

GENERAL NOTES - TRAFFIC SIGNAL SYSTEM

1. SEE HIGHWAY LIGHTING PLANS FOR ELECTRICAL SERVICE CONNECTIONS TO CONTROLLERS, TEMPORARY CONTROLLER INTERCONNECT, AND COMMUNICATION/CONTROLLER INTERCONNECT SYSTEM.
2. EXISTING SIGNAL SYSTEM SHALL REMAIN OPERATIONAL UNTIL NEW SYSTEM IS IN SERVICE AND SHALL BE ADJUSTED AS NECESSARY TO FACILITATE CONSTRUCTION OF NEW SYSTEMS AND OTHER FACILITIES SUCH AS UTILITIES, DRAINAGE, ETC. EXISTING LOOP DETECTORS SHALL BE RECONSTRUCTED AT NEW LOCATION AS REQUIRED. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO "TRAFFIC SIGNAL SYSTEM".
3. ALL TRAFFIC SIGNAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", FEDERAL HIGHWAY ADMINISTRATION, LATEST EDITION, AND AMENDMENTS.
4. THE LOCATIONS OF THE TRAFFIC SIGNAL STANDARDS, TRAFFIC SIGNAL STANDARDS WITH MAST-ARM, PEDESTRIAN PUSH BUTTONS, TRAFFIC CONTROLLER, PULLBOXES, CONDUITS, BARRIERS & LOOP DETECTORS SHALL BE STAKED OUT IN THE FIELD BY CONTRACTOR & APPROVAL OF THE LOCATIONS OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION & INSTALLATION. LOCATIONS SHOWN ON THE PLANS SHALL BE ADJUSTED AS NECESSARY TO PREVENT CONFLICTS WITH EXISTING OR NEW FACILITIES.
5. THE CONTRACTOR SHALL VERIFY LOCATION & CONDITION OF EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE USED.
6. IF AERIAL UTILITY LINES ARE IN CONFLICT WITH PROPOSED MASTARMS FOR SIGNAL HEADS, CONTRACTOR SHALL REQUEST IN WRITING ADJUSTMENTS TO AERIAL LINES BY UTILITY COMPANIES AT LEAST 2 MONTHS PRIOR TO THE INSTALLATION OF MASTARMS.
7. ALL NEW CONDUITS UNDER ROADWAY (INCLUDING DRIVEWAYS) SHALL BE PVC SCHEDULE 80. CONTRACTOR SHALL HAVE THE OPTION OF USING PVC SCHEDULE 40 FOR NEW CONDUITS NOT UNDER ROADWAY, UNLESS OTHERWISE NOTED.
8. IN ADDITION TO THE CONDUITS INDICATED IN THE "CONDUIT AND CABLE SCHEDULE". INSTALL ONE 3-INCH CONDUIT IN THE FOOTINGS OF ALL FINAL CONTROLLERS. CONDUIT SHALL BE STUBBED-OUT 12 INCHES FROM FOOTING AND SHALL BE CAPPED.
9. A SOLID #8 BARE COPPER WIRE SHALL BE INSTALLED IN THE ENTIRE TRAFFIC SIGNAL CONDUIT SYSTEM FOR USE AS A SYSTEM GROUND.
10. LOOP DETECTORS SHALL BE IN ACCORDANCE WITH STANDARD PLAN TE-40, EXCEPT FOR THE FOLLOWING:
- (a) LOOP SIZE SHALL BE 6'x6'
 - (b) LOOP SPACING SHALL BE 12'-0"
 - (c) PROVIDE 4 CABLE TURNS IN A LOOP
 - (d) PROVIDE SEPARATE LEAD-IN CABLE FOR EACH INDIVIDUALLY NUMBERED LOOP (E.G. LOOP #52) AND FOR EACH GROUP OF LOOPS WITH SAME NUMBERS (E.G. LOOPS #51A AND #51B)

11. LEAD-IN WIRES IN PULLBOX NEAR LOOPS SHALL BE TAGGED WITH LOOP NUMBER(S).
12. EXISTING PAVEMENTS SHALL BE RESTORED IN ACCORDANCE WITH DETAIL "RESTORATION OF EXISTING PAVEMENT" SHOWN ON ROADWAY CONSTRUCTION PLANS.
13. DEPARTMENT OF TRANSPORTATION SERVICES, CITY & COUNTY OF HONOLULU WILL ASSIST THE ENGINEER IN CONSTRUCTION INSPECTION FOR THE TRAFFIC SIGNAL SYSTEM. WORK BY THE DEPARTMENT OF TRANSPORTATION SERVICES, C & C OF HONOLULU:
- (a) TEST CONTROLLER & AUXILIARY EQUIPMENT IN CABINET.
 - (b) MAKE ALL ELECTRICAL EQUIPMENT CONNECTIONS IN THE FIELD FOR SIGNAL SYSTEM AFTER THE SYSTEM HAS BEEN INSTALLED IN PLACE BY THE CONTRACTOR. (EXCEPT FOR EVP; SEE SPECIFICATIONS).
 - (c) FINAL ADJUSTMENT OF TRAFFIC SIGNAL CONTROL EQUIPMENT.
14. EXISTING SIGNAL STANDARDS, SIGNAL HEADS, CONTROLLERS, AERIAL CONDUCTORS, AND APPURTENANCES OF PUU IKENA DRIVE, WEST HALEMAUMAU STREET, NIU IKI CIRCLE, AND EAST HALEMAUMAU STREET SIGNAL SYSTEMS SHALL BE SALVAGED, FULLY DISMANTLED AND STOCKPILED AS DIRECTED BY THE ENGINEER AT THE STATE'S BASE YARD, LEHUA AVE., PEARL CITY. EXISTING PULLBOXES, CONTROLLER FOOTINGS AND SIGNAL STANDARD FOOTINGS SHALL BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR.

CONSTRUCTION SEQUENCE

- PHASE I:
- (a) INSTALL ALL NEW CONTROLLERS AND CONNECT TO EXISTING SIGNAL SYSTEM.
 - (b) RECONSTRUCT EXISTING LOOP DETECTORS AT NEW LOCATIONS TO MAINTAIN EXISTING TRAFFIC PATTERN.
 - (c) INSTALL TEMPORARY CONTROLLER INTERCONNECT CABLE AND CONNECT TO CITY'S COMPUTERIZED TRAFFIC CONTROL SYSTEM (SEE HIGHWAY LIGHTING PLANS).
- PHASE II:
- (a) CONSTRUCT NEW SIGNAL SYSTEMS, EXCEPT:
 - (1) FINAL LOOP DETECTORS
 - (2) EMERGENCY VEHICLE PREEMPTION DETECTOR
 - (b) CONSTRUCT CONTROLLER FINAL INTERCONNECT SYSTEM (SEE HIGHWAY LIGHTING PLANS).
 - (c) RECONNECT EXISTING LOOP DETECTORS AT NEW LOCATIONS TO MAINTAIN EXISTING TRAFFIC PATTERN. CONNECT ALL LOOP DETECTORS TO NEW SIGNAL SYSTEM.
 - (d) REMOVE EXISTING SIGNAL SYSTEM FACILITIES UPON COMPLETION OF NEW SYSTEM.
 - (e) INSTALL EVP.
- PHASE III:
- (a) CONSTRUCT FINAL LOOP DETECTORS PRIOR TO PLACEMENT OF TOP LAYER OF ASPHALT CONCRETE PAVEMENT.
 - (b) ADJUST PULLBOXES, ETC. TO FINISH GRADE.

