutting is unavoidable, a clean, sharp cut shall be made to avoid shredding or smashing. Root cuts shall be made back to a lateral root whenever possible. Exposed roots shall be covered immediately with soil or burlap and keep moist. Fertilize and water to minimize shock as directed by a certified Arborist or Engineer.

Root Cutting shall be considered Incidental to Biochemical Root Control Barrier.

No roots larger than 2" shall be cut unless no other alternative is feasible and approved by a certified

Arborist or Engineer.

TREE PRUNING DETAIL Not to Scale

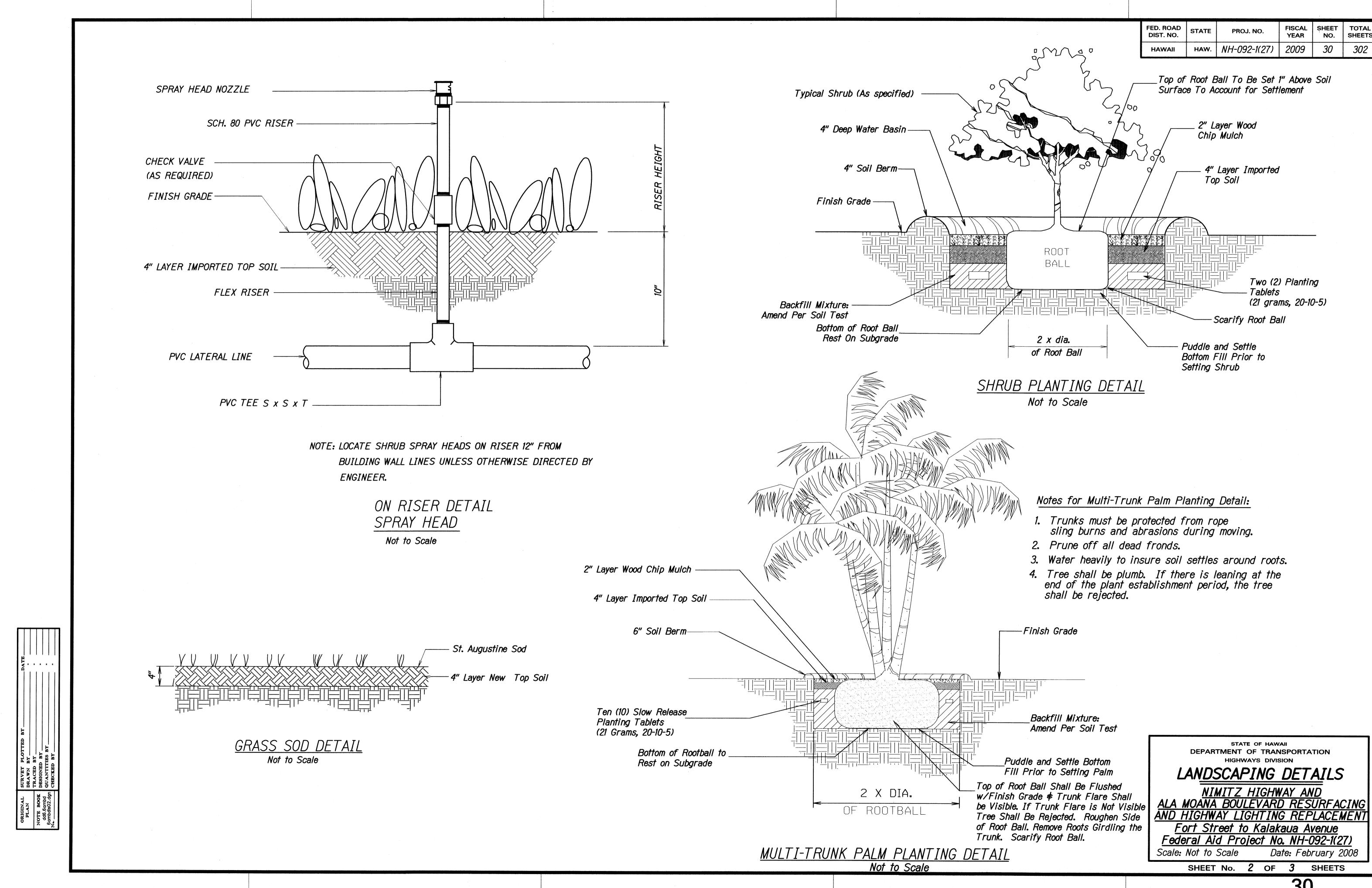
Not to Scale

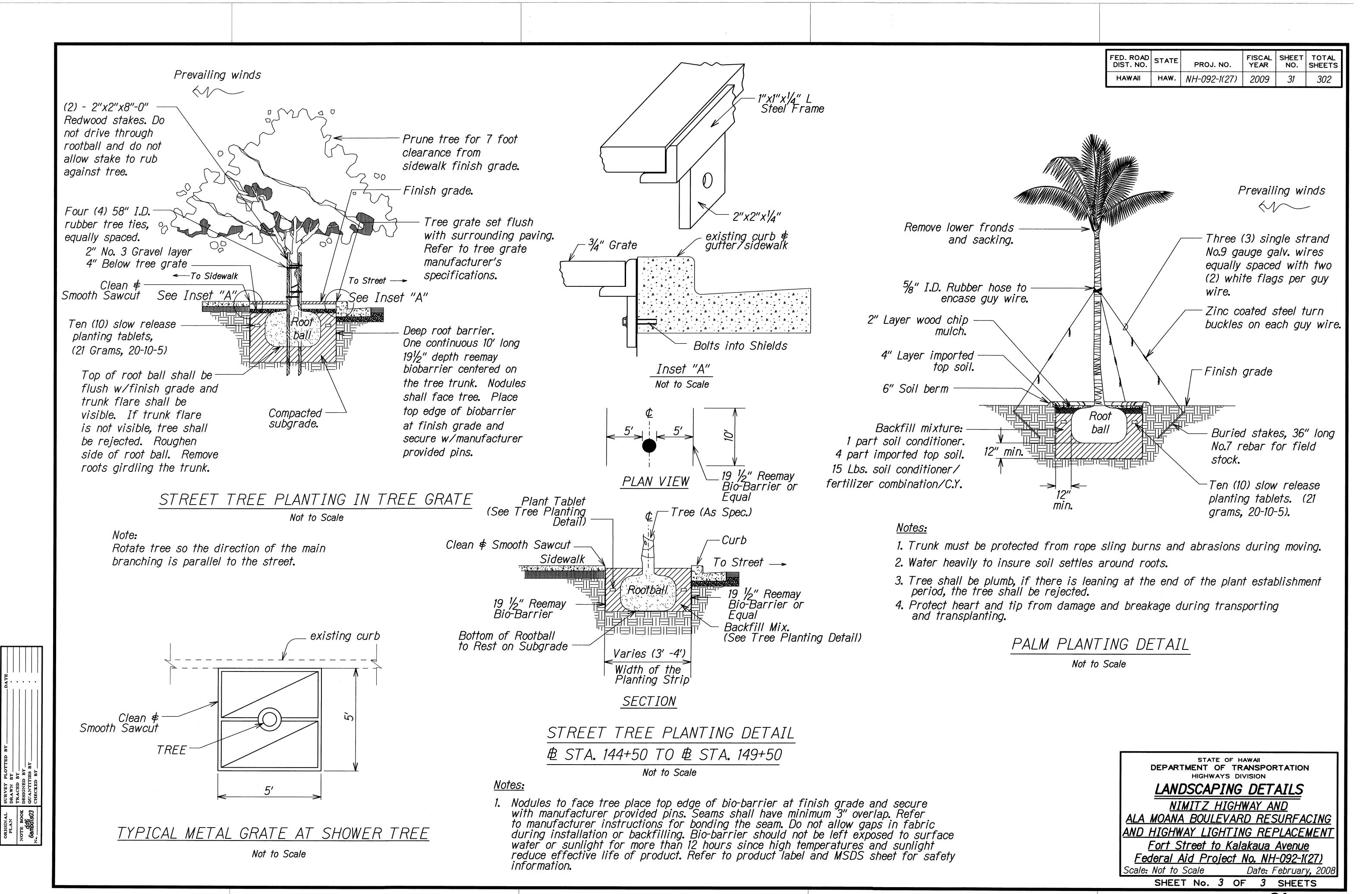
SURVEY PLO
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES
CHECKED BY

