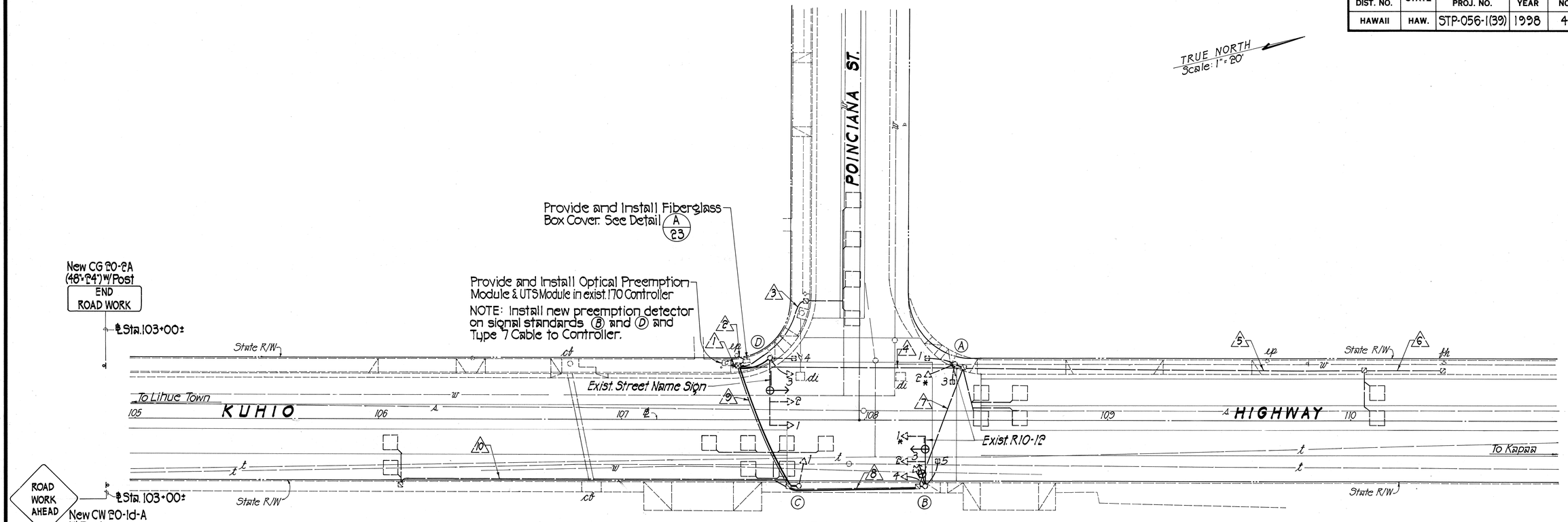
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	4	28



PLAN
Scale: 1" = 20'

NOTE: Remove existing signal-drop cables and install new signal-drop cables (Type 5) with new preemption detector cable (Type 7) for light Standards Ⓑ and Ⓓ.

CONDUIT AND CABLE SCHEDULE

DESRIPTION	DELTA ITEM NO.(△)									
	△1	△2	△3	△4	△5	△6	△7	△8	△9	△10
EXISTING CONDUIT AND CABLE										
QUANTITY OF 2" CONDUIT	6	1	1	3	2	1	1	1	2	1
QUANTITY OF SPARE 2" CONDUIT	1							1	2	1
QUANTITY OF 2GC #14 TRAFFIC CONTROL CABLE	2			1			1	1	1	
QUANTITY OF 2C #14 LOOP DETECTOR AND PEDESTRIAN PUSH BUTTON LEAD-IN CABLE	7		1	3	1				3	1
QUANTITY OF 6-PAIRS #19 CONDUCTOR, INTERCONNECT CABLE	1			1	1	1				
QUANTITY OF 3C #6 POWER CABLE	1	1								
INSTALL NEW CABLE IN EXIST. 2" CONDUIT (SPARE)										
QUANTITY OF TYPE 7 CABLE	3								2	
INSTALL NEW CONDUIT AND CABLE										
QUANTITY OF 2" CONDUIT								1		
QUANTITY OF TYPE 7 CABLE								2		

TRAFFIC SIGNAL HEAD SCHEDULE @ POINCIANA ST.

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	12" RY↑ TRAFFIC SIGNAL HEAD	12" RY← TRAFFIC SIGNAL HEAD	* 12" RYG← TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	B-2&4 C-1 D-3	D-1&2	B-3	A-2 B-1	A-1&3 B-5 D-4

* DUAL INDICATION FIBEROPTIC

DESCRIPTION OF EXISTING TRAFFIC SIGNALS

POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1&3 2	I-10'	Pole Bracket, One-way Slipfitter, One-way
B	1&2 3&4 5	II-20'	Mast Arm, One-way Pole Bracket, Two-way Pole Bracket, One-way
C	1	I-10'	Slipfitter, One-way
D	1&2 3 4	II-30'	Mast Arm, One-way Pole Bracket, One-way Pole Bracket, One-way

NOTE:
1. Plan with existing facilities was furnished by the Department of Transportation (Project No. 56A-02-93).
2. All items damaged due to construction operations shall be restored to original or better condition and shall not be measured for payment separately but shall be incidental to other items of work.

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

HAROLD I. YOSHIZAKI
LICENSED PROFESSIONAL ENGINEER
No. 2091-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

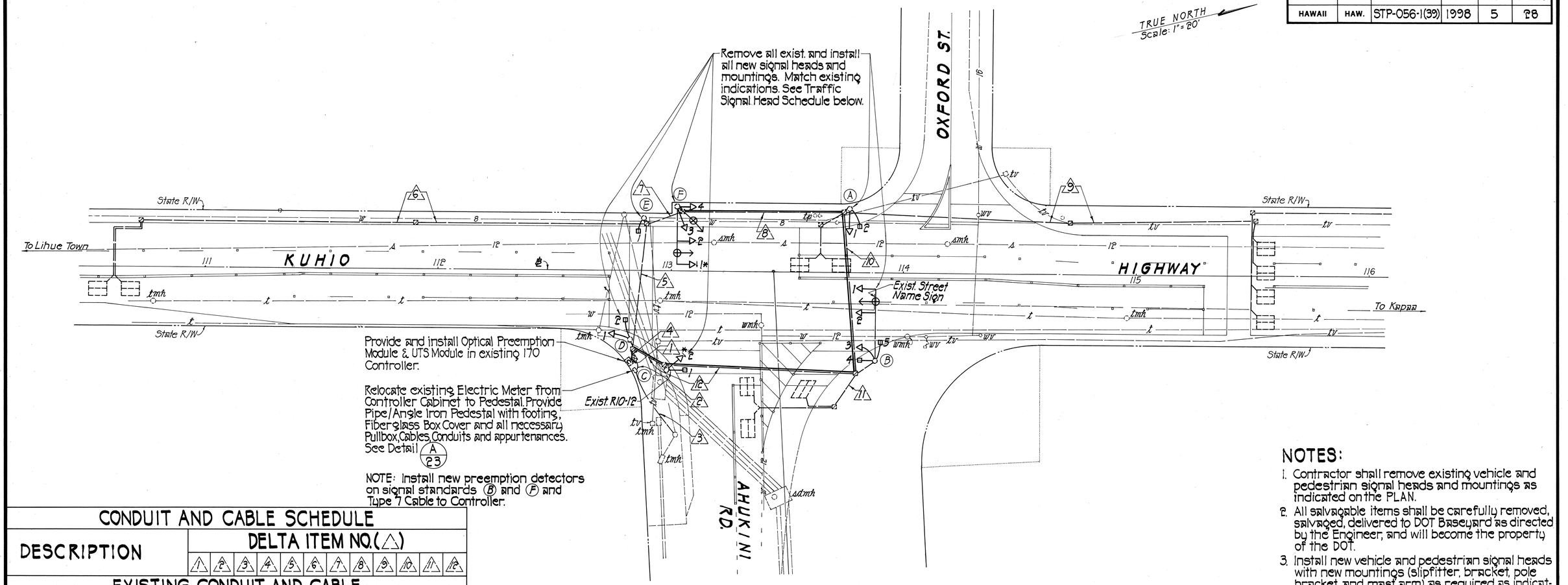
TRAFFIC SIGNALS AT POINCIANA STREET

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 1 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	5	28



CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO.(△)											
	△1	△2	△3	△4	△5	△6	△7	△8	△9	△10	△11	△12
EXISTING CONDUIT AND CABLE												
QUANTITY OF 2" CONDUIT	6	2	1	5	2	1	1	1	2	3	1	4
QUANTITY OF SPARE 2" CONDUIT						1	1	1				
QUANTITY OF 26C #14 TRAFFIC CONTROL CABLE	2			2	1		1	1		1		1
QUANTITY OF 2C #14 LOOP DETECTOR & PEDESTRIAN LEAD-IN CABLE	8			8	3	2			1	3	1	5
QUANTITY OF 24C #20 CONDUCTOR INTERCONNECT CABLE	1	1		1					1	1		1
QUANTITY OF 3C #6 POWER CABLE	1	1	1									
INSTALL NEW CABLE IN EXISTING 2" CONDUIT (SPARE)												
QUANTITY OF TYPE 7 CABLE								2				
INSTALL NEW CONDUIT AND CABLE												
QUANTITY OF 2" CONDUIT	1			1						1		1
QUANTITY OF TYPE 7 CABLE	3			3						2		3

TRAFFIC SIGNAL HEAD SCHEDULE @ AHUKINI RD.

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

*DUAL INDICATION FIBEROPTIC

DESCRIPTION OF EXISTING TRAFFIC SIGNALS

POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1 2	I-10'	Slipfitter, One-way Pole Bracket, One-way
B	1&2 3 4&5	II-30'	Mast Arm, One-way Pole Bracket, One-way Pole Bracket, One-way
C	1 2	I-10'	Pole Bracket, One-way Slipfitter, One-way
D	1 2	I-10'	Pole Bracket, One-way Pole Bracket, One-way
E	1	I-8'	Slipfitter, One-way
F	1&2 3&4	II-25'	Mast Arm, One-way Pole Bracket, Two-way

NOTES:

1. Contractor shall remove existing vehicle and pedestrian signal heads and mountings as indicated on the PLAN.
2. All salvagable items shall be carefully removed, salvaged, delivered to DOT Baseyard as directed by the Engineer, and will become the property of the DOT.
3. Install new vehicle and pedestrian signal heads with new mountings (slipfitter, bracket, pole bracket, and mast arm) as required as indicated on the PLAN.
4. Remove existing signal-drop cables and install new signal-drop cables (Type 5) with new preemption detector cables (Type 7) for signal light standards (B) and (F).
5. Plan with existing facilities was furnished by the Department of Transportation, Federal Aid Project No. RSG-0570(2).
6. All conduits shall be PVC Schedule 80 or galvanized steel.
7. Contractor shall verify all work in the field prior to submitting of bid, ordering of materials, fabrication of brackets, etc.
8. Contractor shall clean exist. spare conduit prior to installing new cables.
9. All items damaged due to construction operations shall be repaired to original or better condition (striping, marker, pavement, grassing, curb, gutter, sidewalk, detector, utilities, etc.) and shall not be measured for payment separately but shall be considered incidental to other items of work.

