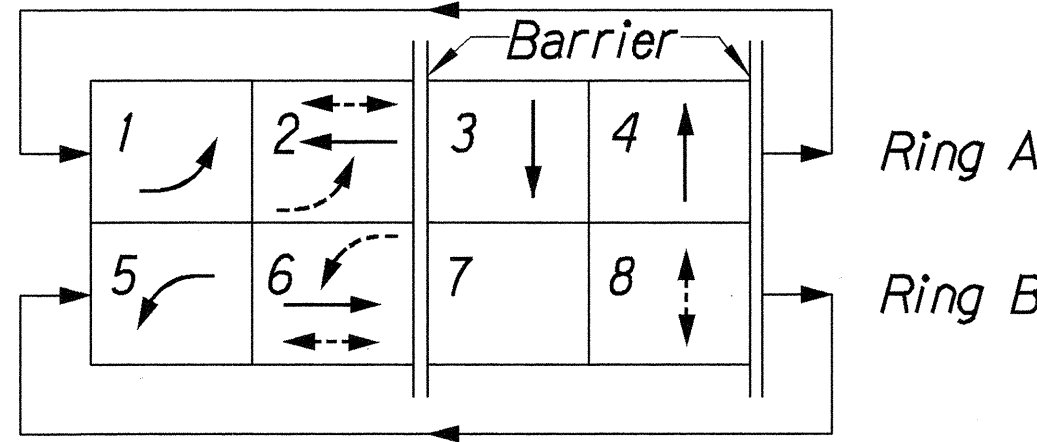


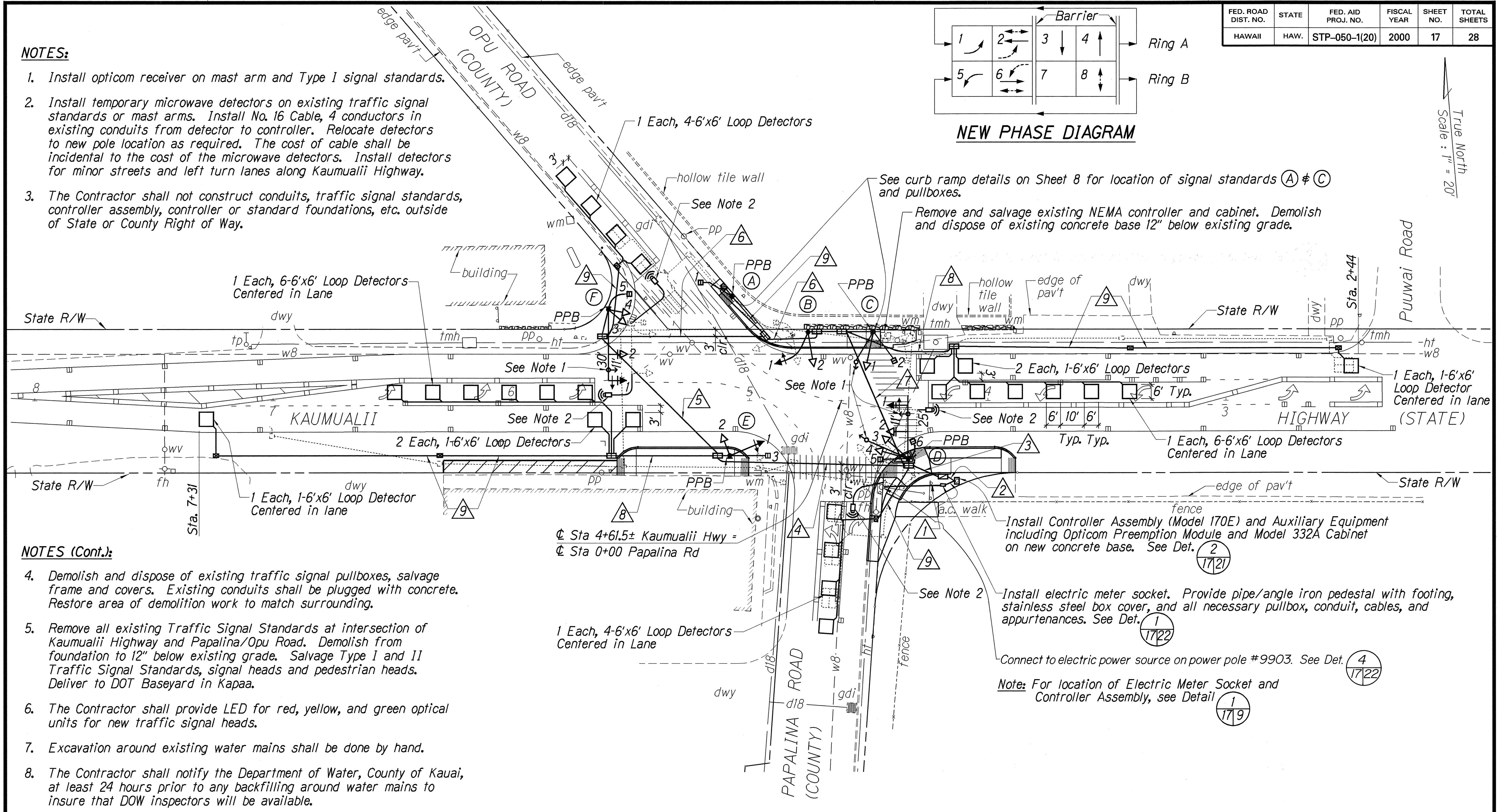
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(20)	2000	17	28

