STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD. 2	29

STANDARD PLAN NO.		TITLE	DATE
B-01	·	Notes and Miscellaneous Details	05/31/07
B-03	·	Backfill Details at Earth Retaining Structures	05/31/07
B-12	·	Prestressed Concrete Piles and Compression Splice Can Details	05/31/07
B-12A	·	Prestressed Concrete Piles, Pile and Compression Splice Can Details and Notes	05/31/07
B-12B	·	Pile Interaction Diagram	05/31/07
B-13	·	Prestressed Concrete Pile Build-Up Details	05/31/07

D-01	·	Cattle Gate	05/31/07
D-02	·	Chain Link Fence With Toprail	05/31/07
D-03	·	Chain Link Fence Without Toprail	05/31/07
D-04	·	Wire Fence With Metal Posts	05/31/07
D-05	·	Typical Details of Curbs and/or Gutters	05/31/07
D-06	·	Typical Detail of Reinforced Concrete Drop Driveway	05/31/07
D-07	·	Centerline and Reference Survey Monuments	05/31/07
D-08	·	Street Survey Monument	05/31/07
D-15	●	Concrete Sidewalk	05/31/07
D-16	·	P.C.C. Bus Pad	05/31/07
D-17	·	P.C.C. Bus Pad	05/31/07
D-18	·	P.C.C. Pavement Layout	05/31/07
D-19	·	P.C.C. Pavement w/ Permeable Base Joint Details	05/31/07
D-20	·	P.C.C. Pavement w/ Permeable Base Joint Details	05/31/07
D-21	·	P.C.C. Longitudinal Joint Details	05/31/07
D-22	·	P.C.C. Connection to Curbs and Gutters	05/31/07
D-23	●	Joints	05/31/07

H-01A	·	Type A Catch Basin	05/31/07
H-01B	·	Type B Catch Basin	05/31/07
H-01C	·	Type C Catch Basin	05/31/07
H-01D	·	Type D Catch Basin	05/31/07
H-01E	·	Catch Basin Sections	05/31/07
H-02A	·	Type A1 Catch Basin	05/31/07
H-02B	·	Type B1 Catch Basin	05/31/07
H-02C	·	Type C1 Catch Basin	05/31/07
H-02D	·	Type D1 Catch Basin	05/31/07
H-02E	·	Catch Basin Sections	05/31/07
H-03	·	Type A, B and C Storm Drain Manhole	05/31/07
H-04	·	Type D Storm Drain Manhole	05/31/07
H-05	·	Typical Reinforcing Details for Drainage Structures	05/31/07
H-06	·	Typical Reinforcing Details for Drainage Structures	05/31/07
H-07	·	Catch Basin and Manhole Castings	05/31/07
H-08	·	Type 1A-9 and 1A-9P Grated Drop Inlet	05/31/07
H-09	·	Type 2A-9 and 2A-9P Grated Drop Inlet	05/31/07
H-10	·	Type A-9 and A-9P Steel Frames	05/31/07
H-11	·	Type A-9 and A-9P Steel Grates	05/31/07
H-12	·	Type 61614P and 1211214P Grated Drop Inlet	05/31/07
H-13	·	Type 61616P and 1211216P Grated Drop Inlet	05/31/07
H-14	·	Type 61214P Grated Drop Inlet	05/31/07
H-15	·	Type 1211214, 1211214P, 1211216, 1211216P Steel Frames and Grates	05/31/07
H-16	·	Type 61614, 61614P, 61616, 61616P Steel Frames and Grates	05/31/07
H-17	·	Type 61214 Steel Frames and Grates	05/31/07
H-18	·	Type 61214P Steel Grates	05/31/07
H-19	·	Type 61614B Steel Frame Grates	05/31/07
H-20	·	Cement Rubble Masonry Structures	05/31/07
H-21	·	Concrete and Cement Rubble Masonry Structures	05/31/07
H-22	·	Inlet/Outlet Structure	05/31/07
H-23	·	Inlet/Outlet Structure	05/31/07

H-24	·	Flared End Section for Culverts	05/31/07
H-25	·	Flared End Section for Culverts	05/31/07
H-26	·	Concrete Spillway Inlet	05/31/07
H-27	·	Cap Coupling Details Standard Joint	05/31/07
H-28	·	Reinforced Concrete Collar and Jacket	05/31/07
H-29	·	Underdrain Cleanout Steel Frame and Cover	05/31/07
H-30	·	Underdrain Connection To Drainage Structure	05/31/07

L-01	·	Tree Planting	08/16/06
L-02	·	Tree Planting	08/16/06
L-03	·	Tree Transplanting	08/16/06
L-04	·	Palm Planting	08/16/06
L-05	·	Shrub Planting	08/16/06
L-06	·	Landscape Details	08/16/06
L-07	·	Landscape Details	08/16/06
L-08	·	Landscape Details	08/16/06
L-09	·	Landscape Details	08/16/06
L-10	·	Landscape Details	08/16/06
L-11	·	Planting Notes	08/16/06
L-12	·	Irrigation Details	08/16/06
L-13	·	Irrigation Details	08/16/06
L-14	·	Irrigation Details	08/16/06
L-15	·	Irrigation Details	08/16/06
L-16	·	Irrigation Details	08/16/06
L-17	·	Irrigation Details	08/16/06
L-18	·	Irrigation Details	08/16/06
L-19	·	Irrigation Details	08/16/06
L-20	·	Irrigation Details	08/16/06
L-21	·	Irrigation Details	08/16/06
L-22	·	Irrigation Details	08/16/06
L-23	·	Irrigation Details	08/16/06
L-24	·	Irrigation Notes	08/16/06

TE-01	●	Sign Height and Location	07/11/08
TE-1A	●	Sign Installation	07/11/08
TE-02A	●	Galvanized Flanged Channel Sign Post Mounting	05/31/07
TE-02B	●	Galvanized Flanged Channel Sign Post Mounting	05/31/07
TE-02C	●	Galvanized Flanged Channel Sign Post Mounting	05/31/07
TE-03A	●	Galvanized Square Tube Sign Post Mounting	05/31/07
TE-03B	●	Galvanized Square Tube Sign Post Mounting	05/31/07
TE-04	●	Regulatory Signs	07/11/08
TE-05	·	Warning Signs	07/11/08
TE-06	●	Miscellaneous Signs	07/11/08
TE-07	●	Construction Signs	07/11/08
TE-08	·	Miscellaneous Intersection Signs	07/11/08
TE-09	·	Bike Route Sign and Supplementary Plates	07/11/08
TE-10	·	Interstate Route Marker	07/11/08
TE-11	·	State Route Marker and Auxiliary Markers	07/11/08
TE-12	·	State Route Marker and Border Detail for Guide Signs	07/11/08
TE-12A	·	Route Sign Assemblies	07/11/08
TE-13	●	Street Name Sign on Mast Arm	07/11/08
TE-14	·	Miscellaneous Reflector Markers	07/11/08
TE-15	·	Object Markers	07/11/08
TE-16	·	Mile Posts	07/11/08
TE-17A	·	Cantilever Overhead Sign Elevation and Details	05/31/07
TE-17B	·	Cantilever Sign Frame Detail and Sections	05/31/07

STANDARD PLAN NO.		TITLE	DATE
TE-17C	·	Cantilever Sign Frame Detail	05/31/07
TE-17D	·	Cantilever Sign Frame Sections	05/31/07
TE-17E	·	Cantilever Sign Frame Details	05/31/07
TE-18A	·	Two Post Overhead Sign Frame Elevations	05/31/07
TE-18B	·	Two Post Sign Framing Plan Section	05/31/07
TE-18C	·	Two Post Sign Framing Sections and Details	05/31/07
TE-18D	·	Two Post Sign Frame Details	05/31/07
TE-18E	·	Two Post Sign Frame Details	05/31/07
TE-19A	·	Overhead Sign Framing Schedule	05/31/07
TE-19B	·	Sign Post Drilled Shaft Foundation	05/31/07
TE-19C	·	Spread Footing	05/31/07
TE-19D	·	Sign Frame Foundation Schedule	05/31/07
TE-19D.1	·	Sign Frame Foundation Schedule	05/31/07
TE-19D.2	·	Sign Frame Foundation Schedule	05/31/07
TE-19D.3	·	Sign Frame Foundation Schedule	05/31/07
TE-19D.4	·	Sign Frame Foundation Schedule	05/31/07
TE-19D.5	·	Sign Frame Foundation Schedule	05/31/07
TE-19E	·	Anchorage Details	05/31/07
TE-19F	·	Anchorage Details	05/31/07
TE-19G	·	Miscellaneous Sign Frame Details	05/31/07
TE-19H	·	Luminaire Walkway Support	05/31/07
TE-19J	·	Fixed Message Luminaire Support	05/31/07
TE-19K	·	Miscellaneous Sign Details	05/31/07
TE-19L	·	Miscellaneous Sign Details	05/31/07
TE-19M	·	Miscellaneous Sign Frame Details	05/31/07
TE-20	·	Supports for Ground Mounted Guide Sign	05/31/07
TE-20A	·	Supports for Ground Mounted Guide Sign	05/31/07
TE-20B	·	Supports for Ground Mounted Guide Sign	05/31/07
TE-20C	·	Supports for Ground Mounted Guide Sign	05/31/07
TE-21A	·	Sign Breakaway Mounts	05/31/07
TE-21B	·	Sign Breakaway Mounts	05/31/07
TE-22	·	Laminated Aluminum Sign Panels (Overhead)	07/11/08
TE-23	·	Laminated Aluminum Sign Panels (Ground Mounted)	05/31/07
TE-24		Solid ALuminum Extruded Sign Panel and Accessory Details	05/31/07
TE-25	·	Guide Signs Luminaire Mountings	05/31/07
TE-26	●	Raised Pavement Markers and Striping	07/11/08
TE-27	·	Raised Pavement Markers and Striping	07/11/08

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
NOTE BOOK
No.

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

This work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in Chapter 16-115 Subchapter 1 Definitions of the Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors, and Landscape Architects.")

DATE	REVISION
9/14/11	⚠ REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 2 OF 29 SHEETS

ADD. 2

STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD. 3	29

STANDARD PLAN NO.		TITLE	DATE
TE-28	●	Entrance and Exit Pavement Markings	07/11/08
TE-28A	●	Miscellaneous Pavement Markings	07/11/08
TE-29	·	Pavement Arrows and Symbols	07/11/08
TE-30	·	Pavement Alphabets, Numbers and Symbols	07/11/08
TE-31	·	Pavement Alphabets, Numbers and Symbols	07/11/08
TE-32	●	Type I and II Traffic Signal System Miscellaneous Details	05/31/07
TE-33	●	Type II Traffic Signal System	08/16/06
TE-33A.1	●	Type II Traffic Signal Standard	05/31/07
TE-33A.2	●	Type II Traffic Signal Standard	05/31/07
TE-34	●	Loop Detector Details	07/11/08
TE-35	·	Loop Detectors and Duct Details	07/11/08
TE-36	●	Traffic Signal Details	07/11/08
TE-37	●	Pullbox and Cover Details	07/11/08
TE-37A	●	Type "A" Traffic Pullbox	05/31/07
TE-37B	●	Type "A" Traffic Pullbox Reinforcing	05/31/07
TE-37C	●	Type "B" Traffic Pullbox	05/31/07
TE-37D	●	Type "B" Traffic Pullbox Reinforcing	05/31/07
TE-37E	●	Type "B" Traffic Pullbox Foundation	05/31/07
TE-37F	●	Type "C" Traffic Pullbox	05/31/07
TE-37G	●	Type "C" Traffic Pullbox Reinforcing	05/31/07
TE-37H	●	Type "C" Traffic Pullbox Foundation	05/31/07
TE-37J	●	Traffic Pullbox Cover and Details	05/31/07
TE-38	·	Type III Traffic Signal Standard	05/31/07
TE-38A.1	·	Type III Traffic Signal Standard	05/31/07
TE-38A.2	·	Type III Traffic Signal Standard	05/31/07
TE-39	·	Metal Guardrail Connection to Concrete Barrier	07/11/08
TE-40	·	Concrete Barrier Transition	05/31/07
TE-40A	·	Concrete Barrier Transition Sections	05/31/07
TE-41	·	Guardrail Type 4 (Rigid Barrier)	05/31/07
TE-42	·	Portable Concrete Barrier	05/31/07
TE-43	·	Portable Concrete Barrier	05/31/07
TE-44	·	Guardrail Type 4 Miscellaneous Details	07/11/08
TE-45	●	Barricades	07/11/08
TE-46	·	Delineation and Pavement Markings at Narrow Bridges	05/31/07
TE-47	·	Highway Light Standard	05/31/07

ORIGINAL PLAN
NOTE BOOK
No.
SURVEY PLOTTED BY DATE
DRAWN BY "
TRACED BY "
DESIGNED BY "
QUANTITIES BY "
CHECKED BY "

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
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DATE	REVISION
9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 3 OF 29 SHEETS

ADD. 3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD. 4	29

GENERAL NOTES

1. The scope of work for this project consists of a new traffic signal system and construct roadway improvements at the intersection.

2. The Contractor is reminded of the requirements of Subsection 108.01 - Subletting of Contract, which requires him to perform work to not less than 30 percent of the total contract cost less deductible items. Non-compliance with this Subsection may be grounds for rejection of bid.

3. The Contractor's attention is directed to the following sections of the Special Provisions: Subsection 107.06 - Contractor Duty Regarding Public Convenience; Subsection 107.12 - Protection of Persons and Property: and Section 645 - Work Zone Traffic Control.

4. At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic.

5. The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data, but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall tone for the exact locations and depths of all underground facilities, either shown on or omitted from the plans, in areas where work, such as the placement of sign posts, traffic signal conduits, etc. may affect these properties. Toning shall be considered incidental to the various contract items and will not be paid for separately. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.

6. The Contractor shall notify the Oahu Transit Services, Inc., Road Supervision Office, 811 Middle Street, Honolulu, Hawaii 96819 (Telephone Number 848-4571), two (2) weeks prior to construction, informing them of location, scope of work, and dates of lane(s) closure(s) and name of highway. (For Oahu projects only. For other islands, check with your local bus company.)

7. The Contractor shall notify the Engineer in writing, two (2) weeks prior to starting construction operations.

8. The Contractor shall obtain a Community Noise permit from the State Department of Health, Noise and Radiation Branch, 591 Ala Moana Boulevard, Room 136, Honolulu, Hawaii 96813-2498; Telephone No. 586-4700. This shall be considered incidental to various contract items and will not be paid for separately.

9. The Contractor shall indemnify and be solely responsible for the protection of adjacent properties, utilities and existing structures from damages due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer.

10. Existing drainage system will be functional at all times during construction. The Contractor shall furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to various contract items and will not be paid for separately.

11. Earth swale shall be graded to drain. This work shall be considered incidental to various contract items.

12. Smooth riding connections shall be constructed at all limits of project, including the beginning and end of project, connecting approaches, side streets, walkways and driveways as shown on the plans and/or as directed by the Engineer. This work shall be considered incidental to various contract items and will not be paid for separately.

13. The Contractor shall clean and remove any accumulation of aggregates along the roadside within 10 feet of the edge of pavement. This work shall be considered incidental to various contract items and will not be paid for separately.

14. Removal and disposal of existing curb and gutter, curb, sidewalk and asphalt concrete pavement, curb, sidewalk and any debris shall be considered incidental to their respective bid items.

15. All saw cutting work shall be considered incidental to various contract items and will not be paid for separately.

16. Prior to placement of new aggregate subbase course, the existing subbase shall be compacted to a relative compaction greater than or equal to 95%.

17. The top of the Plant Mix Glassphalt Concrete Base Course prior to placement of the new A.C. Pavement, Mix No. IV shall comply with the ten-foot straight edge requirement. The variation of the surface from a straight edge with two contacts with the surface, shall not exceed 3/16."

18. Concrete sidewalk shall be reinforced with 6x6 W1.4xW1.4 welded wire fabric.

19. Dressing of sidewalk shall consist of clearing and grubbing, grading, reshaping and compacting with suitable material the area adjacent to the improvement as shown on the plans and/or as directed by the Engineer and shall be considered incidental to Sidewalk.

20. All curbing angle points within the curb ramps shall be rounded with R=6."

21. New Shoulder/Sidewalk adjacent to the New Bike Lane shall be paid for under their respective bid items. New Asphalt Concrete Sidewalk shall be be paid for under Item No. 635.0100 - Hot Mix Asphalt Sidewalks.

22. All guardrail post shall be 8.0 feet long. (Normal length is 6.0 feet.

23. The Contractor shall provide and maintain for access to and from all existing driveways, sidewalks and ADA access routes complying with ADAAG Section 4.3, and side streets and cross streets at all times. This work shall be considered incidental to various contract items and will not be paid for separately.

24. The Contractor shall provide and maintain a temporary pedestrian-safe and easily accessible route or detour with barricades in or near the work zone. This temporary route or detour shall be paved at least an inch of Asphalt Concrete Pavement, Mix No V or steel and/or wood planks and shall be American With Disabilities Act (ADA) compliant (This is only applicable if existing surface is dirt and/or if existing surface is non-ADA compliant.) This work shall be incidental to various contract items and will not be paid for separately.

25. Provide smooth transition where new sidewalk construction meets the existing grade or sidewalk. Transition shall not be steeper than 2% cross and longitudinal slopes and not less 6.0 feet long or as specified on the plans. This work shall be considered incidental to various contract items and will not be paid for separately.

26. The Contractor shall remove and dispose of all existing raised pavement markers, thermoplastic line markings, traffic tapes, and epoxy adhesives prior to the overlaying of Asphalt Concrete. This work shall be considered incidental to various contract items and will not be paid for separately.

27. No material and/or equipment shall be stockpiled or otherwise stored within the highway right-of-way except at locations designed in writing and approved by the Engineer.

28. The Contractor shall notify (As Current) of Hawaiian Telcom at Telephone No. 733-5600, 10 working days prior to excavation of existing sidewalk and curb ramp in the vicinity of the pay phone on Name of Highway. The Contractor shall again notify (As Current) 10 working days prior to pouring of concrete in order for the utility company to install their relocated ductline.

DATE	REVISION
9/12/11	Revised Title Block Federal Aid Project Number

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES & LEGEND

LILIHA STREET

Traffic Signal at Kukui Street

Federal Aid Project No. HSIP-7413(2)

Date: December 2010

SHEET No. 1 OF 2 SHEETS

ADD. 4

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD. 5S-1	34

WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

1. See Section 209 - Temporary Water Pollution, Dust, and Erosion Control. Section 209 describes but is not limited to: submittal requirements; scheduling of a water pollution and erosion control conference with the Engineer; construction requirements; method of measurement; and basis of payment.

2. Effective October 1, 2008, follow the guidelines in the "State of Hawaii, Department of Transportation, Highways Division, Construction Best Management Practices Field Manual", dated January 2008 in developing, installing and maintaining the Best Management Practices (BMP) for the project.

3. Follow the guidelines in the Honolulu's City & County "Rules Relating to Soil Erosion Standards and Guidelines" along with applicable Soil Erosion Guidelines for projects on Maui, Molokai, Kauai, and Hawaii.

4. The Engineer may assess liquidated damages of up to $27,500 for non-compliance of each BMP requirement and each requirement stated in Section 209, for every day of non-compliance. There is no maximum limit on the amount assessed per day.

5. The Engineer will deduct the cost from the progress payment for all citations received by the Department for non-compliance, or the Contractor shall reimburse the State for the full amount of the outstanding cost incurred by the State.

6. For projects that require an NPDES Permit from the Department of Health, install a rain gage prior to any field work including the installation of any site-specific best management practices. The rain gage shall have a tolerance of at least 0.05 inches of rainfall, and have an opening of at least one-inch in diameter. Install the rain gage on the project site in an area that will not deter rainfall from entering the gage opening. The rain gage installation shall be stable and plumbed. Do not begin field work until the rain gage is installed and site-specific best management practices are in-place.