Second Cut First Cut Final Cut Branch Collar

FISCAL SHEET TOTAL YEAR NO. SHEETS

29





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. Plans shall govern.
- 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 $\frac{1}{2}$ " 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 sharacteristics 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 paint 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 have been certified in good standing 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. 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.
- 11. 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.
- 12. Any planting that obstructs sight distance, signs or traffic lights shall be relocated or removed as determined by the Engineer.
- 13. Removal of existing trees shall be considered incidental to new plants.
- 14. The roots of the removed existing trees shall be a minimum of 12" below finish grade.
- 15. 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 sluice, 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.

FISCAL SHEET TOTAL YEAR NO. SHEETS FED. ROAD STATE PROJ. NO. HAW. NH-092-1(27) 2009 32 *302*

16. Provide even four-inch layer of planting soil over all planting area. Representative samples of soil from project site shall be submitted to the University of Hawaii Agricutural Extention 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 distrubute 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. After completion of soil amendments, retest to meet soil analysis. Continue amended until test meets soil test recommendations. Provide copy of all soil test to engineer.

PLANT LIST					
QUANTITY	COMMON NAME	BOTANICAL NAME	SIZE & REMARKS		
10	Coconut	Cocos Nucifera	12-14 ft brown trunk		
7	Areca Palm	Chysalidocarpus lutescens	50 gal. Multistem, Minimum 6' ht. Plant 10' o.c.		
	Saint Augustine grass	Stenotaphrum secundatum	4" plugs or well rooted springs		
16	Rainbow Shower Tree	Cassia Fistula X C. Javanica	35 gal., 10-12' ht., 6'-8' spd, 7 ft clearance, tree grate		
8	Rainbow Shower Tree	Cassia Fistula X C. Javanica	35 gal., 10-12' ht., 6'-8' spd, 7 ft clearance		