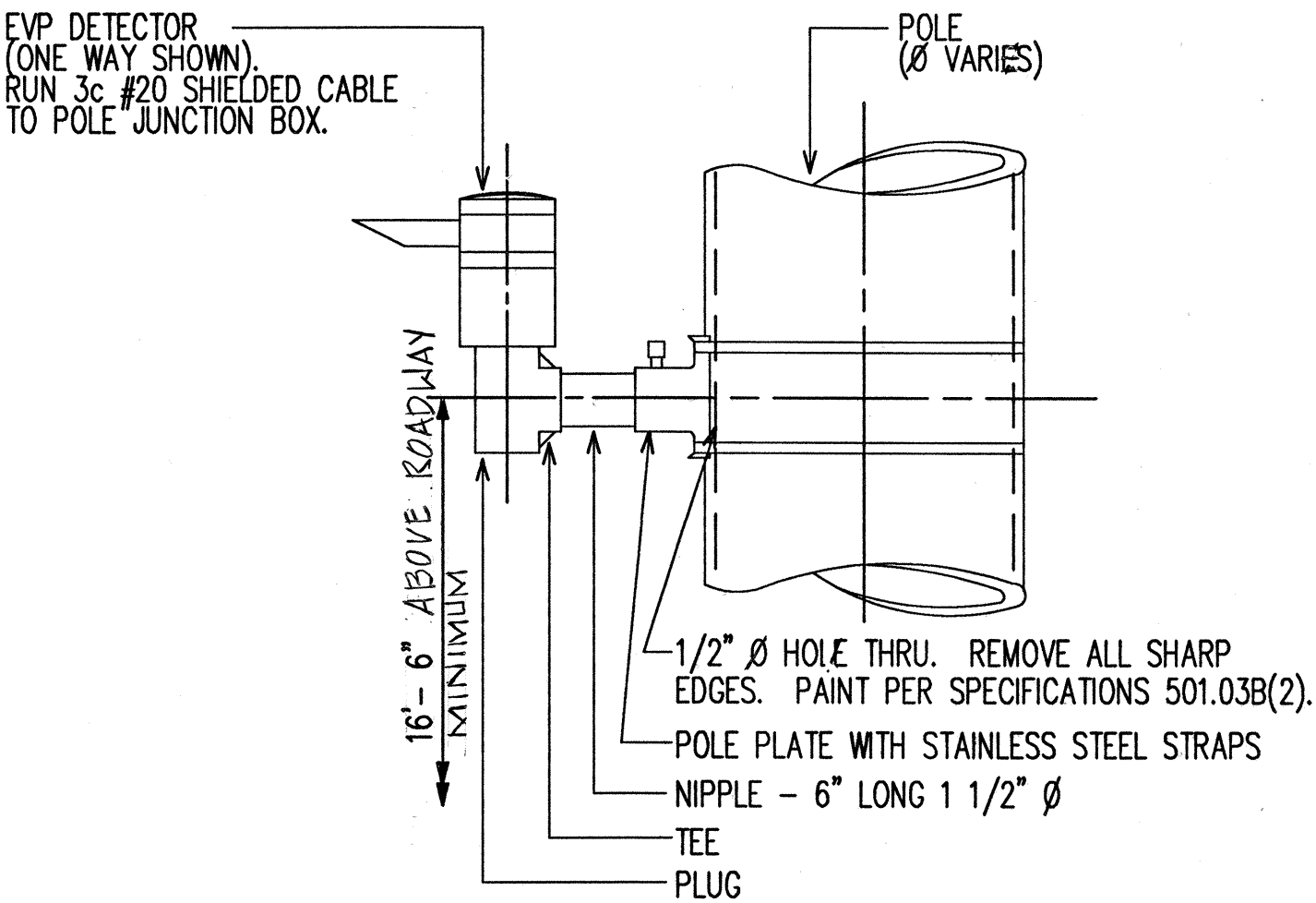
ABBREVIATIONS

R	RED
Y	AMBER
G	GREEN
OLA	OVERLAP A
OLB	OVERLAP B
OLC	OVERLAP C
Ø	PHASE OR DIAMETER
SHLD	SHIELDED
EVP	EMERGENCY VEHICLE PRE-EMPTION SYSTEM

TRAFFIC SIGNAL LEGEND

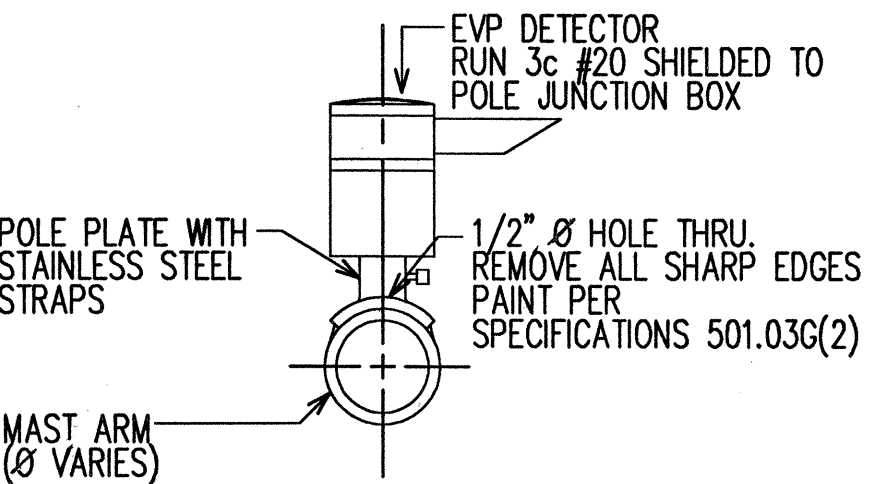
PROPOSED

	CONDUITS AND CABLES, CONDUIT RUN #2
	TRAFFIC SIGNAL HEAD
	PEDESTRIAN SIGNAL HEAD WITH PEDESTRIAN PUSH BUTTON ASSEMBLY AND SIGN R10-4a, R10-4a(L) OR R10-4a(R), AS APPROPRIATE
	SIGNAL STANDARD WITH MASTARM (L=40'), POLE A, FOOTING TYPE II UNLESS TYPE III AS NOTED ON PLANS
	SIGNAL STANDARD WITH MASTARM AND LIGHTING STANDARD EXTENSION, FOOTING TYPE II UNLESS TYPE III AS NOTED ON PLANS
	SIGNAL STANDARD TYPE I
	EMERGENCY VEHICLE PREEMPTION RECEIVER; CIRCUIT A; (H)=HORIZONTAL MOUNT, (V)=VERTICAL MOUNT
	LOOP DETECTORS
	PULLBOX TYPE A
	PULLBOX TYPE B
	PULLBOX TYPE C
	PULLBOX TYPE Z
	TRAFFIC CONTROLLER AND FOUNDATION



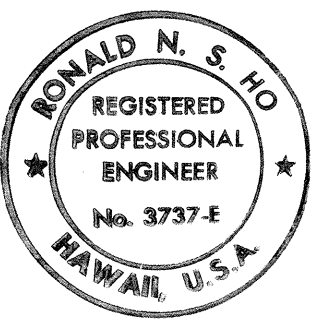
TYPICAL VERTICAL MOUNT OF EVP DETECTOR

NOT TO SCALE



TYPICAL HORIZONTAL MOUNT OF EVP DETECTOR

NOT TO SCALE



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
8/10/90

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
GENERAL NOTES, ABBREVIATIONS,
LEGEND, & EVP DETAILS

KALANIANA'OLE HIGHWAY WIDENING

E. HIND DR. TO E. HALEMAUMAU ST.

F.A. PROJECT NO. F-072-1(34)B

SCALE: NONE

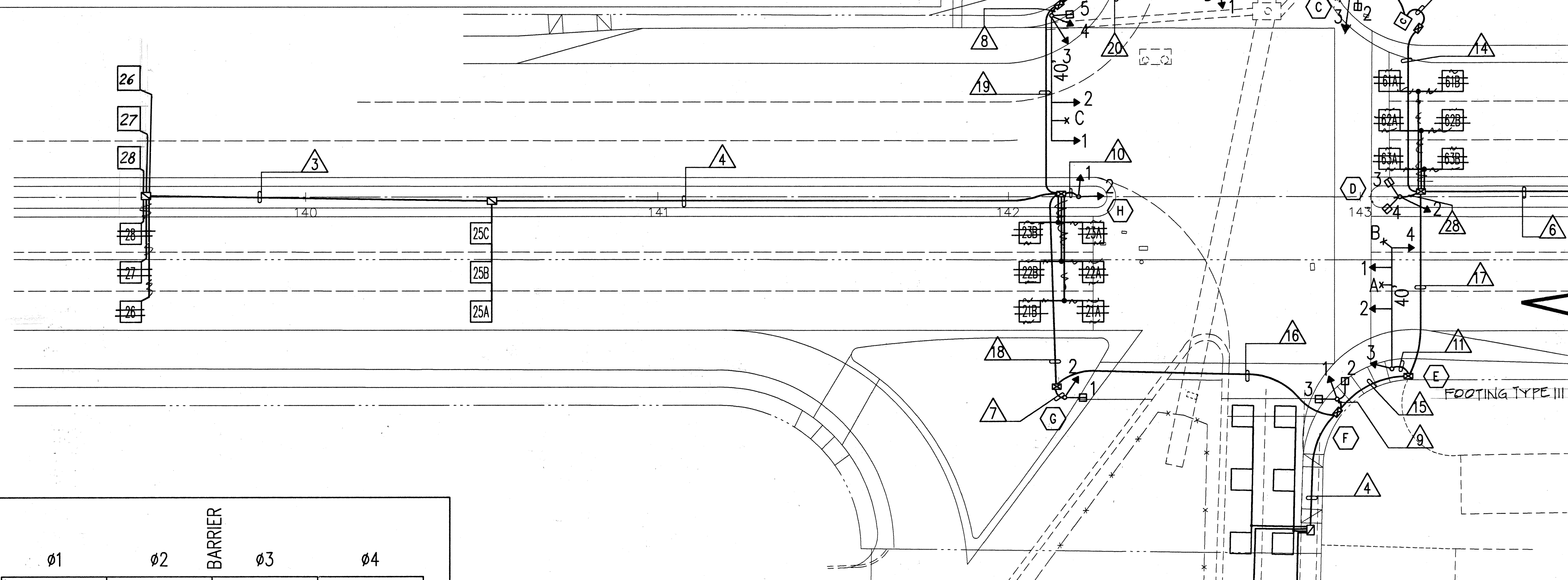
DATE: 8/90

SHEET No. E-40 OF 45 SHEETS

TRAFFIC SIGNAL SYSTEM CONDUIT AND CABLE SCHEDULE AT PUU IKENA DRIVE

	DELTA ITEM NO. (△)																							
	1	3	4	5	6	7	8	9	10	11	14	15	16	17	18	19	20	28	37	51				
QUANTITY OF 2" C, SEE NOTE NO. 2	1	1	1	1	1	1	1	1	1	4	5	3	2	4	3	3	5	2	5	5				
QUANTITY OF 2-26/C #14 INTERCONNECT CABLE, SEE NOTE NO. 1										2	2	2	2	2	2	2	2		2	2				
QUANTITY OF 2/C #14 SHIELDED LOOP DETECTOR AND PEDESTRIAN PB CABLE	1	3	4	5	6	1	1	2			14	6		6	1	8	13	2	13	15				
QUANTITY OF 3/C #20 SHIELDED EMERGENCY PRE-EMPTION CABLE							1			2	2			2			1		2	2				
QUANTITY OF #14 SIGNAL HEAD CABLE						3	16	7	16	16									14					
QUANTITY OF #4 POWER CABLE																								