B. WASTE DISPOSAL:

1. Waste Materials

Collect and store all waste materials in a securely lidded metal dumpster. The dumpster shall meet all local and State solid waste management regulations. Deposit all trash and construction debris from the site in the dumpster. Empty the dumpster a minimum of twice per week or as often as is deemed necessary. Do not bury construction waste materials onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Post notices stating these practices in the office trailer and the Contractor shall be responsible for seeing that these procedures are followed.

2. Hazardous Waste

Dispose all hazardous waste materials in the manner specified by local or State regulations and by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.

3. Sanitary Waste

Collect all sanitary waste from the portable units a minimum of once per week, or as required.

C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

1. Inspect all control measures at least once each week and within 24 hours of any rainfall event of 0.5 inches or greater within a 24 hour period.

2. Maintain all measures in good working order. If repair is necessary, it shall be initiated within 24 hours after the inspection.

3. Remove built-up sediment from silt fence when it has reached one-third the height of the fence.

4. Inspect silt screen or fence for depth of sediment, tears, to verify that the fabric is securely attached to the fence posts or concrete slab and to verify that the fence posts are firmly in the ground. Inspect and verify the bottom of the silt screen is buried a minimum of 6 inches below the existing ground.

5. Inspect temporary and permanent seeding and planting for bare spots, washouts and healthy growth.

6. Make a maintenance inspection report promptly after each inspection. Submit a copy to the Engineer no later than one week from the date of the inspection.

7. Provide a stabilized construction entrance to reduce vehicle tracking of sediments. Include stabilized construction entrance in the Water Pollution, Dust, and Erosion Control submittals. Minimum length should be 50 feet. Minimum width should be 30 feet. Minimum depth should be 6 inches and underlain with geo-textile fabric. Clean the paved street adjacent to the site entrance daily or as required to remove any excess mud, cold planed materials, dirt or rock tracked from the site. Cover dump trucks hauling material from the construction site with a tarpaulin.

8. Include designated Concrete Washout Area(s) in the Water Pollution, Dust, and Erosion Control submittals.

9. Submit the name of a specific individual designated responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.

10. Personnel selected for the inspection and maintenance responsibilities shall receive training from the Contractor. They shall be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.

11. Contain, remove, and dispose slurry generated from saw cutting of pavement in accordance with approved BMP practices. Payment for confinement, removal, and disposal of slurry shall be considered incidental to the various contract items.

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

1. Materials Pollution Prevention Plan

a. Applicable materials or substances listed below are expected to be present onsite during construction. Other materials and substances not listed below shall be added to the inventory.

Concrete	Fertilizers
Detergents	Petroleum Based Products
Paints (enamel and latex)	Cleaning Solvents
Metal Studs	Wood
Tar	Masonry Block

b. Use Material Management Practices to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. Make an effort to store only enough product as is required to do the job.

c. Store all materials stored onsite in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.

d. Keep products in their original containers with the original manufacturer's label.

e. Do not mix substances with one another unless recommended by the manufacturer.

f. Whenever possible, use a product up completely before disposing of the container.

g. Follow manufacturer's recommendations for proper use and disposal.

h. Conduct a daily inspection to ensure proper use and disposal of materials onsite.

2. Hazardous Material Pollution Prevention Plan

a. Keep products in original containers unless they are not resealable.

b. Retain original labels and material safety data sheets (MSDS).

c. Dispose of surplus products according to manufacturers' instructions and local and State regulations.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 9/23/08
	DRAWN BY JT	
NOTE BOOK	TRACED BY	
	DESIGNED BY JT	
	QUANTITIES BY	
No. Jimpson	CHECKED BY	

DATE	REVISION
9/12/11	Added Supplemental Sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

LILIHA STREET
Traffic Signal at Kukui Street
Federal Aid Project No. HSIP-7413(2)

Scale: None Date: December 2010

SHEET No. 1 OF 2 SHEETS

ADD. 5S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD. 5S-2	29

WATER POLLUTION AND EROSION CONTROL NOTES: -Cont.

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES: -Cont.

3. Onsite and Offsite Product Specific Plan

The following product specific practices shall be followed onsite:

a. Petroleum Based Products:
Monitor all onsite vehicles for leaks and perform regular preventive maintenance to reduce the chance of leakage. Store petroleum products in tightly sealed containers which are clearly labeled. Apply asphalt substances used onsite according to the manufacturer's recommendation.

b. Fertilizers:
Apply fertilizers used only in the minimum amounts recommended by the manufacturer. Once applied, work fertilizer into the soil to limit exposure to storm water. Storage shall be in a covered shed. Transfer the contents of any partially used bags of fertilizer to a sealable plastic bin to avoid spills.

c. Paints:
Seal and store all containers when not required for use. Do not discharge excess paint to the highway drainage system. Dispose properly according to manufacturers' instructions or State and local regulations.

d. Concrete Trucks:
Wash out or discharge concrete truck drum wash water only at a designated site. Do not discharge water in the highway drainage system or waters of the United States. Contact Drinking Water Branch, Department of Health at 586-4258 to receive permission to designate a disposal site. Clean disposal site as required or as requested by the Owner's representative.

4. Spill Control Plan

a. Post a spill prevention plan to include measures to prevent and clean up each spill.

b. The Contractor shall be the spill prevention and cleanup coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. Post the names of responsible spill personnel in the material storage area and in the office trailer onsite.

c. Clearly post manufacturers' recommended methods for spill cleanup. Make site personnel aware of the procedures and the location of the information and cleanup supplies.

d. Keep materials and equipment necessary for spill cleanup in the material storage area onsite.

e. Clean up all spills immediately after discovery.

f. Keep the spill area well ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.

g. Report spills of toxic hazardous material to the appropriate State or local government agency, regardless of the size.

E. PERMIT REQUIREMENTS:

1. If a National Pollutant Discharge Elimination System (NPDES) Permit is required for Construction Activities of one acre or more, submit to the Engineer six sets of the Water Pollution and Erosion Control Submittals as detailed in Subsection 209.03 of the specifications.

2. If an NPDES Permit for Construction Dewatering is required, the Contractor shall be responsible to obtain the Permit from the Department of Health, Clean Water Branch.

3. Comply with all applicable State and Federal Permit conditions. Permits may include but are not limited to the following:

a. NPDES Permit for Construction Activities
b. NPDES Permit for Construction Dewatering

ORIGINAL PLAN
NOTE BOOK td2.may 3llhwpecn2
No.
SURVEY PLOTTED BY ____ DATE 9/03/08
DRAWN BY X ____ "
TRACED BY ____ "
DESIGNED BY X ____ "
QUANTITIES BY ____ "
CHECKED BY ____ "

DATE	REVISION
9/12/11	Added Supplemental Sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

LILIHA STREET
Traffic Signal at Kukui Street
Federal Aid Project No. HSIP-7413(2)

Scale: None Date: December 2010

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD. 5	29

LEGEND

Symbol	Description
	Reconstruction Areas
	Leveling Areas
	Cold Planing Areas
	Resurfacing Limits
—e—	Existing Electrical Line
—E—	New Electrical Line
jp	Existing Joint Pole
pp	Existing Power Pole
emh	Existing Electric Manhole
EMH	Adjusted Elec. MH Frame/Cover
EMH	New Electric Manhole
—t—	Existing Telephone Line
—T—	New Telephone Line
tp	Existing Telephone Pole
tmh	Existing Telephone Manhole
TMH	Adjusted Tele. MH Frame/Cover
TMH	New Telephone Manhole
—sc—	Existing Signal Corps Line
—SC—	New Signal Corps Line
—tv—	Existing TV Cable
—TV—	New TV Cable
—s.i.c.—	Existing Sandwich Isles Communication Line
—w—12—	Existing 12" Water Line
—W—12—	New 12" Water Line
wmh	Existing Water Manhole
WMH	Adjusted Water MH Frame/Cover
WMH	New Water Manhole
av	Existing Water Air Valve
AV	Adjusted Water Air Valve
AV	New Water Air Valve
wv	Existing Water Valve Box
WV	Adjusted Water Valve Box
WV	New Water Valve Box
wm	Existing Water Meter
WM	Adjusted Water Meter
WM	New Water Meter
fh	Existing Fire Hydrant
FH	New Fire Hydrant
—s—12—	Existing Sewer Line
—S—12—	New 12" Sewer Line
smh	Existing Sewer Manhole
SMH	Adjusted Sewer MH Frame/Cover
SMH	New Sewer Manhole
—g—6—	Existing 6" Gas Line
—G—6—	New 6" Gas Line
gv	Existing Gas Valve Box
GV	Adjusted Gas Valve Box
GV	New Gas Valve Box
gmh	Existing Gas Manhole
GMH	Adjusted Gas MH Frame/Cover
GMH	New Gas Manhole
mon.	Existing Monument
MON.	Adjusted Monument
MON.	New Monument
---d--24---	Existing 24" Drain Line
24" RCP	New 24 " RCP Drain Line
sdmh	Existing Storm Drain Manhole
SDMH	Adjusted Storm Drain MH Frame/Cover
SDMH	New Storm Drain Manhole
gdi	Existing Grated Drop Inlet
cb	Existing Catch Basin
sign	Existing Traffic Sign
hl	Existing Highway Lighting Standard
hlpb	Existing Highway Lighting Pullbox
tsp	Existing Traffic Signal Pole
TSP	New Traffic Signal Pole
tspb	Existing Traffic Signal Pullbox
TSPB	Adjusted Traffic Signal Pullbox
TSPB	New Traffic Signal Pullbox
	Existing Metal Guardrail
	New Metal Guardrail

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

DATE	REVISION
9/12/11	Revised Title Block Federal Aid Project Number

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES & LEGEND

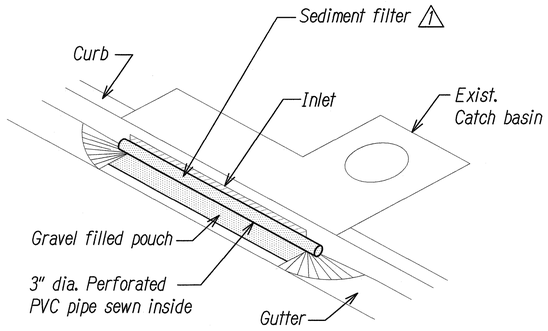
LILIHA STREET
Traffic Signal at Kukui Street
Federal Aid Project No. HSIP-7413(2)

Date: December 2010

SHEET No. 2 OF 2 SHEETS

ADD. 5

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD. 6	29

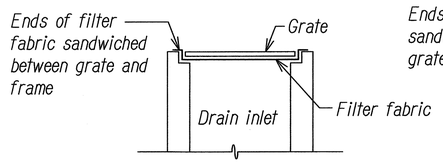


NOTES:

1. The Contractor shall use best professional judgement (BPJ) to establish when inlet filters should be removed during times of above normal rainfall events to avoid threats to public health and/or safety. The contractor shall use BPJ to establish when inlet filters should be replaced once the event has passed.
2. To be installed at all existing catch basins adjacent and downstream of work areas.
3. See sht. no. 17 & 18 for locations.

SEDIMENT CONTROL FILTER AT CATCH BASIN

NOT TO SCALE

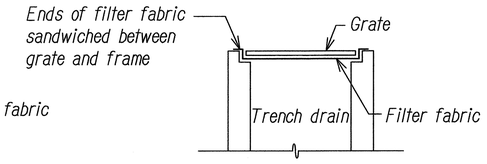


NOTES:

1. Filter fabric shall be 15 mil (min.) "Envirofence #10800" by Nicolon Corp. or approved equal.
2. Contractor shall check the condition of the filter at the beginning and ending of each work day and repair/ clean as necessary.
3. The contractor shall remove inlet filters during times of above normal rainfall events and replace them when the event has passed.
4. To be installed at all existing drain inlets adjacent and downstream of work areas.

TEMPORARY SEDIMENT BARRIER AT DRAIN INLET

NOT TO SCALE



NOTES:

1. Filter fabric shall be 15 mil (min.) "Envirofence #10800" by Nicolon Corp. or approved equal.
2. Contractor shall check the condition of the filter at the beginning and ending of each work day and repair/ clean as necessary.
3. The contractor shall remove inlet filters during times of above normal rainfall events and replace them when the event has passed.
4. To be installed at all existing trench drains adjacent and downstream of work areas.

TEMPORARY SEDIMENT BARRIER AT TRENCH DRAIN

NOT TO SCALE

ENVIRONMENTAL PROTECTION NOTES

1. The contractor, at his own expense, shall provide effective measures for the control of fugitive dust emissions from the project and surrounding areas caused by his operations. These measures shall meet the requirements of State Administrative Rules, Department of Health, Air Pollution Control (11-60.1).
2. All grading operations shall be performed in conformance with the applicable provisions of the grading ordinance to prevent Violation of The State Administrative Rules, Department of Health, Water Pollution Control and Water Quality Standards (11-54, 11-55) due to erosion and run off to state waters.
3. Grub material, demolition wastes, and construction wastes shall be disposed of at an authorized site having a Department of Health Solid Waste Management permit. Open burning is prohibited.
4. All excess material shall be removed from the project site.

TEMPORARY DUST CONTROL MEASURES

1. The graded or project site that is cleared of vegetation shall be kept damp for seven (7) days a week. At the end of each day, the site shall be sufficiently dampened so that the site will remain moistened during the night.
2. The contractor shall conduct his operations so that excavation, embankment, and imported material shall be dampened to prevent dust problems.

TEMPORARY EROSION CONTROL MEASURES

1. Temporary vegetative cover shall be planted or fibermulch applied as soon as final grades are achieved, or if final grading of the site will be suspended for more than 21 calendar days.
2. Temporary vegetative cover shall consist of 40 lbs, common rye grass seed per acre, 400 lbs, per acre 10-10-10 or equivalent fertilizer worked into the soil concurrently with all plantings. planting and maintenance of grass shall conform to the "Hawaii Standard Specifications for Road and Bridge Construction", 2005.

PERMANENT EROSION CONTROL MEASURES

1. The contractor shall grass the entire project site, except paved and concrete areas, with specified grassing. The grass shall be planted, fertilized, and maintained in accordance with the "Hawaii Standard Specifications for Road and Bridge Construction", 2005.
2. The contractor shall grass all exposed areas as soon as final grades are achieved.

EROSION CONTROL/BEST MANAGEMENT PRACTICES NOTES

1. Erosion control measures to be installed prior to start of construction and be maintained until completion of all construction activities.
2. The final lift of each day's work shall be compacted to prevent erosion of fill material.
3. Catch basin and drain inlet filters shall remain until completion of construction work. Contractor shall periodically inspect catch basin and inlet filters, especially during heavy rainfall, to ensure drainage through filter material is maintained.
4. Good housekeeping shall be utilized to ensure protection of roadways from mud, dirt, and debris.
5. At the end of grading operations and at the completion of project, contractor shall inspect all catch basin, drain inlet and drain manhole surrounding the project site. Any accumulated sediment and debris found in the storm drain structures shall be removed. Please note that flushing into the drain structures are prohibited.
6. The Contractor shall obtain permits and/or licenses for the location of the equipment staging/storage area and provide a copy to the Engineer.

9/14/11	⚠ REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER; REV. SED. DET.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TEMPORARY WATER POLLUTION, DUST AND EROSION CONTROL

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.

EXP. 4/30/12

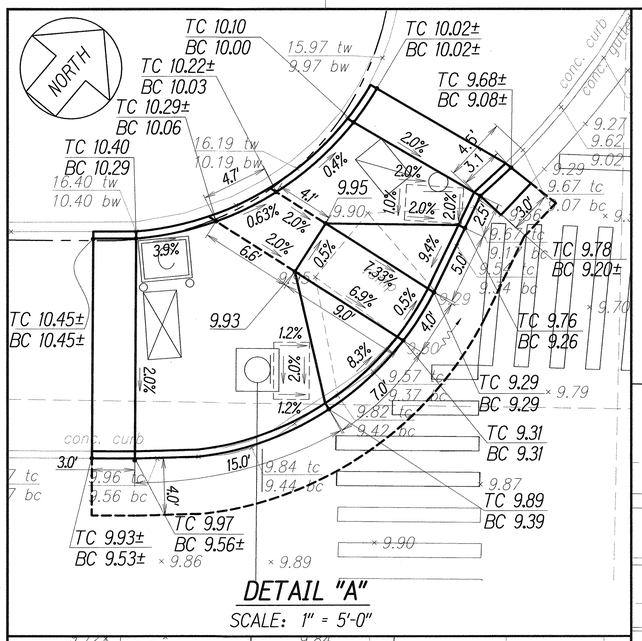
This work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in Chapter 16-115 Subchapter 1 Definitions of the Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors, and Landscape Architects.")

SHEET No. 6 OF 29 SHEETS

ADD. 6

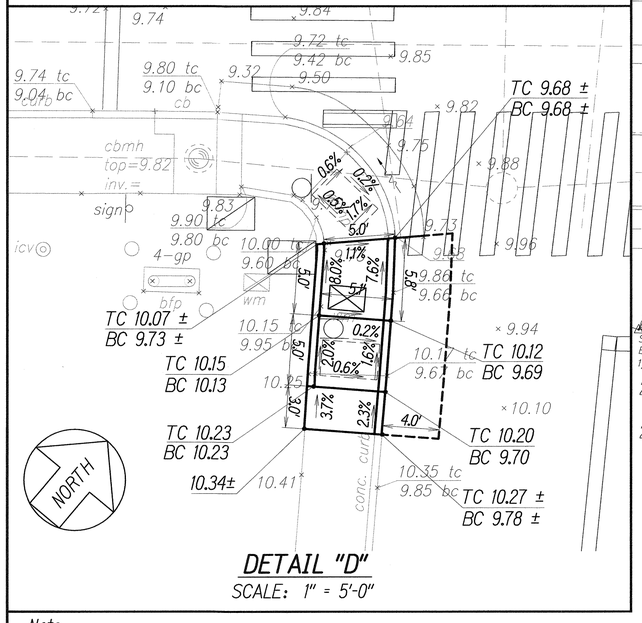
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD. 7	29