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

HAROLD I. YOSHIZAKI
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

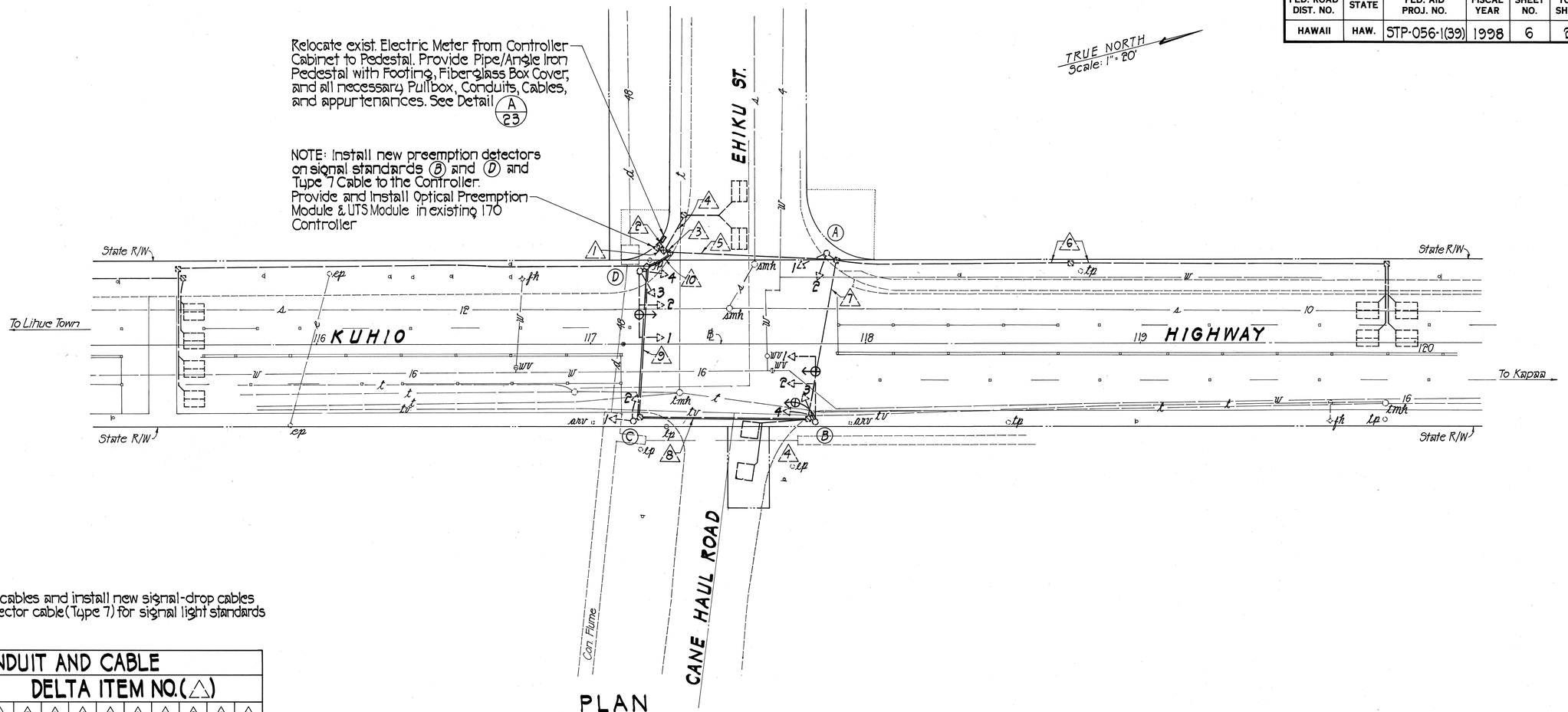
TRAFFIC SIGNALS AT AHUKINI ROAD

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 2 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	6	28



PLAN
Scale: 1"=20'

NOTE: Remove existing signal-drop cables and install new signal-drop cables (Type 5) with preemption detector cable (Type 7) for signal light standards B and D.

EXISTING CONDUIT AND CABLE										
DESCRITION	DELTA ITEM NO.(△)									
	△1	△2	△3	△4	△5	△6	△7	△8	△9	△10
EXISTING CONDUIT AND CABLE										
QUANTITY OF 2" CONDUIT	5	1	4	1	2	1	2	1	1	3
QUANTITY OF SPARE 2" CONDUIT						1		1	1	
QUANTITY OF 19C#14 TRAFFIC CONTROL CABLE	2		2		1		1	1	1	1
QUANTITY OF 2C#14 LOOP DETECTOR LEAD-IN CABLE	5		4	1	3	2	1			1
QUANTITY OF 12 PR.#20 CONDUCTOR INTERCONNECT CABLE	1		1							1
QUANTITY OF 3C#6 POWER CABLE		1								
INSTALL NEW CABLE IN EXIST. 2" CONDUIT (SPARE)										
QUANTITY OF TYPE 7 CABLE								2	2	
INSTALL NEW CONDUIT AND CABLE										
QUANTITY OF 2" CONDUIT	1		1							1
QUANTITY OF TYPE 7 CABLE	3		3							3
REMOVE EXIST. & INSTALL NEW TRAFFIC CONTROL CABLE										
QUANTITY OF 26C#14 TRAFFIC CONTROL CABLE (TYPE 1)	2		2		1		1	1	1	1

TRAFFIC SIGNAL HEAD SCHEDULE	
TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	R Y G 12" RYG TRAFFIC SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	A - 1 & 2 B - 1, 2, 3 & 4 C - 1 & 2 D - 1, 2, 3 & 4

DESCRIPTION OF EXISTING TRAFFIC SIGNALS			
POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1 & 2	I-10'	Slipfitter, Two-way
B	1 & 2 3 & 4	II-25'	Mast Arm, One-way Pole Bracket, Two-way
C	1 & 2	I-10'	Slipfitter, Two-way
D	1 & 2 3 & 4	II-25'	Mast Arm, One-way Pole Bracket, Two-way

NOTES:

1. Contractor shall remove exist. 19C#14 Traffic Control Cable; clean existing conduit as necessary; and install new 26C#14 Traffic Control Cable (Type 1). See Conduit & Cable Schedule, this sht.
2. Clean all exist. spare conduits prior to installing new cables.
3. Plan with existing facilities was furnished by the Department of Transportation [Federal Aid Project No. RSG-0570(2)].
4. All items damaged due to construction operations shall be repaired to original or better condition and shall not be measured for payment separately but shall be considered incidental to other items of work.

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

HAROLD I. YOSHIZAKI
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNALS AT EHIKU STREET

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 3 OF 17 SHEETS

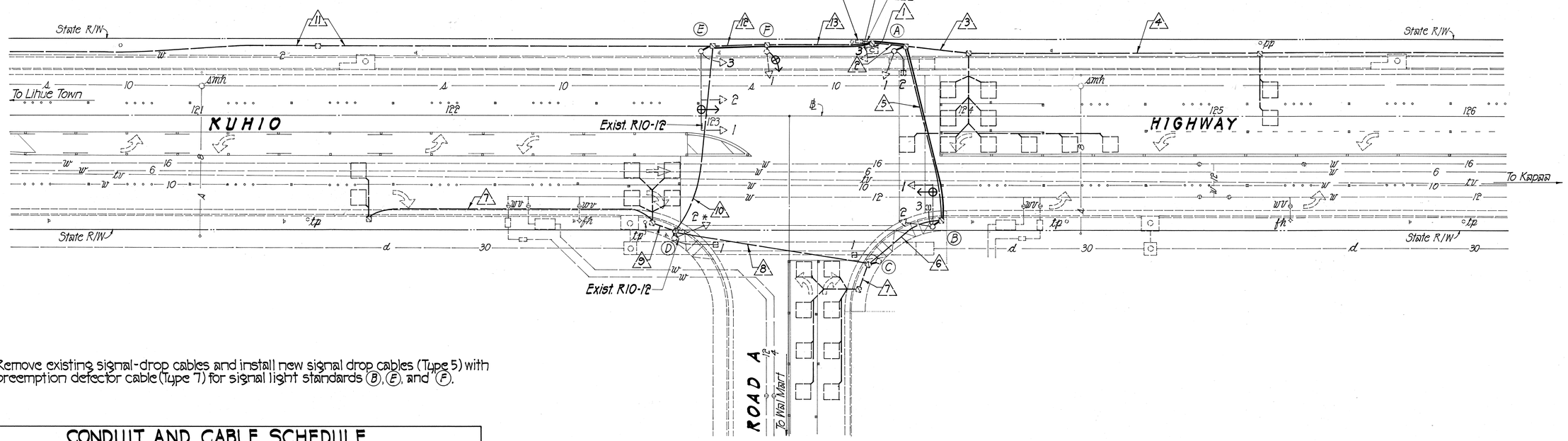
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	7	28

TRUE NORTH
Scale: 1" = 20'

NOTE: Install new preemption detectors on signal standards (B), (E), and (F) and Type 7 Cable to the Controller.

Existing Electric Meter Pedestal. Provide Fiberglass Box Cover. See Detail (A/23)

Provide and Install Optical Preemption Module & UTS Module in existing 170 Controller.



PLAN
Scale: 1" = 20'

NOTE: Remove existing signal-drop cables and install new signal drop cables (Type 5) with preemption defector cable (Type 7) for signal light standards (B), (E), and (F).

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM (△)												
	△1	△2	△3	△4	△5	△6	△7	△8	△9	△10	△11	△12	△13
EXISTING CONDUIT AND CABLE													
QUANTITY OF 2" CONDUIT	6	3	2	2	2	2	1	2	1	2	1	3	3
QUANTITY OF 2GC#14 TRAFFIC CONTROL CABLE	2	1			1	1		1		1		1	1
QUANTITY OF 2C#14 LOOP DETECTOR AND PEDESTRIAN PUSH BUTTON LEAD-IN CABLE	8	6	3	2	3	2	1	1	2	2		2	2
QUANTITY OF 6PR.#19 CONDUCTOR INTERCONNECT CABLE	1	1	1	1								1	1
QUANTITY OF 3C#6 POWER CABLE	1										1		
INSTALL NEW CONDUIT AND CABLE													
QUANTITY OF 2"CONDUIT	1	1			1							1	1
QUANTITY OF TYPE 7 CABLE 4C#20	3	1			1							1	2

TRAFFIC SIGNAL HEAD SCHEDULE @ ROAD "A"

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	* 12" RYG← TRAFFIC SIGNAL HEAD G Y	12" RYG← TRAFFIC SIGNAL HEAD	12" RY↑ TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	A-1 B-2 E-3 F-1	D-2	E-1	A-3 E-2	A-2 B-3 C-1 D-1

*DUAL INDICATION FIBER OPTIC

DESCRIPTION OF EXISTING TRAFFIC SIGNALS

POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1 & 3 2	I-10'	Slipfitter, One-way Pole Bracket, One-way
B	1 2 & 3	II-16'	Mast Arm, One-way Pole Bracket, One-way
C	1	I-8'	Slipfitter, One-way
D	1 2	I-10'	Pole Bracket, One-way Slipfitter, One-way
E	1 & 2 3	II-30'	Mast Arm, One-way Pole Bracket, One-way
F	1	I-10'	Slipfitter, One-way

NOTE:
1. Plan with existing facilities was furnished by the Department of Transportation (Commercial Developement at Kuhio Highway and Ahukini Road, Prepared by Austin Tsutsumi & Associates, Inc.).
2. All items damaged due to construction operations shall be restored to original or better condition and shall not be measured for payment separately but shall be incidental to other items of work.

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNALS AT ROAD A (WAL MART)

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 4 OF 17 SHEETS

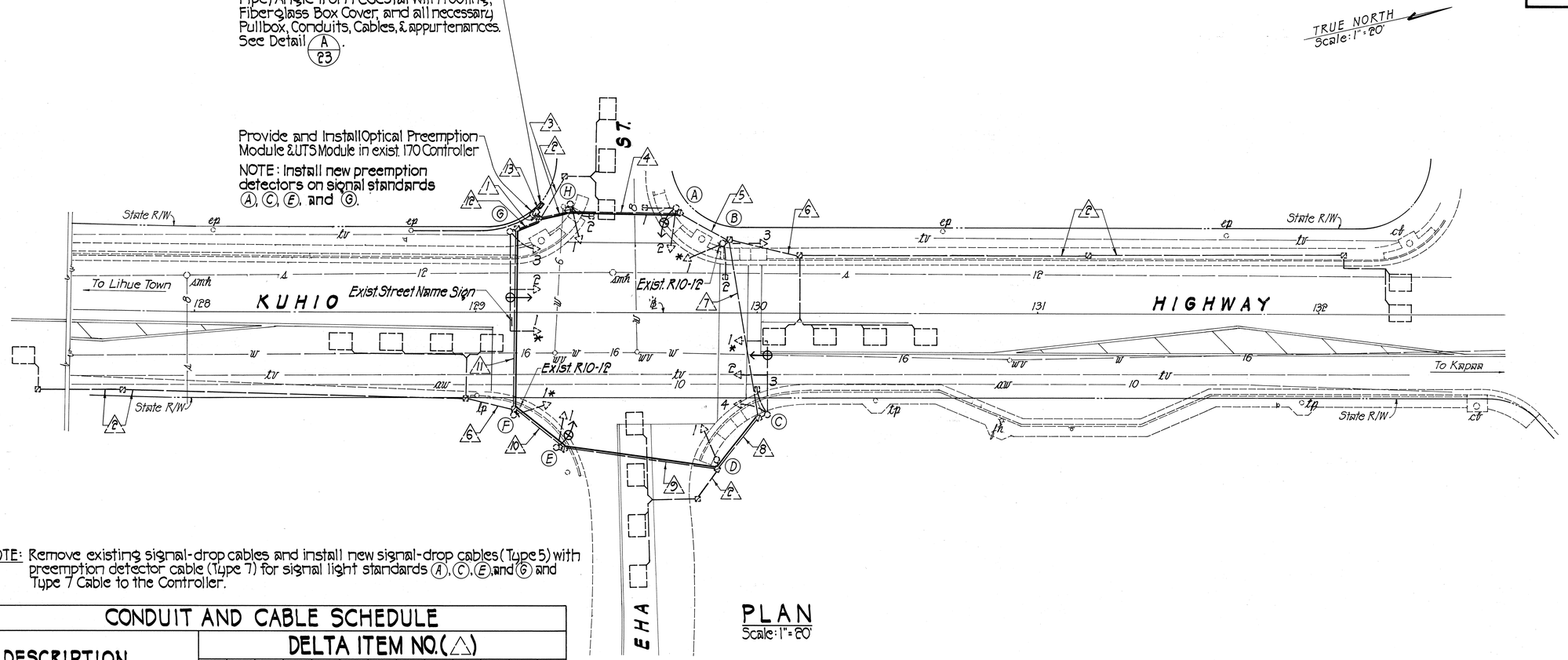
7

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	8	28

Relocate existing Electric Meter from Controller Cabinet to Pedestal. Provide Pipe/Angle Iron Pedestal with Footing, Fiberglass Box Cover, and all necessary Pullbox, Conduits, Cables, & appurtenances. See Detail A/23.