- NOTES: 1. ADD 1 #6 AWG NEUTRAL WITH EACH 26/C #14
2. ALL CONDUITS SHALL BE SCHEDULE 80, UNLESS OTHERWISE NOTED



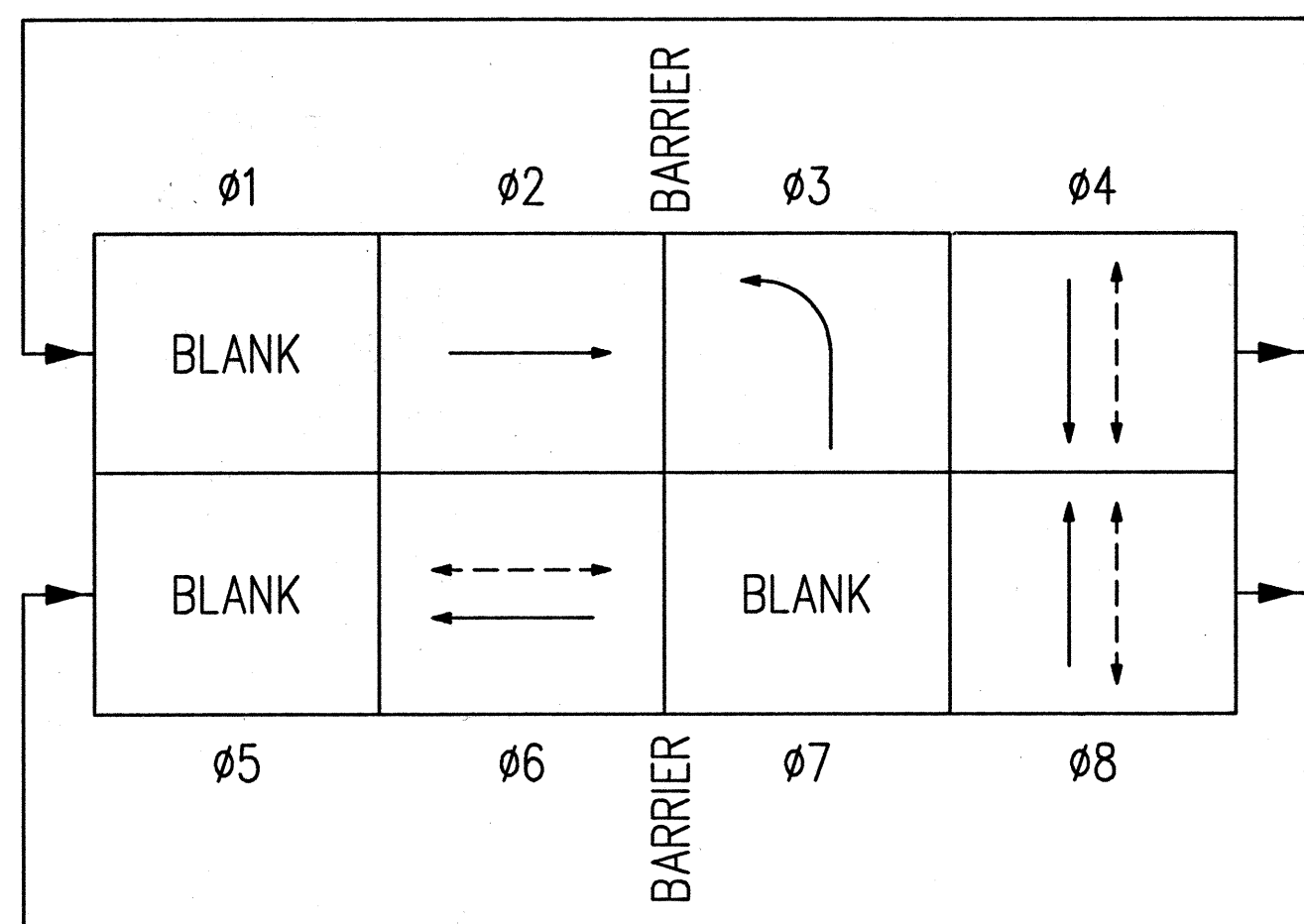
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5496

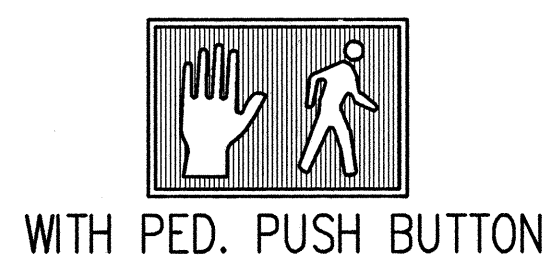
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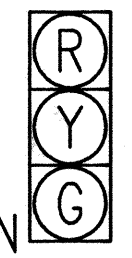
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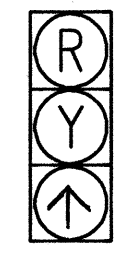
SIGNAL INDICATIONS



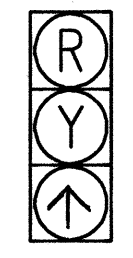
WITH PED. PUSH BUTTON



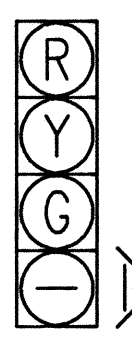
A-5
C-1
C-2
D-3
D-4
F-2
F-3
G-1



A-3
A-4
B-1
B-2
C-3
E-3
F-1
G-1
H-1



A-1
A-2
D-2 *
E-1
E-2
E-4 *
H-2

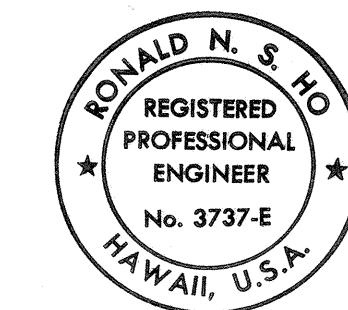


GREEN/YELLOW FIBEROPTIC ARROWS

* PROGRAMMED VISIBILITY

EMERGENCY VEHICLE PRE-EMPTION	
CIRCUIT	MOVEMENT
A	ø2
B	ø4
C	ø6
D	ø3

TRAFFIC SIGNAL PLAN - PUU IKENA DRIVE
SCALE: 1"=20'-0"



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8/10/90

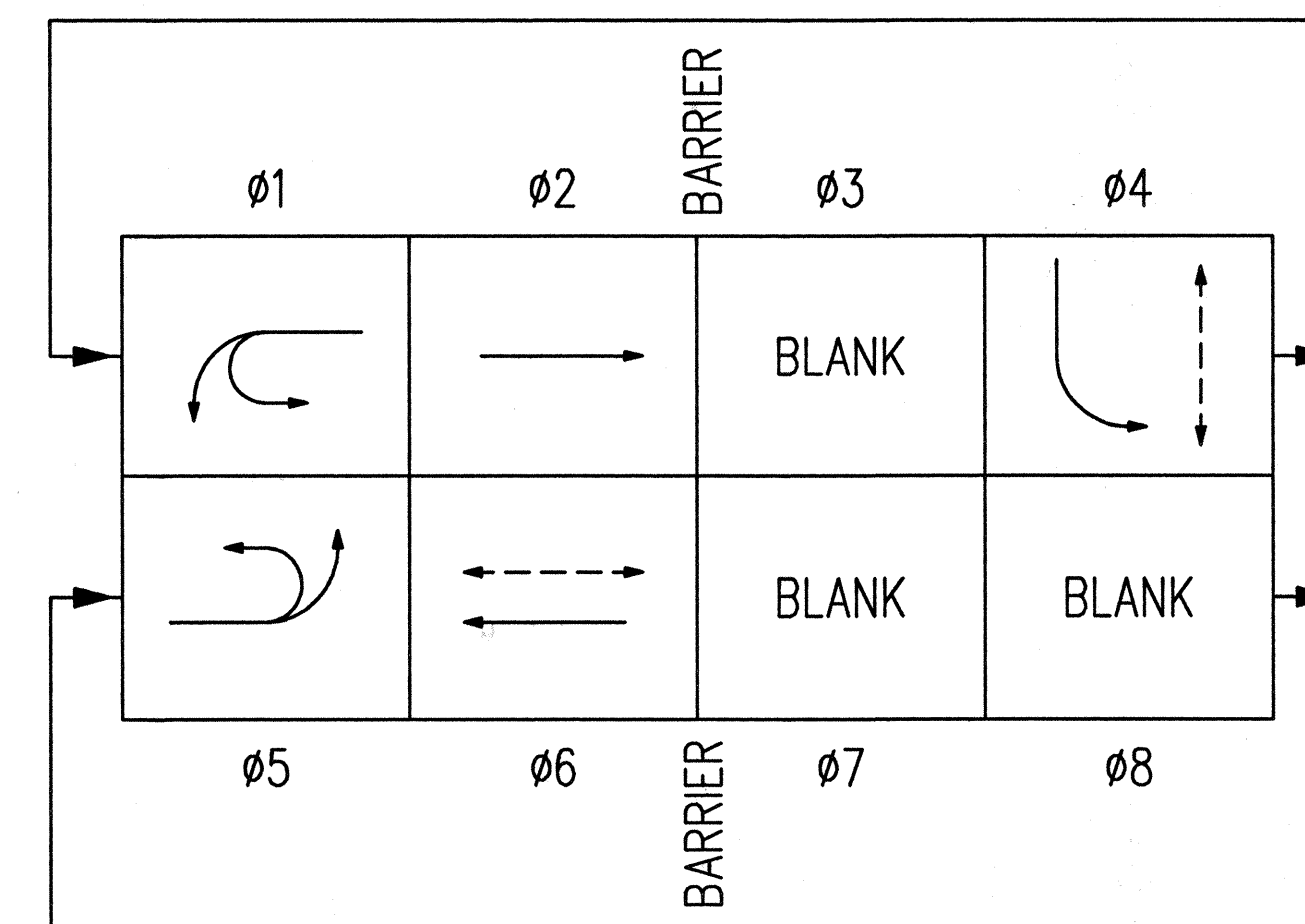
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TRAFFIC SIGNAL PLAN - PUU IKENA DR.

KALANIANA'OLE HIGHWAY WIDENING
E. HIND DR. TO E. HALEMAUMAU ST.
F.A. PROJECT NO. F-072-1(34)B
SCALE: 1"=20' DATE: 8/90
SHEET No. E-41 OF 45 SHEETS

TRAFFIC SIGNAL SYSTEM CONDUIT AND CABLE SCHEDULE AT WEST HALEMAUMAU ST.

