DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MAUI	HAW.	3400A-01-20	2024	19	35

LEGEND

NEW		EXISTING
	Pedestrian count down signal head mounted on Type I Signal Standard, height=8'	
	12" ↑ ↑ ↑ Traffic signal head	
	12" R Y G Traffic signal head	
	Pedestrian head with count down signal head	
	12" ← ← ← Traffic signal head	
	12" R Y G ← Traffic signal head	
A 1 2	Standard traffic and pedestrian signal heads mounted on Type I signal standard pole designation A, TS head A-1 and ped. head A-2	
B 40' 12'	Traffic signal heads mounted on Type II signal standard 40' M.A. : 12' between heads pole designation B, TS head B-1 and B-2	
	Detection Camera (Miovision or better)	
	EVP Detector	
	Type "A" pullbox	
	Type "B" pullbox	
	Type "C" pullbox	
	Existing pullbox	
	Replace existing pullbox with new Type "A" pullbox	
	Replace existing pullbox with new Type "B" pullbox	
	Replace existing pullbox with new Type "C" pullbox	
C	Flex Controller on new base (See SDOT STD. det. TE-33 for base det.)	C
	Loop detectors	
	Sign	
1	Traffic signal conduits (underground) number "1"	
	Meter for Traffic Signal (See Electrical Plans)	
	Camera Detection Zone	

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 electrical meter, controller and cabinet in the indicated location shown on the plans.
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 State of Hawaii, Department of Transportation, Highways Division, 2008 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 contract items. The engineer shall determine if a concrete jacket is required.
11. All cable and elements for grounding shall be new.
12. Cables between signal faces, pedestrian heads, video imaging vehicle detection cameras and EVP detectors and the nearest pullboxes are not called out on the plans, but shall be furnished and installed in sufficient numbers and lengths as required. Cost shall be incidental to various traffic signal contract items.
13. The proposed locations of signal heads on mast arms shall be determined in the field after final location/placement of the respective mast arm pole.
14. 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.
15. All conduits shall be concrete encased PVC Schedule 40 and in conformance with the Hawaii Standard Specifications section 623.
16. While modifying the existing traffic signal system (if applicable), the contractor shall keep the existing system operational until the new traffic signal system can be put into service.
17. The contractor shall notify the State of Hawaii Department of Transportation Highways Division, Maui District Office three (3) working days prior to commencing work on the traffic signal system. (Phone: (808)873-3535)
18. All traffic signal hardware removed from the intersection shall be stockpiled and delivered to a location determined by the engineer.
19. Louvered back plates with a 5-inch border containing a 1-inch wide retro-reflective tape shall be installed on all mast arm mounted traffic signal heads as indicated on the plans.

TRAFFIC SIGNAL NOTES: (CONT.)

20. All traffic signal standards shall conform to section 4.0 modifications to AASHTO Standard Specifications for Structural Supports for Highway Signs Luminaries and Traffic Signals, as noted in the State of Hawaii Department of Transportation, Highways Division, "Design Criteria for Bridges and Structures" dated August 8, 2014, as amended. Contractor is advised that the use of grout under the base plate for the Type II Traffic Signal Standard is explicitly prohibited per subsection 4.04 of the aforementioned document.
21. The contractor shall select poles, mast arm standards, anchor bolts, etc., based on the footing details for Type II traffic signal standards shown in these plans and shall verify all dimensions, anchor bolt spacing and reinforcing prior to fabrication.
22. Should the contractor encounter issues during trenching or the construction of foundations that require the support of a geotechnical or structural engineer, contractor shall consider these costs as incidental to the various contract items.
23. All Signal-Drop Cables (Type 5 Cables) from the various Types of Traffic Signal Head on the traffic signal standards and mast arms to the pullboxes shall not be paid for separately but considered incidental to the Traffic Signal Head.
24. After installing the Traffic Signal System, the Contractor shall apply grease to all parts of the Traffic Signal System (i.e. fittings, brackets, nipples, elbows, screws, signal head assemblies, bolts, hinges, etc.) as directed by the Traffic Signal Inspector, to prevent rust and corrosion. The grease material shall be approved by the Signal Inspector.
25. For Type II Traffic Signal Standards, the Contractor shall be responsible to coordinate the foundation with the Traffic Signal Standard provided; any changes required to the foundation due to the Traffic Signal Standard provided shall be designed by a licensed Structural engineer. All design and construction cost for these changes will be borne by the Contractor.
26. All conduits between pullboxes and Traffic Signal/Highway Lighting Standards shall not be paid for separately but shall be considered incidental to the various contract items.
27. After installing all the traffic signal cables, the Contractor shall duct seal all conduits in the pullboxes, traffic signal standards and traffic signal controller cabinet concrete base. The duct seal material shall be approved by the Traffic Signal Inspector/Engineer and shall not be paid for separately but considered incidental to the direct buried and/or concrete encased conduits.
28. Connecting into existing traffic signal system and making all necessary adjustments shall not be paid for separately, but considered incidental to the various traffic signal contract items.
29. Removal of any existing traffic signal items including, but not limited to traffic signal heads, traffic signal standards, concrete bases, etc. shall not be paid for separately, but considered incidental to the various traffic signal contract items.