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

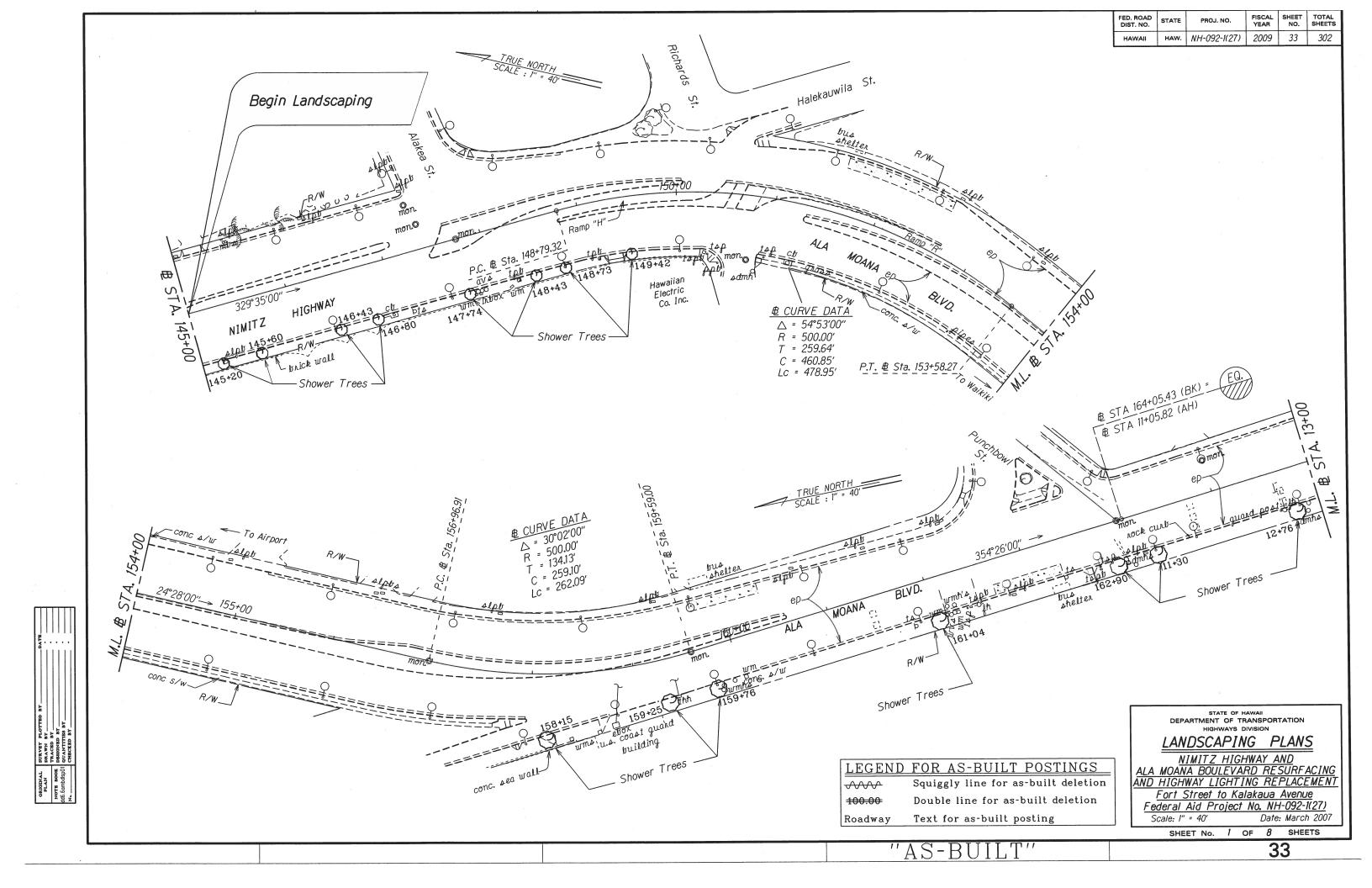
LANDSCAPING NOTES

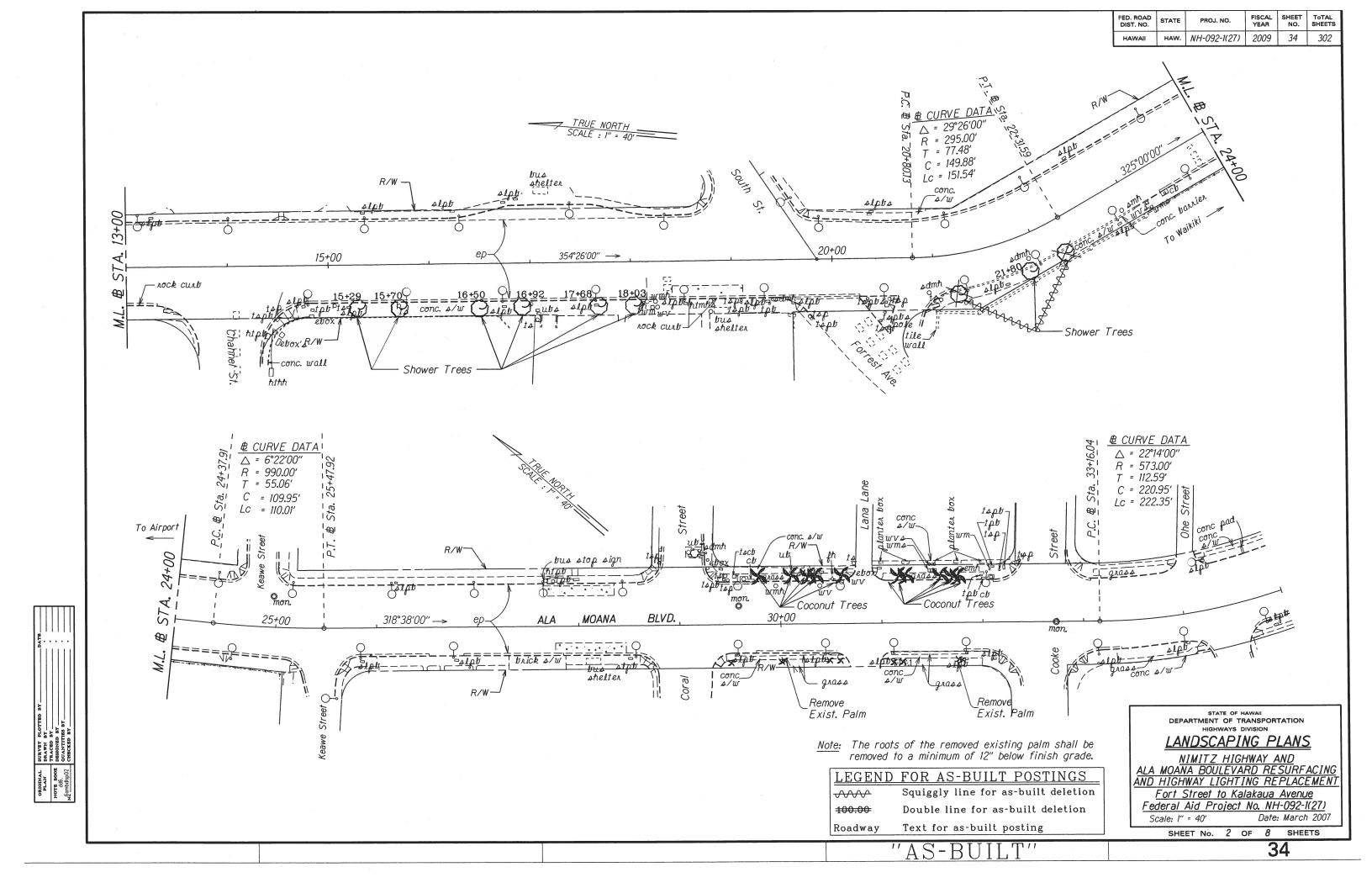
NIMITZ HIGHWAY AND ALA MOANA BOULEVARD RESURFACING AND HIGHWAY LIGHTING REPLACEMENT