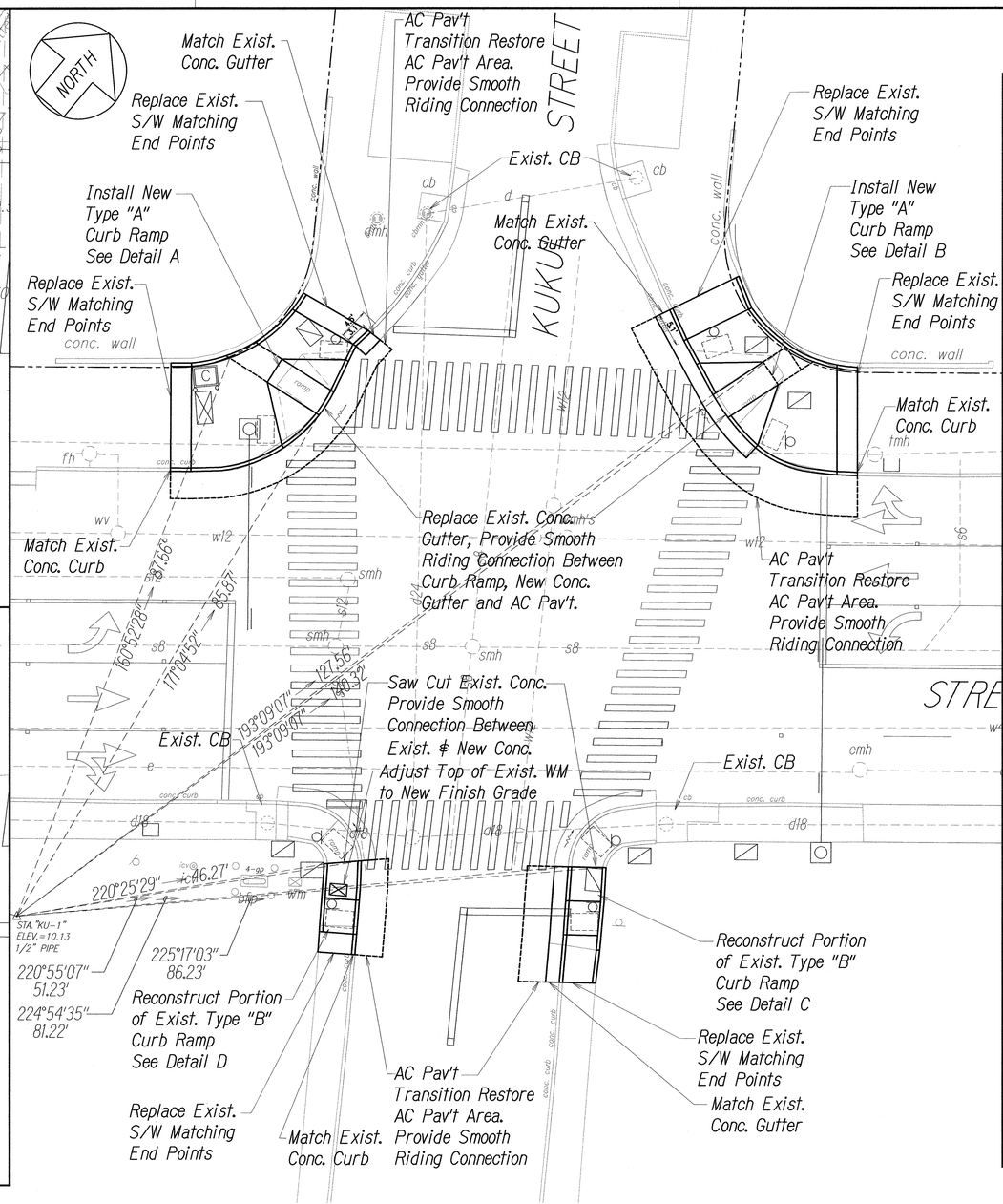
DETAIL "A"

SCALE: 1" = 5'-0"



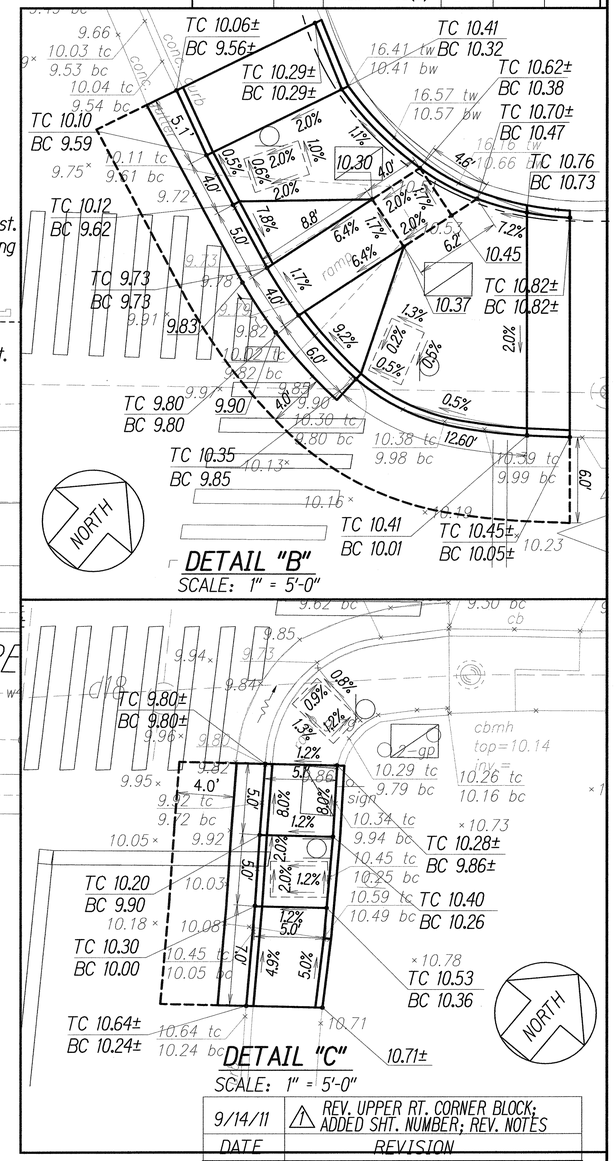
DETAIL "D"

SCALE: 1" = 5'-0"



CURB RAMP PLAN
LILIHA STREET AND KUKUI STREET

SCALE: 1" = 10'



DETAIL "B"

SCALE: 1" = 5'-0"

DETAIL "C"

SCALE: 1" = 5'-0"

Note:

1. See sheets 9 to 11 & 20 for curb ramp and miscellaneous details. ⚠
2. For ADA curb ramp compliance, the maximum curb ramp/transition slopes shown on the curb ramp typical details shall govern over the curb ramp calculated slopes shown on the plans. The construction tolerances for ADA curb ramp sloped provided in the SP section for curb ramps, will be applied, as applicable, to the maximum slope requirements reflected on this project's curb ramp typical detail(s).
3. Add tactile pad on all curb ramps. See sheet 10. ⚠
4. Costs for new concrete sidewalk shall be considered incidental to the curb ramp line item.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY	

DATE	REVISION
9/14/11	⚠ REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER; REV. NOTES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP PLAN

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
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EXP. 4/30/12

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SHEET No. 7 OF 29 SHEETS

ADD. 7

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD. 8	29

CURB RAMP NOTES

1. These typical details are intended as curb ramp guidelines for design and construction.
2. A 2% maximum cross slope shall be maintained in the direction of pedestrian traffic.
3. Subject to field conditions, the Engineer shall determine the final location of curb ramps.
4. All pullboxes shall be installed away from the curb ramp and within the sidewalk/unpaved area to the maximum extent feasible.
5. Where necessary, existing pullboxes, handholes, manholes, etc. shall be adjusted to match curb ramp grade. Adjustments shall not be paid for separately but shall be considered incidental to the various curb ramp items unless indicated otherwise.
6. Transitions from ramps to gutters and roadways shall be flush.
7. Curb ramps and sidewalks shall be constructed to eliminate ponding to the maximum extent feasible.
8. The pedestrian push button shall meet operational and reach requirements of the American with Disabilities Act Accessibility Guidelines (ADAAG):
   a. Forward Reach. The maximum height for forward reach shall be 48".
   b. Side Reach. The maximum height for side reach shall be 54".
   c. Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lb.
9. The maximum slopes of adjoining gutters or road surface immediately fronting the curb ramp shall not exceed 5% for Type A and D ramps and 8.33% for Type B, C, and E ramps. The counterslope may be exceeded when the change of grade does not exceed 13% (11% preferred) over a distance of 2 ft. Exceeding the 13% (11% preferred) change in grade will cause a person in a wheelchair to tip forward and/or fall backward.
10. There shall be a 30"x48" level ground surface (2% max. cross slope, both directions) for a forward or side approach, as appropriate, to a pedestrian push button.
11. Construction joints are required to join curb ramps with sidewalks.
12. Unless otherwise noted, new gutters are required as shown.
13. All curb ramps shall be reinforced with 6x6 W1.4/W1.4 welded wire fabric.
14. Surface of sidewalks and curb ramps shall be firm, stable, and slip-resistant. This includes the surfaces of pullboxes, valve covers, manhole covers, etc.
15. Bed course material is required for curb ramps, sidewalks, and gutters.
16. All sidewalks shall provide a minimum clear width of 3'-0" (excluding curb) for pedestrian circulation. If this cannot be met, a minimum 32-inch clear width is allowed for a distance of 24-inches.
17. Passing spaces along new sidewalks with 5' clear width or less shall be provided at a maximum 200' intervals as required by ADA guidelines. The passing area shall be a minimum 5' wide by 5' long as feasible.
18. If possible, install utility poles, fire hydrants, light poles, sign posts, pullboxes, etc. off of sidewalk but within the right-of-way.
19. Objects protruding from utility poles and walls adjacent to the sidewalks (i.e. wall mounted fire hydrants, telephones, meters on poles, etc.) shall be mounted to meet the current American with Disabilities Act Accessibility Guidelines (ADAAG) and will be subject to Engineer's approval.
20. If a curb ramp is not constructed according to the plans, the Contractor shall reconstruct the curb ramp at no cost to the State. Construction tolerance for Portland Cement Concrete shall be based on ¼ inch per 10 ft. (±0.2%). Remedial measures will not be accepted.
21. Additional information is available from:
    a. American with Disabilities Act Accessibility Guidelines (ADAAG), Jan. 1998, as amended through September 2002, The Access Board.
    b. Accessible Rights-of-Way: A Design Guide, Nov. 1999, The Access Board.
    c. Designing Sidewalks and Trails for Access, Part 1, July 1999, FHWA.
    d. Designing Sidewalks and Trails for Access, Part 2, Sept. 2001, FHWA.
22. No pullboxes handholes, manholes, etc. shall be allowed if they contain any openings > ½" and are of potentially slippery surface.
23. Differences at joints, place breaks, asphalt concrete to concrete interface, etc. shall not exceed ¼".

SURVEY PLOTTED BY _____ DATE
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TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

ORIGINAL PLAN
NOTE BOOK _____ No. _____

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

This work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in Chapter 16-115 Subchapter 1 Definitions of the Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors, and Landscape Architects.").

DATE	REVISION
9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL CURB RAMP NOTES

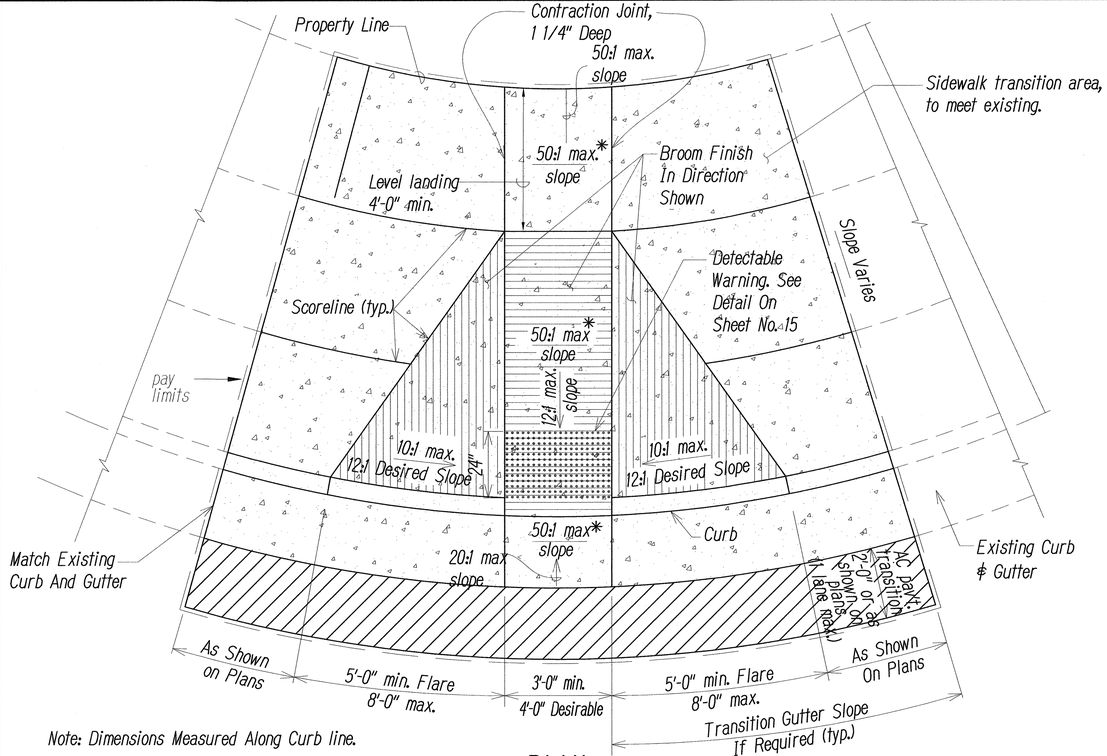
LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 8 OF 29 SHEETS

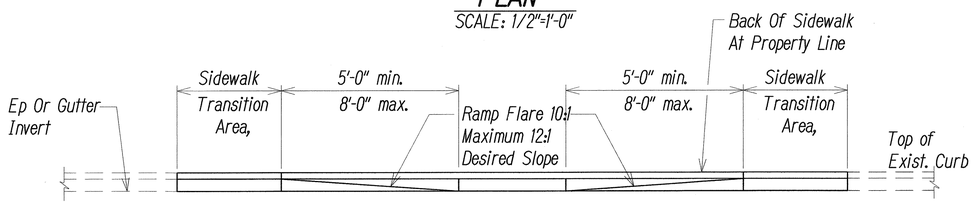
ADD. 8

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD. 9	29

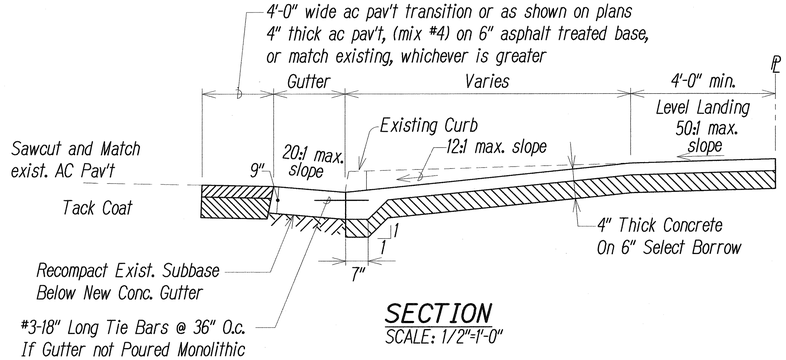


Note: Dimensions Measured Along Curb line.

PLAN
SCALE: 1/2"=1'-0"

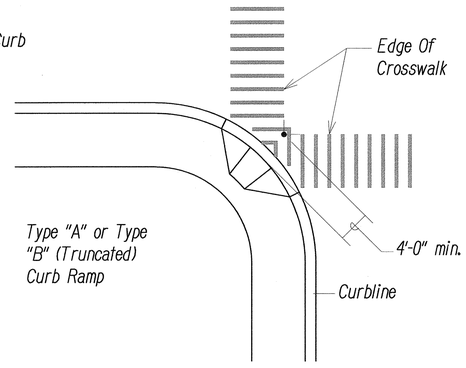


ELEVATION
SCALE: 1/2"=1'-0"



SECTION
SCALE: 1/2"=1'-0"

CURB RAMP - TYPE "A"



TYPICAL DOUBLE CROSSWALK STRIPING AT SINGLE CURB RAMP
NOT TO SCALE

* If roadway slope >2%, conform to roadway slope and technical infeasibility statement

SURVEY PLOTTED BY
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DESIGNED BY
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CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAILS 1

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

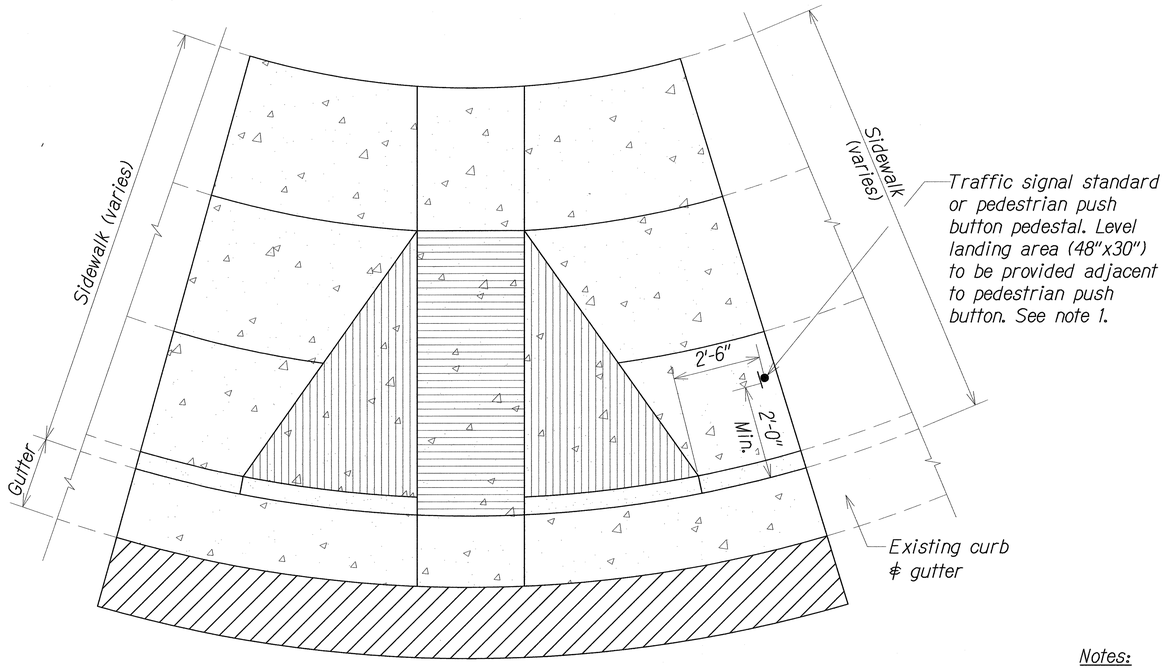
KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

This work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in Chapter 16-115 Subchapter 1 Definitions of the Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors, and Landscape Architects.")

SHEET No. 9 OF 29 SHEETS

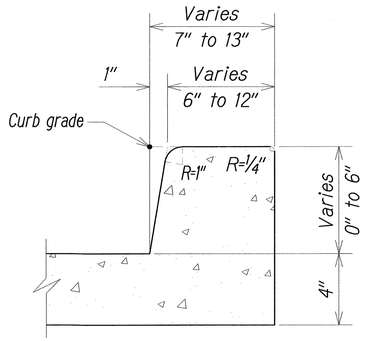
ADD. 9

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.10	29



PLAN - TYPE "A" CURB RAMP W/ TRAFFIC SIGNALS

SCALE: 1/2"=1'-0"

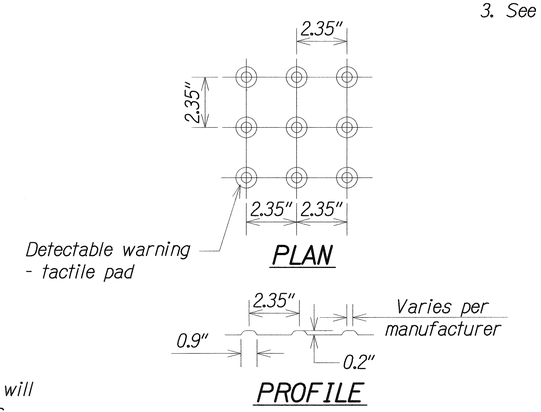


Note:

Modified grade adjustment curb will not be measured separately for payment. Modified grade adjustment curb will be considered incidental to the curb ramp contract items.

DETAIL - MODIFIED GRADE ADJUSTMENT CURB

SCALE: 3"=1'-0"



TYPICAL TRUNCATED DOMES DETAIL

NOT TO SCALE

Notes:

1. Traffic signal pole/pedestrian push button pole, foundation, and appurtenances will be measured and paid for under various traffic signal system contract items.
2. This typical detail sheet reflects modifications to certain elements of curb ramp due to traffic signal installation only. See respective sheets for tactile pad, other curb ramp slopes, dimensions, notes, and pay limits.
3. See traffic signal plans for location of pedestrian push button.

Note:

Detectable warnings shall be 24 inches in the direction of travel and extend the full width of the curb ramp or flush surface. Truncated domes shall have a diameter of 0.9 inch at the bottom, a diameter of 0.4 inch at the top, a height of 0.2 inch and a center to center spacing of 2.35 inches measured along one side of a square arrangement. Domes shall be aligned on a square grid in the predominant direction of travel to permit wheels to roll between the domes. There shall be a minimum of 70 percent contrast in light reflectance between the detectable warning and an adjoining surface, or the detectable warnings shall be "safety yellow". The material used to provide visual contrast shall be an integral part of the detectable warning surface. The detectable warning shall be located so that the edge nearest the curb line or other potential hazard is 6 to 8 inches from the curb line or other potential hazard, such as a reflecting pool edge or the edge of a transit platform.