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

CHAD K. KADOKAWA
LICENSED PROFESSIONAL ENGINEER
No. 18287-C
HAWAI'I, U.S.A.

EXP. 4/30/26

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN SECTION 16-115-2, HAWAII ADMINISTRATIVE RULES, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, STATE OF HAWAII, PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.

LICENSE EXPIRES: APRIL 30, 2026

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
HONOLULU, HAWAII

LINE IS 2 INCHES AT FULL SIZE
(If NOT 2-inches : Scale Accordingly)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL LEGEND AND NOTES

Kahului Beach Road Intersection Improvements at Kanaloa Avenue
Project No. 3400A-01-20

Scale: As Shown Date: July 2024

SHEET No. TS-1 OF 6 SHEETS

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MAUI	HAW.	3400A-01-20	2024	20	35

CONSTRUCTION NOTES

1. Locations of existing underground structures and utilities such as pipelines, 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 furnishing materials and 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 located their existing utilities within the project area prior to excavating, and shall coordinate all work.
4. The locations of the new traffic signal standards, traffic signal standards with mast arms, 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 and the Hawaii Standard Specifications for Road, Bridge, and Public Works Construction, 2005, unless otherwise noted in the construction documents.
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 (2009) as amended and as specified in the specifications. 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 obstructions to permit free and safe passage of public traffic.
8. The contractor shall provide the required minimum vertical clearance between traffic signal conduits and all existing utility lines.
9. The indicated trench widths for all new work are schematic. Trenches shall be constructed in accordance with the trench details and notes shown on this sheet.
10. Contractor shall provide a 3-foot minimum horizontal clearance between all water utilities and traffic signal poles/footings.
11. Contractor shall replace all existing pavement markings, landscape and irrigation damaged or removed as a direct result of any trenching work for conduit and pole foundation installation and as directed by the engineer.
12. The contractor at his own expense shall restore all concrete sidewalks/walkways, curb ramps, existing driveways and pavement to original or better condition as a result of any trenching work for utility installation and/or TSS foundation installation. For sidewalk and ramp areas affected, remove and replace concrete to nearest scoreline(s) or joint(s).
13. 1/8 polyester or polyolefin pull line shall be included in each conduit.
14. Tracer wire to be installed above concrete encasement. See trench detail on dwg. TS-5.
15. Should any defect be encountered during the warranty period, the manufacturer will be notified and shall promptly correct such defect. Service call (by factory qualified representative) during the warranty period for repairs or other maintenance shall be answered within 24 hours and shall be done at no expense to the State. All repairs shall be done as soon as possible.
16. Type I and II Traffic Signal Standards shall be coated with Valmont product F-540 or approved equal according to product specifications. Refer to Specification Section 770.
17. Pullboxes within roadway pavement shall be traffic rated.
18. Contractor shall coordinate with the applicable utility companies should any Type II TSS mastarm conflict with exist. overhead lines. Any relocation or adjustments shall be the responsibility of the contractor and any costs associated with these changes shall be considered incidental to the various contract items.
19. Contractor shall protect existing loop detectors and cables during construction and shall be operational after construction is complete. Costs to repair or replace existing loop detectors and/or cables, shall be bourne by the Contractor.

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LICENSE EXPIRES: APRIL 30, 2026

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
HONOLULU, HAWAII

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STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION NOTES

Kahului Beach Road Intersection Improvements at Kanaloa Avenue
Project No. 3400A-01-20

Scale: As Shown Date: July 2024

SHEET No. TS-2 OF 6 SHEETS