

LEGEND

- 12" RYG STANDARD TRAFFIC SIGNAL HEAD
- STANDARD TRAFFIC AND PEDESTRIAN SIGNAL HEADS MOUNTED ON TYPE I SIGNAL STANDARD, HEIGHT = 10'
- TRAFFIC SIGNAL HEADS MOUNTED ON TYPE II SIGNAL STANDARD, ARM SPREAD SHOWN IS 26' AND DISTANCE BETWEEN SIGNAL HEADS IS 12'
- 12" RY← TRAFFIC SIGNAL HEAD
- 12" RY↑ TRAFFIC SIGNAL HEAD
- PROGRAMMED VISIBILITY HEAD
- TYPE "A" PULLBOX
- TYPE "B" PULLBOX
- TYPE "B" PULLBOX WITH MODIFIED COVER
- LOOP DETECTOR, SERIES-PARALLEL CONNECTED
- LOOP DETECTOR, SERIES CONNECTED
- PP POWER POLE
- WV WATER VALVE
- FH FIRE HYDRANT
- EXISTING STRIPING AND MARKERS TO BE REMOVED
- EXISTING PAVEMENT ARROW TO BE REMOVED
- EXISTING PAVEMENT ARROW TO REMAIN
- NEW PAVEMENT ARROW
- TS NEW TRAFFIC SIGNAL STANDARD
- EXISTING CROSSWALK MARKINGS TO BE REMOVED
- EXISTING CROSSWALK MARKINGS TO REMAIN
- NEW CROSSWALK MARKINGS
- EXISTING MARKINGS
- NEW STRIPING
- EXISTING UTILITY LINES AND SIZES AS INDICATED
- W = WATER
- D = DRAIN