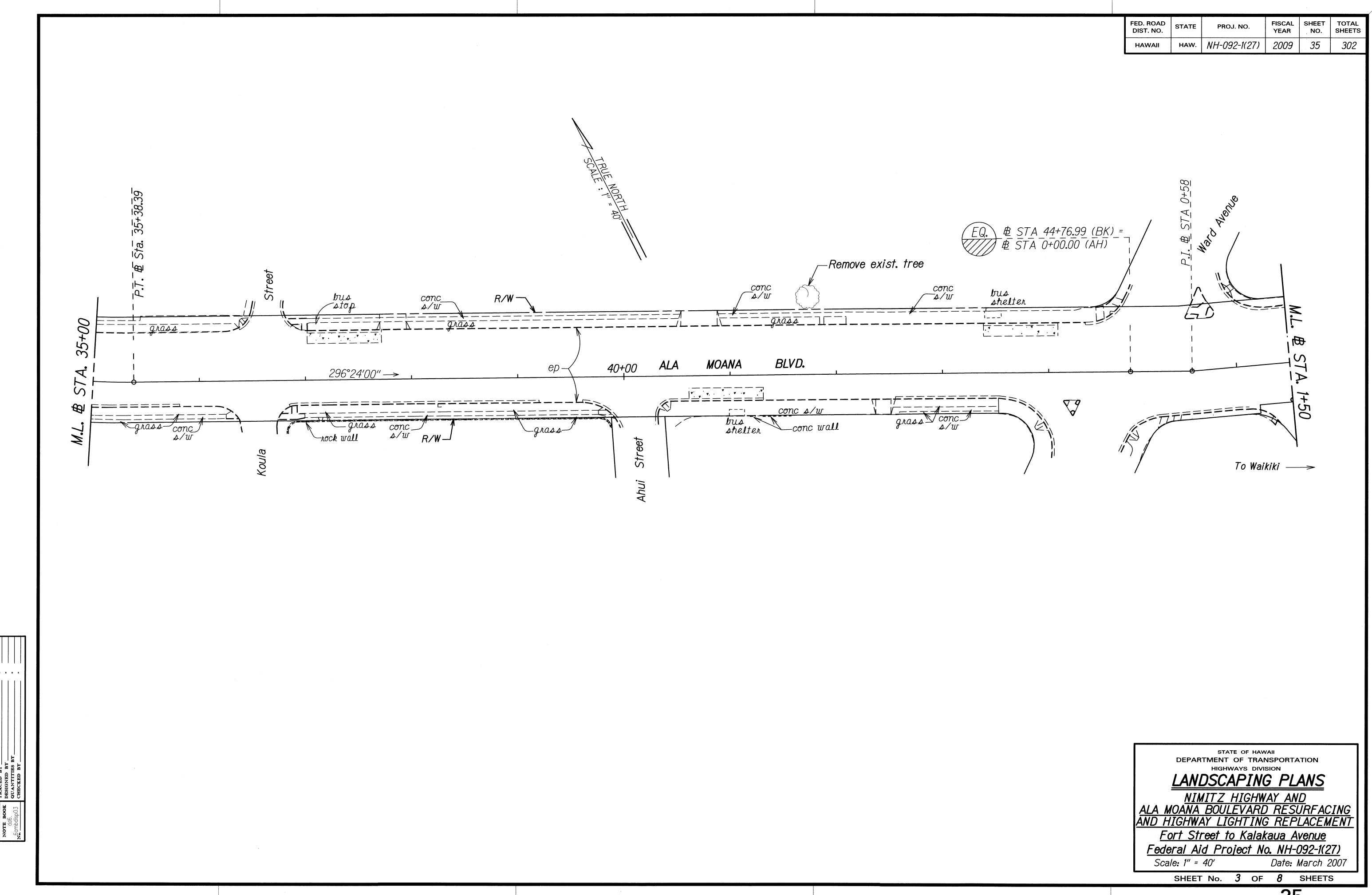
Fort Street to Kalakaua Avenue Federal Aid Project No. NH-092-1(27)

Scale: Not to Scale Date: March. 2008

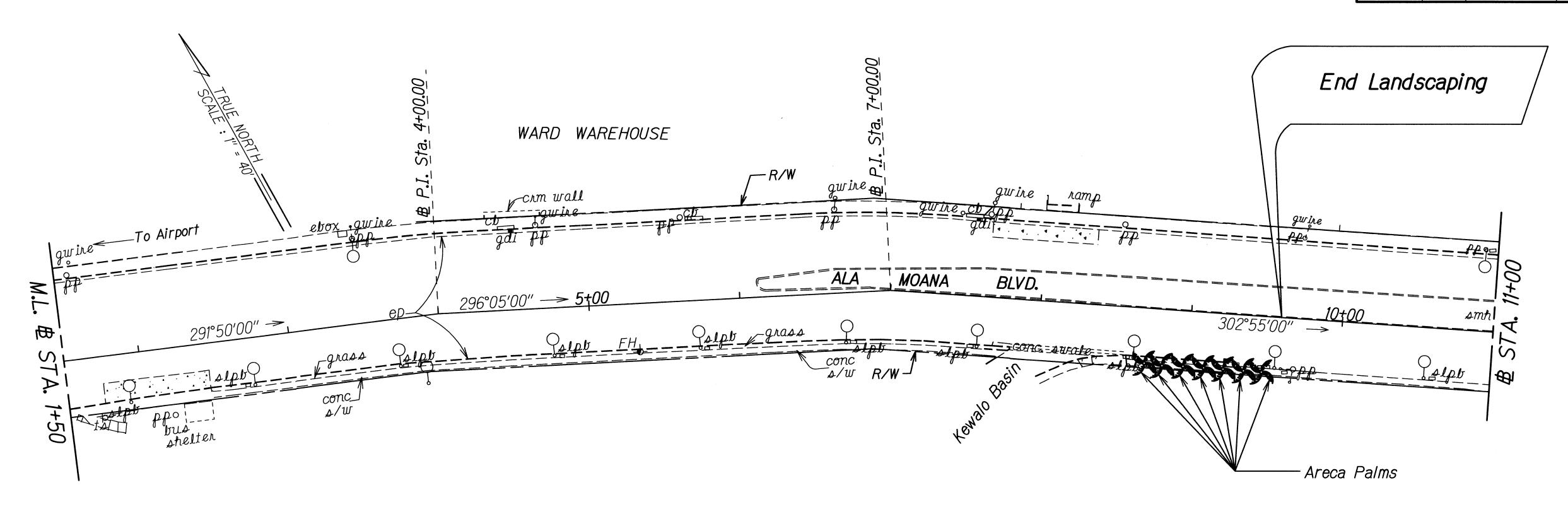
SHEET No. 1 OF 1 SHEETS







	FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
I	HAWAII	HAW.	NH-092-1(27)	2009	36	302



Notes

- 1. Replace all disturbed areas with Saint Augustine grass.
- 2. Adjust existing irrigation system to accomodate new utilities and planting. Replace broken components to match existing.
- 3. Water as necessary.
- 4. Remove 5 existing Areca palms.

 ORIGINAL
 SURVEY PLOTTED BY
 DATE

 PLAN
 DRAWN BY
 ,

 NOTE BOOK
 TRACED BY
 ,

 dd6.
 QUANTITIES BY
 .