Provide and Install Optical Preemption Module & UTS Module in exist. 170 Controller

NOTE: Install new preemption detectors on signal standards (A), (C), (E), and (G).



PLAN
Scale: 1" = 20'

ROAD WORK AHEAD — New CW 20-1d-A W/ Posts
± Sta. 134+50±

± Sta. 134+50±
END ROAD WORK — New CG 20-2A (48"x24") W/ Post

NOTE: Remove existing signal-drop cables and install new signal-drop cables (Type 5) with preemption detector cable (Type 7) for signal light standards (A), (C), (E), and (G) and Type 7 Cable to the Controller.

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO. (△)												
	△1	△2	△3	△4	△5	△6	△7	△8	△9	△10	△11	△12	△13
EXISTING CONDUIT AND CABLE													
QUANTITY OF 2" CONDUIT	4	1	2	2	2	1	2	1	2	2	2	2	
QUANTITY OF SPARE 2" CONDUIT	1		1		1			1			1	1	
QUANTITY OF 2@6C #14 TRAFFIC CONTROL CABLE	2		1	1	1		1	1	1	1	1	1	
QUANTITY OF 2C #14 LOOP DETECTOR AND PEDESTRIAN PUSH BUTTON LEAD-IN CABLE	10	1	6	5	4	2	1		1	1	3	3	
QUANTITY OF CONDUCTOR INTERCONNECT CABLE													
QUANTITY OF 3C #6 POWER CABLE													
INSTALL NEW CABLE IN EXISTING 2" CONDUIT (SPARE)													
QUANTITY OF TYPE 7 CABLE			1					1			2	3	
INSTALL NEW CONDUIT AND CABLE													
QUANTITY OF 2" CONDUIT	1			1					1	1			1
QUANTITY OF TYPE 7 CABLE	4			1					1	2			1

TRAFFIC SIGNAL HEAD SCHEDULE @ EHA STREET

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	* 12" RYG ← TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	A-2 B-3 C-2 & 4 D-1 E-1 G-2&3 H-1	B-1 C-1 F-1 G-1	A-1 B-2 C-3 H-2

* DUAL INDICATION FIBEROPTIC

DESCRIPTION OF EXISTING TRAFFIC SIGNALS

POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1 2	I-10'	Pole Bracket, One-way Slipfitter, One-way
B	1 & 3 2	I-10'	Slipfitter, Two-way Bracket, One-way
C	1 & 2 3 4	II-25'	Mast Arm, One-way Bracket, One-way Pole Bracket, One-way
D	1	I-10'	Slipfitter, One-way
E	1	I-10'	Slipfitter, One-way
F	1	I-10'	Slipfitter, One-way
G	1 & 2 3	II-35'	Mast Arm, One-way Pole Bracket, One-way
H	1 2	I-10'	Slipfitter, One-way Pole Bracket, One-way

NOTES:
1. All items damaged due to construction operations shall be restored to original or better condition (striping, marker, pavement, curb, gutter, sidewalk, detector, grassing, etc.) and shall not be measured for payment separately but shall be considered incidental to other items of work.
2. Plan with existing facilities was furnished by the Department of Transportation (Project No. 56A-01-85)
3. Contractor shall clean existing spare conduits prior to installing new cables.

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

HAROLD I. YOSHIZAKI
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

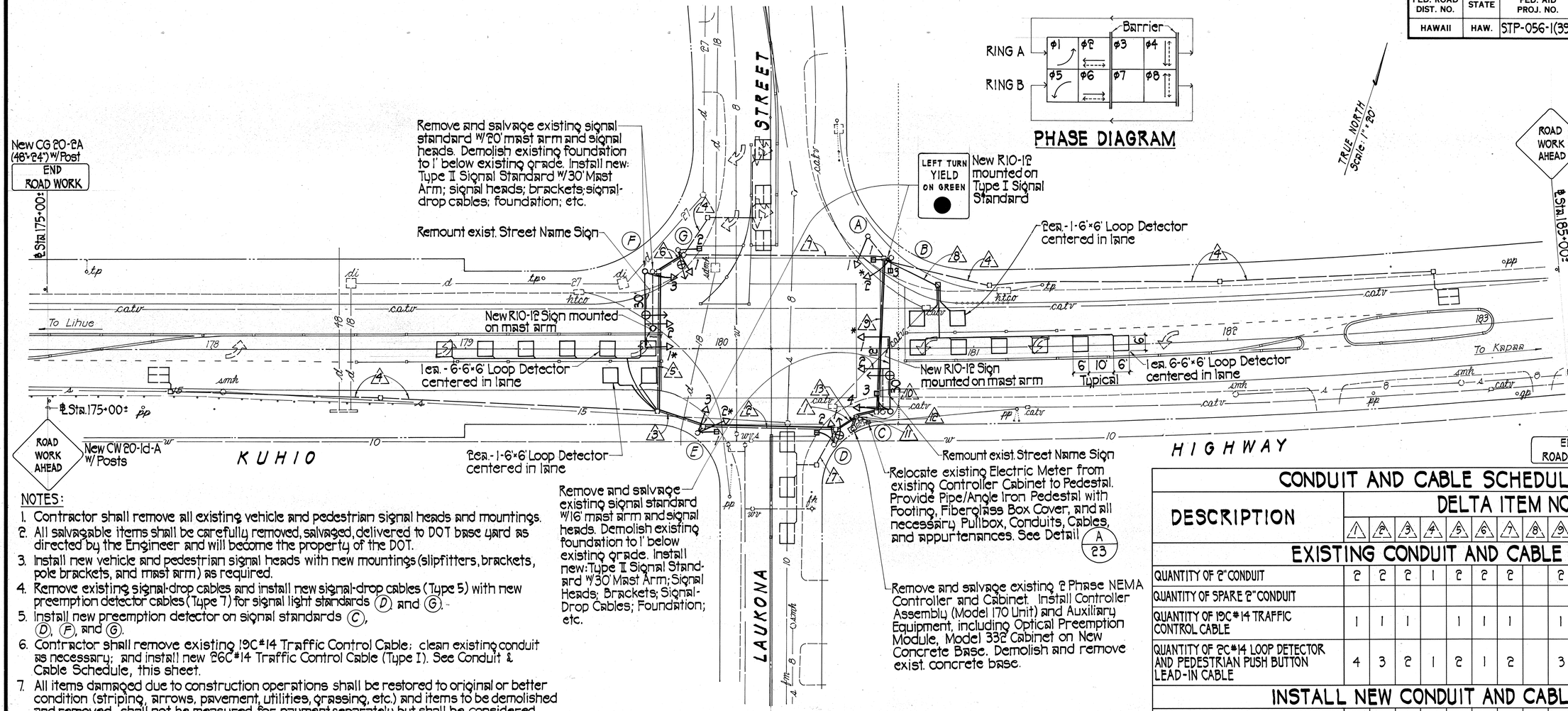
TRAFFIC SIGNALS AT EHA STREET

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 5 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	9	28



PLAN
Scale: 1" = 20'

NOTES:

1. Contractor shall remove all existing vehicle and pedestrian signal heads and mountings.
2. All salvagable items shall be carefully removed, salvaged, delivered to DOT base yard as directed by the Engineer and will become the property of the DOT.
3. Install new vehicle and pedestrian signal heads with new mountings (slipfitters, brackets, pole brackets, and mast arm) as required.
4. Remove existing signal-drop cables and install new signal-drop cables (Type 5) with new preemption detector cables (Type 7) for signal light standards (D) and (G).
5. Install new preemption detector on signal standards (C), (D), (F), and (G).
6. Contractor shall remove existing 19C#14 Traffic Control Cable; clean existing conduit as necessary; and install new 26C#14 Traffic Control Cable (Type I). See Conduit & Cable Schedule, this sheet.
7. All items damaged due to construction operations shall be restored to original or better condition (striping, arrows, pavement, utilities, grassing, etc.) and items to be demolished and removed, shall not be measured for payment separately but shall be considered incidental to other items of work.

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12"RYG TRAFFIC SIGNAL HEAD	12"RYG TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	B - 2 C - 1 E - 2 F - 1	A - 1 C - 2&4 D - 1 E - 3 F - 2&3 G - 1	B - 1&3 C - 3 D - 2 E - 1 G - 2

DESCRIPTION OF EXISTING TRAFFIC SIGNALS

POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1	I-10'	Slipfitter, One-way
B	1 & 3 2	I-10'	Pole Bracket, One-way Slipfitter, One-way
C	1 & 2 3 4	II-30'	Mast Arm, One-way Pole Bracket, One-way Pole Bracket, One-way
D	1 2	I-10'	Slipfitter, One-way Pole Bracket, One-way
E	1 2 & 3	I-10'	Pole Bracket, One-way Slipfitter, Two-way
F	1 & 2 3	II-30'	Mast Arm, One-way Pole Bracket, One-way
G	1 2	I-10'	Slipfitter, One-way Pole Bracket, One-way

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO.(△)													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
EXISTING CONDUIT AND CABLE														
QUANTITY OF 2" CONDUIT	2	2	2	1	2	2	2		2	2	4			
QUANTITY OF SPARE 2" CONDUIT														
QUANTITY OF 19C#14 TRAFFIC CONTROL CABLE	1	1	1		1	1	1		1	1	2			
QUANTITY OF 2C#14 LOOP DETECTOR AND PEDESTRIAN PUSH BUTTON LEAD-IN CABLE	4	3	2	1	2	1	2		3	3	7			
INSTALL NEW CONDUIT AND CABLE														
QUANTITY OF 2" CONDUIT	2	2	2		1	1		1	1	2		1	7	
QUANTITY OF 26C#14 TRAFFIC CONTROL CABLE (TYPE 1)													2	
QUANTITY OF TYPE 2 LOOP DETECTOR LEAD-IN CABLE (TYPE 2)	2	2	2					2	2	2			11	
QUANTITY OF 3C#6 POWER CABLE (TYPE 6)												1	1	
QUANTITY OF 4C#20 CABLE (TYPE 7)	3	2	2		2	1				1			4	
REMOVE EXIST. & INSTALL NEW TRAFFIC CONTROL CABLE														
QUANTITY OF 26C#14 TRAFFIC CONTROL CABLE (TYPE 1)	1	1	1		1	1	1		1	1	2			

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

HAROLD I. YOSHIZAKI
LICENSED PROFESSIONAL ENGINEER
No. 2091-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNALS AT LAUKONA STREET