NOTES:

1. Install opticom receiver on mast arm and Type I signal standards.
2. Install temporary microwave detectors on existing traffic signal standards or mast arms. Install No. 16 Cable, 4 conductors in existing conduits from detector to controller. Relocate detectors to new pole location as required. The cost of cable shall be incidental to the cost of the microwave detectors. Install detectors for minor streets and left turn lanes along Kaumualii Highway.
3. The Contractor shall not construct conduits, traffic signal standards, controller assembly, controller or standard foundations, etc. outside of State or County Right of Way.



NEW PHASE DIAGRAM



NOTES (Cont.):

4. Demolish and dispose of existing traffic signal pullboxes, salvage frame and covers. Existing conduits shall be plugged with concrete. Restore area of demolition work to match surrounding.
5. Remove all existing Traffic Signal Standards at intersection of Kaumualii Highway and Papalina/Opu Road. Demolish from foundation to 12" below existing grade. Salvage Type I and II Traffic Signal Standards, signal heads and pedestrian heads. Deliver to DOT Baseyard in Kapaa.
6. The Contractor shall provide LED for red, yellow, and green optical units for new traffic signal heads.
7. Excavation around existing water mains shall be done by hand.
8. The Contractor shall notify the Department of Water, County of Kauai, at least 24 hours prior to any backfilling around water mains to insure that DOW inspectors will be available.
9. The Contractor shall use only select material for backfilling around water mains. No stones, rocks, deleterious materials, etc., shall be used.

TRAFFIC SIGNAL PLAN

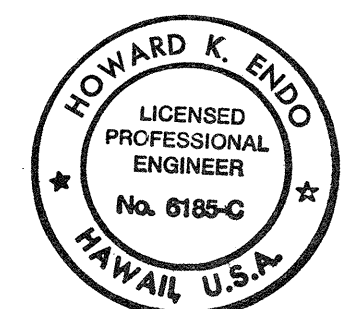
Scale: 1"=20'

APPROVED:

[Signature]
County Engineer, Dept. of Public Works
County of Kauai
(For work within County R/W)
Date: 1/21/00

APPROVED:

[Signature]
Manager and Chief Engineer, Dept. of Water Supply
County of Kauai
Date: 2/14/00



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
[Signature]
SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12th Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

Kaumualii Hwy. & Sta. 2+30 to Sta. 8+10
Kaumualii Highway Traffic Signal
Modernization at Various Locations
Federal-Aid Project No. STP-050-1(20)

Scale: As Shown Date: Apr., 2000

SHEET No. 1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(20)	2000	18	28

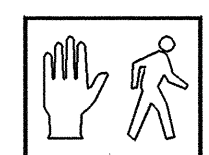
CONDUIT & CABLE SCHEDULE		
Description	PVC Conduits	Quantity & Type of Cable
	1-2"	1 - Type 6
	10-2"	1 - Type 1, Ground Wire 1 - Type 1, Ground Wire 1 - Type 1, Ground Wire 1 - Type 1, Ground Wire 4 - Type 2 4 - Type 2 3 - Type 2 4 - Type 7 2 - Spare
	10-2"	1 - Type 1, Ground Wire 1 - Type 1, Ground Wire 1 - Type 1, Ground Wire 1 - Type 1, Ground Wire 4 - Type 2 4 - Type 2 3 - Type 2 4 - Type 7 2 - Spare
	4-2"	1 - Type 1, Ground Wire 1 - Type 1, Ground Wire 4 - Type 2 Spare
	3-2"	1 - Type 1, Ground Wire 1 - Type 1, Ground Wire Spare
	5-2"	1 - Type 1, Ground Wire 1 - Type 1, Ground Wire 2 - Type 2 1 - Type 7 Spare
	6-2"	1 - Type 1, Ground Wire 1 - Type 1, Ground Wire 3 - Type 2 3 - Type 2 2 - Type 7 Spare
	1-2"	3 - Type 2
	1-2"	1 - Type 2