 CHECKED BY
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

LANDSCAPING PLANS

NIMITZ HIGHWAY AND ALA MOANA BOULEVARD RESURFACING AND HIGHWAY LIGHTING REPLACEMENT

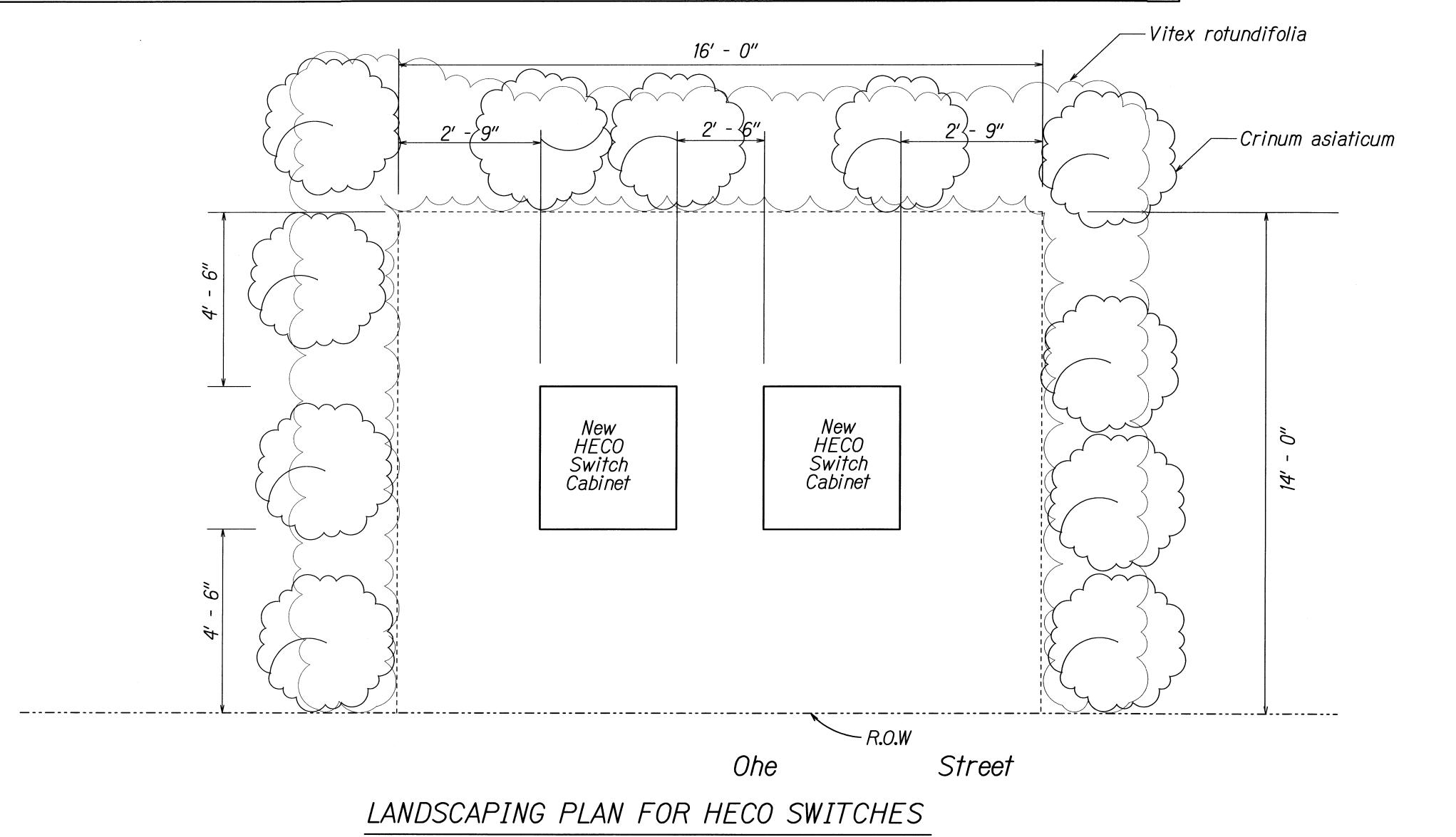
Fort Street to Kalakaua Avenue
Federal Aid Project No. NH-092-1(27)
Scale: 1" = 40' Date: March 2008

SHEET No. 4 OF 8 SHEETS

	Common Name	Botanical Name	Size	Remarks
11	Red Spider Lily	Crinum asiaticum var. procerum 'red form'	25 gallon	
50	Pohinahina	Vitex rotundifolia	1 gallon	Plant 24" o.c.
	Saint Augustine Grass	Stenotaphrum secundatum	4" plugs or well rooted sprigs	Plant 12" o.c.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR		TOTAL SHEETS
HAWAII	HAW.	NH-092-1(27)	2009	<i>3</i> 7	302

1	Replace all disturbed areas with Saint Augustine grass.
2	New removable and stationary post barrier to match existing pipe barrier height (37"), pipe size (4½" o.d.) and color (teal green). Post barrier top shall be rounded dome top. Paint utility boxes to match existing utility boxes.
3	Adjust existing irrigation system to accomodate new utilties and planting. Replace broken components to match existing.
4	Water as necessary.



STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

LANDSCAPING PLANS

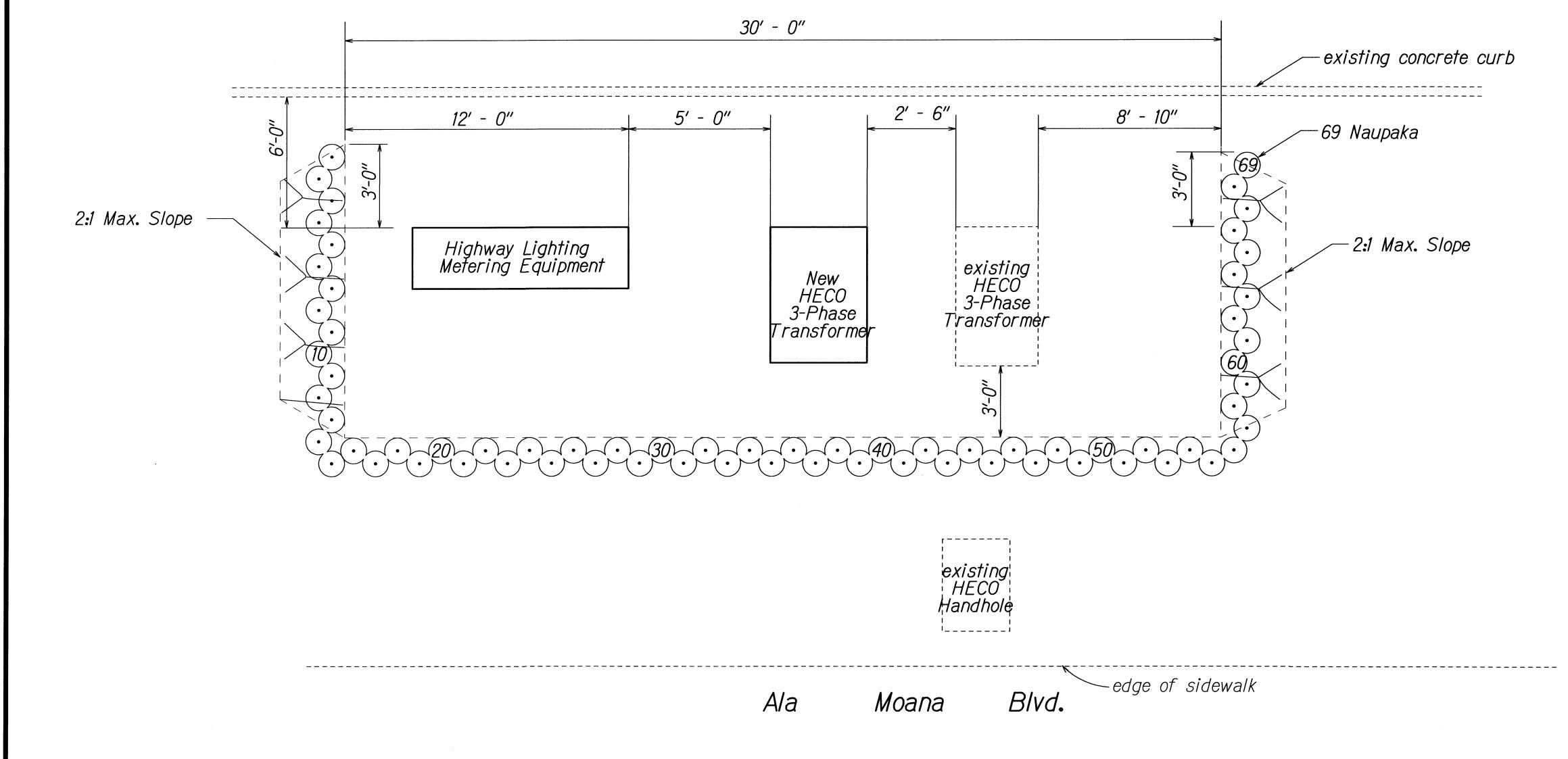
NIMITZ HIGHWAY AND
ALA MOANA BOULEVARD RESURFACING
AND HIGHWAY LIGHTING REPLACEMENT
Fort Street to Kalakaua Avenue
Federal Aid Project No. NH-092-1(27)

Scale: Not to Scale Date: November 2008

SHEET No. 5 OF 8 SHEETS

				·			
U-14 Schedule of Plants							
Common Name		Common Name	Botanical Name	Size	Remarks		
69		Beach Naupaka	Scaevola Sericea	1 gallon	Minimum 24" ht. Plant 24" o.c.		
		Saint Augustine grass	Stenotaphrum secundatum	4" plugs or well rooted sprigs	Plant 12" o.c.		
U-14 Notes							
1 Replace all disturbed areas with Saint Augustine grass.							
2	Adjust existing irrigation system to accomodate new utilties and planting. Replace broken components to match existing.						
3	Water as necessary.						

Kewalo Basin



LANDSCAPING PLAN FOR HECO EQUIPMENTS

I.B. & Sta. 5+33± to I.B. & Sta. 5+70±, o/s 37' ± Rt.

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

FED. ROAD DIST. NO.

LANDSCAPING PLANS

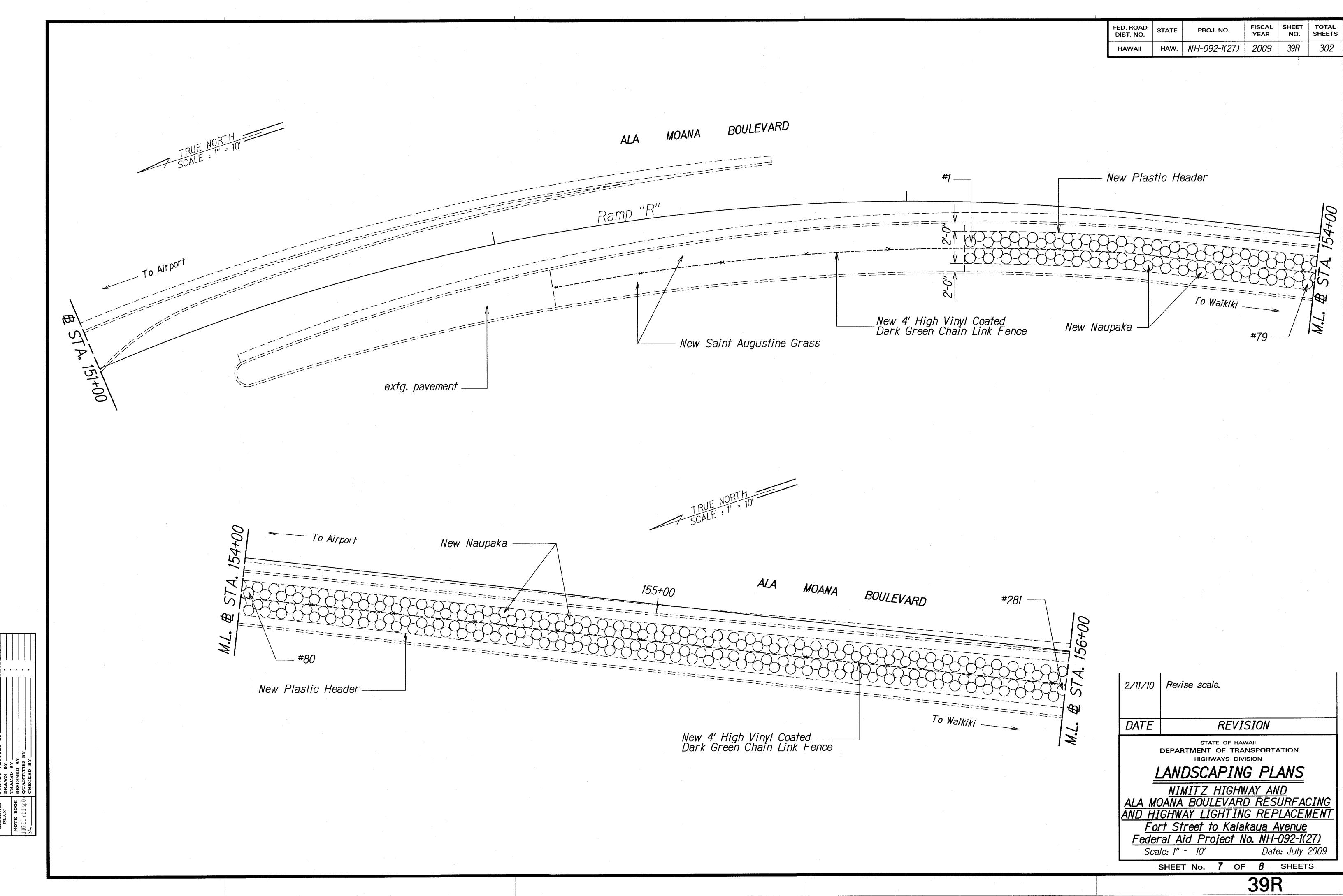
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ALA MOANA BOULEVARD RESURFACING
AND HIGHWAY LIGHTING REPLACEMENT
Fort Street to Kalakaua Avenue