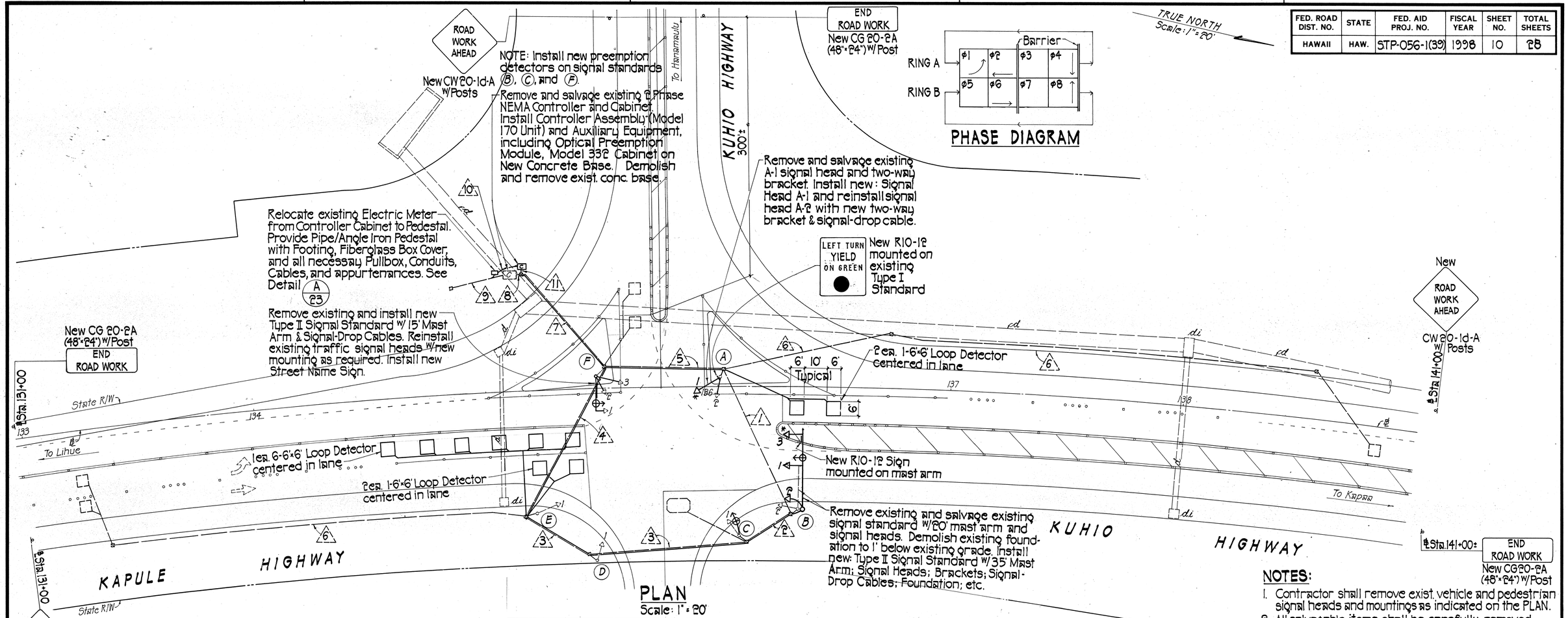
KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 6 OF 17 SHEETS

137210

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	10	28



TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	12" RYG TRAFFIC SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	A-1* B-3*	A-2 B-1&2 C-1 D-1 E-1 F-1,2&3

* DUAL INDICATION FIBEROPTIC

DESCRIPTION OF EXISTING TRAFFIC SIGNALS

POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1&2	I - 10'	Slipfitter, Two-way
B	1&3 2	II - 35'	Mast Arm, One-way Pole Bracket, One-Way
C	1	I - 10'	Slipfitter, One-way
D	1	I - 10'	Slipfitter, One-way
E	1	I - 10'	Slipfitter, One-way
F	1 2&3	II - 15'	Mast Arm, One-way Pole Bracket, Two-Way

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO. 1	2	3	4	5	6	7	8	9	10	11
EXISTING CONDUIT AND CABLE											
QUANTITY OF 2" CONDUIT	1	1	2	2	2	1	3	4	1		
QUANTITY OF 19C#14 TRAFFIC CONTROL CABLE	1	1	1	1	1		2	2			
QUANTITY OF 2C#14 LOOP DETECTOR LEAD-IN CABLE			1	2	1	1	4	4			
QUANTITY OF 3C#6 POWER CABLE								1	1		
INSTALL NEW CONDUIT AND CABLE											
QUANTITY OF 2" CONDUIT		1	1	2	1		2			1	5
QUANTITY OF 26C#14 TRAFFIC CONTROL CABLE (TYPE 1)											2
QUANTITY OF 2C#14 LOOP DETECTOR LEAD-IN CABLE (TYPE 2)				2	1		3				7
QUANTITY OF 3C#6 POWER CABLE (TYPE 6)										1	
QUANTITY OF 4C#20 CABLE (TYPE 7)		1	2	2			3				3
REMOVE EXISTING AND INSTALL NEW TRAFFIC CONTROL CABLE											
QUANTITY OF 26C#14 TRAFFIC CONTROL CABLE (TYPE 1)	1	1	1	1	1		2	2			

NOTES (Cont'd)

8. The Contractor shall remove exist. 19C#14 Traffic Control Cable; clean existing conduit as necessary; and install new 26C#14 Traffic Control Cable (Type 1). See Conduit & Cable Schedule, this sht.
9. All items damaged due to construction operations shall be restored to original or better condition (striping, arrows, pavement, markers, utilities, detectors, grassing, etc.) and items to be demolished and removed, shall not be measured for payment separately but shall be considered incidental to other items of work.

NOTES:

1. Contractor shall remove exist. vehicle and pedestrian signal heads and mountings as indicated on the PLAN.
2. All salvagable items shall be carefully removed, salvaged, delivered to DOT Baseyard as directed by the Engineer, and will become the property of DOT.
3. Install new vehicle and pedestrian signal heads with new mountings (slipfitter, bracket, pole bracket, and mast arm) as required as indicated on the PLAN.
4. Remove existing signal-drop cables and install new signal-drop cables (Type 5) with new preemption detector cables (Type 7) for signal light standard (C).
5. Plans with existing facilities was furnished by the Department of Transportation (Fed. Aid Proj. No. F-051-1(17)).
6. All conduits shall be PVC Schedule 80 or galvanized steel.
7. Contractor shall verify all work in the field prior to submitting of bid, ordering of materials, fabrication of brkts, etc.

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

137218

HAROLD I. YOSHIZAKI LICENSED PROFESSIONAL ENGINEER No. 2091-C HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

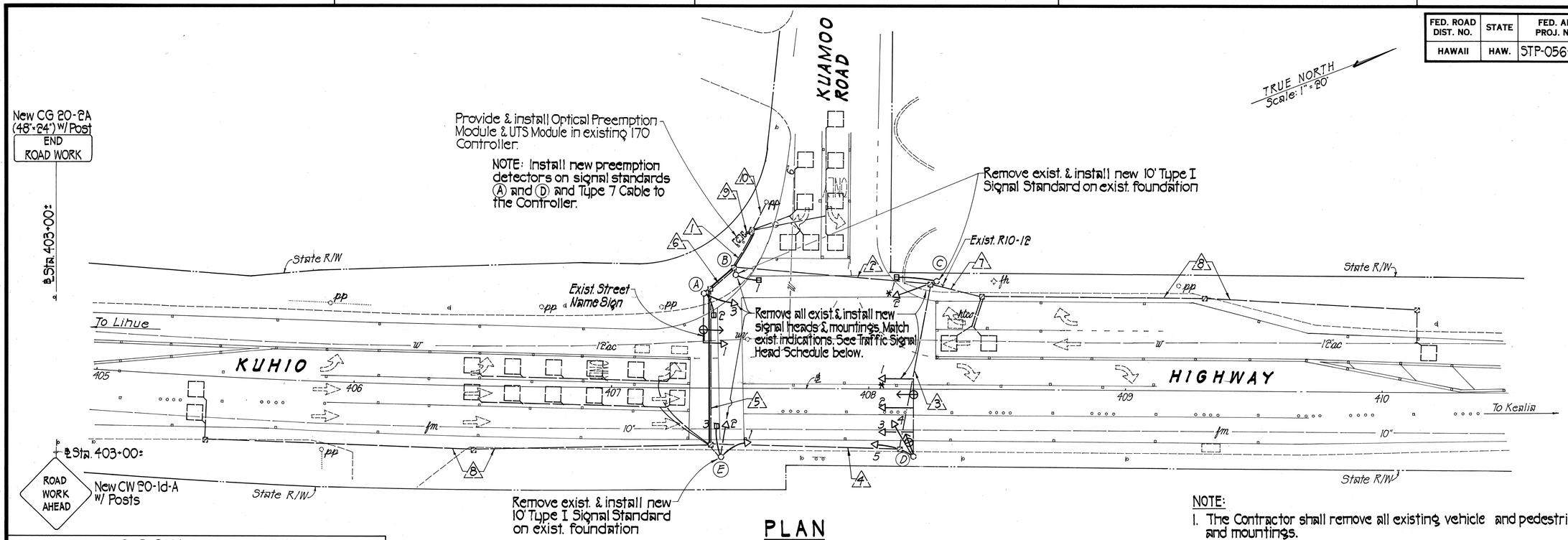
TRAFFIC SIGNALS AT KAPULE HIGHWAY

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 7 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	11	28



PLAN
Scale: 1" = 20'

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	12" RY↑ TRAFFIC SIGNAL HEAD	12" RY← TRAFFIC SIGNAL HEAD	* 12" RYG ← TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	A-1 & 3 D-2 & 5 E-1 & 2	D-3	D-4	C-2 D-1	A-2 E-3 B-1 C-1

* DUAL INDICATION FIBEROPTIC

DESCRIPTION OF EXISTING TRAFFIC SIGNALS

POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1 2 3	II-20'	Mast Arm, One-way Pole Bracket, One-way Pole Bracket, One-way
B	1	I-8'	Slipfitter, One-way
C	1 2	I-10'	Pole Bracket, One-way Slipfitter, One-way
D	1, 2 & 3 4 & 5	II-30'	Mast Arm, One-way Pole Bracket, Two-way
E	1 & 2 3	I-10'	Slipfitter, Two-way Pole Bracket, One-way

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO.(△) 1	2	3	4	5	6	7	8	9	10	11
EXISTING CONDUIT AND CABLE											
QUANTITY OF SPARE 2" CONDUIT			1	1							
QUANTITY OF 2" CONDUIT	4	2	1	1	2	2	1	1	4	1	4
QUANTITY OF 19C #14 TRAFFIC CONTROL CABLE	2	1	1	1	1	1			2		2
QUANTITY OF 2C #14 LOOP DETECTOR AND PEDESTRIAN PUSH BUTTON LEAD-IN CABLE	5	3			2	2	2	1	5		5
QUANTITY OF 3C #6 POWER CABLE										1	
QUANTITY OF 12 PR. #19 INTERCONNECT CABLE										1	
INSTALL NEW CABLE IN EXISTING 2" CONDUIT (SPARE)											
QUANTITY OF 4C #20 (TYPE 7) CABLE				2					3		3
INSTALL NEW CONDUIT AND CABLE											
QUANTITY OF 2" CONDUIT	1				1	1					
QUANTITY OF 4C #20 (TYPE 7) CABLE	3				2	3					
REMOVE EXISTING & INSTALL NEW TRAFFIC CONTROL CABLE											
QUANTITY OF 26C #14 TRAFFIC CONTROL CABLE (TYPE 1)	2	1	1	1	1	1			2		2

NOTE:

1. The Contractor shall remove all existing vehicle and pedestrian signal heads and mountings.
2. All salvageable items shall be carefully removed, salvaged, delivered to DOT Baseyard as directed by the Engineer and will become the property of the DOT.
3. Install new vehicle (match existing) and pedestrian signal heads with new mountings (slipfitter, bracket, pole bracket, and mast arm) as required.
4. Remove existing signal-drop cables and install new signal-drop cables (Type 5) with preemption detector cables (Type 7) for signal standards (A) and (D).
5. Plans with existing facilities was furnished by the Department of Transportation (Federal Aid Project No. RSG-0580(3) and Project No. 56A-01-91).
6. All conduits shall be Schedule 80 or galvanized steel.
7. Maintain 18 feet clearance between bottom of signal head on mast arm and existing pavement grade.
8. Contractor shall verify all work in the field prior to submitting of bid, ordering of materials, fabrication of brackets, etc.
9. Install new Signal Drop Cables (Type 5) for new Type I Signal Standards (B), (C) & (E).
10. Clean exist. spare conduits prior to installing new cables.
11. Contractor shall remove exist. 19C #14 Traffic Control Cable; clean exist. conduit as necessary; and install new 26C #14 Traffic Control Cable (Type 1). See Conduit & Cable Schedule, this sheet.
12. Items damaged due to construction operations shall be restored to original or better condition (striping, markers, pavement, detectors, sidewalk, curb, gutter, utilities, grassing, etc.) shall not be measured for payment separately but shall be considered incidental to other items of work.