ORIGINAL PLAN
SURVEY PLOTTED BY ____ DATE
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____
NOTE BOOK ____
No. ____

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

This work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in Chapter 16-115 Subchapter 1 Definitions of the Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors, and Landscape Architects.")

DATE	REVISION
9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAILS-2

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

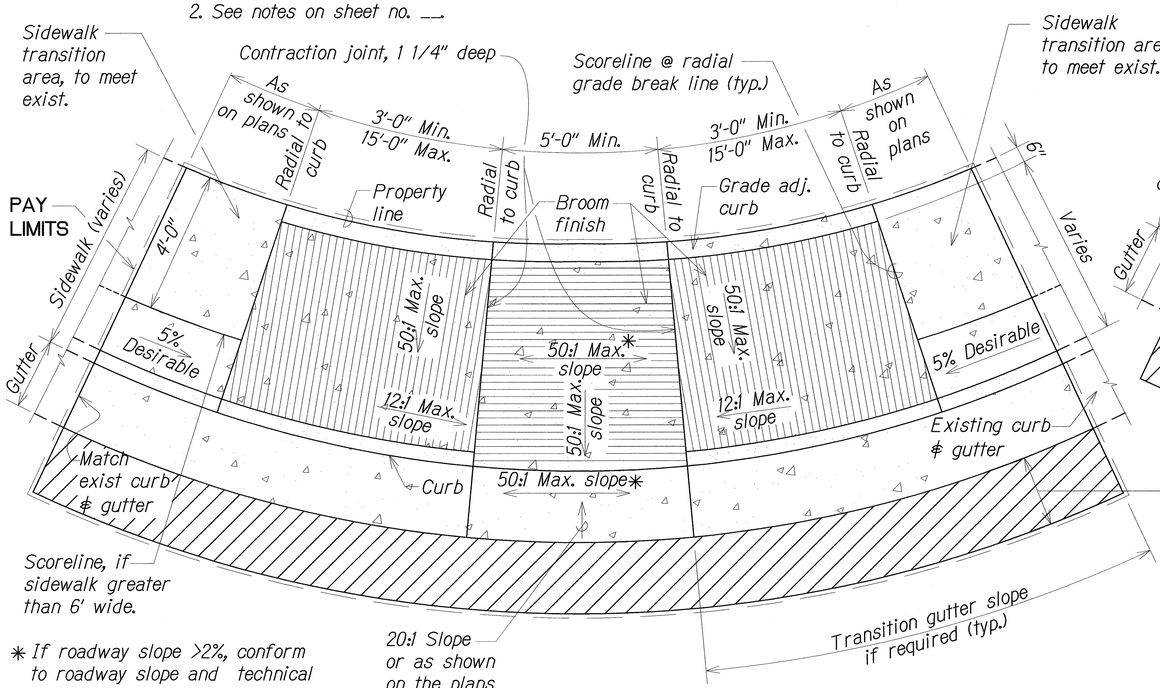
Scale: As Noted Date: July 2011

SHEET No. 10 OF 29 SHEETS

ADD. 10

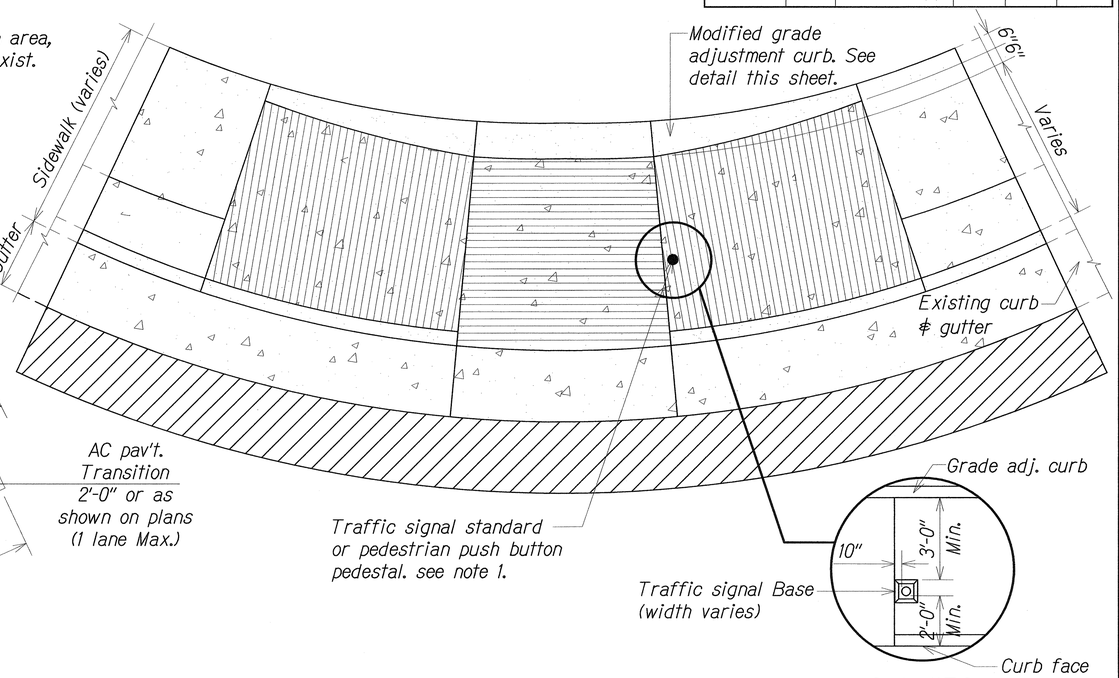
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.11	29

Notes:
1. Dimensions measured along back of sidewalk or at property line.
2. See notes on sheet no. ___.



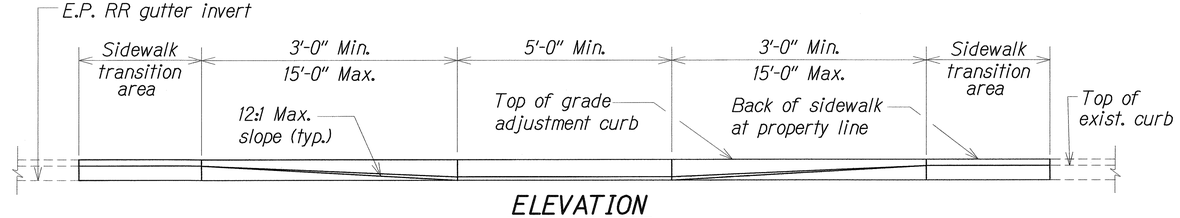
* If roadway slope >2%, conform to roadway slope and technical infeasibility statement.

PLAN
SCALE: 1/2"=1'-0"

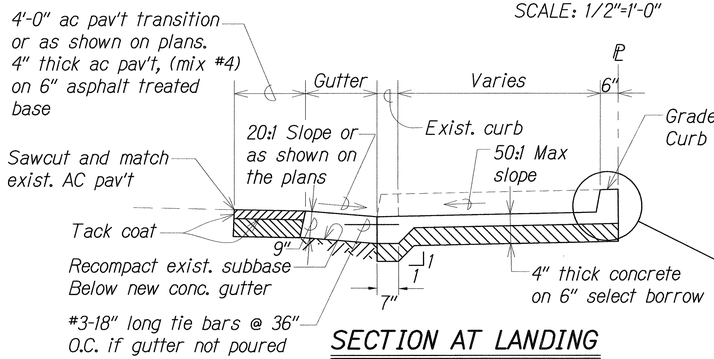


Scale: N.T.S.

PLAN - TYPE "B" CURB RAMP W/ TRAFFIC SIGNALS
SCALE: 1/2"=1'-0"

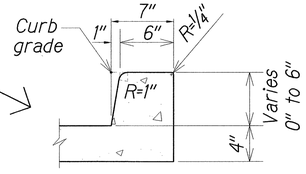


ELEVATION
SCALE: 1/2"=1'-0"

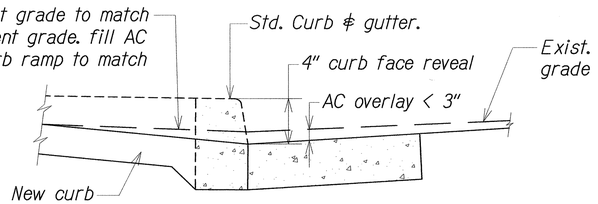


SECTION AT LANDING
SCALE: 1/2"=1'-0"

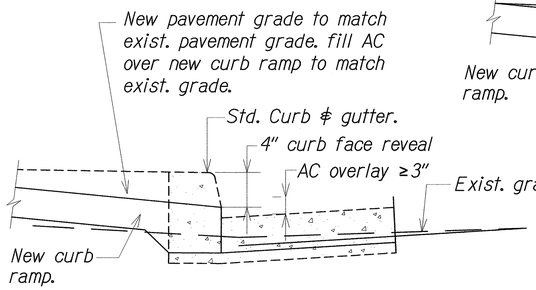
CURB RAMP - TYPE "B"



DETAIL - GRADE ADJUSTMENT CURB
SCALE: 1 1/2"=1'-0"



AC OVERLAY < 3"
NOT TO SCALE



AC OVERLAY ≥ 3"
NOT TO SCALE

DATE	REVISION
9/14/11	⚠ REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAILS 3

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 11 OF 29 SHEETS

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

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ORIGINAL PLAN
NOTE BOOK
No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ADD. 11

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.12	29

STRIPING LEGEND

4" double solid yellow stripes (thermoplastic extrusion) with type "D" raised pavement markers @ 20'-0" O.C.

Crosswalk and stop line (thermoplastic extrusion). All stop lines and crosswalks shall be located as indicated on the signing and striping plans.

NOTES

1. Layout of pavement markings and striping shall be done by the contractor and approved by the engineer prior to any installation work.
2. Existing pavement markings not incorporated in the final traffic pattern shall be removed as directed by the engineer, costs shall be considered incidental to the various pavement marking items..
3. Raised pavement markers shall not be installed within crosswalks.
4. Final locations of all signs shall be approved by the engineer prior to any installation work.
5. Existing signs not shown on these plans shall remain as posted unless otherwise directed by the engineer. Removal and disposal of existing signs and/or posts as designated on these plans shall be incidental to the various signing items.
6. Final locations of all stop lines shall be approved by the engineer prior to installation.
7. All pavement striping shall be as noted on the legend of plans..
8. Existing crosswalk with deteriorated striping, as determined by the engineer, shall be restriped, whether or not indicated on the plans at not cost to the State.
9. Costs of removal and relocation of existing signs shall be considered incidental to various signing and striping pay items.
10. Existing pavement striping, RPM'S, and crosswalks damaged as a result of construction shall be restored by the contractor at no cost to the State, unless the restriping has been called out in these construction plans.
11. Contractor shall verify the locations and dimensions of existing signs, panels supports and framing.
12. All signs shall conform to section 621 of the special provisions and the latest editions and amendments of the following FHWA publications:
    - A. "Manual on Uniform Traffic Control Devices for Streets and Highways " (MUTCD)
    - B. "Standard Highway Signs"
    - C. "Standard Alphabets for Highway Signs"
14. Borders, messages, arrows, symbols and shield shall conform to details as shown on the plans and as specifies in the MUTCD.
15. Sign messages shall be as indicated on the plans.
16. All panels shall be reflectorized in accordance with section 712.20 of the Standard Specifications. Minimum width of panels shall be 2 feet. Abutting edges of panels shall be in only on direction. If vertical abutting edges are used, no horizontal abutting edges shall be allowed and vice versa.
17. Street name signs for on-site streets shall be per Standard details for public works construction

ORIGINAL PLAN
NOTE BOOK ____ No. ____
SURVEY PLOTTED BY ____ DATE ____
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
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EXP. 4/30/12

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DATE	REVISION
9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING NOTES

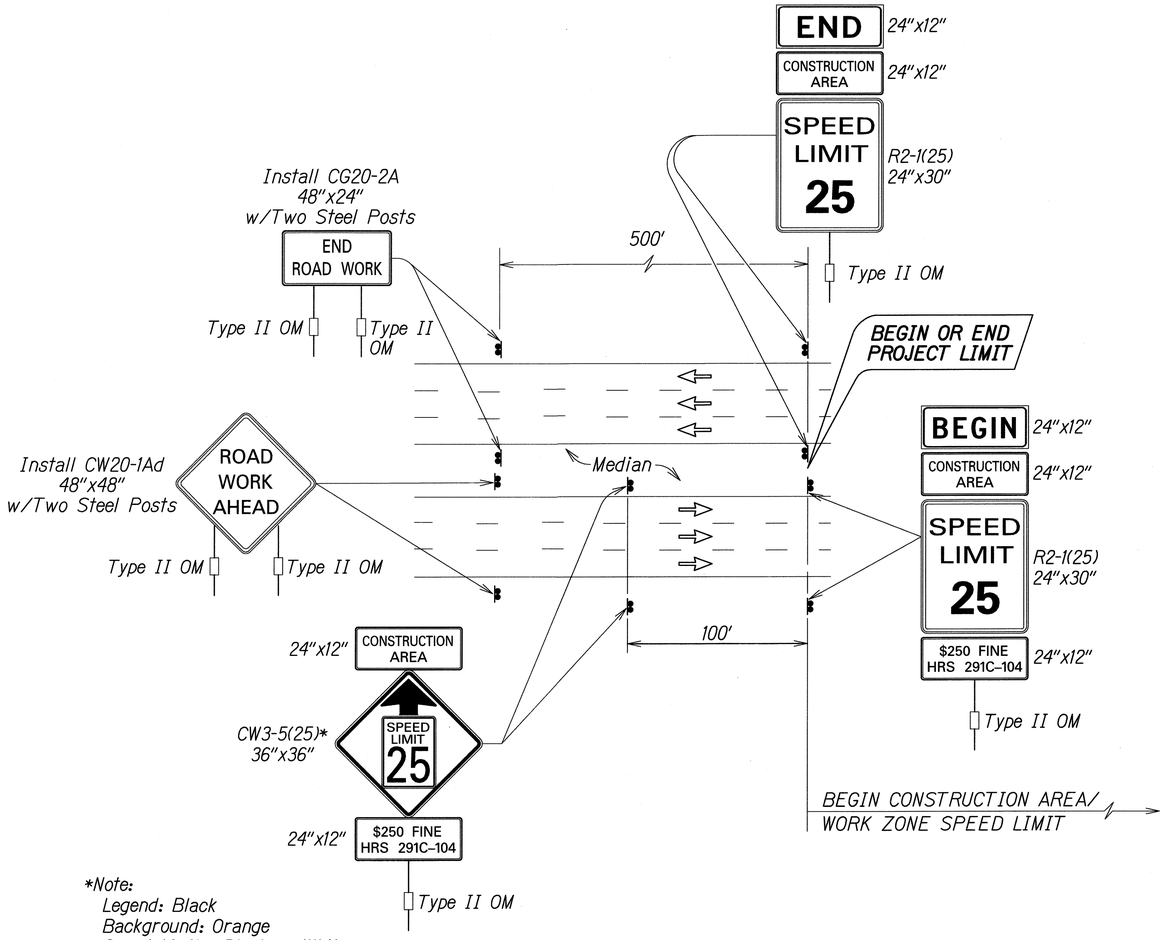
LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 12 OF 29 SHEETS

ADD. 12

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD. 13	29

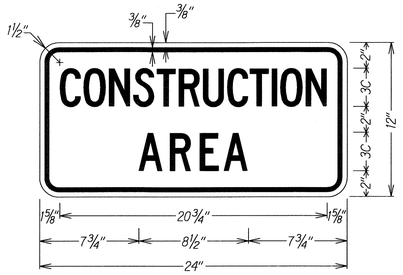


*Note:
Legend: Black
Background: Orange
Speed Limit: Black on White

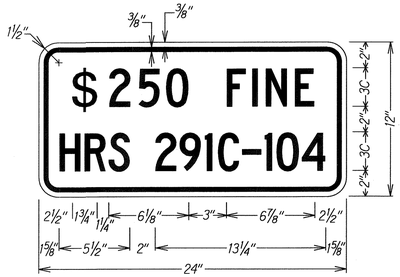
TYPICAL DETAIL FOR CONSTRUCTION SIGNS
ON MULTILANE DIVIDED LOW SPEED HIGHWAY

Work Zone Notes:

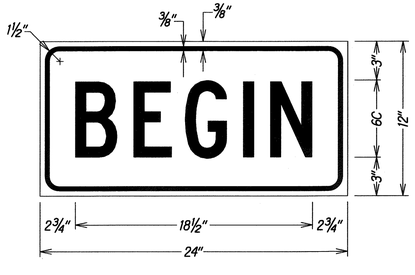
1. This Work Zone Sign Plan is intended for use on long-term stationary work zones/construction phases (3 days or more). All work zones or construction phases less than 3 days duration will use Traffic Control Plans shown in Section 645 of the Special Provisions.
2. All existing regulatory speed limit signs with posts within the work zone/project limits shall be removed and replaced with work zone speed limit sign assemblies (R2-1(25) and CW3-5(25) with "CONSTRUCTION AREA" and "$250 FINE HRS 291C-104" Supplemental Signs).
3. Construction sign assemblies shall be installed on both the approaching and trailing ends of each work zone as shown on this plan.
4. Each construction warning sign shall have a minimum of two (2) Type II OM. Each work zone speed limit assembly shall have a minimum of one (1) Type II OM. Installation of each Type II OM shall be considered incidental to Item No. 645.0100 - Traffic Control.
5. Upon the completion of all physical work or as directed by the Engineer, all construction signs and work zone speed limit assemblies shall be removed. All speed limit signs and posts that were existing at the start of the project within the work zone/project limits shall be restored back to their original locations and configurations.
6. Placement of construction signs shall not obstruct the path of pedestrians and bicyclists.
7. The removal and restoration of existing regulatory speed limit signs with new posts along with the installation, maintenance and removal of work zone speed limit sign assemblies shall be considered incidental to Item No. 645.0100 - Traffic Control.



