

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	32A-02-89	1989	3	5

CONSTRUCTION NOTES

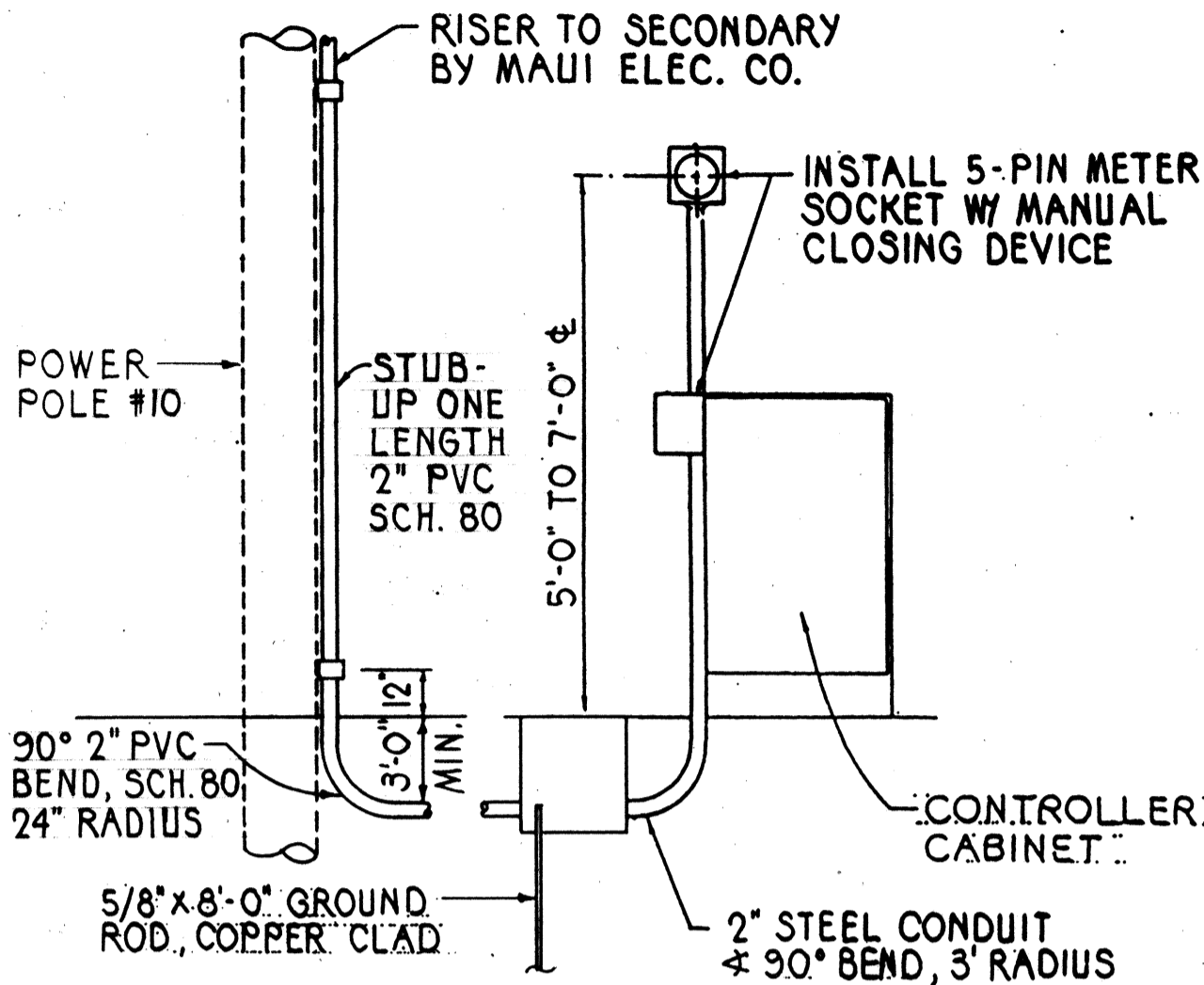
1. LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES SUCH AS PIPELINES, CONDUITS, CABLES, ETC., SHOWN ON PLANS ARE APPROXIMATE ONLY. IT IS NOT THE INTENT OF THESE PLANS TO SHOW THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY 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 LOCATIONS OF THE TRAFFIC SIGNAL STANDARDS, TRAFFIC SIGNAL STANDARDS WITH MAST-ARM, PEDESTRIAN PUSH BUTTONS, TRAFFIC CONTROLLERS, PULLBOXES, CONDUITS AND LOOP DETECTORS SHALL BE STAKED OUT IN THE FIELD BY THE CONTRACTOR AND APPROVAL OF THE LOCATIONS OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION AND INSTALLATION.
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 (1978) AND AMENDMENTS.
4. LOCATIONS OF TRAFFIC MARKINGS AND MARKERS (LANE LINES, STOP LINES, CROSSWALK, ETC.) SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR WITH THE ENGINEER PRIOR TO THE INSTALLATION OF THE TRAFFIC SIGNAL SYSTEM.
5. REMOVAL OF PAVEMENT MARKINGS AND STRIPINGS SHALL BE DONE BY THE CONTRACTOR, INCIDENTAL TO OTHER ITEMS OF WORK.
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", FEDERAL HIGHWAY ADMINISTRATION (1978) AND AS SPECIFIED IN THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE BARRICADES, BLINKERS, CONSTRUCTION SIGNS, ETC. FOR THE SAFETY OF THE MOTORING PUBLIC. COST SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK.
7. REMOVAL OF EXISTING SIGNS SHALL ALSO INCLUDE THE REMOVAL OF POSTS AND FOUNDATIONS UNLESS OTHERWISE NOTED. ALL SIGN MATERIALS REMOVED BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.
8. ALL NEW CROSSWALKS AND STOP BARS SHALL BE INSTALLED WITH PAVEMENT MARKING TAPE. EXISTING CROSSWALKS AND STOP BARS TO REMAIN SHALL BE REMARKED WITH PAVEMENT MARKING TAPE.
9. ALL EXISTING CHANNELIZING LINES, SOLID LANE LINES AND CENTERLINES TO REMAIN WITHIN THE PROJECT LIMITS SHALL BE RESTRIPE AS SHOWN ON PLAN. MISSING PAVEMENT MARKERS SHALL BE REPLACED. COST FOR REPLACING MARKERS SHALL BE INCIDENTAL TO ITEM NO. 629.1010, PAVEMENT STRIPING. ALL EXISTING PAVEMENT ARROWS TO REMAIN SHALL BE REPAINTED.
10. THE TOP OF THE EXISTING 21 INCH SEWER FORCE MAIN IS APPROXIMATELY FOUR FEET BELOW THE PAVEMENT. THE CONTRACTOR SHALL BE EXTRA CAUTIOUS IN EXCAVATING AND CONSTRUCTING IN THE VICINITY OF THE SEWER FORCE MAIN. IF THE SEWER FORCE MAIN IS DAMAGED IN ANY WAY, REPAIRS SHALL BE MADE IMMEDIATELY AT THE CONTRACTOR'S COST.