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

HAROLD I. YOSHIZAKI
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

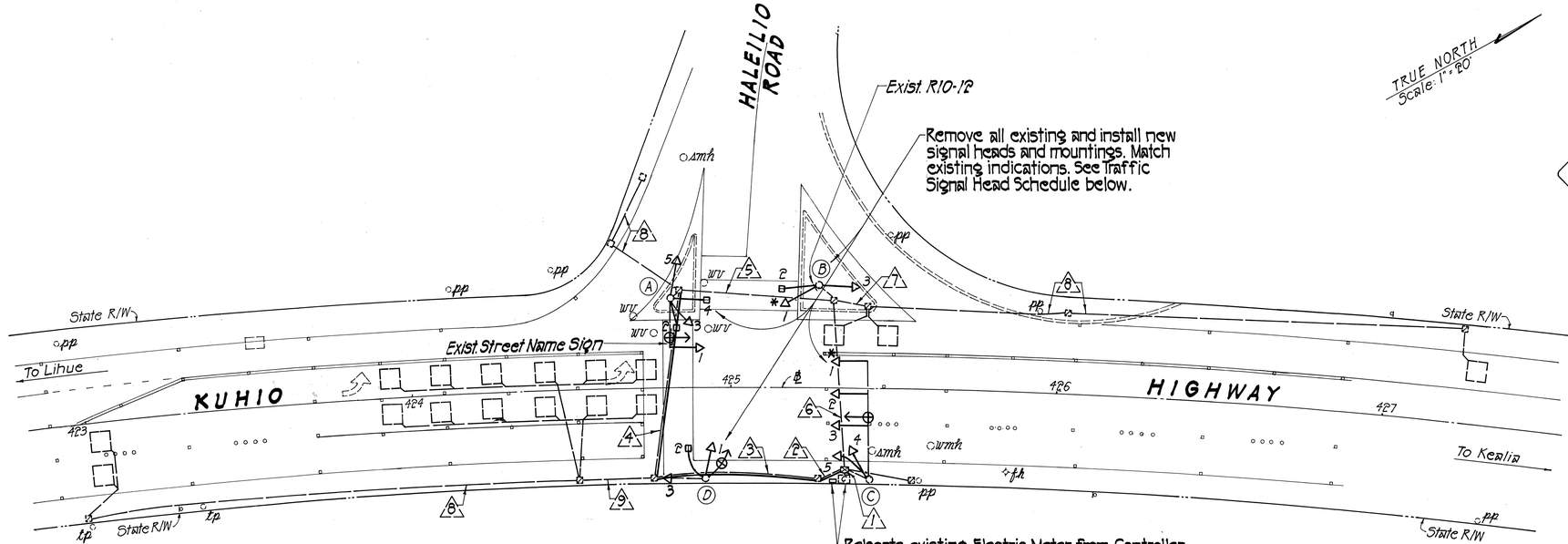
TRAFFIC SIGNALS AT KUAMOO ROAD

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 8 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	12	28



PLAN
Scale: 1"=20'

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	12" RY← TRAFFIC SIGNAL HEAD	* G Y 12" RYG← TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	A-1,3&5 B-3, D-3 C-2,3&5	C-4 D-1	B-1 C-1	A-2&4 B-2 D-2

* DUAL INDICATION FIBEROPTIC

DESCRIPTION OF EXISTING TRAFFIC SIGNALS

POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1 3 & 5 2 & 4	II-15'	Mast Arm, One-way Pole Bracket, One-way Pole Bracket, One-way
B	1 & 3 2	I-10'	Slipfitter, Two-way Pole Bracket, One-way
C	1, 2 & 3 4 & 5	II-35'	Mast Arm, One-way Pole Bracket, One-way
D	1 & 3 2	I-10'	Slipfitter, Two-way Bracket, One-way

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO.(△)								
	1	2	3	4	5	6	7	8	9
EXISTING CONDUIT AND CABLE									
QUANTITY OF 2" CONDUIT	5	2	2	2	2	2	1	1	1
QUANTITY OF 2GC#14 TRAFFIC CONTROL CABLE	2	1	1	1	1	1			
QUANTITY OF 2C#14 LOOP DETECTOR AND PEDESTRIAN PUSH BUTTON LEAD-IN CABLE	8	5	5	2	1	3	2	1	2
QUANTITY OF 3C#6 POWER CABLE	1								
QUANTITY OF 12 PR.#19 INTERCONNECT CABLE	1								
INSTALL NEW CONDUIT AND CABLE									
QUANTITY OF 2" CONDUIT	1	1	1	1					
QUANTITY OF 4C#20 (TYPE 7) CABLE	3	2	2	1					

NOTES:

1. The Contractor shall remove all existing vehicle and pedestrian signal heads and mountings.
2. All salvageable items shall be carefully removed, salvaged, delivered to DOT Baseyard as directed by the Engineer and will become the property of the DOT.
3. Install new vehicle (match existing) and pedestrian signal heads with new mountings (slipfitter, brackets, pole bracket, and mast arm) as required.
4. Remove existing signal-drop cables and install new signal-drop cables (Type 5) with new preemption detector cables (Type 7) for signal standards A, C and D.
5. Plans with existing facilities was furnished by the Department of Transportation (Project No. 56A-03-89 and 56A-01-91).
6. All conduits shall be PVC Schedule 80 or galvanized steel.
7. Maintain 18 feet clearance between bottom of signal head on mast arm and existing pavement grade.
8. Contractor shall verify all work in the field prior to submitting of bid, ordering of materials, fabrication of brackets, etc.
9. All items damaged due to construction operations shall be restored to original or better condition (striping, markers, pavement, curb, gutter, sidewalk, detectors, utilities, etc.) shall not be measured for payment but shall be incidental to other items of work.

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

HAROLD I. YOSHIZAKI
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

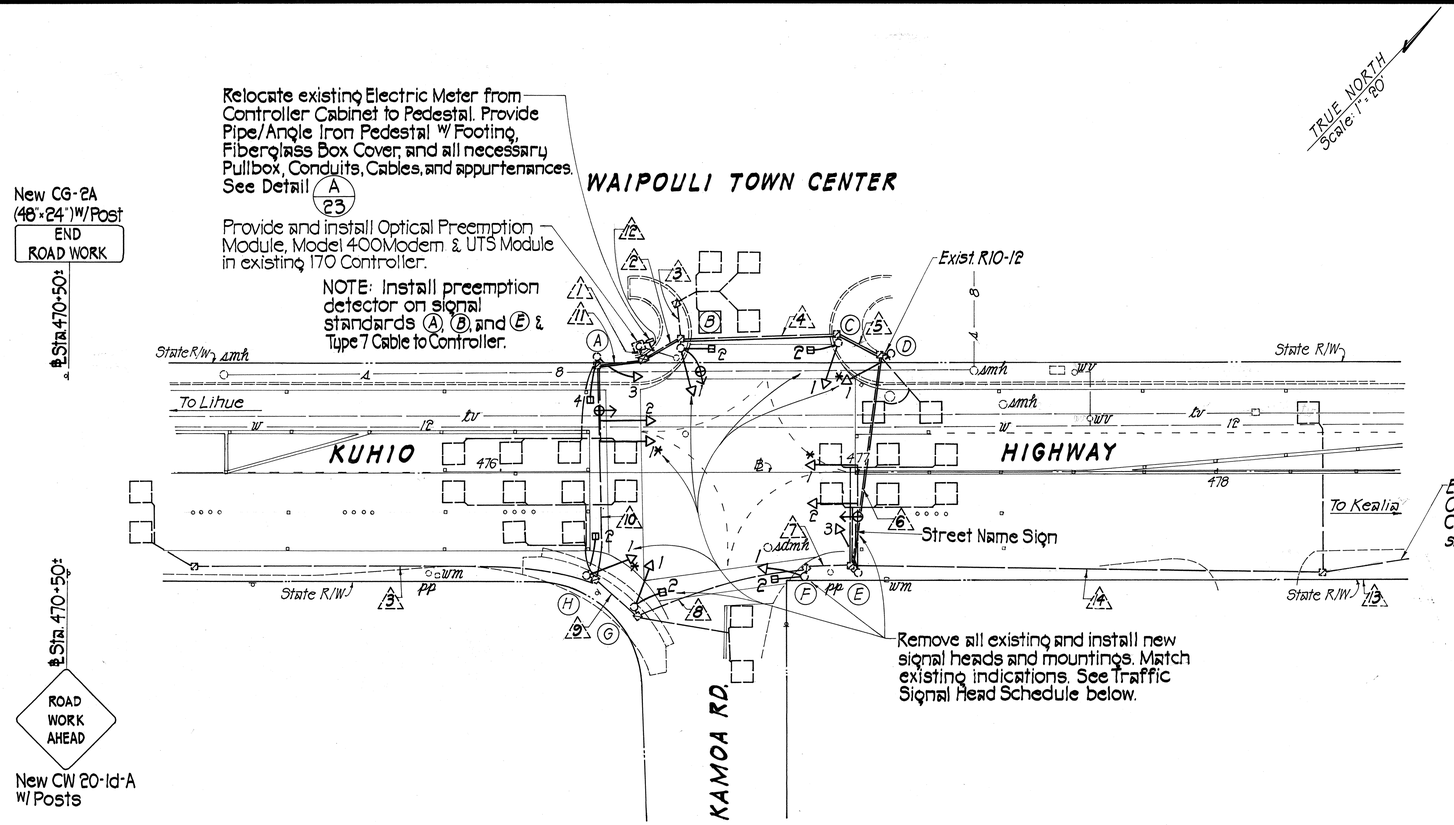
TRAFFIC SIGNALS AT HALEILIO ROAD

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 9 OF 17 SHEETS

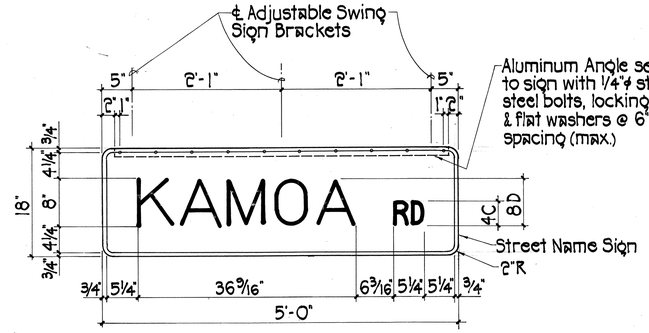
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	13	28



PLAN
Scale: 1"=20'

NOTES:

1. Contractor shall remove all existing vehicle and pedestrian signal heads and mountings.
2. All salvagable items shall be carefully removed, salvaged, delivered to DOT Baseyard as directed by the Engineer and will become the property of the Department of Transportation.
3. Install new vehicle and pedestrian signal heads with new mountings (slipfitter, pole bracket, mast arm, bracket, etc.) as required.
4. Remove signal-drop cables and install new signal-drop cables (Type 5) with new preemption detector cables (Type 7) for signal light standards A, B, and E.
5. Plans with existing facilities was furnished by the Department of Transportation (Project No. 56A-01-92).
6. All conduits shall be PVC Schedule 80 or galvanized steel.
7. Contractor shall verify all work in the field prior to submitting of bid, ordering of materials, fabrication of brackets, etc.



STREET NAME SIGN ON MAST ARM
Not to Scale

8. All items damaged due to construction operations shall be restored to original or better condition (striping, markers, curb, gutter, sidewalk, detectors, pavement, utilities, grassing, etc.) and shall not be measured for payment separately but shall be incidental to other items of work.