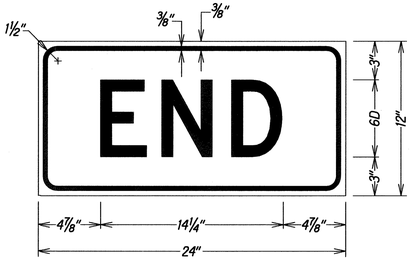
LEGEND: BLACK
BACKGROUND: ORANGE



LEGEND: BLACK
BACKGROUND: WHITE



LEGEND: BLACK
BACKGROUND: ORANGE



LEGEND: BLACK
BACKGROUND: ORANGE

DATE	REVISION
9/12/11	Included Missing Sheet Number and Total Sheets Number in Upper Right Corner Block

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOW SPEED DIVIDED HIGHWAY
WORK ZONE SIGNING PLAN, NOTES & DETAILS
LILIHA STREET
Traffic Signal at Kukui Street
Federal Aid Project No. HSIP-7413(2)

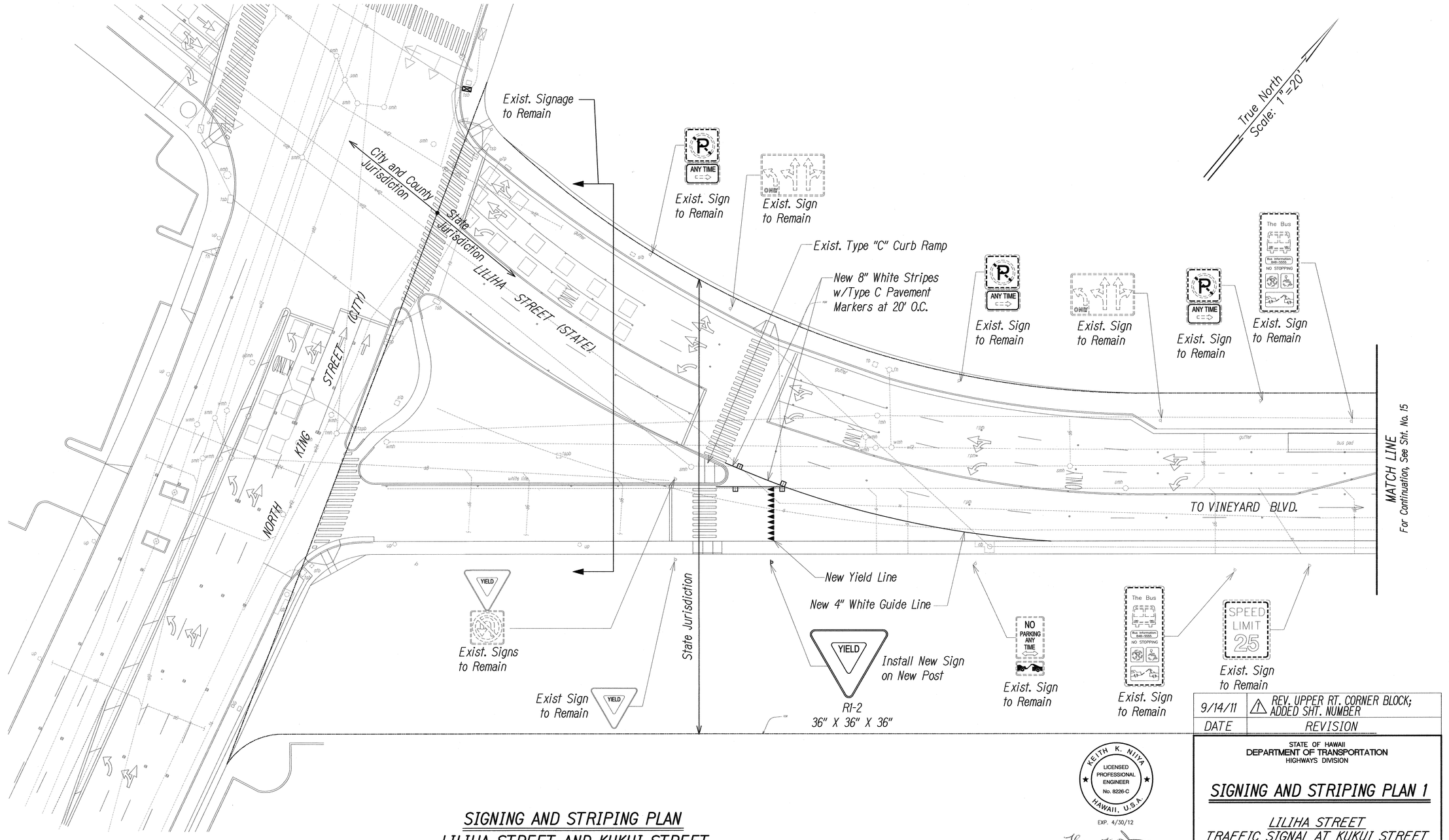
Not To Scale Date: May 2010

SHEET No. 1 OF 1 SHEETS

ADD. 13

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
NOTE BOOK
No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.14	29



SIGNING AND STRIPING PLAN
LILIHA STREET AND KUKUI STREET

SCALE: 1"=20'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	TRACED BY	
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY	

DATE	REVISION
9/14/11	⚠ REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING AND STRIPING PLAN 1

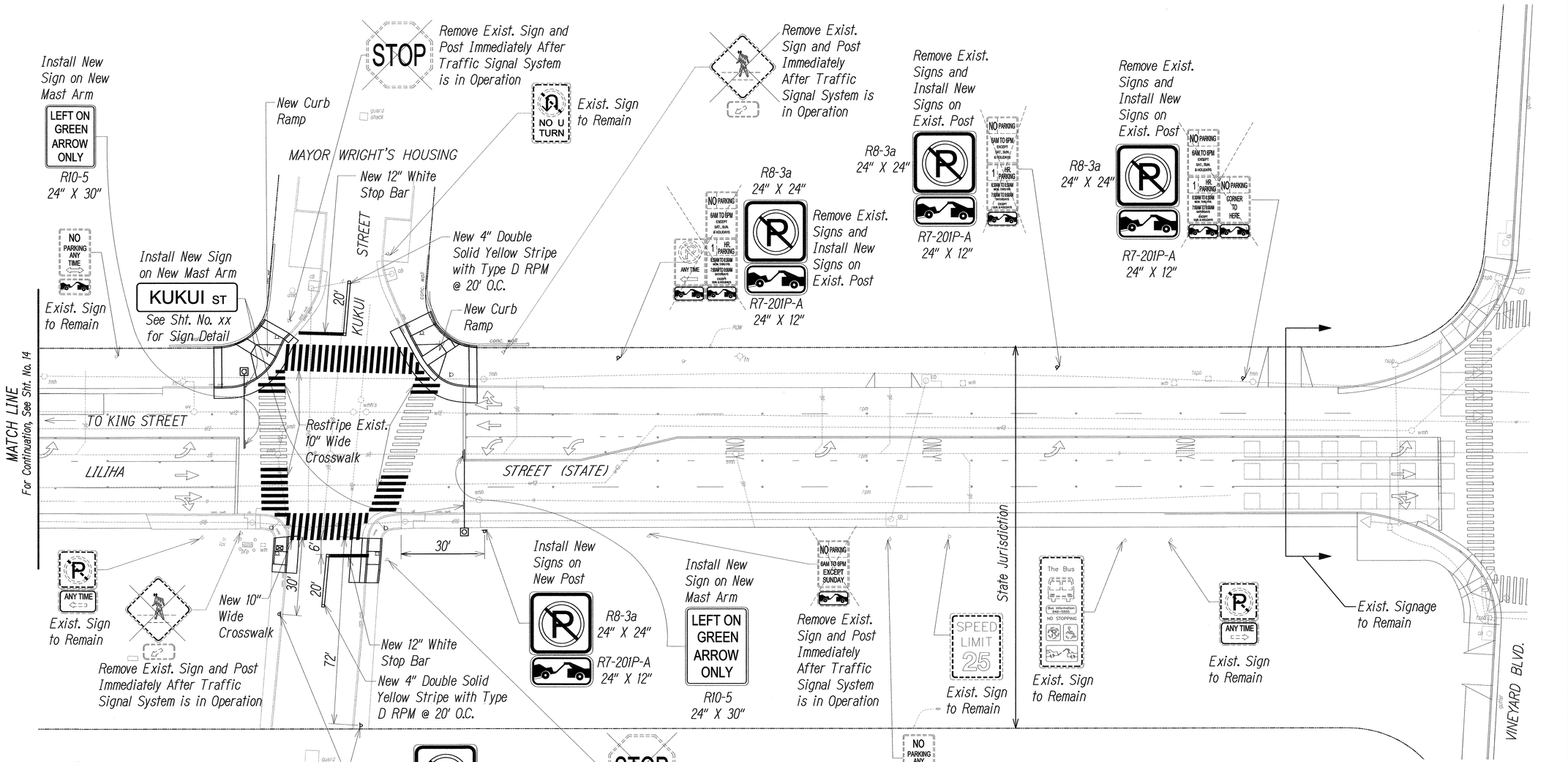
LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 14 OF 29 SHEETS

ADD. 14

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.15	29



Notes:

1. Street name signs shall have white message and border on green background.
2. All sign faces shall be completely reflectorized with type "B" reflective sheeting.
3. The sign shall be in conformance with the requirements of section 750.01 of the standard specification.
4. For sign mounting details, see the State of Hawaii Department of Transportation "Standard Plans" 2008.

SIGNING AND STRIPING PLAN
LILIHA STREET AND KUKUI STREET

SCALE: 1"=20'

True North
Scale: 1"=20'

ORIGINAL PLAN
NOTE BOOK
No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

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DATE	REVISION
9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING AND STRIPING PLAN 2

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 15 OF 29 SHEETS

ADD. 15

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.16	29

LEGEND

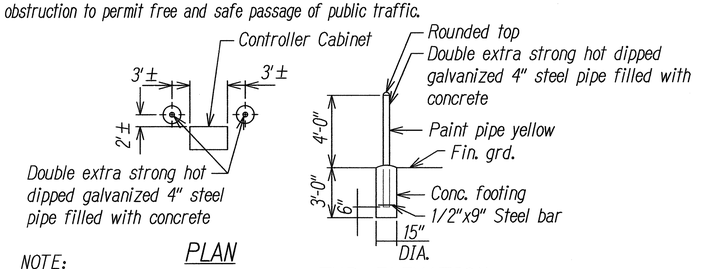
NEW		EXISTING
	Standard traffic and pedestrian count down signal heads mounted on Type I Signal Standard, height=10'	
	Pedestrian count down signal head mounted on Type I Signal Standard, height=8'	
	12" R Y↑ Traffic signal head	
	12" R Y G Traffic signal head	
	Pedestrian head with count down signal head	
	12" ←←← Traffic signal head	
	12" ←←←Traffic signal head Programmed visibility head (PVH)	
40' 12'	Traffic signal heads mounted on Type II Signal Standard 40' M.A. : 12' between heads	
	EVP Detector	
	Type "A" pullbox	
	Type "B" pullbox	
	Type "C" pullbox	
	Existing pullbox	
	Replace existing pullbox with new Type "B" pullbox	
	Replace existing pullbox with new Type "C" pullbox	
	Exist. Model 170 controller	
C	New Model 170 controller on new base	
	Pipe guards	
	Loop detectors	
	Sign	
	New traffic signal standard	
	Traffic signal conduits (underground)	

TRAFFIC SIGNAL NOTES

1. All traffic signal controller equipment shall be completely wired in the cabinet and shall control the traffic signals as called for in the plans.
2. Signal indications during clearance interval:
   A. If a signal is G or ~~<G~~ and will remain G or ~~<G~~ during the next phase, it shall be G or ~~<G~~ during the clearance interval.
   B. If a signal is G or ~~<G~~ and will become R or extinguished during the next phase, it shall be Y or ~~<Y~~ during the clearance interval.
   C. If a signal is R and will remain R or becomes G during the next phase, it shall remain R during the clearance interval.
3. The loop amplifier units furnished for this project shall be capable of operating the loop detector configurations shown on the plans. Cost for the loop amplifier shall be incidental to the installation of the loop detector.
4. A solid #8 bare copper wire shall be pulled with the traffic control cable for equipment ground. Cost shall be incidental to the installation of the control cable.
5. Conduits and pullbox locations as shown on the plans are schematic. They may be modified by the contractor with the approval of the engineer.
6. The contractor shall install the controller and cabinet in the indicated location.
7. All work for the installation or modification of the traffic signal system shall conform to the latest revisions of the "Hawaii Standard Specifications for Road and Bridge Construction", 2005 and the "Standard Plans" of the Department of Transportation, Highways Division and as shown on these drawings.
8. All splicing shall be done in the pullboxes.
9. Furnishing and installing the conduit stubouts (pullboxes to edge of pavement) will not be paid for separately but shall be considered incidental to the various contract items.
10. The concrete jacket for the conduit by-pass detail shown on Sheet TE-36 shall not be paid for separately but considered incidental to the various various
11. All cable and elements for grounding shall be new.
12. Cables between signal faces, pedestrian heads, and EVP detectors and the nearest pullbox are not called out on the plan, but shall be furnished and installed in sufficient numbers and lengths as required. Cost shall be incidental to various traffic signal contract items.
13. Conduits between the traffic signal standard and the pullbox shall be in sufficient number as required. Cost shall be incidental to the installation of the traffic signal standard foundation.
14. Unless otherwise specified, all conduits shall be concrete encased PVC schedule 40.
15. The contractor shall notify the Traffic Control Branch, Department of Transportation Services, three (3) working days prior to commencing work on the traffic signal system (Phone: 768-8388).
16. While modifying the existing traffic signal systems, the contract shall keep the existing system operational until the new traffic signal system can be put into service.
17. The contractor shall salvage all existing heads, standards, and cables not used in the new system. Cost shall be incidental to the various contract items put into service.
18. All traffic signal hardware removed from the intersection shall be stockpiled and delivered to a location determined by the Engineer.

CONSTRUCTION NOTES

1. Locations of existing underground structures and utilities such as pipe-lines, conduits, cables, etc., shown on plans are approximate only. It is not the intent of these plans to show the exact location of all underground utilities and structures. It is the responsibility of the contractor to verify the locations of all existing utilities with the respective owners. Existing utilities damaged by the contractor shall be repaired by the contractor at his own cost.
2. The contractor shall verify and check all dimensions and details shown on the drawings prior to the start of construction. Any discrepancy shall be immediately brought to the attention of the engineer for clarification.
3. The contractor shall notify all agencies to verify, tone and locate their existing utilities within the project area prior to excavating. The contractor shall coordinate all work.
4. The locations of the new traffic signal standards, traffic signal standards with mast-arm, pedestrian push buttons, traffic controller, pullboxes, conduits and loop detectors shall be staked out in the field by the contractor and approval of the locations shall be obtained from the engineer prior to construction and installation.
5. All traffic signal work shall conform to the requirements of the "Manual on Uniform Traffic Control Devices for Streets and Highways, 2009 Edition", Federal Highway Administration (2009) as amended.
6. Maintenance of traffic through the construction area shall be in accordance with Part VI of the "Manual on Uniform Traffic Control Devices for Streets and Highways, 2009 Edition", Federal Highway Administration as amended and as specified in the special provisions. The contractor shall furnish and maintain adequate barricades, blinkers, construction signs, etc., for the safety of the motoring public.
7. At the end of each day's work, the contractor shall remove all equipment and other obstruction to permit free and safe passage of public traffic.



PLAN

TYP. ELEVATION

PIPE GUARD DETAIL

NOT TO SCALE

NOTE:
Cost of conc. filled galvanized posts shall be incidental to other items of work.

DATE	REVISION
9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL NOTES & LEGEND

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

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SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

SHEET No. 16 OF 29 SHEETS

ADD. 16

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.17	29

Notes:

1. The contractor shall at his own cost, work with Oceanic cable and Hawaiian Telcom to resolve any conflicts between overhead utility lines and new traffic signal mast arms, inclusive of but not limited to adjusting the height and/or slack of the utility lines.
2. Contractor shall install interconnect cables (12pr#19) in fabric subduct.

Conduit	Description
3" Conc.	2-26c#14
2" Conc.	5-2c#14
2" Conc.	5-2c#14
2" Conc.	4-evp
2" Conc.	1-3c#6
2" Conc.	1-12pr.#19
2" Conc.	spare
2" Conc.	spare

Conduit	Description
2" Conc.	1-26c#14
2" Conc.	1-26c#14
2" Conc.	5-2c#14
2" Conc.	2-evp
2" Conc.	spare

Install Ped. Push Button

1 ea., 4-6'x6' Loop Detectors Centered In Lane

Conduit	Description
2" Conc.	1-26c#14
2" Conc.	1-26c#14
2" Conc.	4-2c#14
2" Conc.	2-evp
2" Conc.	spare

Install Ped. Push Button

For Power Source To Controller See Electrical Plans

Conduit	Description
2" Conc.	1-12pr.#19 Interconnect Cable with Fabric Interduct
2" Conc.	spare

Conduit	Description
2" Conc.	1-26c#14
2" Conc.	1-26c#14
2" Conc.	3-2c#14
2" Conc.	1-evp
2" Conc.	spare

Install Ped. Push Button

Conduit	Description
2" Conc.	2-2c#14

MAYOR WRIGHT'S HOUSING

KUKUI STREET

LILIHA STREET (STATE)

MATCH LINE For Continuation, See Sht. No. 18

2 ea., 2-6'x6' Loop Detectors Centered In Lane

1 ea., 4-6'x6' Loop Detectors Centered In Lane

2 ea., 2-6'x6' Loop Detectors Centered In Lane

1 ea., 3-6'x6' Loop Detectors Centered In Lane

Conduit	Description
2" Conc.	2-2c#14

Conduit	Description
2" Conc.	1-26c#14
2" Conc.	1-26c#14
2" Conc.	1-2c#14
2" Conc.	1-spare

Conduit	Description
2" Conc.	1-26c#14
2" Conc.	1-26c#14
2" Conc.	1-2c#14
2" Conc.	1-evp
2" Conc.	spare

State Jurisdiction

⟨1⟩ Provide Sediment Control Filter At Catch Basin, See Detail Sht. No. 6. ⚠

Install Ped. Push Button

Install Ped. Push Button

Install Ped. Push Button

Install Ped. Push Button

Install Ped. Push Button

Conduit	Description
2" Conc.	1-26c#14
2" Conc.	1-26c#14
2" Conc.	2-2c#14
2" Conc.	1-evp
2" Conc.	spare

Conduit	Description
2" Conc.	1-26c#14
2" Conc.	1-26c#14
2" Conc.	2-2c#14
2" Conc.	spare

1 ea., 4-6'x6' Loop Detectors Centered In Lane

Conduit	Description
2" Conc.	1-26c#14
2" Conc.	1-26c#14
2" Conc.	spare
2" Conc.	spare

True North
Scale: 1"=20'

A-1 F-1 A-2 A-3* B-2 F-5
B-1 F-2 F-3 E-1 C-2 G-2
C-1 G-1 F-4* D-2 H-2
D-1 H-1 I-1 E-2 I-2

SIGNAL INDICATIONS

* Indicates Programmable Visibility Head

ø1	ø2	ø3	ø4
ø5	ø6	ø7	ø8

ø3 BLANK
ø7 BLANK

PHASE DIAGRAM

New Model 170 Controller
New Model 332 Cabinet

TRAFFIC SIGNAL PLAN-1

LILIHA STREET AND KUKUI STREET

SCALE: 1"=20'

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

9/14/11	⚠ REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER; REV. NOTE
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN-1

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 17 OF 29 SHEETS

ADD. 17

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

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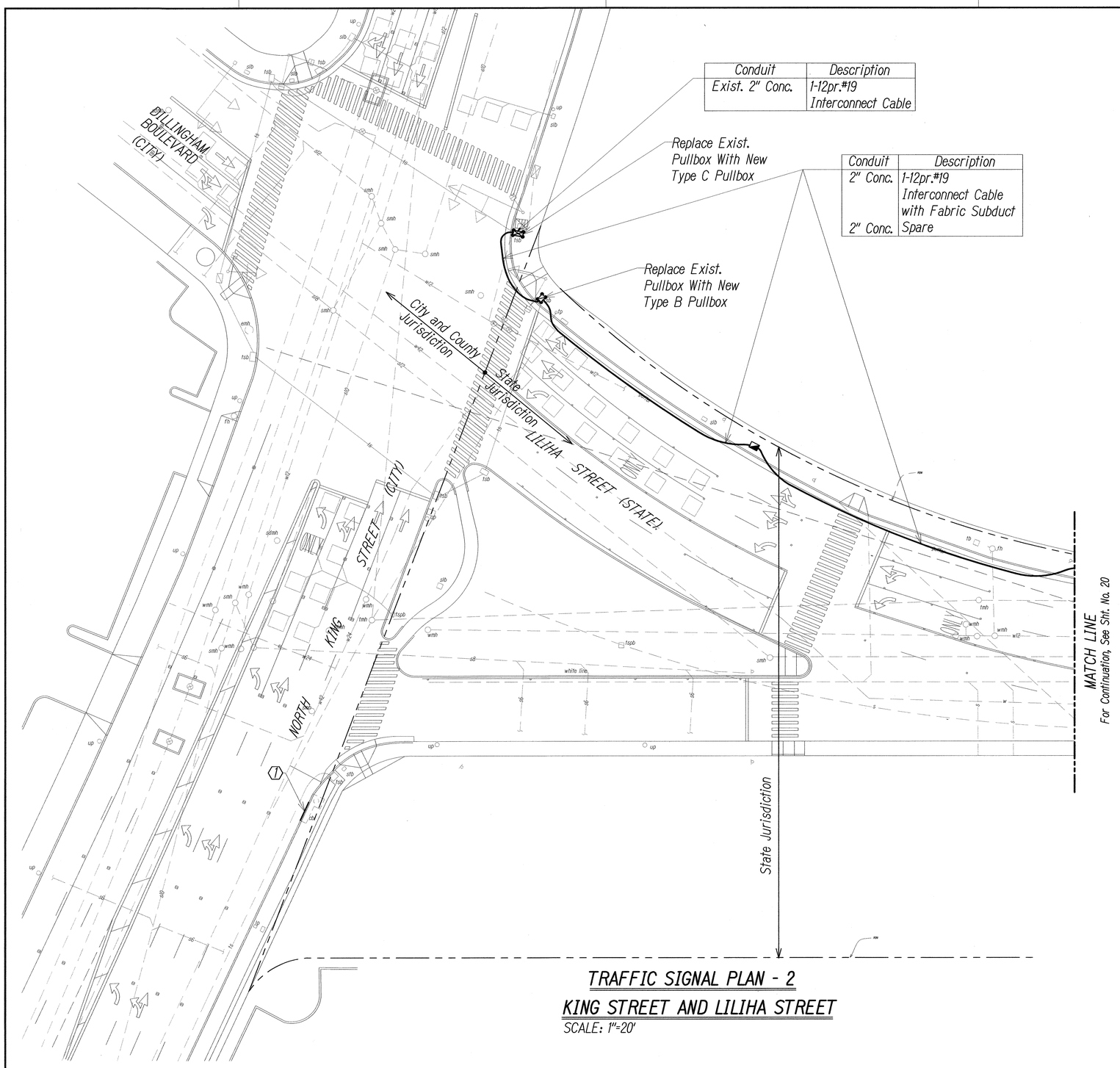
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.18	29



True North
Scale: 1"=20'

Note:
Contractor shall install interconnect cables (12pr#19) in fabric subduct.