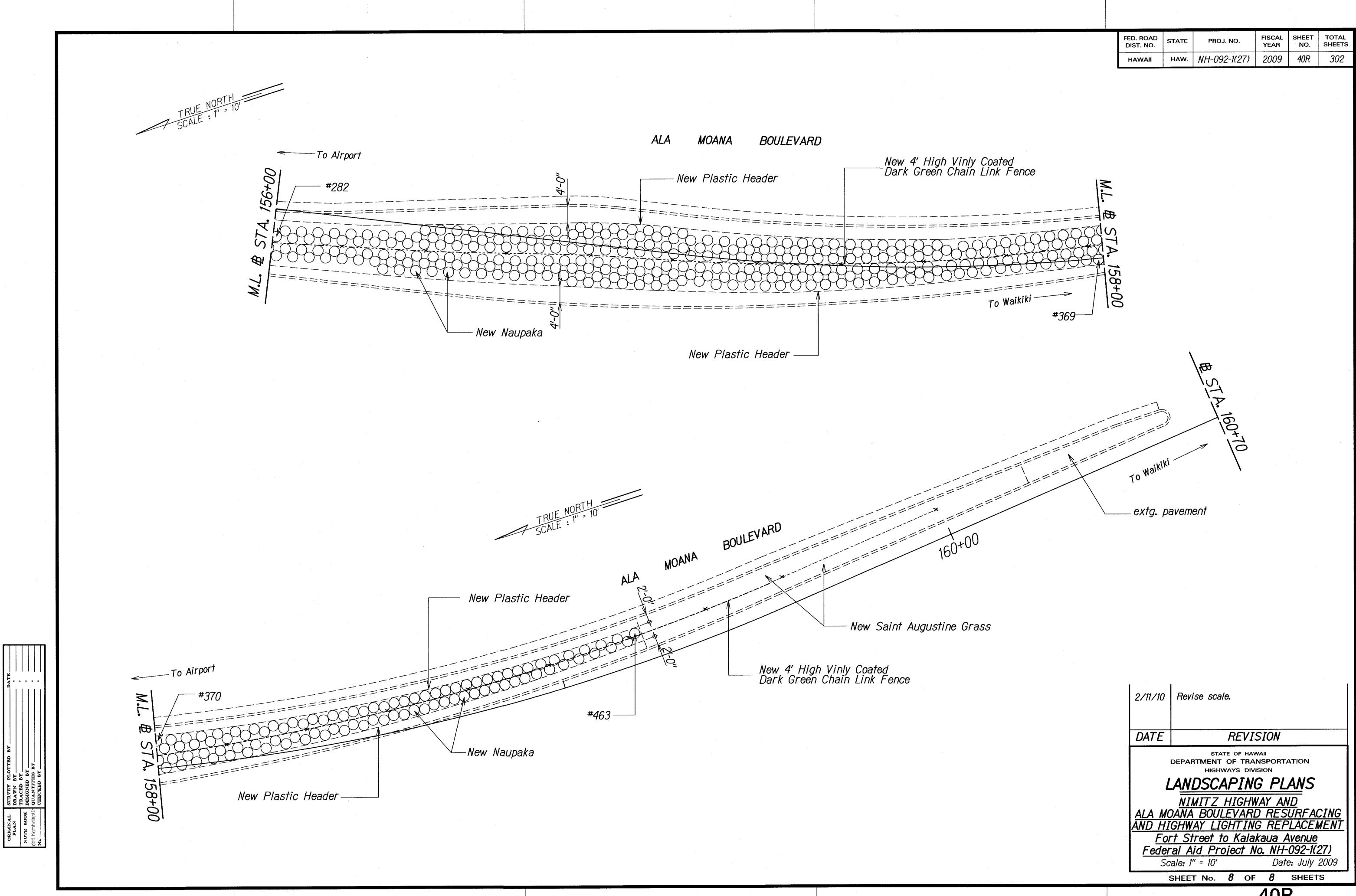
Fort Street to Kalakaua Avenue
Federal Aid Project No. NH-092-1(27)