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	12" RY↑ TRAFFIC SIGNAL HEAD	* 12" RYG← TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	A-3 B-1 C-2 E-3 F-1 G-1	A-2 E-2	A-1 D-1 E-1 H-1	A-4 B-2 C-1 F-2 G-2 H-2

* DUAL INDICATION FIBEROPTIC

DESCRIPTION OF EXISTING TRAFFIC SIGNALS

POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1 & 2 3 4	II-25	Mast Arm, One-Way Pole Bracket, One-Way Bracket, One-Way
B	1 2	I-10'	Slipfitter, One-Way Pole Bracket, One-Way
C	1 2	I-10'	Slipfitter, One-Way Pole Bracket, One-Way
D	1	I-10'	Slipfitter, One-Way
E	1 & 2 3	II-35'	Mast Arm, One-Way Pole Bracket, One-Way
F	1 2	I-10'	Slipfitter, One-Way Pole Bracket, One-Way
G	1 2	I-10'	Slipfitter, One-Way Pole Bracket, One-Way
H	1 2	I-10'	Slipfitter, One-Way Pole Bracket, One-Way

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO. (△) 1	2	3	4	5	6	7	8	9	10	11	12	13	14
EXISTING CONDUIT AND CABLE														
QUANTITY OF 2" CONDUIT	5	3	1	2	1	1	2	2	3	4	4		1	1
QUANTITY OF 26C #14 TRAFFIC CONTROL CABLE	2	1		1	1	1	1	1	1	1	1			1
QUANTITY OF 2C #14 LOOP DETECTOR AND PEDESTRIAN PUSH BUTTON LEAD-IN-CABLE	12	2	1	1	1		3	4	5	9	10			
QUANTITY OF 12C #19 INTERCONNECT CABLE	1	1		1	1	1							1	1
INSTALL NEW CONDUIT AND CABLE														
QUANTITY OF 2" CONDUIT	2	1		1	1	1					1	1		
QUANTITY OF 3C #6 (TYPE 6) CABLE												1		
QUANTITY OF 4C #20 (TYPE 7) CABLE	3	2		1	1	1					1			

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNALS AT KAMOA ROAD

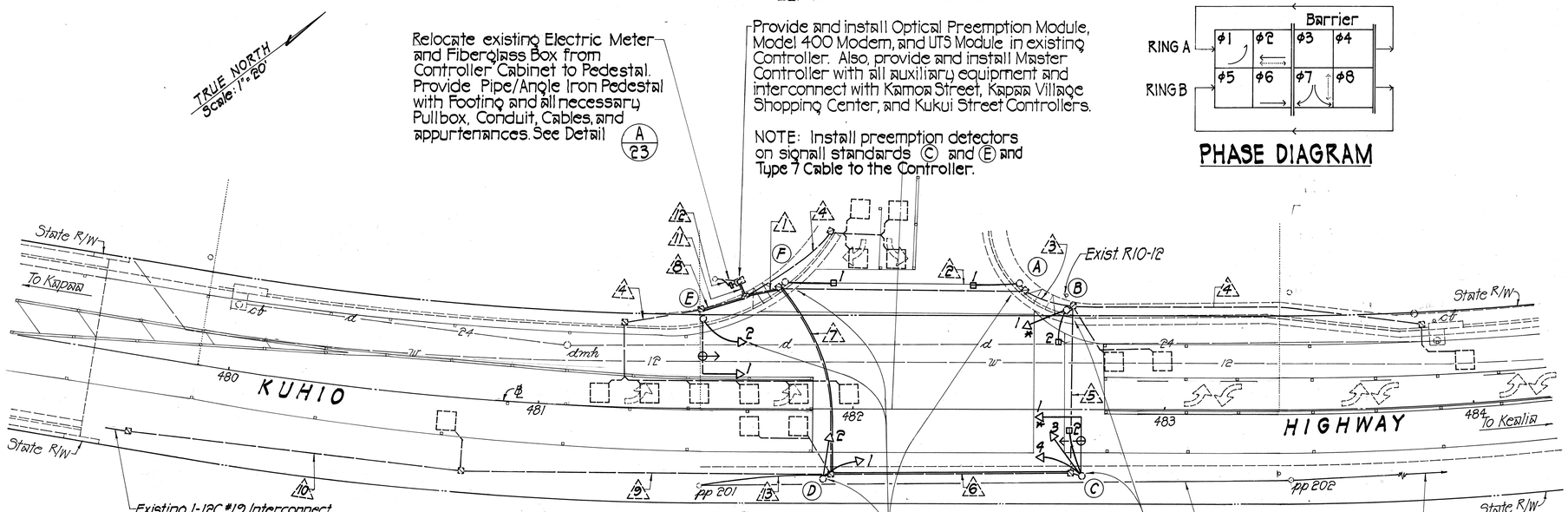
KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 10 OF 17 SHEETS

KAUAI VILLAGE SHOPPING CENTER

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	14	28



PHASE DIAGRAM

PLAN
Scale: 1" = 20'

NOTES:

1. The Contractor shall remove existing vehicle and pedestrian signal heads and mountings as indicated on the PLAN.
2. All salvagable items shall be carefully removed, salvaged, delivered to DOT Baseyard as directed by the Engineer, and will become the property of DOT.
3. Install new vehicle and pedestrian signal heads with new mountings (slipfitter, bracket, mast arm, and pole bracket) as required as indicated on the PLAN.
4. Remove existing signal-drop cables and install new signal-drop cables (Type 5) with new preemption detector cables (Type 7) for signal light standards Ⓒ and Ⓔ.
5. Plans with existing facilities was furnished by the Department of Transportation (Kauai Village, prepared by Austin, Tsutsumi & Assoc., Inc)
6. All conduits shall be PVC Schedule 80 or galvanized steel.
7. Contractor shall verify all work in the field prior to submitting of bid, ordering of materials, fabrication of brackets, etc.
8. All items damaged due to construction operations shall be repaired to original or better condition (striping, markers, pavement, curb, gutter, sidewalk, detectors, utilities, grassing, etc.) and shall not be measured for payment separately but shall be considered incidental to other items of work.

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESRIPTION	12" RYG TRAFFIC SIGNAL HEAD	*12" RYG TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	C-3&4 D-1&2 E-1&2	B-1 C-1	A-1 B-2 C-2 F-1

*DUAL INDICATION FIBEROPTIC

DESCRIPTION OF EXISTING TRAFFIC SIGNALS

POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1	I - 8'	Slipfitter, One-way
B	1 2	I - 10'	Slipfitter, One-way Pole Bracket, One-way
C	1 2,3&4	II - 20'	Mast Arm, One-way Pole Bracket, One-way
D	1 & 2	I - 10'	Slipfitter, Two-way
E	1 2	II - 20'	Mast Arm, One-way Pole Bracket, One-way
F	1	I - 8'	Slipfitter, One-way

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO. 1	2	3	4	5	6	7	8	9	10	11	12	13
EXISTING CONDUIT AND CABLE													
QUANTITY OF 2" CONDUIT	5	2	2	1	2	1	3	2	2	1	6		
QUANTITY OF 26C #14 TRAFFIC CONTROL CABLE	2	1	1		1	1	1				2		
QUANTITY OF 2C #14 LOOP DETECTOR OR PEDESTRIAN PUSH BUTTON LEAD-IN-CABLE	6	4	3	1	1		2	1	1		7		
QUANTITY OF 12C #19 INTERCONNECT CABLE	1						1		1	1	1		
QUANTITY OF 4C #14								1			1		
INSTALL NEW CONDUIT AND CABLE													
QUANTITY OF 2" CONDUIT	2					1	2	1			2	1	1
QUANTITY OF 4C #20 (TYPE 7) CABLE	2					1	1	1			3		
QUANTITY OF 12PR #19 (TYPE 3) INTERCONNECT CABLE	1						1				1		1
QUANTITY OF 3C #6 (TYPE 6) POWER CABLE												1	

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

HAROLD I. YOSHIZAKI
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HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNALS AT KAUAI VILLAGE SHOPPING CENTER

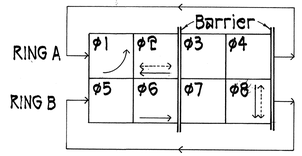
KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 11 OF 17 SHEETS

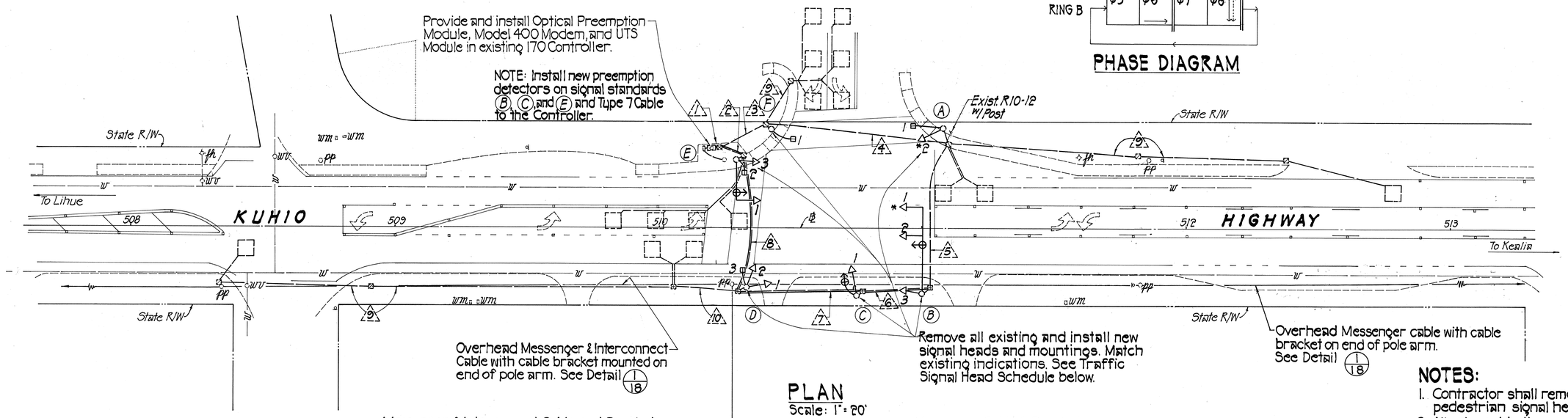
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	15	28

TRUE NORTH
Scale: 1" = 20'



PHASE DIAGRAM

KAPAA SHOPPING CENTER



PLAN
Scale: 1" = 20'

NOTES:

1. Contractor shall remove all existing vehicle and pedestrian signal heads and mountings.
2. All salvagable items shall be carefully removed, salvaged, delivered to DOT Baseyard as directed by the Engineer, and will become the property of the DOT.
3. Install new vehicle and pedestrian signal heads with new mountings (slipfitter, bracket, pole bracket, mast arm, etc.) as required.
4. Remove existing signal-drop and install new signal-drop cables (Type 5) with new preemption detector cables (Type 7) for signal light standards (B), (C), and (E).
5. Plans with existing facilities was furnished by the Department of Transportation ("Traffic Signal, Kuhio Highway at Kapaa Shopping Center," prepared by Austin, Tsutsumi & Associates, Inc.
6. All conduits shall be PVC Schedule 80 or galvanized iron.
7. Clean all existing spare conduits prior to installing new cables.
8. Contractor shall remove existing 19C#14 Traffic Control Cable; clean existing conduit as necessary; and install new 2C#14 Traffic Control Cable (Type 1). See Conduit and Cable Schedule, this sheet.
9. All items damaged due to construction operations shall be restored to original or better condition (striping, curb, marking, gutter, sidewalk, pavement, detectors, utilities, grassing, etc.) and shall not be measured for payment separately but shall be considered incidental to other items of work.
10. Contractor to contact GTE Hawaiin Tel Inspector @ (808) 246-3205 before starting project. Periodic inspections by HTCO Inspector to be done during construction.
11. Contractor to bond new messenger at all existing HTCO ground locations.