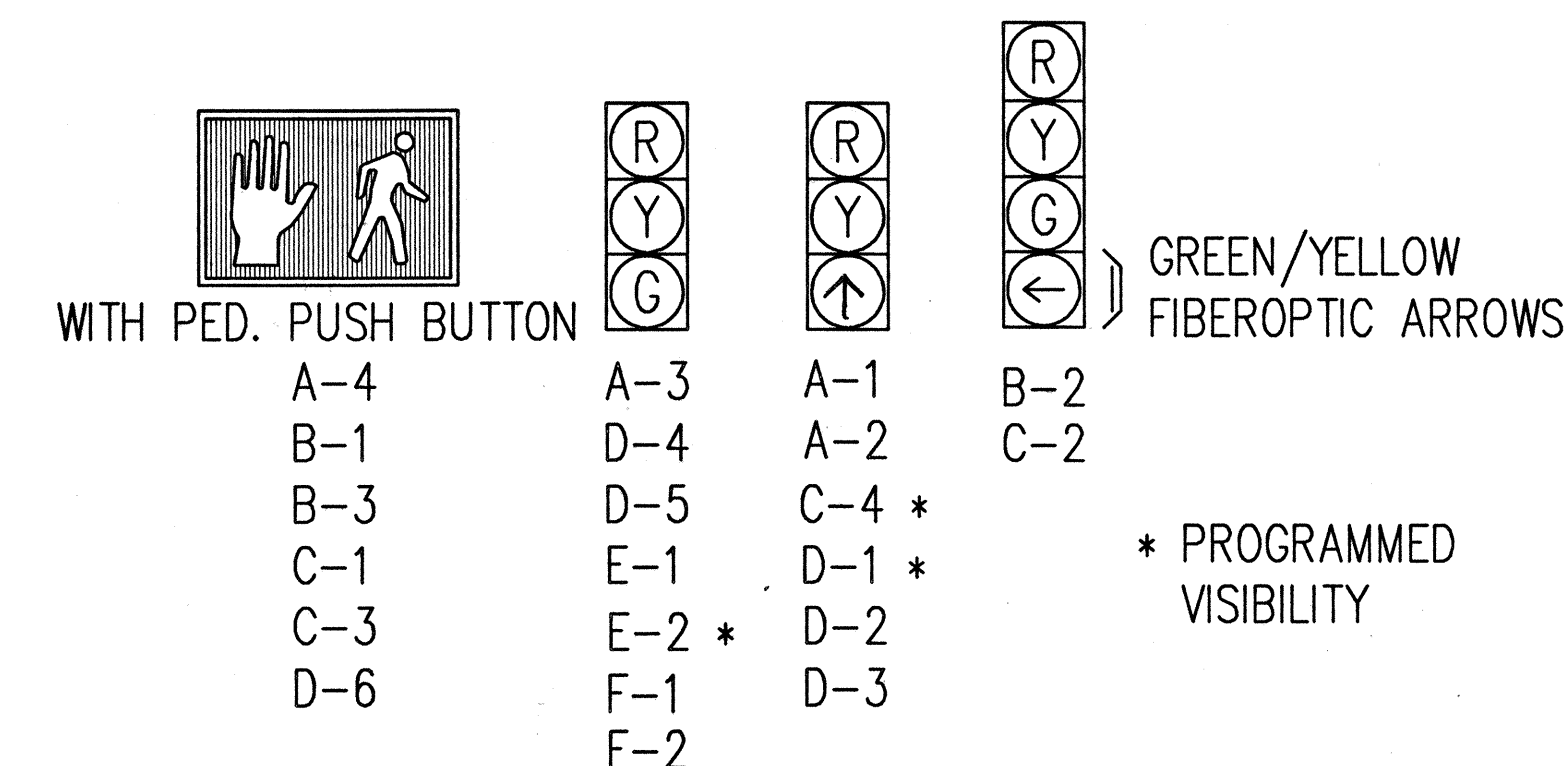
	DELTA ITEM NO. (△)																		
	1	3	4	5	6	16	23	25	26	27	28	29	30	31	32	33	34	35	
QUANTITY OF 2"C, SEE NOTE NO. 2	1	1	1	1	1	2	1	2	1	1	2	2	2	4	5	4	4	3	
QUANTITY OF 2-26/C #14 INTERCONNECT CABLE, SEE NOTE NO. 1						2								2	2	2	2	2	
QUANTITY OF 2/C #14 SHIELDED LOOP DETECTOR AND PEDESTRIAN PB CABLE	1	3	4	5	6			1	7	9	2	2	1	12	14	12	1	10	
QUANTITY OF 3/C #20 SHIELDED EMERGENCY PRE-EMPTION CABLE								2					1	1	2	2	2		
QUANTITY OF #14 SIGNAL HEAD CABLE QUANTITY OF #4 POWER CABLE							8	20			14	10	12						

NOTES: 1. ADD 1 #6 AWG NEUTRAL WITH EACH 26/C #14
2. ALL CONDUITS SHALL BE SCHEDULE 80, UNLESS OTHERWISE NOTED

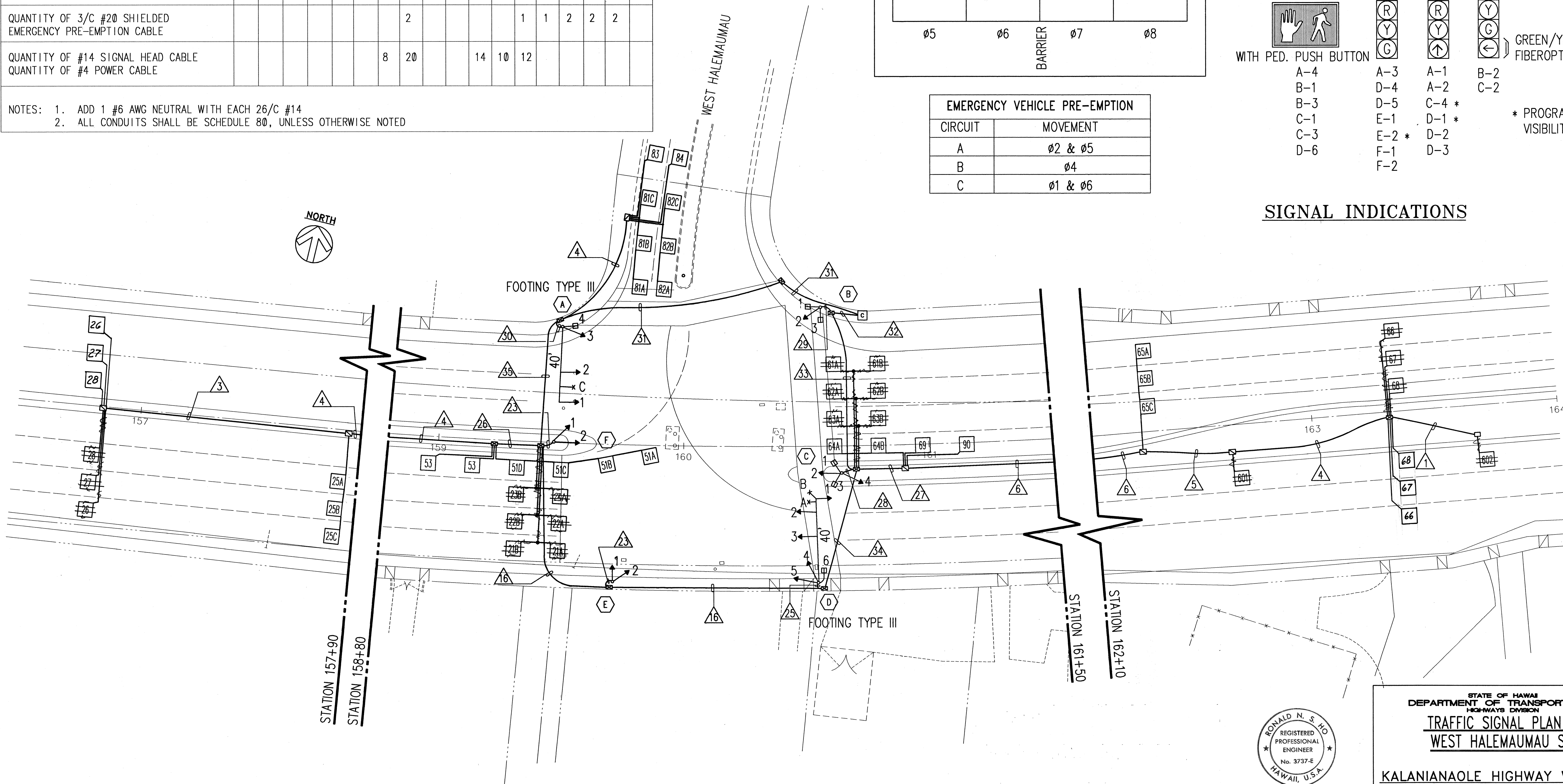


EMERGENCY VEHICLE PRE-EMPTION

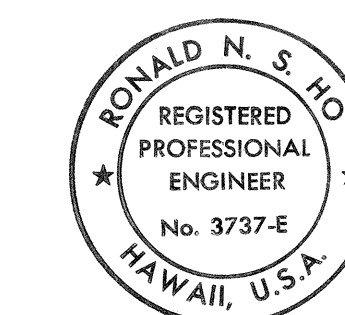
CIRCUIT	MOVEMENT
A	ø2 & ø5
B	ø4
C	ø1 & ø6



SIGNAL INDICATIONS



TRAFFIC SIGNAL PLAN - WEST HALEMAUMAU ST.
SCALE: 1"=20'-0"