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 ON THE PLANS.
2. SIGNAL INDICATIONS DURING CLEARANCE INTERVAL:
 - A. IF A SIGNAL IS G OR $\leq G$ AND WILL REMAIN G OR $\leq G$ DURING THE NEXT PHASE, IT SHALL BE G OR $\leq G$ DURING THE CLEARANCE INTERVAL.
 - B. IF A SIGNAL IS G OR $\leq G$ AND WILL BECOME R OR EXTINGUISHED DURING THE NEXT PHASE, IT SHALL BE Y OR $\leq Y$ 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 CONTROLLER FURNISHED SHALL BE A 2-8 PHASE CONTROLLER. A COORDINATION UNIT SHALL BE FURNISHED AND WIRED IN THE CABINET IF REQUIRED BY THE EXISTING MASTER CONTROLLER (EAGLE MC 880). A COMMUNICATION DEVICE SHALL BE FURNISHED AND INSTALLED IN THE CABINET.
4. THE LOOP AMPLIFIER UNITS FURNISHED FOR THIS PROJECT SHALL BE CAPABLE OF OPERATING THE LOOP DETECTOR CONFIGURATIONS SHOWN ON THE PLANS.
5. MINIMUM CONTROLLER CABINET SIZE SHALL BE 48" HIGH, 30" WIDE AND 16" DEEP.
6. CONTRACTOR SHALL FURNISH 50-AMP. CIRCUIT BREAKERS.
7. 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.
8. INTERCONNECTION BETWEEN THE MASTER CONTROLLER LOCATED AT THE INTERSECTION OF KAAHUMANU AVENUE AND KANE STREET/KAHULUI BEACH ROAD AND THE CONTROLLER SHALL BE ACCOMPLISHED BY USE OF AN EXISTING HAWAIIAN TELEPHONE COMPANY 12-WIRE (6-TWISTED PAIR) VOICE-GRADE TELEPHONE LINE AND FREQUENCY SHIFT KEYING, TIME-DIVISION MULTIPLEX TELEMETRY SYSTEM.
9. CONTRACTOR SHALL FURNISH AND PULL THE 12C WIRE (6-TWISTED PAIR) BETWEEN THE CONTROLLER AND THE HAWAIIAN TELEPHONE COMPANY CABLE. HAWAIIAN TELEPHONE COMPANY WILL PROVIDE THE CONNECTION AT THE POLE. CONTRACTOR SHALL PROVIDE AT LEAST 10 FEET OF SLACK AT THE POLE.
10. SHOULD ANY DEFECT BE ENCOUNTERED DURING THE WARRANTY PERIOD, THE MANUFACTURER WILL BE NOTIFIED AND HE 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 WHATSOEVER TO THE STATE. ALL REPAIRS SHALL BE DONE AS SOON AS POSSIBLE.