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	12" RYG TRAFFIC SIGNAL HEAD	* 12" RYG← TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	B - 2 & 3 C - 1 D - 1 & 2 E - 1 & 3	A - 2 B - 1	A - 1 D - 3 E - 2 F - 1

* DUAL INDICATION FIBEROPTIC

DESCRIPTION OF EXISTING TRAFFIC SIGNALS

POLE LETTER	SIGNAL HEAD NO.	POLE TYPE	SIGNAL HEAD MOUNTING
A	1 2	I-10'	Pole Bracket, One-Way Slipfitter, One-Way
B	1 & 2 3	II-35'	Mast Arm, One-Way Pole Bracket, One-Way
C	1	I-10'	Slipfitter, One-Way
D	1 & 2 3	II-10'	Slipfitter, Two-Way Bracket, One-Way
E	1 2 3	II-20'	Mast Arm, One-Way Pole Bracket, One-Way Pole Bracket, One-Way
F	1	I-8'	Slipfitter, One-Way

CONDUIT AND CABLE SCHEDULE

DESCRIPTION	DELTA ITEM NO. 1	2	3	4	5	6	7	8	9	10
EXISTING CONDUIT AND CABLE										
QUANTITY OF SPARE 2" CONDUIT					1	1	1			
QUANTITY OF 2" CONDUIT	4	4	2	2	1	1	1	2	1	1
QUANTITY OF 19C#14 TRAFFIC CONTROL CABLE	2	2	1	1	1	1	1	1	1	
QUANTITY OF 2C#14 LOOP DETECTOR & PEDESTRIAN PUSH BUTTON LEAD-IN CABLE	8	8	4	3				3		2
INSTALL NEW CABLE IN EXISTING SPARE CONDUIT										
QUANTITY OF 4C#20 (TYPE 7) CABLE						1	2			
INSTALL NEW CONDUIT AND CABLE										
QUANTITY OF 2" CONDUIT	1	1						1		
QUANTITY OF 4C#20 (TYPE 7) CABLE	3	3						2		
REMOVE EXISTING AND INSTALL NEW TRAFFIC CONTROL CABLE										
QUANTITY OF 2C#14 TRAFFIC CONTROL CABLE, TYPE 1	2	2	1	1	1	1	1	1		

DATE	REVISION
10/29/98	Changed location of messenger & interconnect cable mounting from pole to end of pole arm. Notes #10 & #11.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNALS AT KAPAA SHOPPING CENTER

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

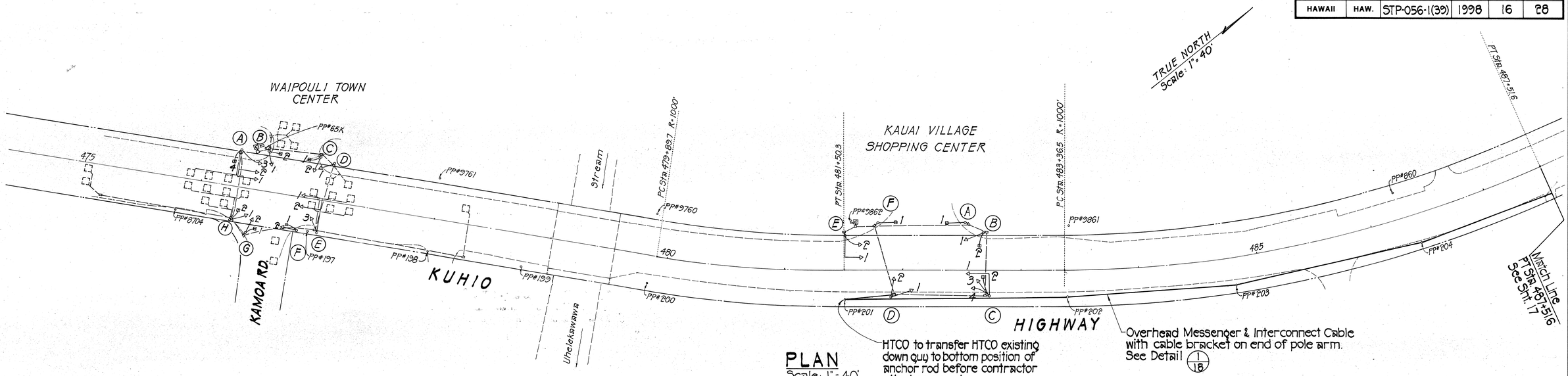
SCALE: AS SHOWN DATE: June 1997

SHEET No. 12 OF 17 SHEETS

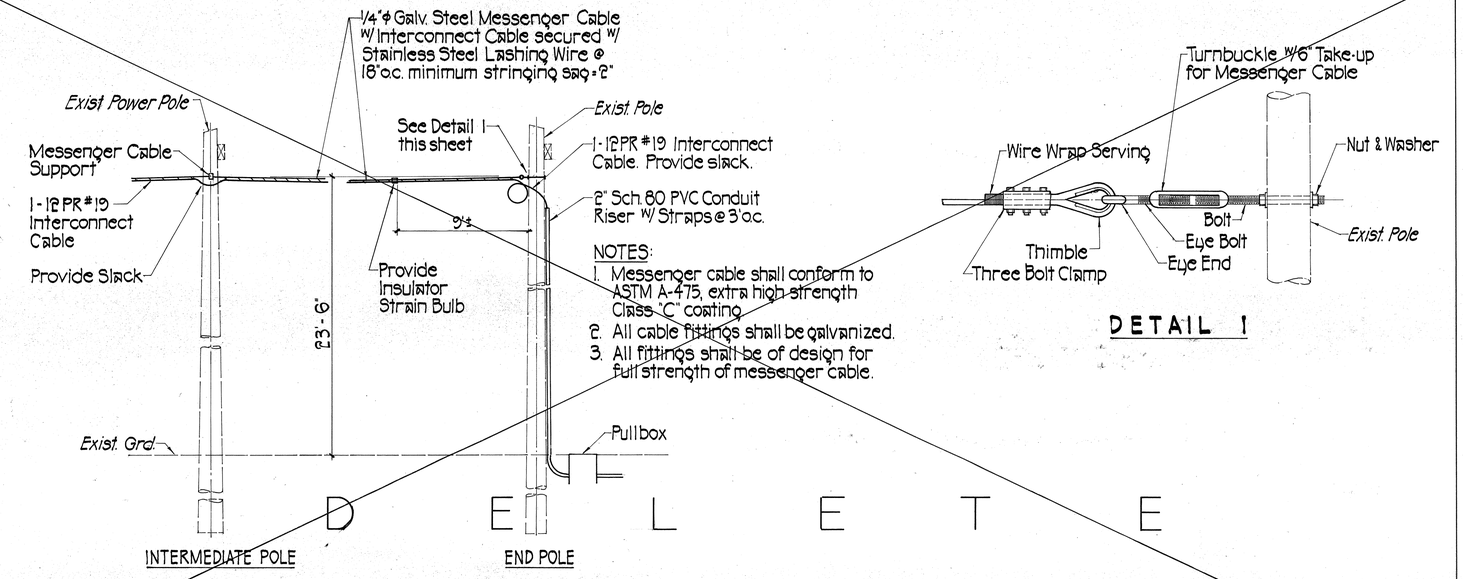
ORIGINAL PLAN | NOTE BOOK No. | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

C015

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	16	28



PLAN
Scale: 1" = 40'



DETAIL 1

D E L E T E

TYPICAL OVERHEAD INTERCONNECT CABLE INSTALLATION DETAIL A/16
Not to Scale

DATE	REVISION
10/29/98	Deleted Detail (A) and changed location of messenger & interconnect cable mounting from pole to end of pole arm. (16)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

OVERHEAD INTERCONNECTION CABLE

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 13 OF 17 SHEETS

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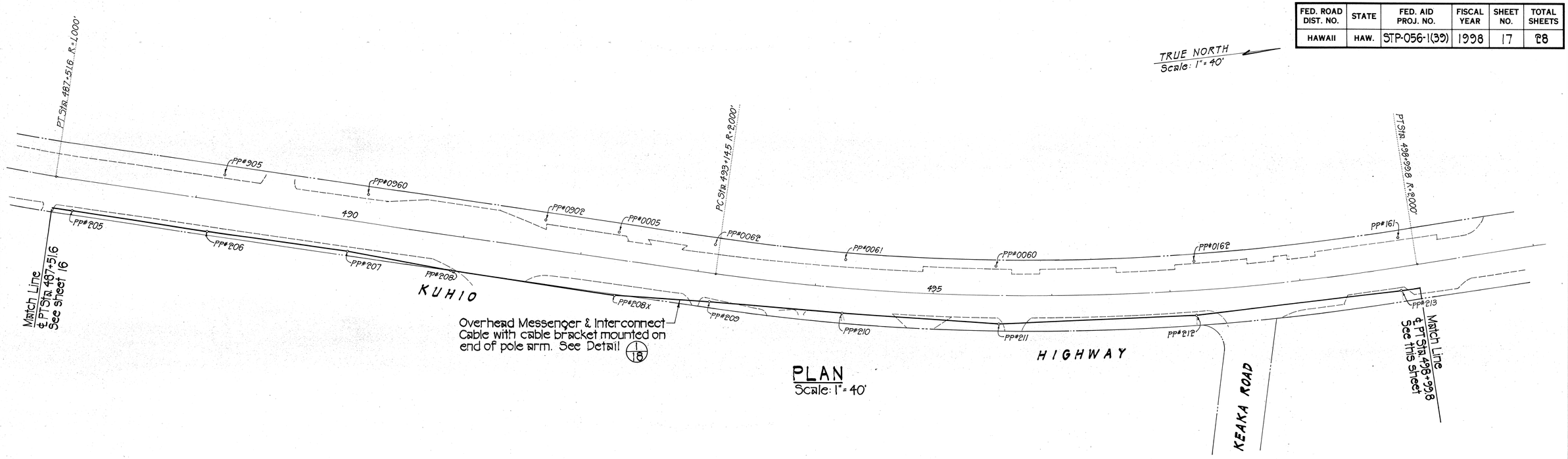
SURVEY PLOTTED BY ____ DATE
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____

ORIGINAL PLAN
NOTE BOOK
No. ____

137218

C016

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	17	28



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

137218

DATE	REVISION
10/29/98	Changed location of messenger & interconnect cable mounting from pole to end of pole arm.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

OVERHEAD INTERCONNECTION CABLE

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 14 OF 17 SHEETS

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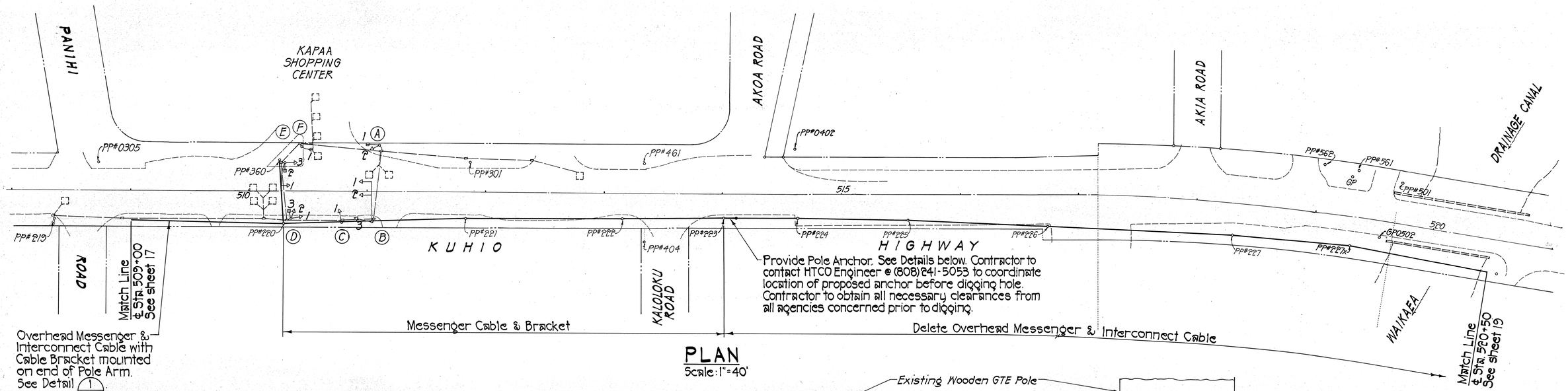
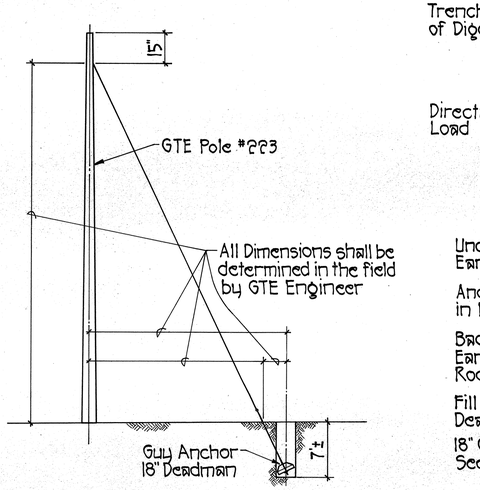
C017

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	18	18

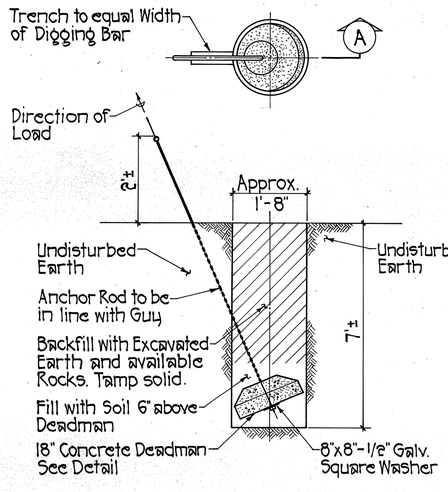
TRUE NORTH
Scale: 1" = 40'



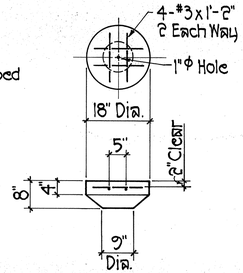
PLAN
Scale: 1" = 40'



POLE / GUY / ANCHOR ELEVATION

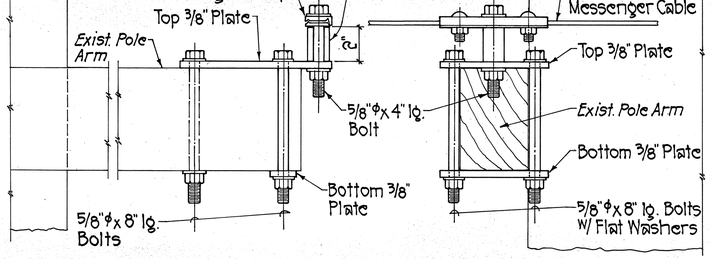


GUY ANCHOR w/18" DEADMAN-SECTION A

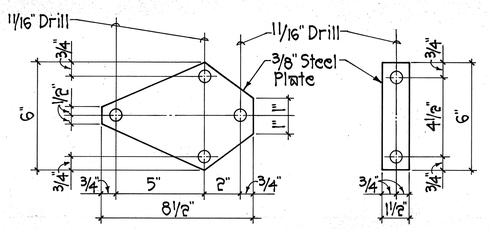


18" CONCRETE DEADMAN DET.