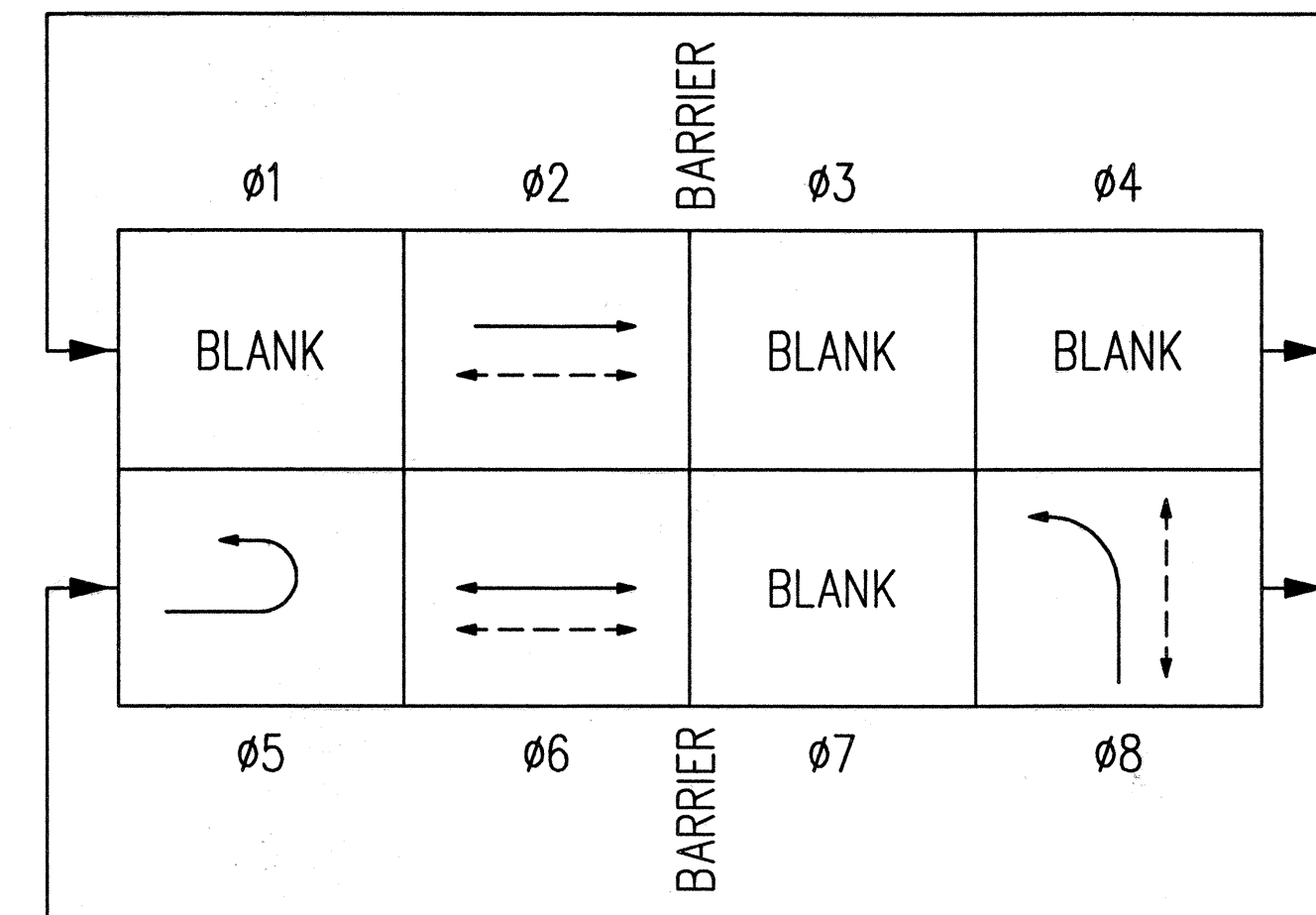


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3/10/90

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**TRAFFIC SIGNAL PLAN -
WEST HALEMAUMAU ST.**
KALANIANA'OLE HIGHWAY WIDENING
E. HIND DR. TO E. HALEMAUMAU ST.
F.A. PROJECT NO. F-072-1(34)B
SCALE: 1"=20' DATE: 8/90
SHEET No. E-42 OF 45 SHEETS

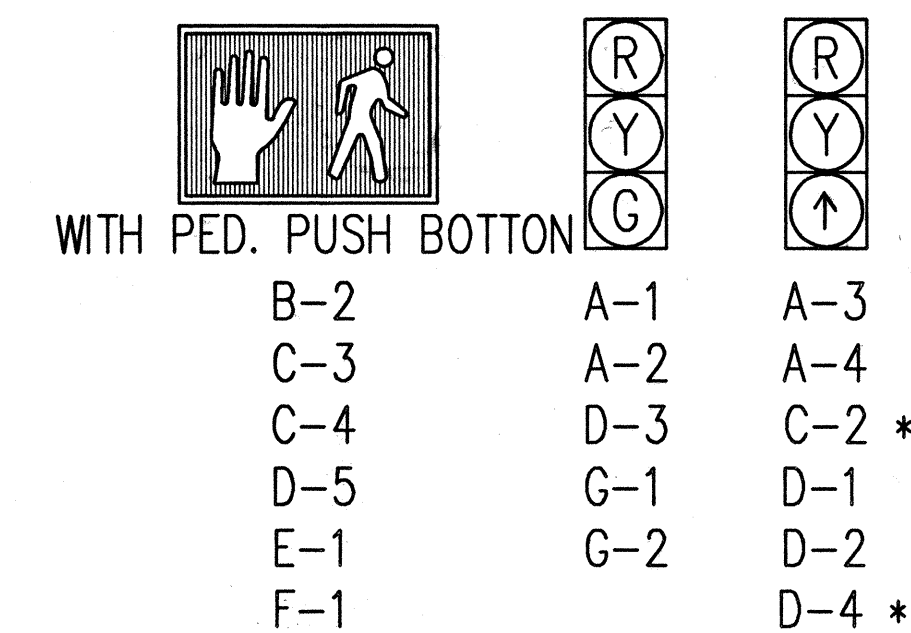
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)B	1991	161	193

TRAFFIC SIGNAL SYSTEM CONDUIT AND CABLE SCHEDULE AT NIU IKI CIRCLE																						
	DELTA ITEM NO. (△)																					
	1	2	3	4	5	6	7	12	16	18	20	22	23	26	28	36	37	38	39	40	41	
QUANTITY OF 2"C, SEE NOTE NO. 2	1	1	1	1	1	1	1	2	2	3	5	2	1	1	2	2	5	3	3	4	4	
QUANTITY OF 2-26/C #14 INTERCONNECT CABLE, SEE NOTE NO. 1									2	2	2						2	2	2	2	2	
QUANTITY OF 2/C #14 SHIELDED LOOP DETECTOR AND PEDESTRIAN PB CABLE	1	2	3	4	5	6	1			1	13	1		7	2	1	13	12		10	11	
QUANTITY OF 3/C #20 SHIELDED EMERGENCY PRE-EMPTION CABLE								2			1					1	2		2	2	2	
QUANTITY OF #14 SIGNAL HEAD CABLE QUANTITY OF #4 POWER CABLE							3	16				7	8		14	23						
NOTES: 1. ADD 1 #6 AWG NEUTRAL WITH EACH 26/C #14 2. ALL CONDUITS SHALL BE SCHEDULE 80, UNLESS OTHERWISE NOTED																						