LEGEND

	12" RYG STANDARD TRAFFIC SIGNAL HEAD
	STANDARD TRAFFIC AND PEDESTRIAN SIGNAL HEADS MOUNTED ON TYPE I SIGNAL STANDARD, HEIGHT = 10'
	12" RYG $\leq G$ / $\leq Y$ 4-SECTION DUAL INDICATION TRAFFIC SIGNAL HEAD
	TRAFFIC SIGNAL HEADS MOUNTED ON TYPE II SIGNAL STANDARD. ARM SPREAD SHOWN 30' AND DISTANCE BETWEEN SIGNAL HEADS SHOWN IS 12'
	TYPE "B" PULLBOX
	TYPE "A" PULLBOX
	CONTROLLER
	LOOP DETECTOR, SERIES-PARALLEL CONNECTED
	LOOP DETECTOR, SERIES CONNECTED
	EXISTING UNDERGROUND UTILITY LINES, SIZES INDICATED W = WATER T = TELEPHONE S = SEWER SP = SPRINKLER SYSTEM D = STORM DRAIN
	WV WATER VALVE
	WMH WATER MANHOLE
	FH FIRE HYDRANT
	SMH SEWER MANHOLE
	CB CATCH BASIN
	PP POWER POLE
	LP LIGHT POLE
	R/W RIGHT-OF-WAY
	NEW A.C. PAVEMENT
	NEW AREA TO BE PLANTED
	NEW PAVEMENT ARROW
	EXIST. PAVEMENT ARROW
	NEW TRAFFIC SIGNAL STANDARD
	EXIST. CROSSWALK MARKINGS TO BE REMOVED
	NEW CROSSWALK MARKINGS TO BE MARKED W/PAV'T. MARKING TAPE
	EXIST. STRIPING
	NEW STRIPING
	NEW STOP BAR TO BE MARKED W/PAV'T. MARKING TAPE
	EXIST. CURB
	EXIST. STRIPING OR CURB TO BE REMOVED