(1) Provide Sediment Control Filter At Catch Basin, See Detail Sht. No. 6.

TRAFFIC SIGNAL PLAN - 2
KING STREET AND LILIHA STREET
SCALE: 1"=20'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

DATE	REVISION
9/14/11	(1) REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER; REV. NOTE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN-2

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

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LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

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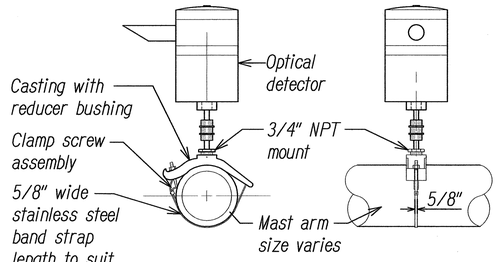
SHEET No. 18 OF 29 SHEETS

ADD. 18

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.19	29



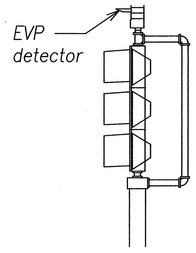
SIDE VIEW FRONT VIEW

NOTES:

1. Optical detector shall be "Model 711 preemption detector", or approved equal, unless noted otherwise in the special provisions.
2. Support saddle assembly shall be "ASTRO MINI-BRAC, AB-0132-29", or approved equal, unless noted otherwise in the special provisions.

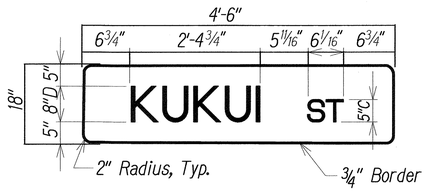
OPTICAL DETECTOR FOR MAST ARM MOUNTING

NOT TO SCALE



POST TOP TP-EVP MOUNTING

NOT TO SCALE



STREET NAME SIGN DETAILS

NOT TO SCALE

SURVEY PLOTTED BY _____ DATE
DRAWN BY _____
TRACED BY _____
DESIGNED BY _____
QUANTITIES BY _____
CHECKED BY _____

ORIGINAL PLAN
NOTE BOOK
No. _____

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LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.

EXP. 4/30/12

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DATE	REVISION
9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL MISCELLANEOUS DETAILS

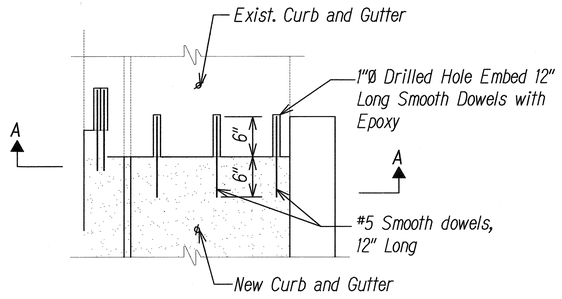
LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

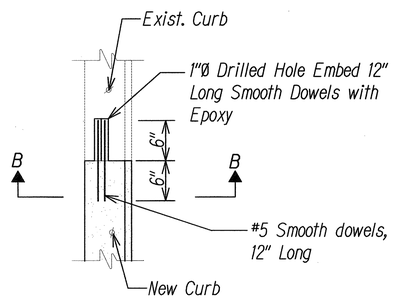
SHEET No. 19 OF 29 SHEETS

ADD. 19

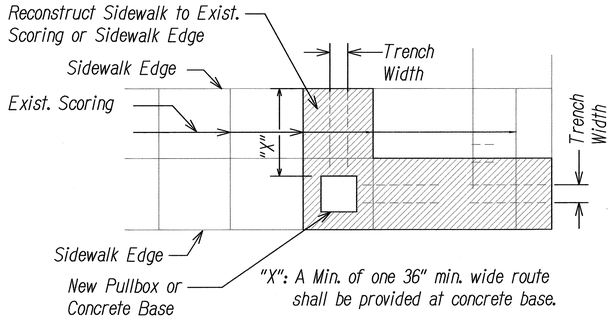
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.20	29



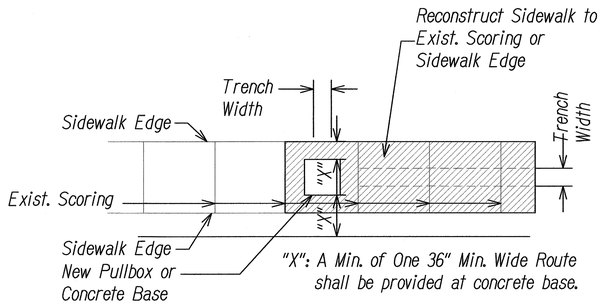
PLAN



PLAN



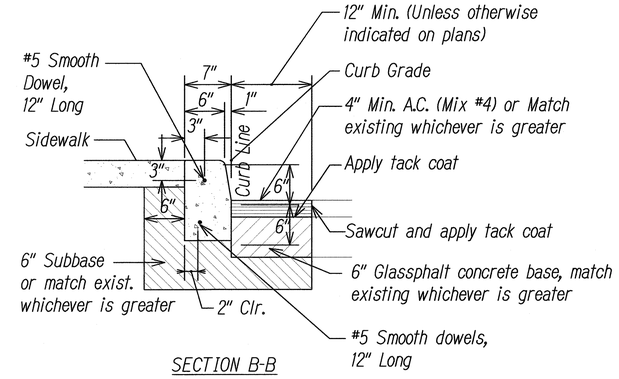
AT MULTIPLE BLOCK-WIDTH SIDEWALKS



AT SINGLE BLOCK-WIDTH SIDEWALKS

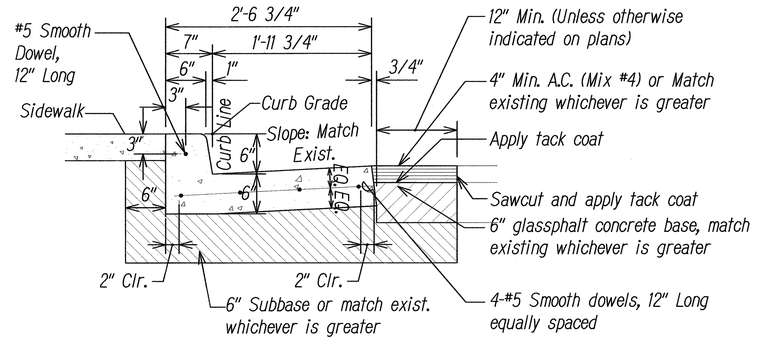
SIDEWALK RECONSTRUCTION DETAILS

NOT TO SCALE



SECTION B-B

CURB CONNECTION DETAIL

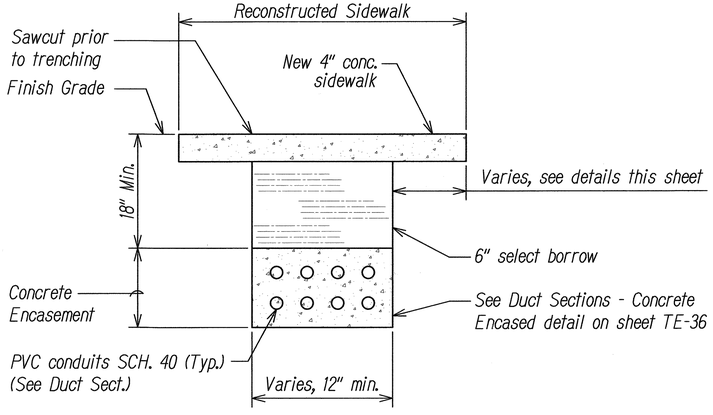


SECTION A-A

CURB AND GUTTER CONNECTION DETAIL

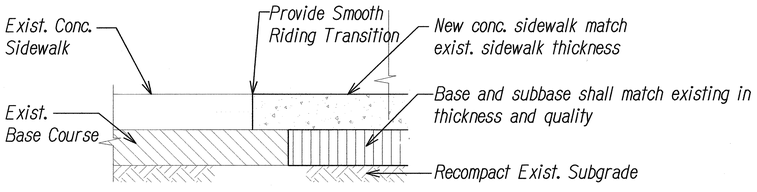
TYPICAL PAVEMENT RESTORATION DETAILS

NOT TO SCALE



TYPICAL BACKFILL SECTION WITH CONCRETE ENCASED DUCTS UNDER SIDEWALK AREAS

NOT TO SCALE



CONCRETE CONNECTION DETAIL

NOT TO SCALE

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

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DATE	REVISION
9/14/11	⚠ REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 20 OF 29 SHEETS

ADD. 20

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.21	29

LEGEND:

- Retroflective Sign
- Cone or Delineator with Retroflective Tape
- Flashing arrow signal
- Work area
- Flagger/Police officer
- Direction of traffic

NOTES FOR TRAFFIC CONTROL PLAN:

1. The permittee shall make minor adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.
2. Cones or delineators shall be extended to a point where they are visible to approaching traffic.
3. Traffic control devices shall be installed such that the sign or device farthest from the work area shall be placed first. The others shall then be placed progressively toward the work area.
4. Regulatory and warning signs within the construction zone that are in conflict with the traffic control plans shall be removed or covered. All signs shall be restored upon completion of the work.
5. Flaggers and/or police officers shall be in sight of each other or in direct communication at all times.
6. When required by the issuing office, the permittee shall install a flashing arrow signal as shown on the traffic control plans.
7. All traffic lanes shall be a minimum of 10 feet wide.
8. All construction warning signs shall be promptly removed or covered whenever the message is not applicable or not in use.
9. The backs of all signs used for traffic control shall be appropriately covered to preclude the display of inapplicable sign messages (i.e., when signs have messages on both faces).
10. At the end of each day's work, or as soon as the work is completed, the permittee shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation. Replace existing faded or obliterated pavement markings that are necessary for safe traffic flow in the construction area with temporary or permanent markings before opening the roadway to public traffic each day.
11. Replace permanent pavement markings and traffic signs upon completion of each phase of work.
12. The contractor shall control traffic in and out of driveways.
13. Spacing of cones or delineators shall be as shown on Table 1, on this sheet, unless otherwise noted on the traffic control plans.

Table 1 for Traffic Control Plan		
Spacing Of Cones or Delineators (Feet)		
Taper	Buffer	Work Area
20	20	10

ORIGINAL PLAN
NOTE BOOK
No. _____

SURVEY PLOTTED BY _____ DATE
DRAWN BY _____ " "
TRACED BY _____ " "
DESIGNED BY _____ " "
QUANTITIES BY _____ " "
CHECKED BY _____ " "

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.

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DATE	REVISION
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL NOTES

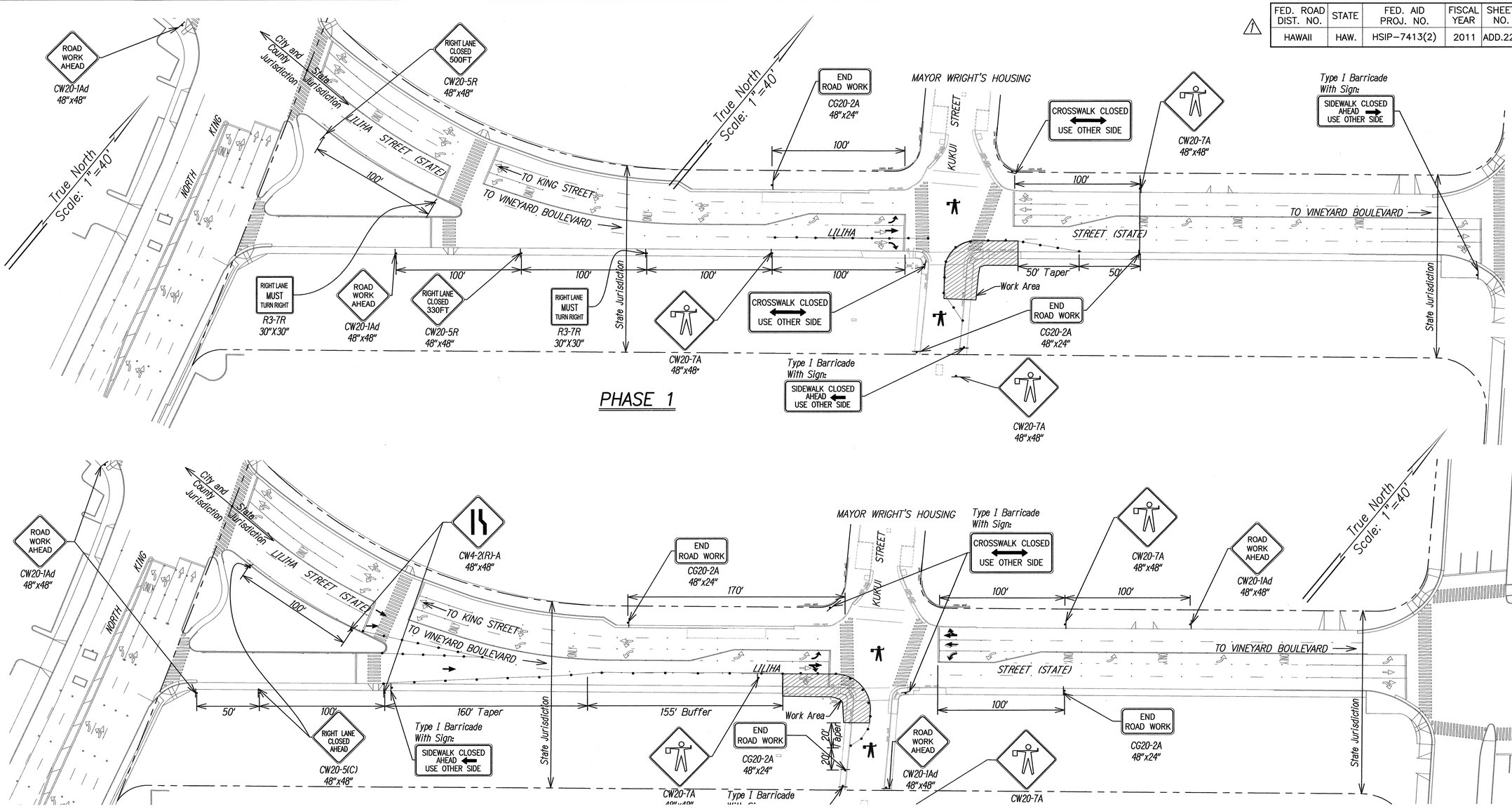
LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 21 OF 29 SHEETS

ADD. 21

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.22	29



TRAFFIC CONTROL PLAN–1
LILIHA STREET AND KUKUI STREET
SCALE: 1"=40'

DATE	REVISION
9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN–1

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 22 OF 29 SHEETS

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

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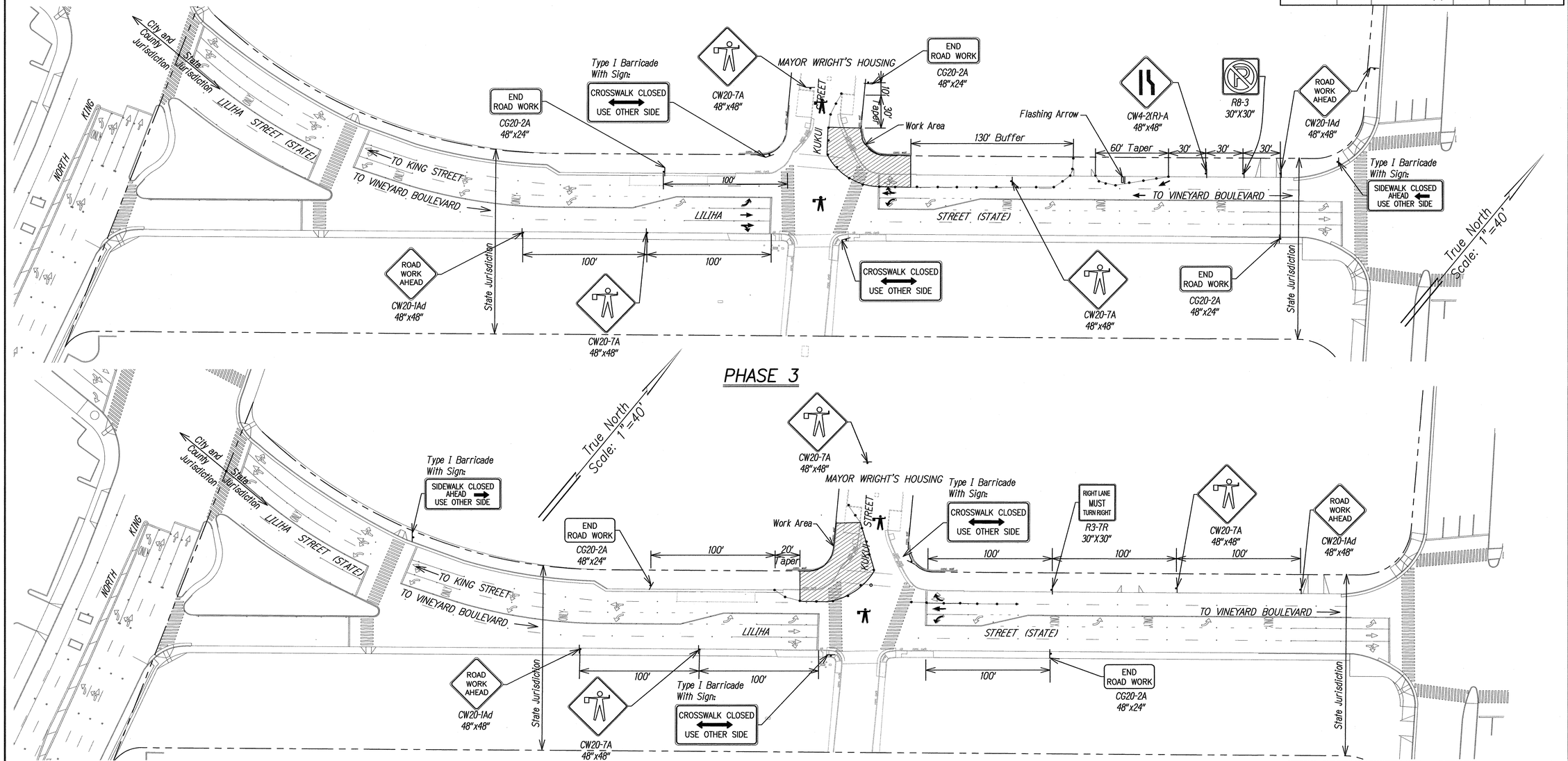
NOTE BOOK
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
No.