Scale: Not to Scale

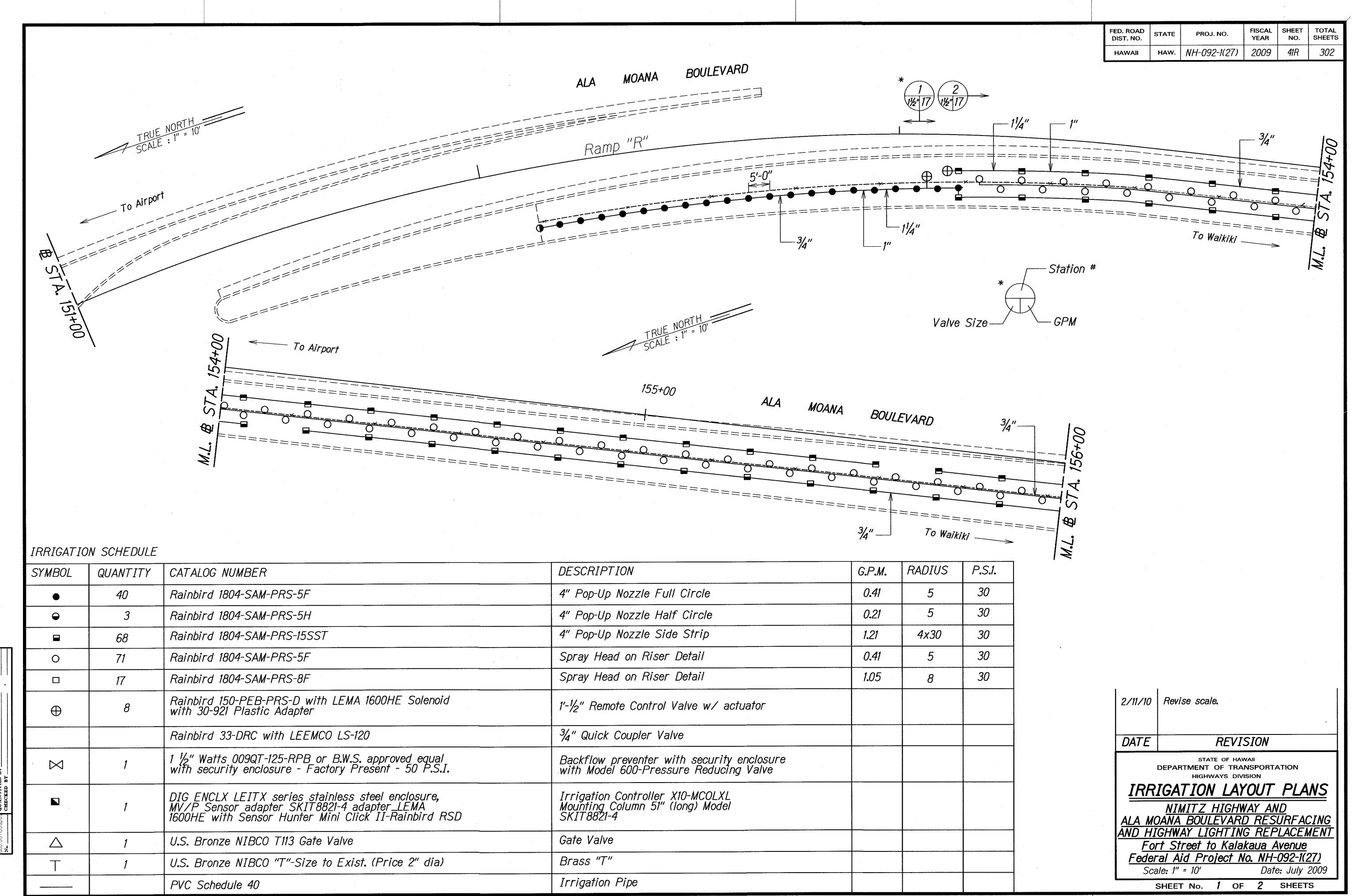
Date: November 2008

SHEET No. 6 OF 8 SHEETS

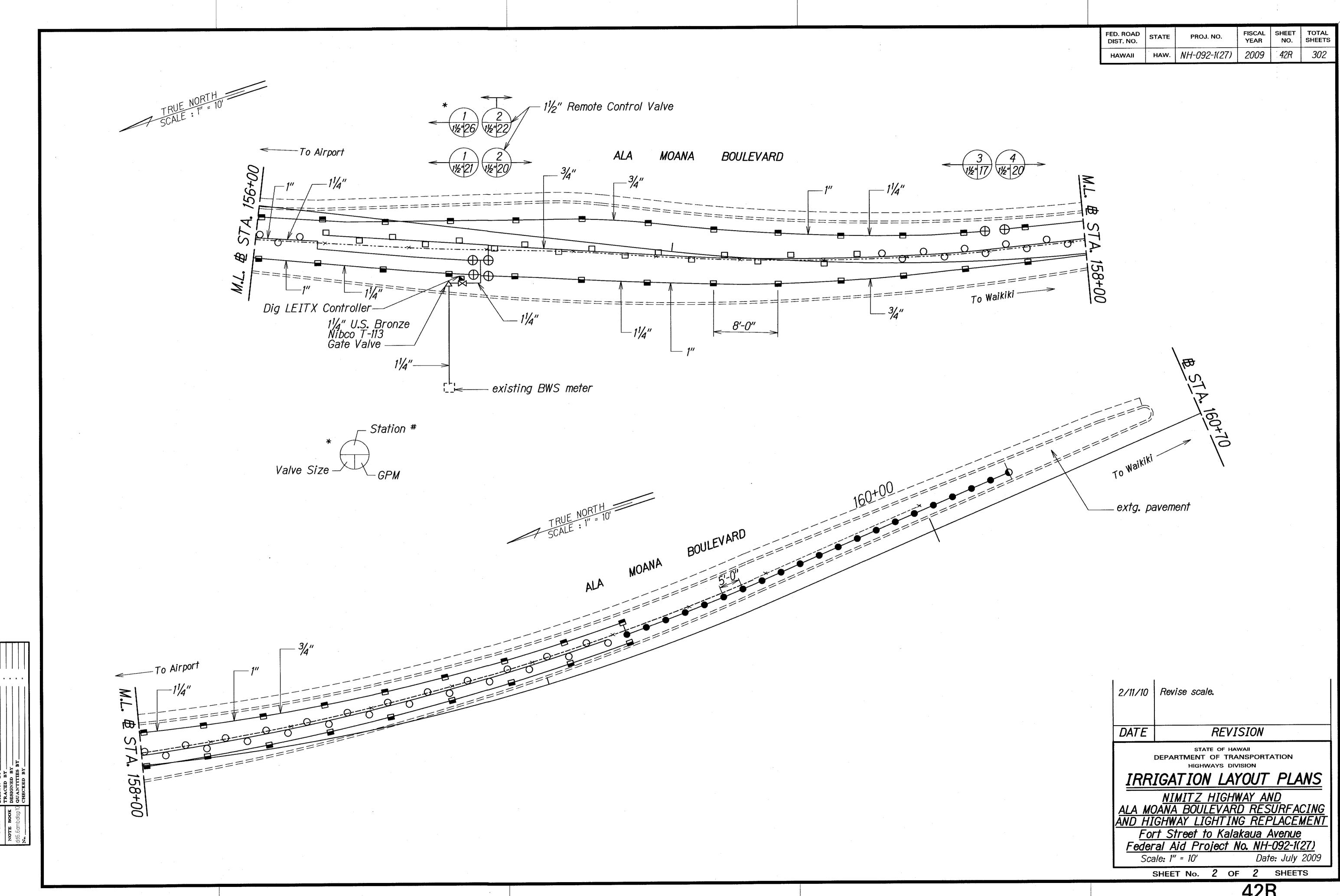




40R



41R



42R