LIST OF MATERIALS				
Pole Letter	Standard Type	Signal Head No.	Mounting Type	Signal Faces & Opticom Receivers
A	I-8	1	Slipfitter, One-Way	H - M
B	I-10	1 2	Slipfitter, } Two-Way Slipfitter, }	R Y G R Y G
C	I-10	1 2	Slipfitter, One-Way Pole Bracket, One-Way TPIW - EVP, One-Way	R Y G H - M OPTICOM
D	II-25	1 2 3 4 5 6	Mast Arm, One Way Mast Arm, One Way Pole Bracket } Two-Way Pole Bracket } Pole Bracket } Two-Way Mast Arm (Hor.) Bracket (Vert.) - EVP, One-Way	R Y G R Y G R Y G R Y G H - M H - M OPTICOM OPTICOM
E	I-10	1 2 3	Slipfitter, } Two-Way Slipfitter, } Pole Bracket, One-Way	R Y G R Y G H - M
F	II-30	1 2 3 4 5	Mast Arm, One-Way Mast Arm, One-Way Pole Bracket } Two-Way Pole Bracket } Pole Bracket, One-Way Mast Arm (Horiz.)	R Y G R Y G R Y G R Y G H - M Opticom

TRAFFIC SIGNAL STANDARD SCHEDULE

POLE LETTER	DESCRIPTION
(A)(B)(C)(E)	Install Type I Traffic Signal Standard with Signal and Pedestrian Heads
(D)(F)	Install Type II Traffic Signal Standard with Signal and Pedestrian Heads

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	 LED  LED  LED	 LED  LED  LED *  Y	
	12" RYG TRAFFIC SIGNAL HEAD	12" RYG TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	B-2 F-3 C-1 F-4 D-2 D-3 D-4 E-2 F-2	*B-1 *D-1 *E-1 *F-1	A-1 C-2 D-5 D-6 E-3 F-5

* Fiber Optic Dual Indication

CABLE NOTES:

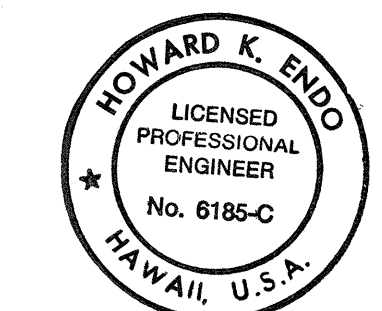
- Type 1 Signal Loop Cable:
Stranded, No. 14, 26 conductors
- Type 2 Detector Lead-In Cable and Pedestrian Push Button Circuit Cable:
Stranded, No. 14, 2 Conductors
- Type 3 Interconnect Cable:
Solid No. 19, 6 Pairs
- Type 4 Loop Sensor Cable:
Solid No. 12, Single Conductor to IMSA SPEC 5I-5.2
- Type 5 Signal Drop Cable:
Stranded, No. 14, Single Conductor
- Type 6 Service Cable:
Solid, No. 6, 3 Conductors
- Type 7 Opticom Cable:
Solid, No. 20, 3 Conductors
No. 20, 1 Ground



R10-4B
(Sign Varies
w/Direction)

- (A)  (←) R10-4B (L)
- (C)  (→) R10-4B (R)
- (D)  (→) R10-4B (R) and
(←) R10-4B (L)
- (E)  (→) R10-4B (R)
- (F)  (←) R10-4B (L)

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



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SHIMABUKURO, ENDO & YOSHIZAKI, INC.
1126 12th Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

Kaunualii Hwy. & Sta. 2+30 to Sta. 8+10

Kaunualii Highway Traffic Signal
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Scale: As Shown Date: Apr., 2000

SHEET No. 2 OF 2 SHEETS