ADD. 22

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.23	29



TRAFFIC CONTROL PLAN–2
LILIHA STREET AND KUKUI STREET
SCALE: 1"=40'

DATE	REVISION
9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN–2

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 23 OF 29 SHEETS

ADD. 23

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LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

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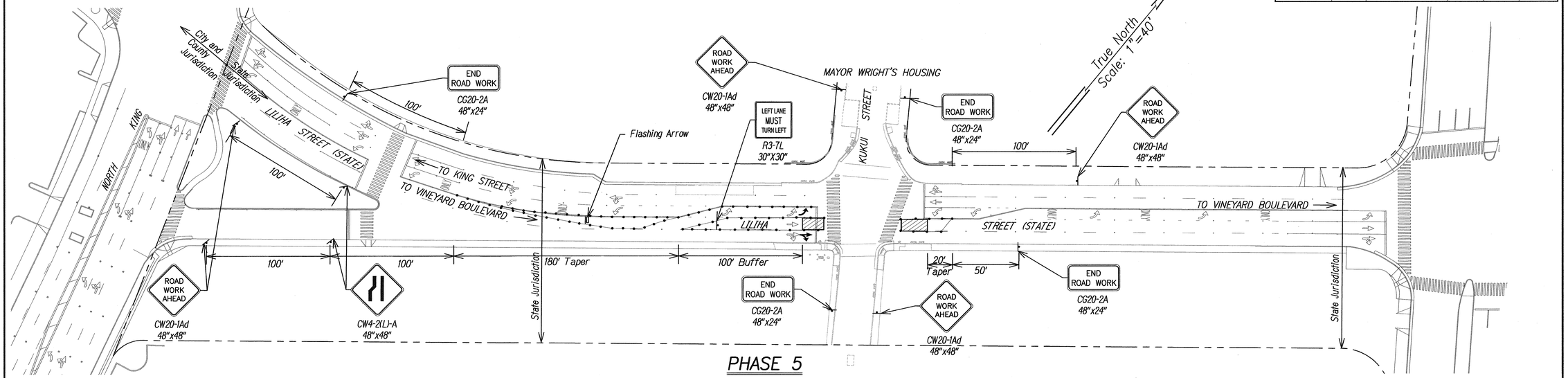
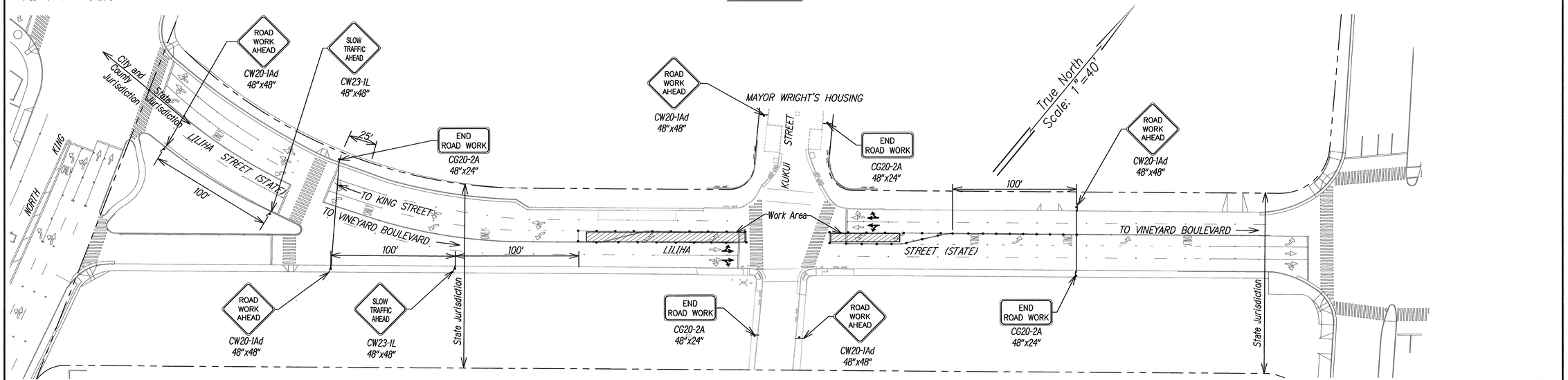
ORIGINAL PLAN
NOTE BOOK
No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.24	29



PHASE 5



PHASE 6A

TRAFFIC CONTROL PLAN-3
LILIHA STREET AND KUKUI STREET
SCALE: 1"=40'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

DATE	REVISION
9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN-3

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

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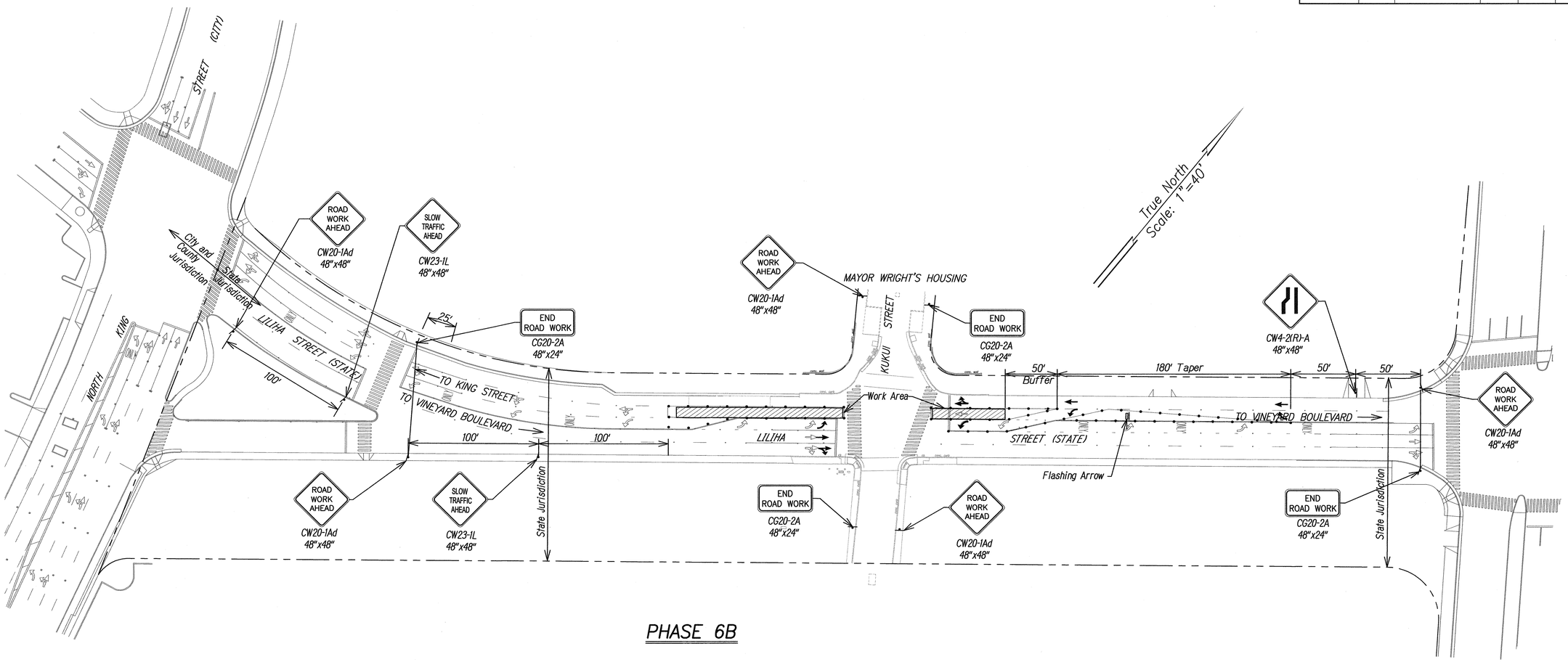
SHEET No. 24 OF 29 SHEETS

ADD. 24

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.25	29



PHASE 6B

TRAFFIC CONTROL PLAN–4
LILIHA STREET AND KUKUI STREET
SCALE: 1"=40'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	TRACED BY	
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY	

DATE	REVISION
9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

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HAWAII, U.S.A.
EXP. 4/30/12

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TRAFFIC CONTROL PLAN–4

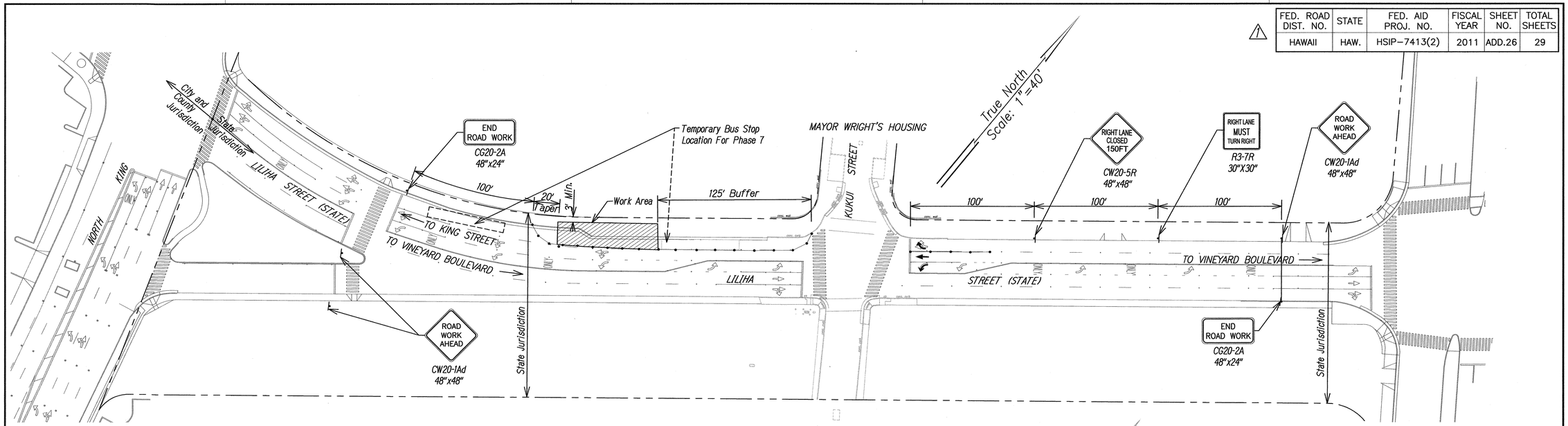
LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

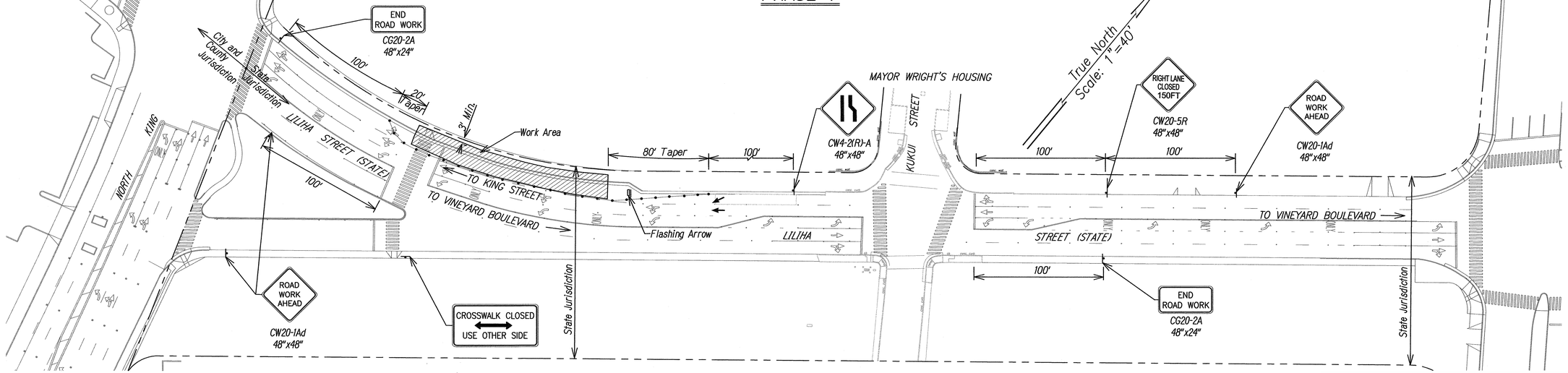
Scale: As Noted Date: July 2011

SHEET No. 25 OF 29 SHEETS

ADD. 25

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.26	29





PHASE 8

TRAFFIC CONTROL PLAN-5
LILIHA STREET AND KUKUI STREET
SCALE: 1"=40'

9/14/11	⚠ REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN-5

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 26 OF 29 SHEETS

ADD. 26

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.
EXP. 4/30/12

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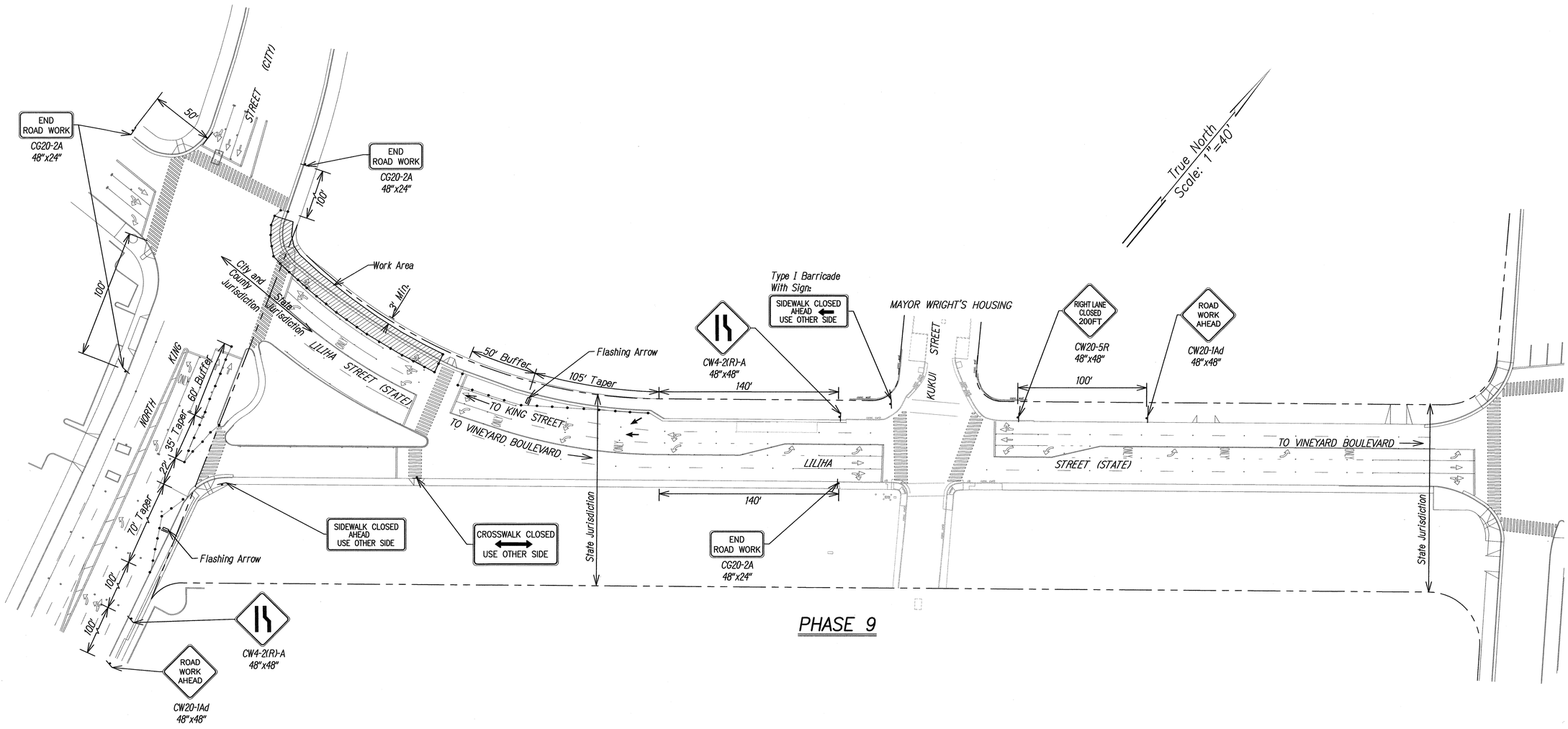
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.27	29



PHASE 9

TRAFFIC CONTROL PLAN-6
LILIHA STREET AND KUKUI STREET
Scale: 1"=40'

9/14/11	⚠1 REV. UPPER RT. CORNER BLOCK; ADDED SHT. NUMBER
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN-6

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: As Noted Date: July 2011

SHEET No. 27 OF 29 SHEETS

KEITH K. NIIYA
LICENSED PROFESSIONAL ENGINEER
No. 8226-C
HAWAII, U.S.A.

EXP. 4/30/12

This work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in Chapter 16-115 Subchapter 1 Definitions of the Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors, and Landscape Architects.")

ORIGINAL PLAN
NOTE BOOK
SURVEY PLOTTED BY ____ DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
No.