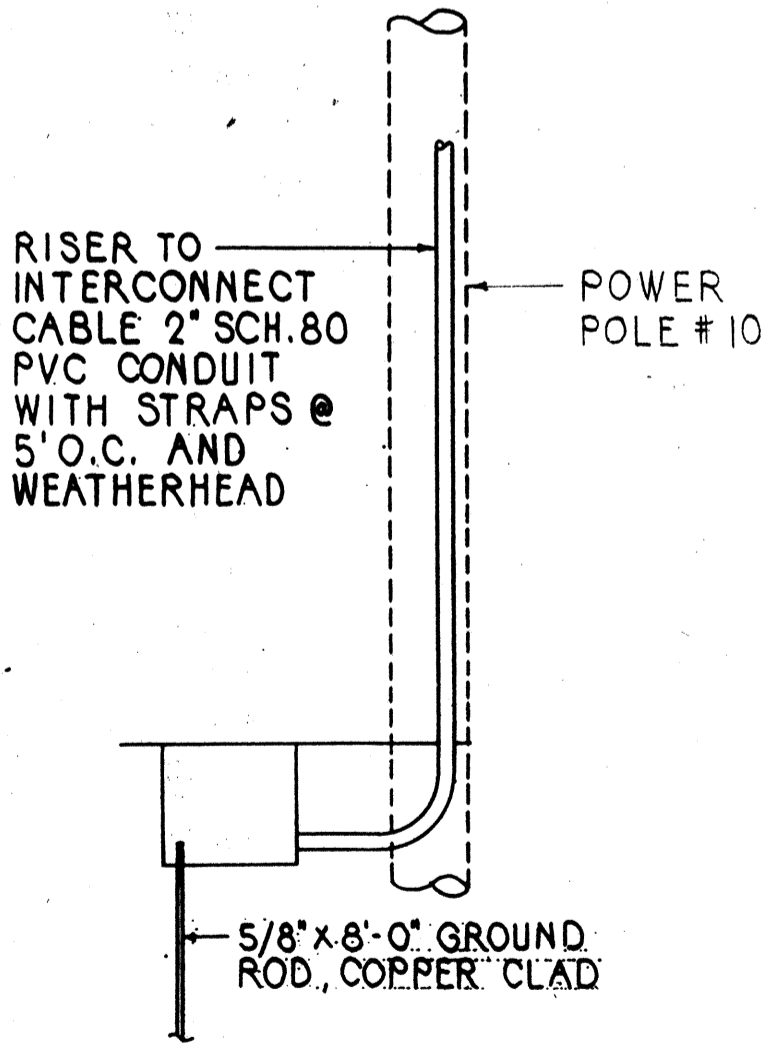


NOTES:

1. MAUI ELECTRIC CO. SHALL FURNISH AND INSTALL CABLE BETWEEN SECONDARY AND METER SOCKET.
2. CONTRACTOR SHALL MAKE ALL ELECTRICAL CONNECTIONS TO CONTROLLER, PROVIDE BREAKER AND GROUND.
3. CONTRACTOR SHALL PROVIDE MAUI ELECTRIC CO. ONE WEEK ADVANCE NOTICE FOR ANY WORK BY MAUI ELECTRIC CO..