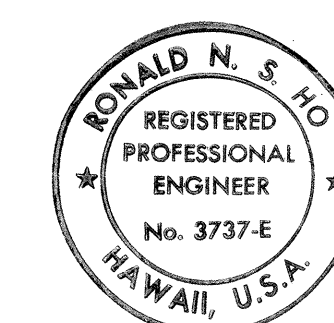


EMERGENCY VEHICLE PRE-EMPTION	
CIRCUIT	MOVEMENT
A	ø2 & ø5
B	ø8
C	ø6

SIGNAL INDICATIONS



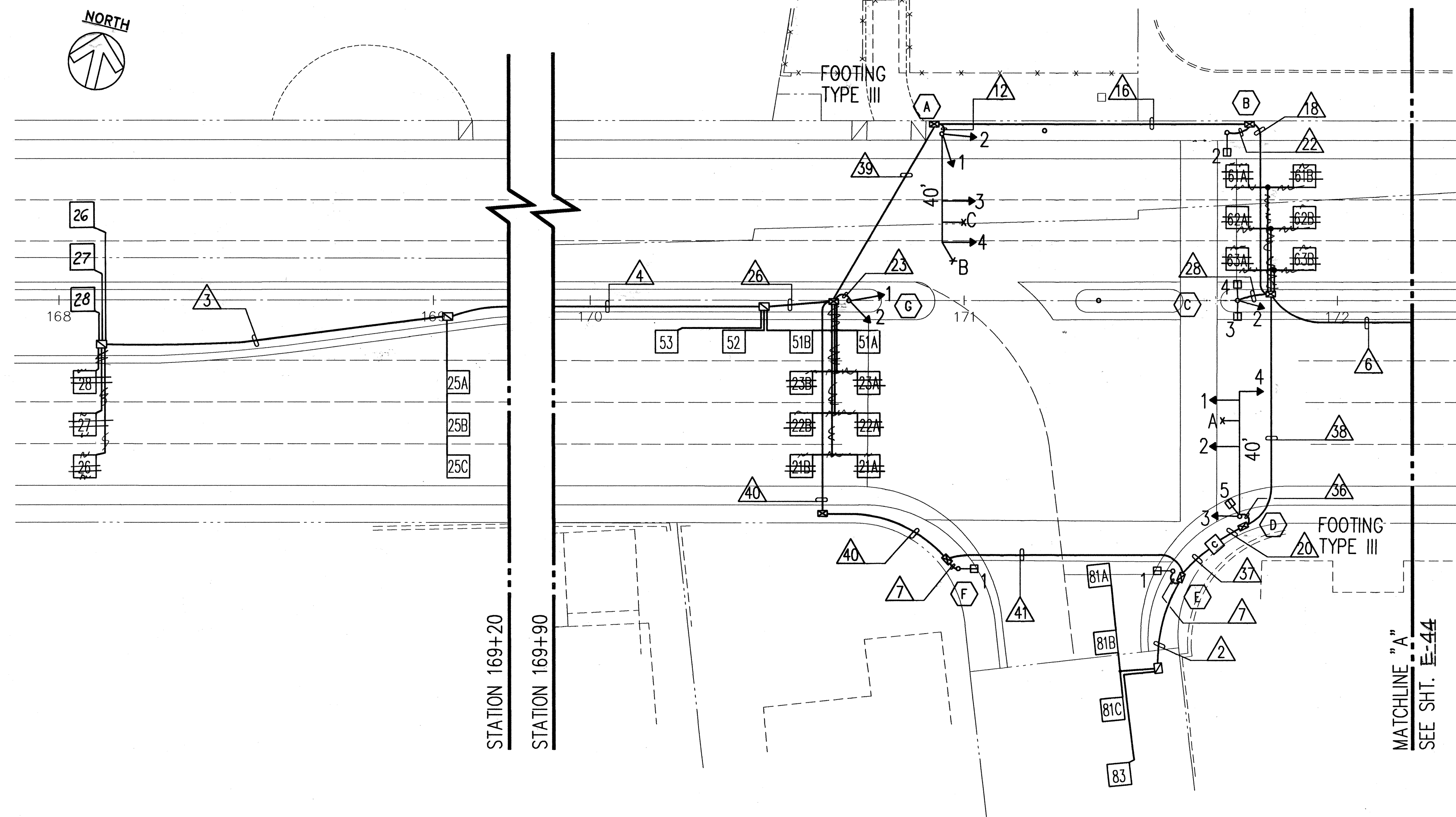
* PROGRAMMED VISIBILITY



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R. Ho
8/10/90

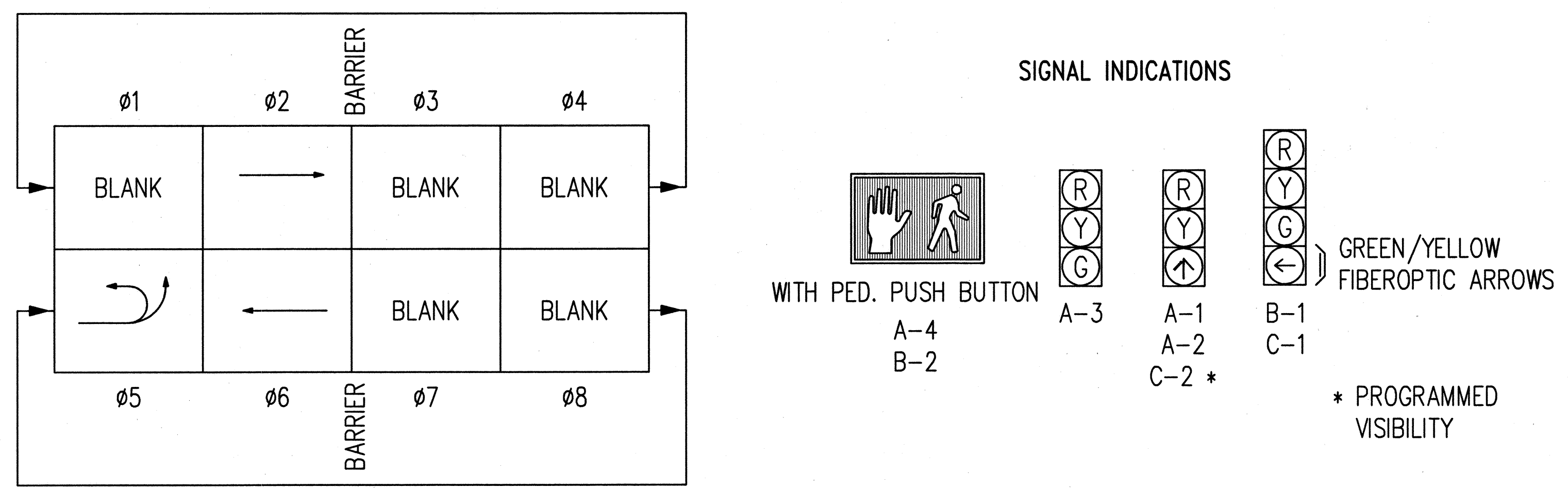
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**TRAFFIC SIGNAL PLAN -
NIU IKI CIRCLE**

KALANIANA'OLE HIGHWAY WIDENING
E. HIND DR. TO E. HALEMAUMAU ST.
F.A. PROJECT NO. F-072-1(34)B
SCALE: 1"=20'
DATE: 8/90
SHEET No. E-43 OF 45 SHEETS



TRAFFIC SIGNAL PLAN - NIU IKI CIRCLE
SCALE: 1"=20'-0"

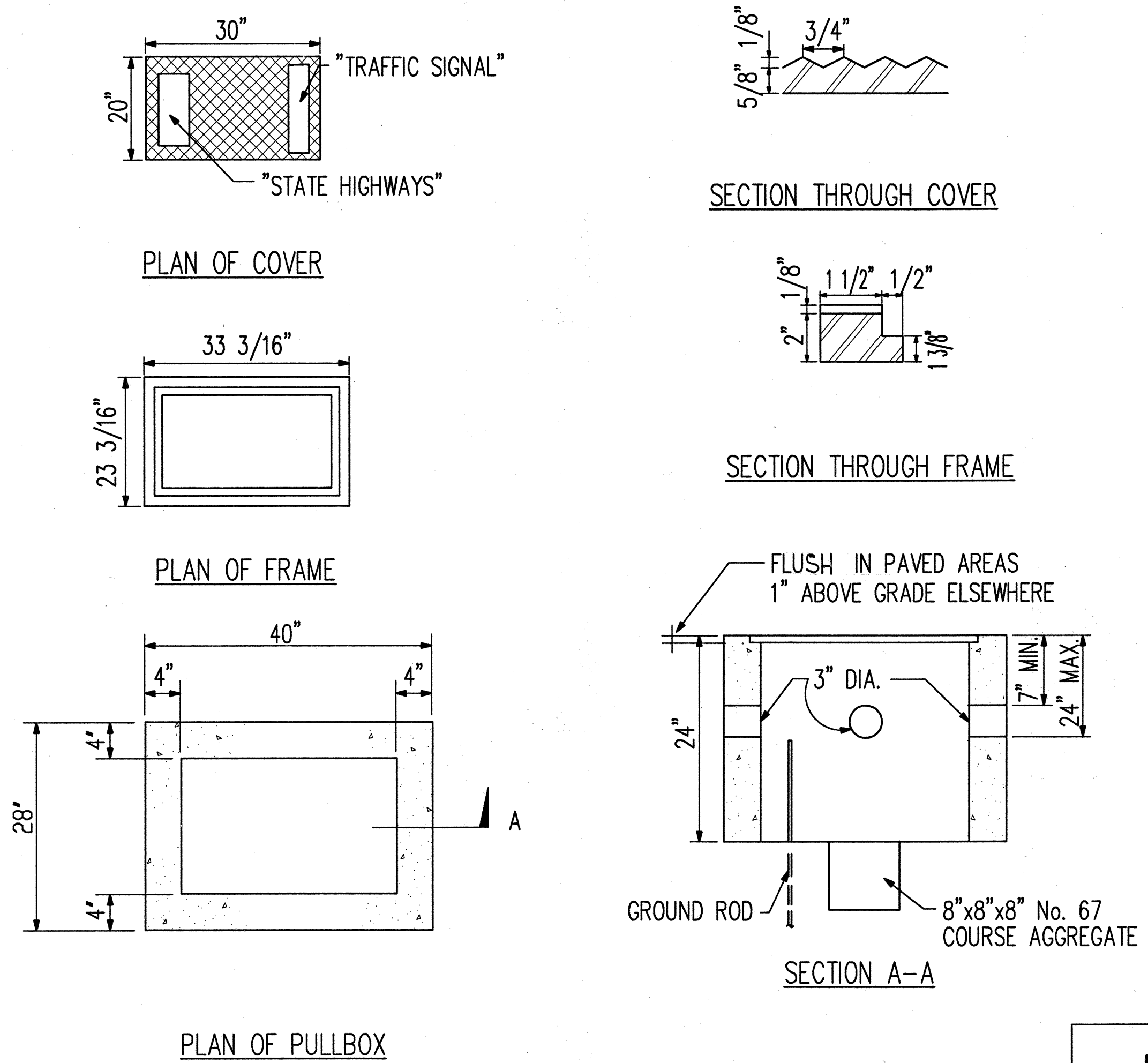
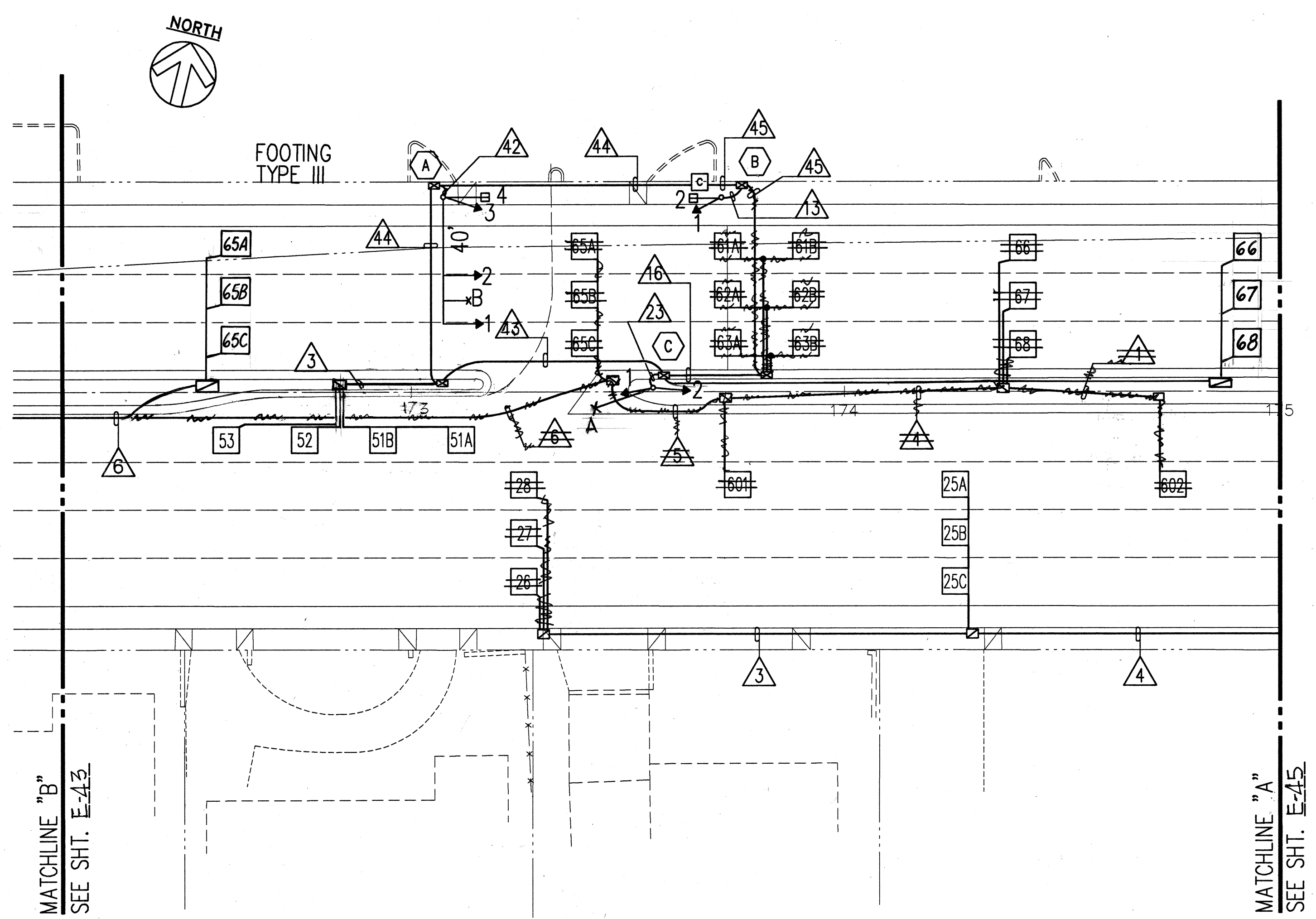
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)B	1991	162	193