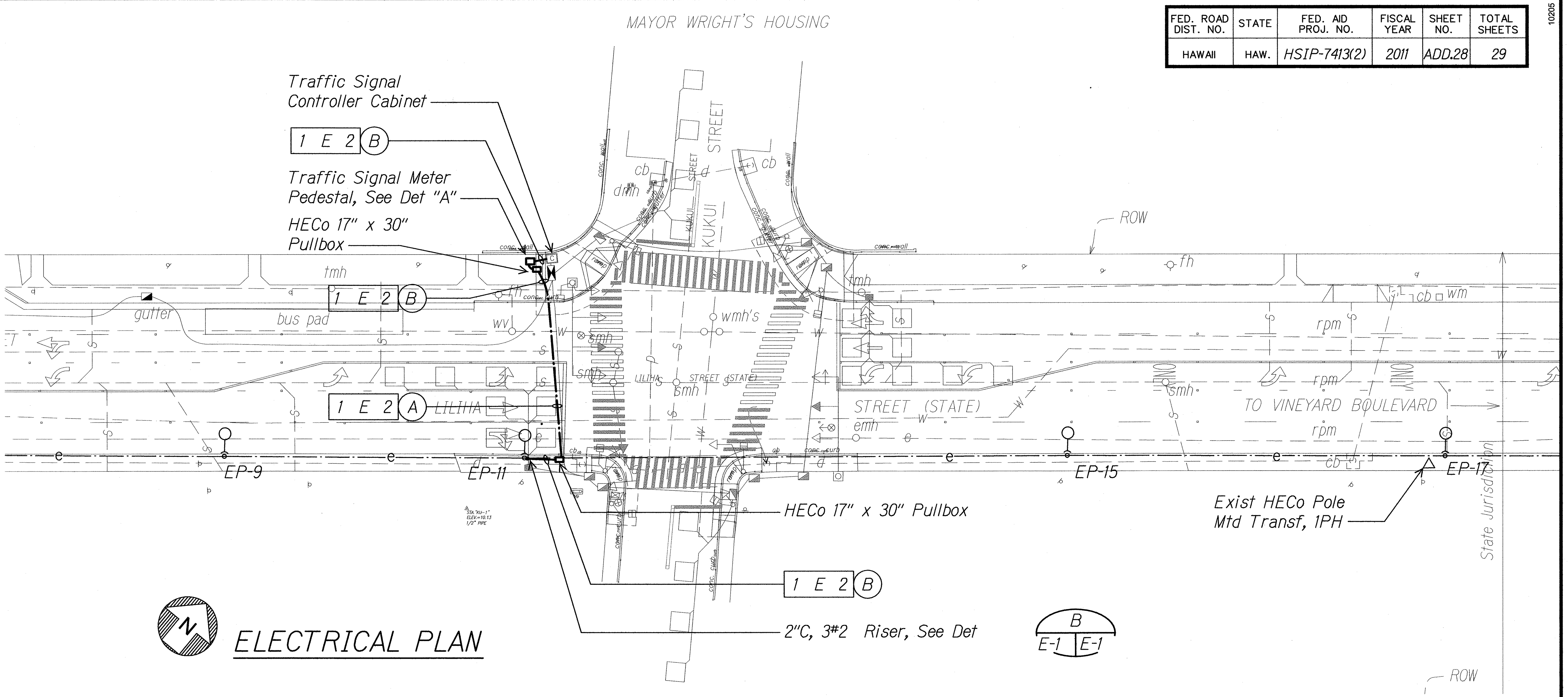
ADD. 27

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.28	29

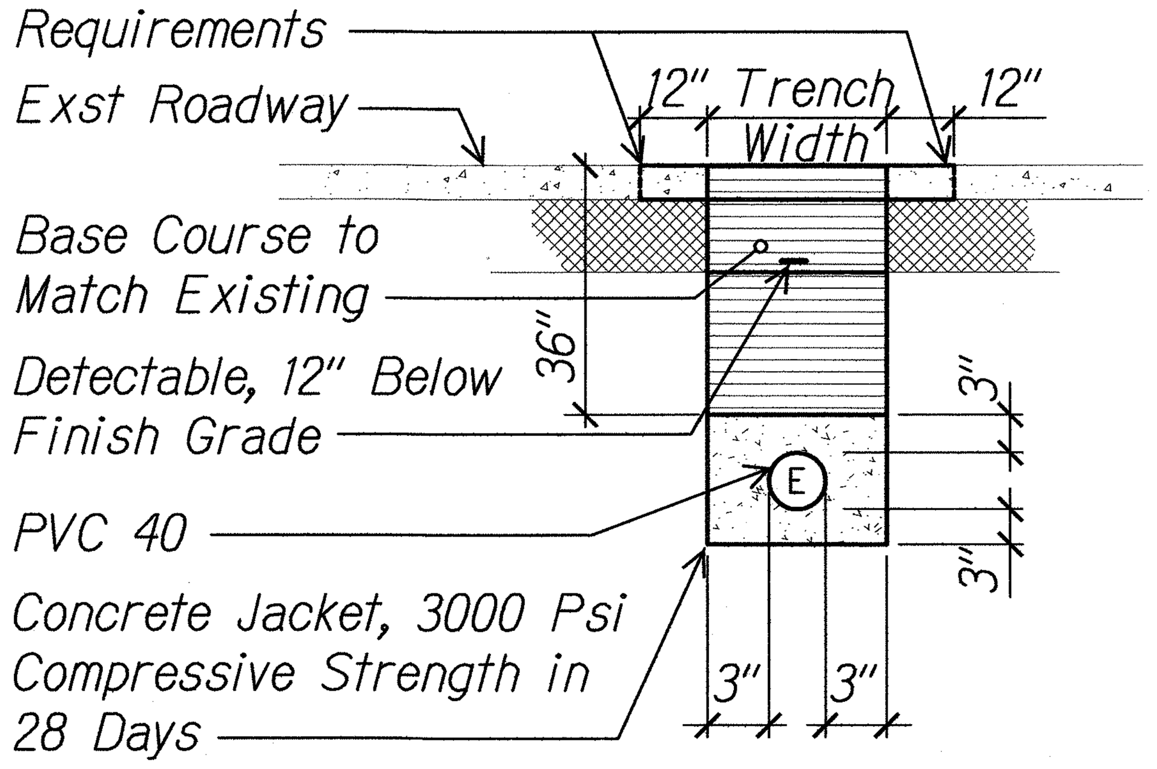
10205

SYMBOLS

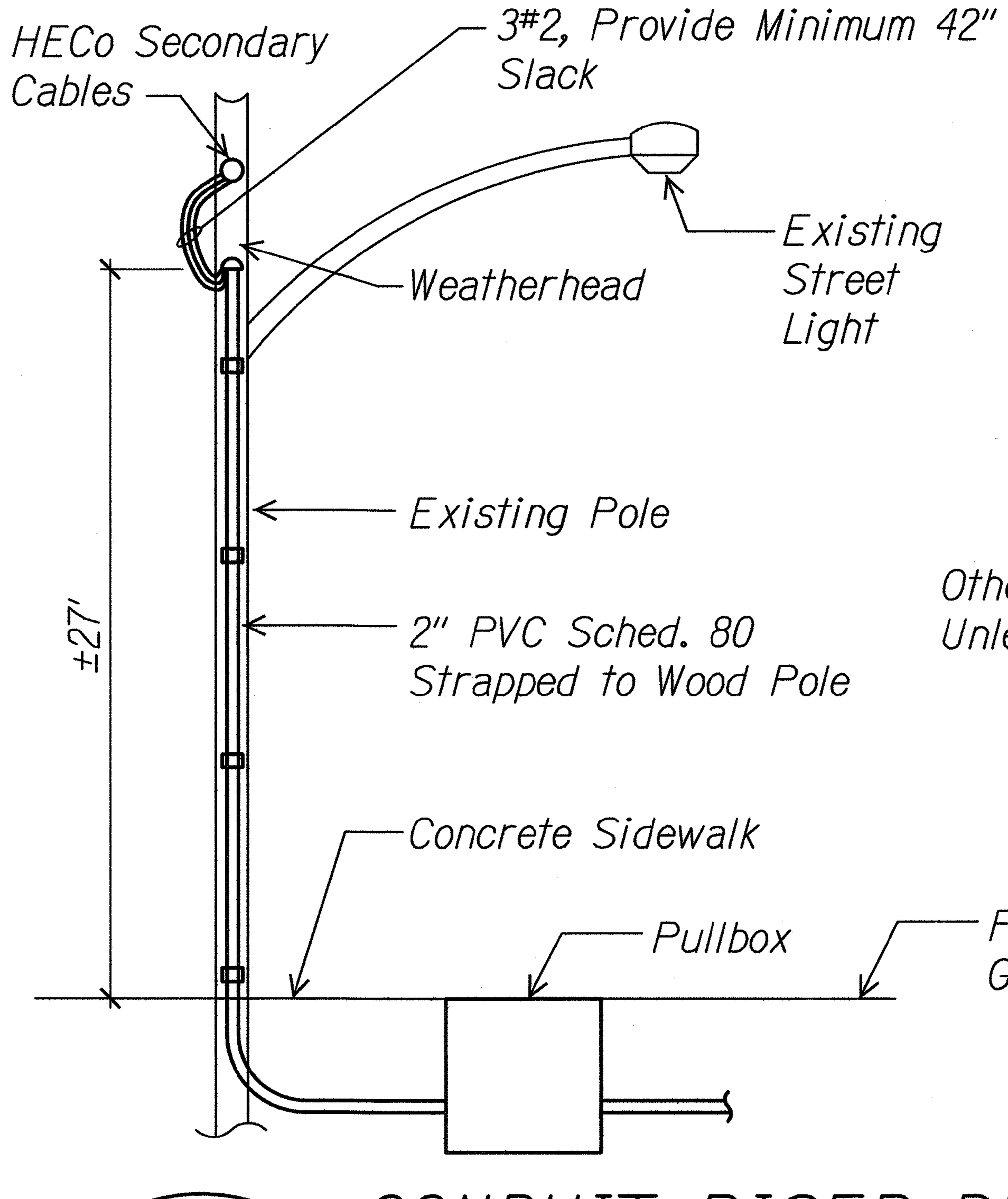
- EP° — Exist HECo Pole
- Exist St Lt Luminaire Mounted on Wood Pole
- Pullbox
- Underground Ductline
- (A) — Denotes Duct Section (A)
- —e— Existing Overhead Lines



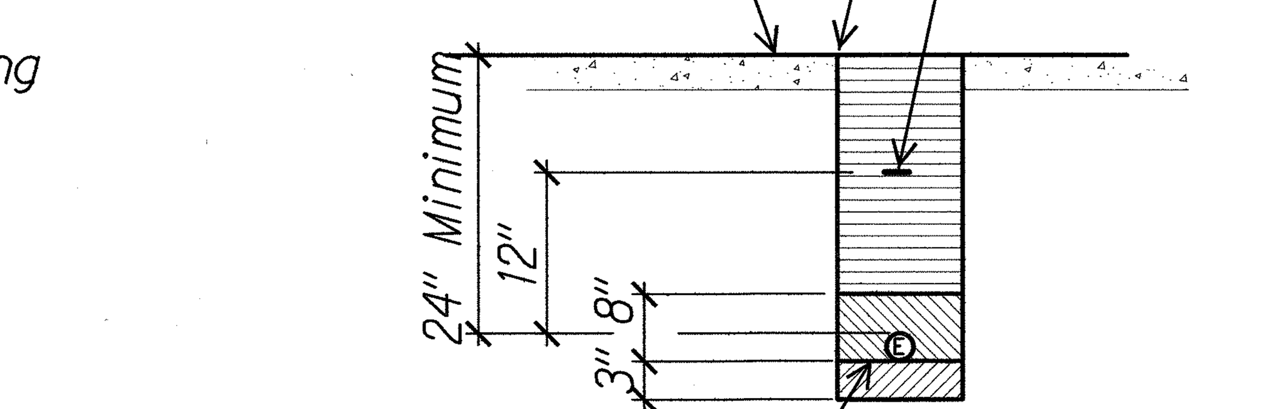
ELECTRICAL PLAN



CONCRETE BURIED (A)



B E-1 E-1 CONDUIT RISER DETAIL
NTS



DIRECT BURIED (B)

Sawcut Exist Conc. Sidewalk. Restore to Match Exist per State Highway Dot Requirements.

Traceable Warning Tape with "Caution-Electric/Communications Cable Below" Imprinted on Tape. Warning Tape shall be Place Over Entire Length of Ductline [Traceable Electrical Warning Marker Tape in Accordance with HECo Spec. M0302].

Backfill:

Type "A": Non-Contaminated Native Soil Material Which Does Not Contain More Than 50% Gravel, and Also, Does Not Contain Hard Lumps of Earth 3 Inches in Greatest Dimension, Rocks Larger Than 3 Inches in Largest Dimension, Highly Plastic Clay, Poorly-Graded Sand and Gravel (Classified as SP and GP Using the United Soil Classification System), Organics, Debris, or Other Unsuitable or Deleterious Materials.

Type "B": Select Granular Material Passing a One (1) Inch Sieve Such as Three-quarter (3/4) Inch Aggregate Base Course Gravel, S4C or Material that is Free of Organics, Debris or Highly-Plastic Clay and Meets the Following Gradation:

Sleeve Size	Percent Passing By Weight
1"	100
3/4"	90 - 100
No. 4	35 - 100
No. 40	10 - 30
No. 200	3 - 15

A E-1 E-1 TYPCIAL DUCT SECTIONS
NTS

DUCT-001

Notes:

1. Where Trench Encounters Existing Concrete or Asphalt Concrete, Surface shall be Sawcut. Backfill, Compact and Patch Surface to Match Adjacent Area. See Trench Restoration Detail.
2. Provide 3" Separation Between Elec. Ducts, 3" Separation Between Telephone & Catv Ducts & 12" Separation Between Electrical & Tel/Catv Ducts.

0' 20' 40' 60'
1" = 20'-0"

RUSSELL K. MO... LICENSED PROFESSIONAL ENGINEER No. 9013-E HAWAII, U.S.A.
MK ENGINEERS, LTD. LICENSE EXPIRATION DATE: 4/30/12 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
9/15/11

DATE	REVISION
09/15/11	REVISED UPPER RIGHT CORNER BLOCK

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL PLAN

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: 1" = 20'-0" Date: Jul 2011

E-1 SHEET No. 1 OF 2 SHEETS

ADD. 28

ORIGINAL PLAN	SURVEY PLOTTED BY / DRAWN BY / TRACED BY / DESIGNED BY / QUANTITIES BY / CHECKED BY	DATE
NOTE BOOK No.		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-7413(2)	2011	ADD.29	29

10205

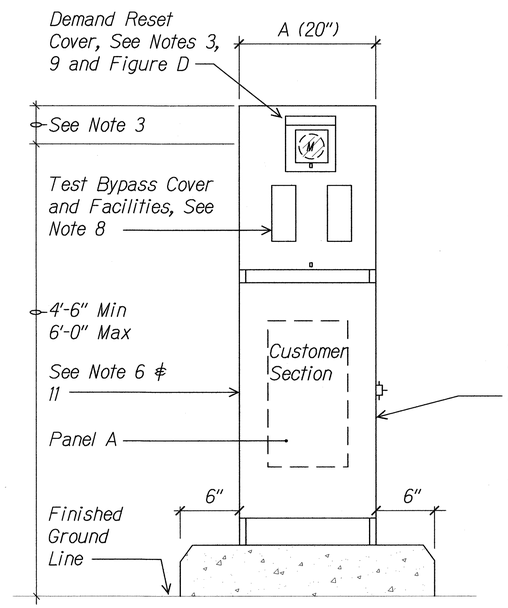


FIGURE "A"
Front View

Minimum Dimensions, Single Phase Service

W	A	B	C
10.5"	20"	11"	9"

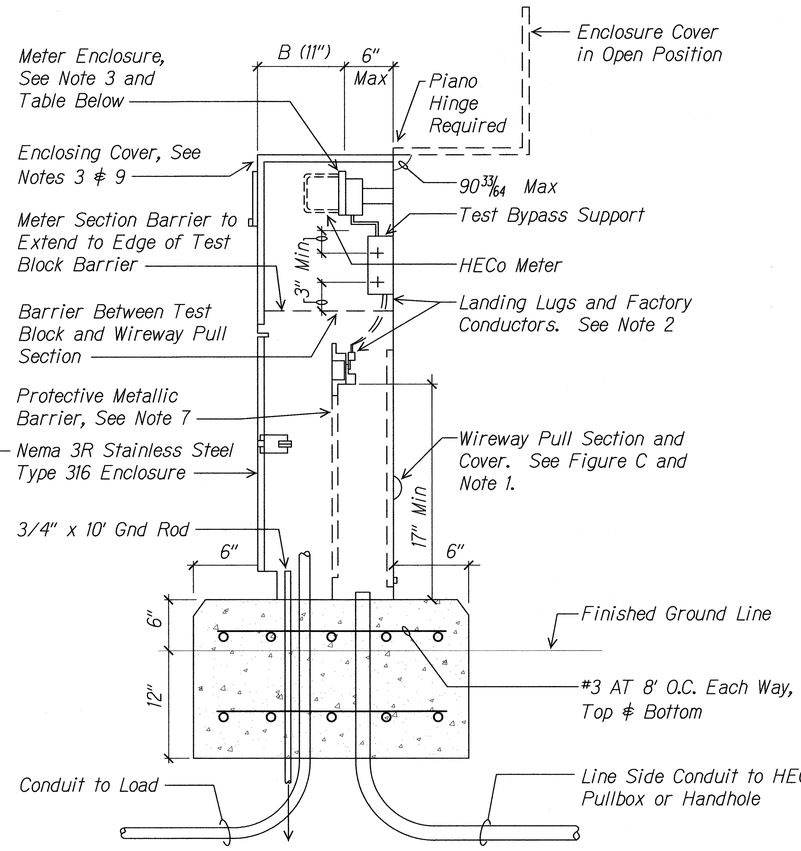


FIGURE "B"
Front View

All Dimensions are Minimums

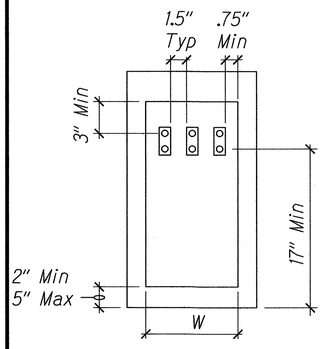


FIGURE "C"
Wireway Pull Section

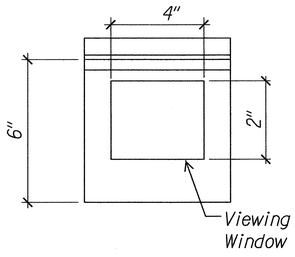
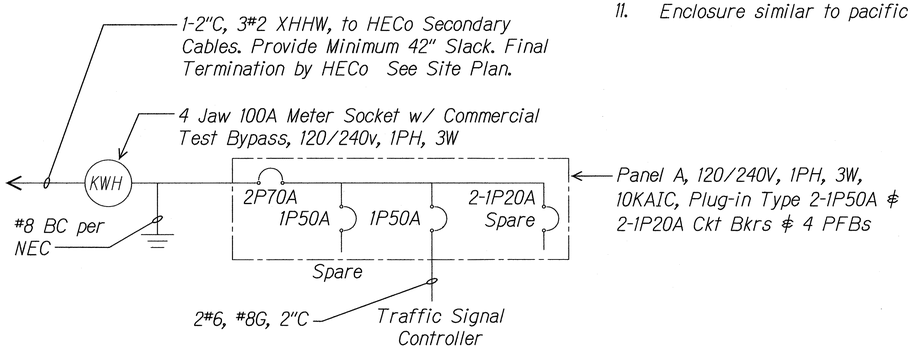


FIGURE "D"



METER PEDESTAL NOTES:

1. Wireways shall have the minimum dimensions shown in the table. The bottom of the wireway must accept a 3-inch (minimum conduit).
2. Service conductors shall terminate on landing lugs. The service termination lugs must be #6 through 250 kcmil pressure-type Cu-Al listed. Insulated cables or bus shall be installed between the landing lugs and the commercial by-pass facility.
3. The meter shall be enclosed. The enclosure cover shall be hinged and weigh not more than 25 pounds. Allow a minimum clearance of 11 inches from the face of the meter socket to the enclosure cover. The enclosure cover shall have a demand reset cover constructed of steel. The reset cover shall have a hinged polycarbonate - viewing window. With the minimum dimensions as shown in figure "D".
4. Do not install ringless sockets.
5. Internal equipment shall be secured without screws or nuts on the outer surface of the enclosure that may be loosened from the outside.
6. Customer section shall include:
   A. Panel with main cb & branch cbs with interrupting rating indicated.
7. Provide a protective metallic barrier (16-gauge minimum) between the power company wireway and customer distribution section. The protective barrier shall not have a clearance more than 1/4-inch between the power company wireway and customer section to prevent screws and bolts from protruding into the termination section. All unmetered (line side of meter) bus or cable shall be separated by suitable barriers from metered (load side of meter) bus or cable.
8. The pedestal shall be supplied with commercial by-pass blocks with rigid insulating barriers wired or bussed to the meter socket by the manufacturer. Connection sequence is line to load from left to right. Identify each line and load position with 3/4-inch (minimum) block letter labeling. Seal commercial by-pass cover panels, and fit them with a lifting handle. For panels exceeding 16 inches wide, install two lifting handles.
9. All power company compartments (meter cover, demand reset cover, and pull section) shall have provisions for the power company's seal or padlock.
10. Install warning labels including high voltage and instructing personnel to stay clear of the enclosure, on the wireway pull section cover and in front of the meter section hinged cover.
11. Enclosure similar to pacific utility products USP-M015 series, or Tescoflex 26-000 models.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
ORIGINAL PLAN
NOTE BOOK
No.

A E-1 | E-2 METER PEDESTAL DETAIL
NTS

METER PEDESTAL ONE-LINE DIAGRAM
NTS

09/15/11	REVISED UPPER RIGHT CORNER BLOCK
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

LILIHA STREET
TRAFFIC SIGNAL AT KUKUI STREET
FEDERAL AID PROJECT NO. HSIP-7413(2)

Scale: AS NOTED Date: Jul 2011

E-2 SHEET No. 2 OF 2 SHEETS

RUSSELL K. MORIMOTO
LICENSED PROFESSIONAL ENGINEER
No. 9013-E
HAWAII, U.S.A.
9/15/11
MK ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/12
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

ADD. 29

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