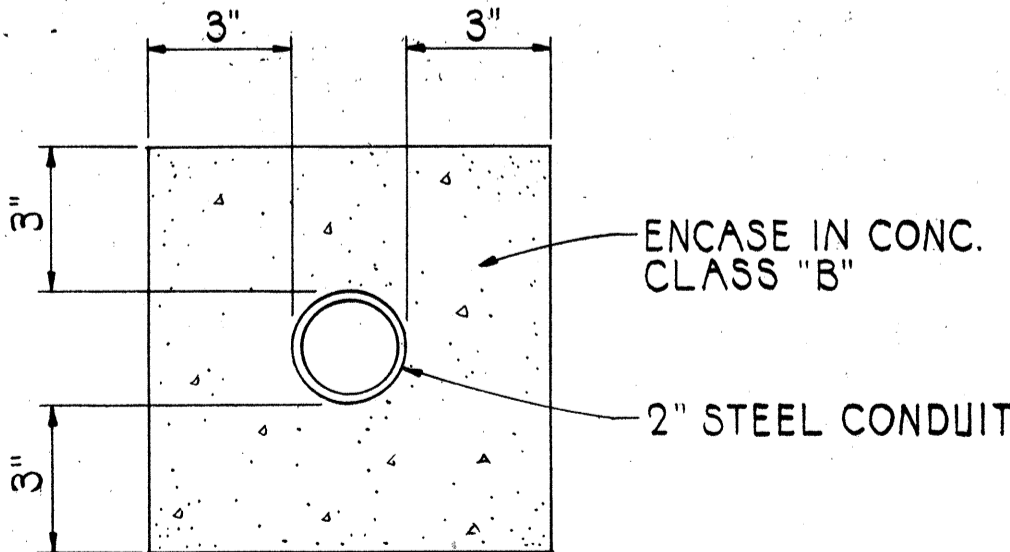
ELECTRICAL SERVICE DETAIL

NOT TO SCALE



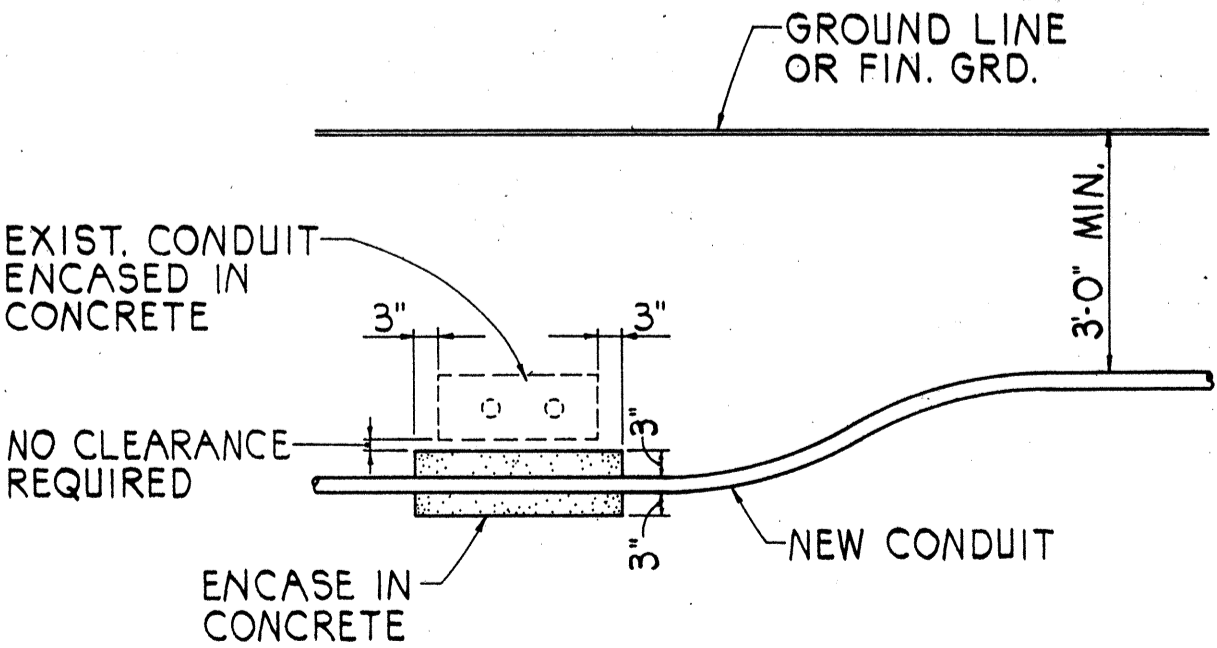
INTERCONNECT DETAIL

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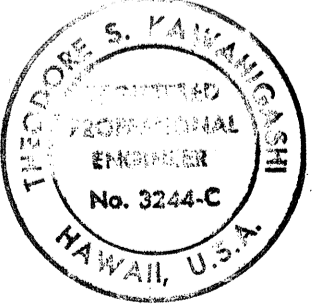
MECO CONDUIT DETAIL

NOT TO SCALE



CONDUIT BY-PASS DETAIL

NOT TO SCALE



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
Seddi Kanchigala

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LEGEND AND NOTES

KAAHUMANU AVENUE
TRAFFIC SIGNALS AT
WHARF STREET
PROJECT NO. 32A-02-89

SCALE: AS NOTED DATE: DEC. 1988
SHEET No. 1 OF 1 SHEETS