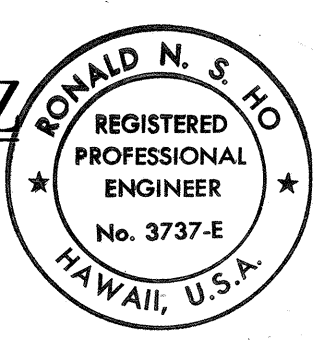
EMERGENCY VEHICLE PRE-EMPTION	
CIRCUIT	MOVEMENT
A	ø2 & ø5
B	ø6

TRAFFIC SIGNAL SYSTEM CONDUIT AND CABLE SCHEDULE AT NIU IKI CIRCLE AT NIU VALLEY SHOPPING CENTER								
	DELTA ITEM NO. (Δ)							
	2	13	16	23	42	43	44	45
QUANTITY OF 2"C, SEE NOTE NO. 2	1	1	2	1	1	3	4	3
QUANTITY OF 2-26/C #14 INTERCONNECT CABLE, SEE NOTE NO. 1			2			2	2	2
QUANTITY OF 2/C #14 SHIELDED LOOP DETECTOR AND PEDESTRIAN PB CABLE	2						3	3
QUANTITY OF 3/C #20 SHIELDED EMERGENCY PRE-EMPTION CABLE				1	1	1	1	
QUANTITY OF #14 SIGNAL HEAD CABLE		4		8	12			
QUANTITY OF #4 POWER CABLE								

NOTES: 1. ADD 1 #6 AWG NEUTRAL WITH EACH 26/C #14
2. ALL CONDUITS SHALL BE SCHEDULE 80, UNLESS OTHERWISE NOTED.



TYPICAL PULLBOX TYPE Z
NOT TO SCALE



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Ronald N. S. Ho
3/10/90

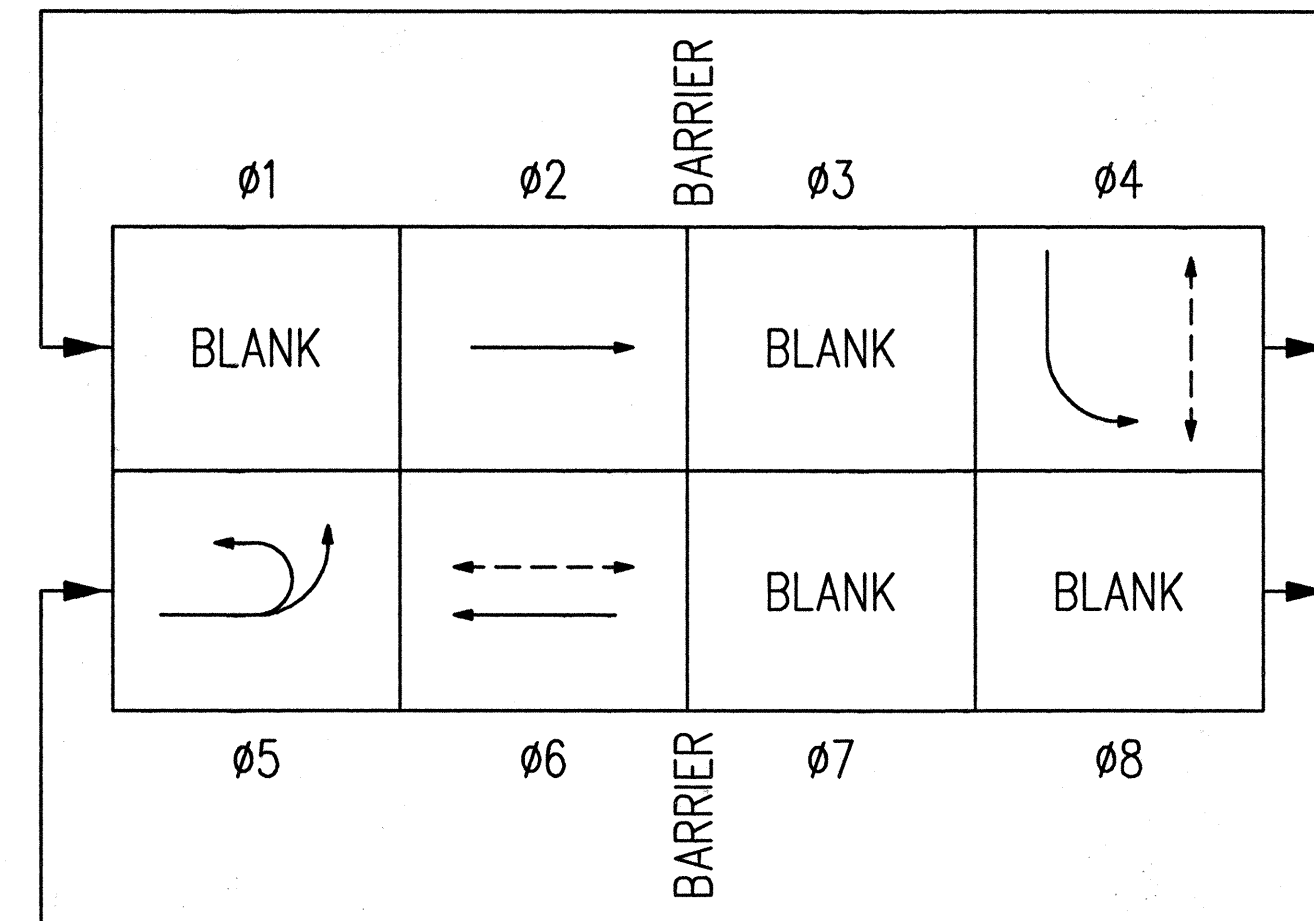
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TRAFFIC SIGNAL PLAN -
NIU VALLEY SHOPPING CENTER
KALANIANA'OLE HIGHWAY WIDENING
E. HIND DR. TO E. HALEMAUMAU ST.
F.A. PROJECT NO. F-072-1(34)B
SCALE: 1"=20'
DATE: 8/90
SHEET No. E-44 OF 45 SHEETS

162

TRAFFIC SIGNAL PLAN - NIU VALLEY SHOPPING CENTER
SCALE: 1"=20'-0"

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

TRAFFIC SIGNAL SYSTEM CONDUIT AND CABLE SCHEDULE AT EAST HALEMAUMAU ST.		DELTA ITEM NO. (△)																		
		1	3	4	5	13	16	19	22	28	29	33	34	40	46	47	48	49	50	
QUANTITY OF 2"C, SEE NOTE NO. 2		1	1	1	1	1	2	3	2	2	2	4	4	4	2	4	5	3	3	
QUANTITY OF 2-26/C #14 INTERCONNECT CABLE, SEE NOTE NO. 1							2	2				2	2	2		2	2	2	2	
QUANTITY OF 2/C #14 SHIELDED LOOP DETECTOR AND PEDESTRIAN PB CABLE		1	3	4	5			8	1	2	2	12	1	10	1	5	16	4	7	
QUANTITY OF 3/C #20 SHIELDED EMERGENCY PRE-EMPTION CABLE												2	2	2	2	2	2			
QUANTITY OF #14 SIGNAL HEAD CABLE						4			7	14	10				19					
QUANTITY OF #4 POWER CABLE																				
NOTES: 1. ADD 1 #6 AWG NEUTRAL WITH EACH 26/C #14 2. ALL CONDUITS SHALL BE SCHEDULE 80, UNLESS OTHERWISE NOTED																				