POLE NO. 223 ANCHOR DETAILS
Not To Scale



SIDE VIEW FRONT VIEW



TOP STEEL PLATE PLAN BOTTOM STEEL PLATE PLAN

MESSENGER & INTERCONNECT CABLE BRACKET DETAIL 1/18
Not To Scale

NOTES:
1. Hot-Dip Galvanize after fabrication.
2. All bolts, nuts, washers and spacers shall be galvanized.

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DATE	REVISION
10/29/98	Changed location of messenger & interconnect cable mounting from pole to end of pole arm & extend messenger cable only to pole # 223. Deleted messenger & interconnect cable from pole no. 223 to ℄ Sta. 520+50. Added pole anchor details for pole no. 223 and Detail 1/18

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

OVERHEAD INTERCONNECTION CABLE

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)
SCALE: AS SHOWN DATE: June 1997

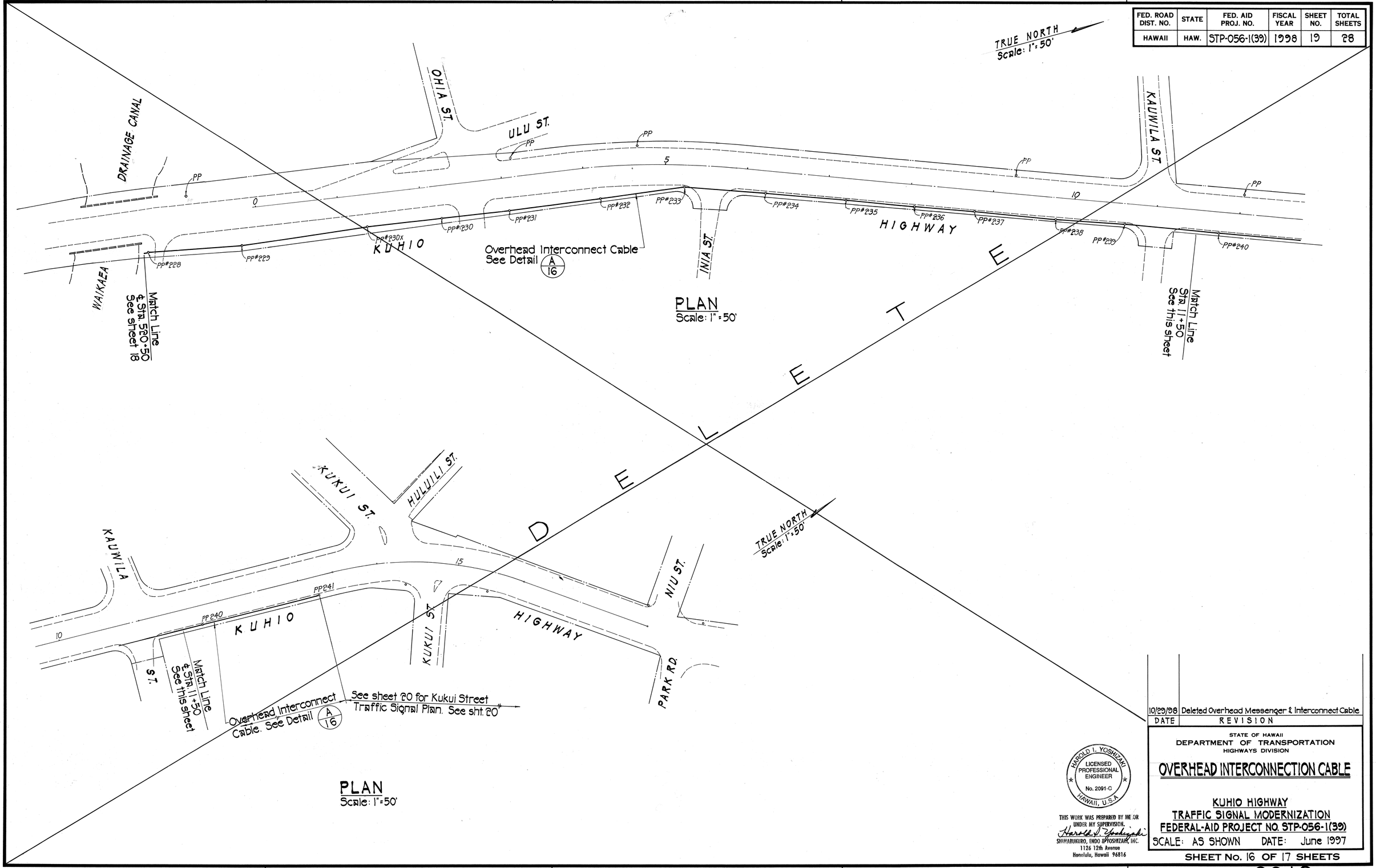
SHEET No. 15 OF 17 SHEETS

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

137218

C018

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	19	28



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

DATE	REVISION
10/29/98	Deleted Overhead Messenger & Interconnect Cable

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

OVERHEAD INTERCONNECTION CABLE

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 16 OF 17 SHEETS

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C019

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-056-1(39)	1998	C20	C28

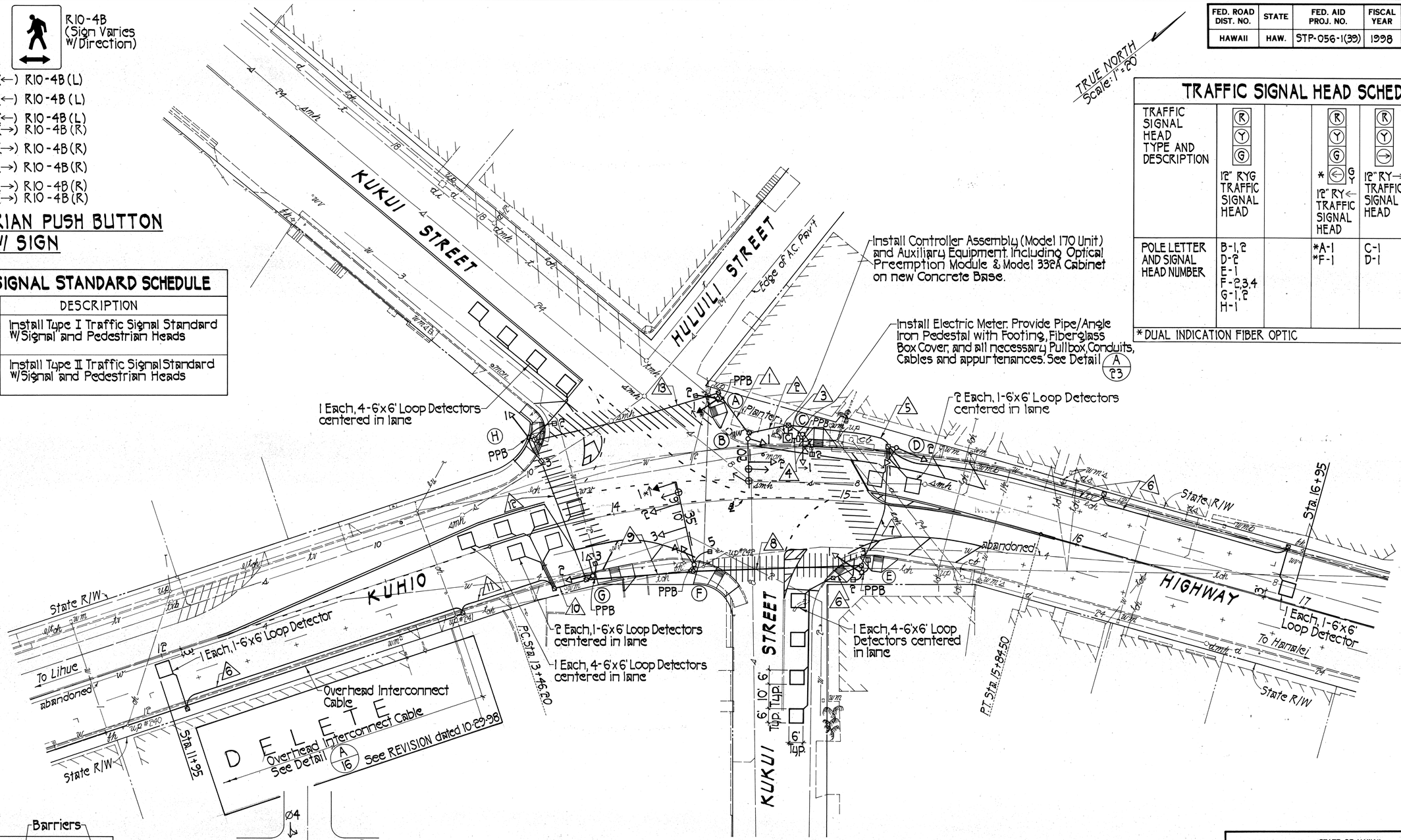
R10-4B
(Sign Varies w/Direction)

Ⓐ ♿ (←) R10-4B(L)
Ⓒ ♿ (←) R10-4B(L)
Ⓔ ♿ (←) R10-4B(L)
(→) R10-4B(R)
Ⓕ ♿ (→) R10-4B(R)
Ⓖ ♿ (→) R10-4B(R)
Ⓗ ♿ (→) R10-4B(R)
(→) R10-4B(R)

PEDESTRIAN PUSH BUTTON W/ SIGN

TRAFFIC SIGNAL STANDARD SCHEDULE

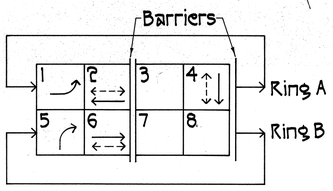
POLE LETTER	DESCRIPTION
ⒶⒸⒹⒺ ⒼⒽ	Install Type I Traffic Signal Standard W/Signal and Pedestrian Heads
ⒷⒻ	Install Type II Traffic Signal Standard W/Signal and Pedestrian Heads



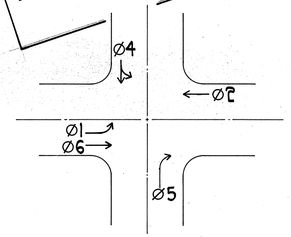
TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD TYPE AND DESCRIPTION	R Y G 12" RYG TRAFFIC SIGNAL HEAD		* G Y ← 12" RY← TRAFFIC SIGNAL HEAD	R Y → 12" RY→ TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	B-1, 2 D-2 E-1 F-2, 3, 4 G-1, 2 H-1		*A-1 *F-1	C-1 D-1	A-2 C-2 E-2, 3 F-5 G-3 H-2, 3

*DUAL INDICATION FIBER OPTIC



PHASE DIAGRAM



PHASE ASSIGNMENTS

TRAFFIC SIGNAL PLAN

Scale: 1" = 20'

NOTES:
1. See Sheet 22 for "Conduit and Cable Schedule" & "List of Materials" tables.
2. Pedestrian Push Button shall be installed 36" (max.) above finish grade.

DATE	REVISION
10/29/98	Delete overhead messenger & interconnect cable Delete underground interconnect cable from Pole No. 241 to Controller.
10/9/98	Deleted southbound left turn lane. Changed loop detectors in northbound left turn lane from 6 to 4 loops. Relocated traffic signal standards. Deleted traffic signal heads. Added pedestrian facilities crossing Kuhio Hwy.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN AT KUKUI STREET

KUHIO HIGHWAY
TRAFFIC SIGNAL MODERNIZATION
FEDERAL-AID PROJECT NO. STP-056-1(39)

SCALE: AS SHOWN DATE: June 1997

SHEET No. 17 OF 17 SHEETS

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

C020