EMERGENCY VEHICLE PRE-EMPTION	
CIRCUIT	MOVEMENT
A	ø2 & ø5
B	ø4
C	ø6

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)B	1991	163	173

SIGNAL INDICATIONS

WITH PED. PUSH BUTTON

A-4
B-2
B-3
C-3
C-4
D-5

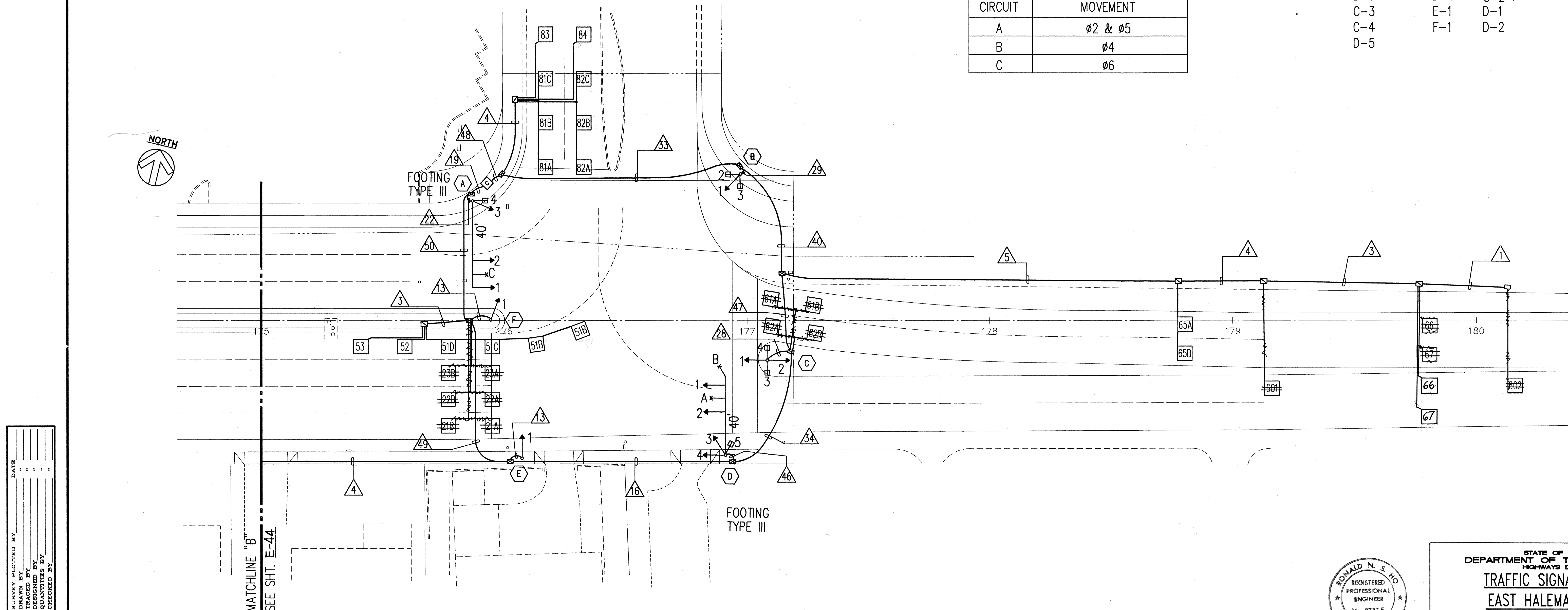
A-3
D-3
D-4
E-1
F-1

A-1
A-2
C-2 *
D-1
D-2

B-1
C-1

GREEN/YELLOW FIBEROPTIC ARROWS

* PROGRAMMED VISIBILITY



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	

TRAFFIC SIGNAL PLAN - EAST HALEMAUMAU ST.
SCALE: 1"=20'-0"

RONALD N. S. HO
REGISTERED PROFESSIONAL ENGINEER
No. 3737-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
8/10/90

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN -
EAST HALEMAUMAU ST.

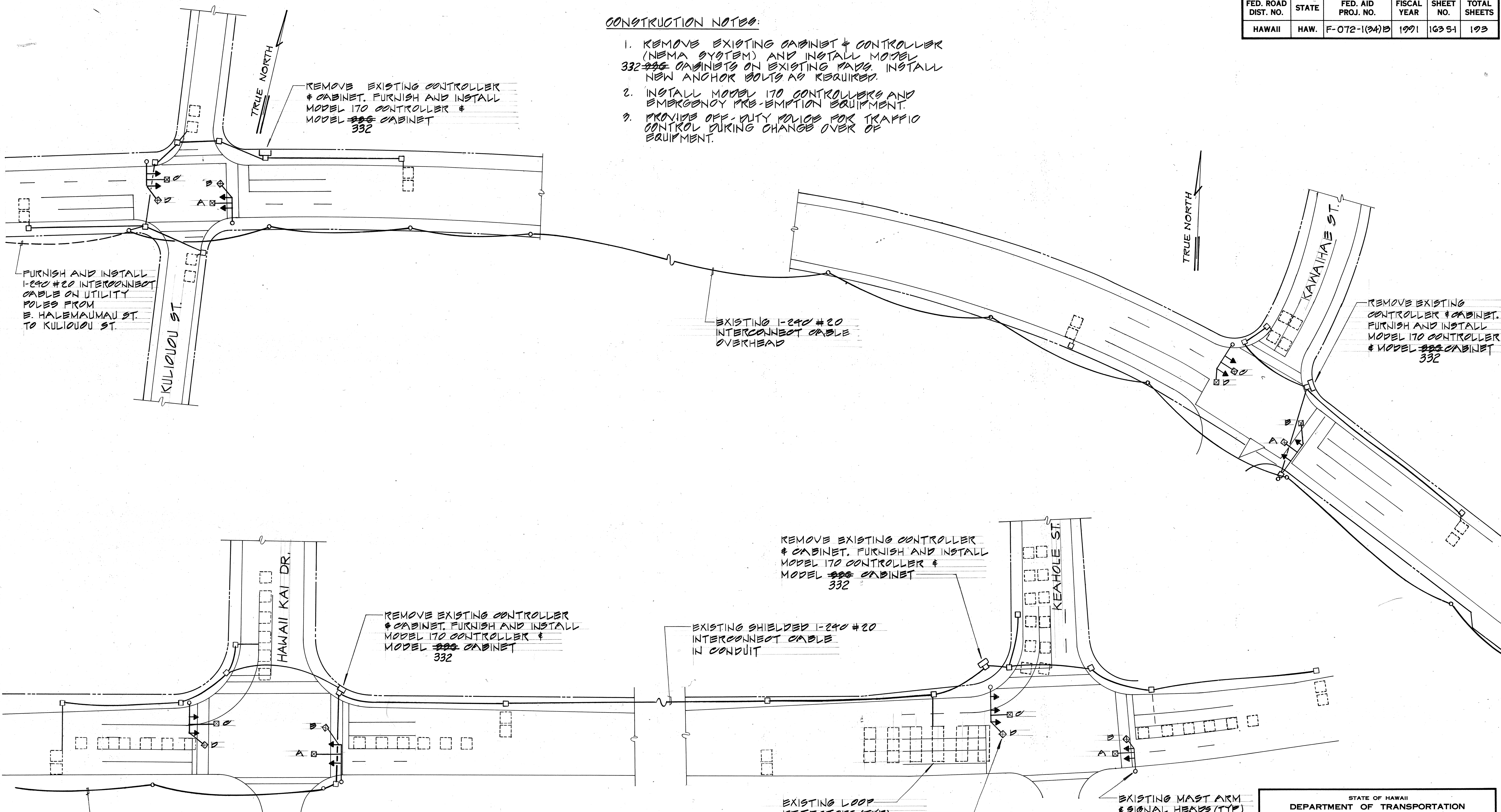
KALANIANA'OLE HIGHWAY WIDENING
E. HIND DR. TO E. HALEMAUMAU ST.
F.A. PROJECT NO. F-072-1(34)B

SCALE: 1"=20' DATE: 8/90
SHEET No. E-45 OF 45 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(34)B	1991	163 S-1	193

CONSTRUCTION NOTES:

1. REMOVE EXISTING CABINET & CONTROLLER (NEMA SYSTEM) AND INSTALL MODEL 332 ~~332~~ CABINETS ON EXISTING PADS. INSTALL NEW ANCHOR BOLTS AS REQUIRED.
2. INSTALL MODEL 170 CONTROLLERS AND EMERGENCY PRE-EMPTION EQUIPMENT.
3. PROVIDE OFF-DUTY POLICE FOR TRAFFIC CONTROL DURING CHANGE OVER OF EQUIPMENT.



REMOVE EXISTING CONTROLLER & CABINET. FURNISH AND INSTALL MODEL 170 CONTROLLER & MODEL ~~332~~ CABINET

FURNISH AND INSTALL 1-240 #20 INTERCONNECT CABLE ON UTILITY POLES FROM E. HALEMAUMAU ST. TO KULIOUOU ST.

EXISTING 1-240 #20 INTERCONNECT CABLE OVERHEAD

REMOVE EXISTING CONTROLLER & CABINET. FURNISH AND INSTALL MODEL 170 CONTROLLER & MODEL ~~332~~ CABINET

REMOVE EXISTING CONTROLLER & CABINET. FURNISH AND INSTALL MODEL 170 CONTROLLER & MODEL ~~332~~ CABINET

REMOVE EXISTING CONTROLLER & CABINET. FURNISH AND INSTALL MODEL 170 CONTROLLER & MODEL ~~332~~ CABINET

EXISTING SHIELDED 1-240 #20 INTERCONNECT CABLE IN CONDUIT

EXISTING 1-240 #20 INTERCONNECT CABLE OVERHEAD

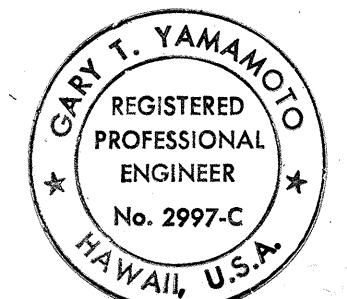
EXISTING LOOP DETECTORS (TYP)

EXISTING MAST ARM & SIGNAL HEADS (TYP)

FURNISH AND INSTALL EMERGENCY PRE-EMPTION EQUIPMENT (TYP)

EMERGENCY PRE-EMPTION	
CIRCUIT	MOVEMENT
A	OB THRU & OB LEFT
B	MAKAI BOUND
C	IB - THRU
D*	MAUKA BOUND

* WHERE APPLICABLE



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN
KULIOUOU ST. TO KEAHOLE ST.

KALANIANA'OLE HIGHWAY WIDENING
E. HIND DR. TO E. HALEMAUMAU ST.
F.A. PROJECT NO. F-072-1(34)B

Scale: 1" = 40' Date: 8/90

SHEET No. E-45 OF 45 SHEETS

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