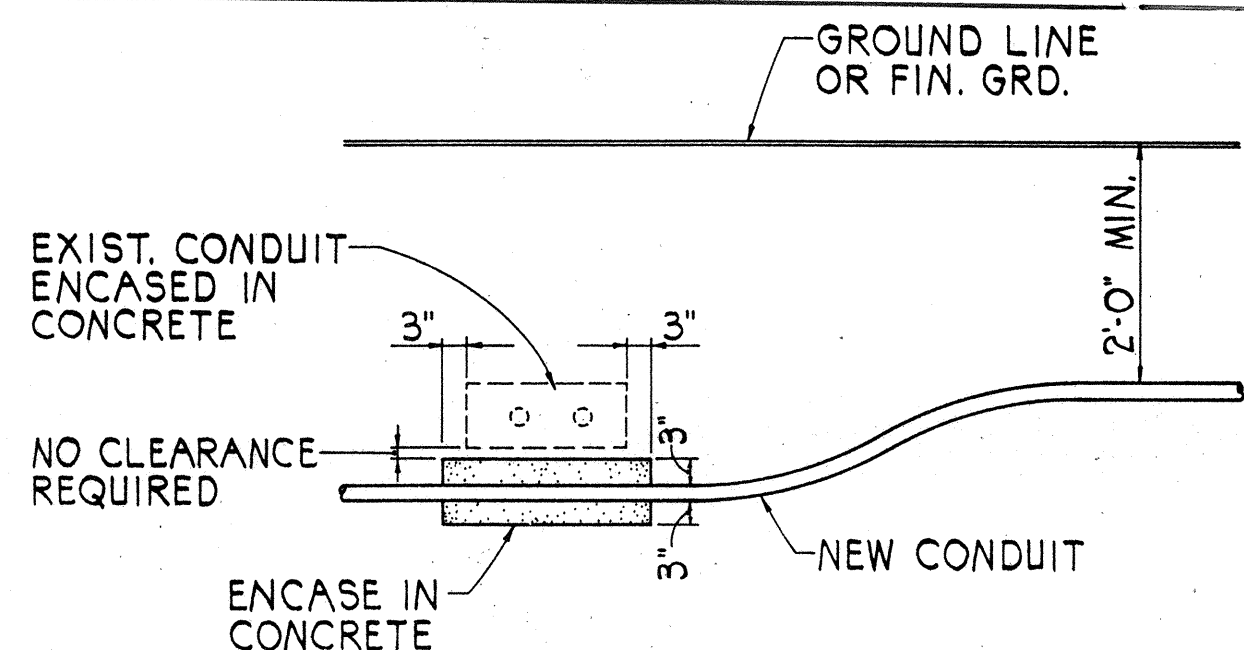
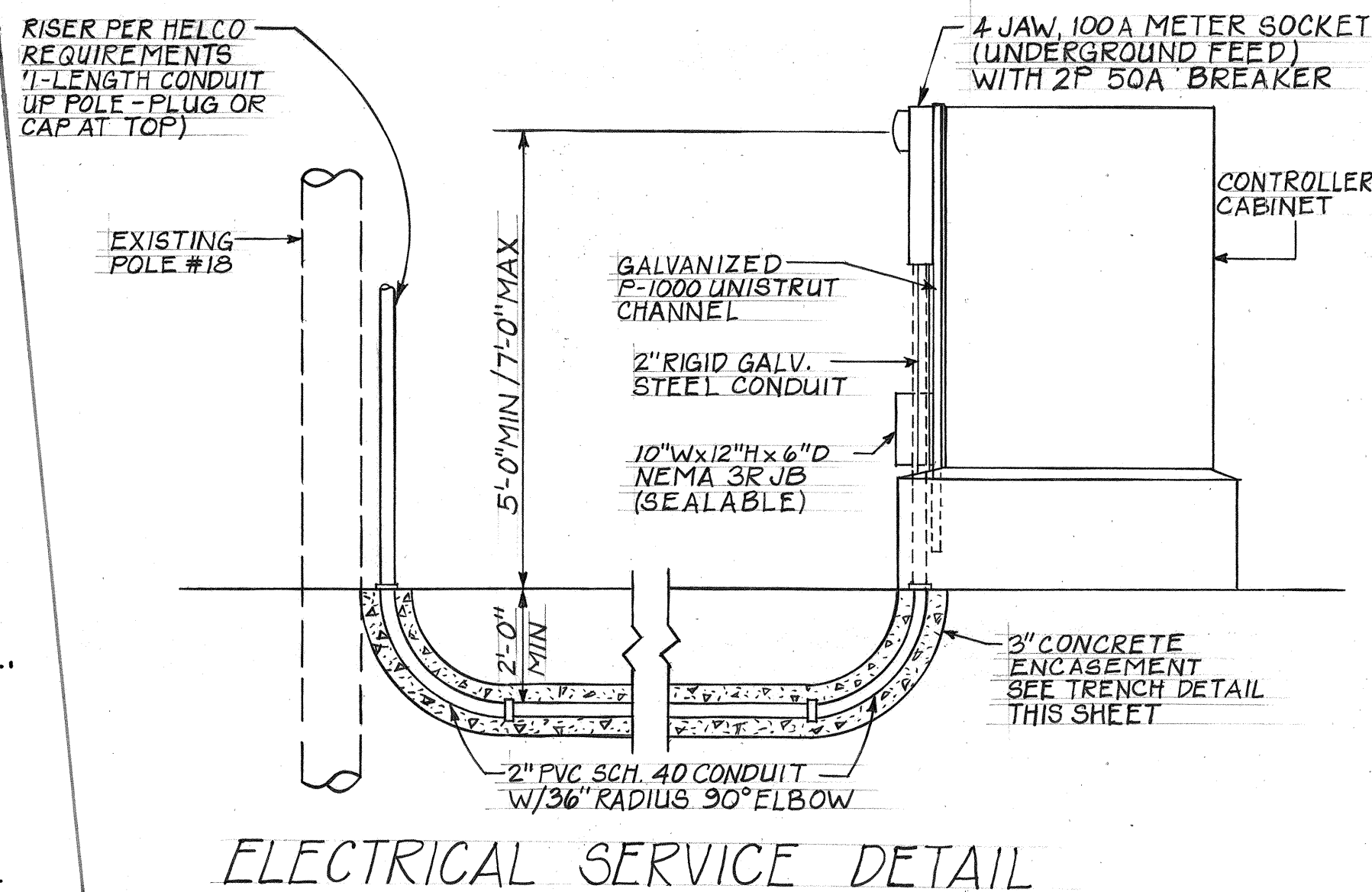
CONSTRUCTION NOTES

- 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.
- THE LOCATIONS OF THE TRAFFIC SIGNAL STANDARDS, TRAFFIC SIGNAL STANDARDS WITH MAST-ARM, 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.
- ALL TRAFFIC SIGNAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", FEDERAL HIGHWAY ADMINISTRATION (1984) AND AMENDMENTS.
- LOCATIONS OF PAVEMENT STRIPING, MARKERS, AND MARKINGS (PAVEMENT ARROWS, STOP LINES, CROSSWALK, ETC.) SHOWN ON THE PLANS SHALL BE VERIFIED WITH THE ENGINEER PRIOR TO THE INSTALLATION OF THE TRAFFIC SIGNAL SYSTEM.
- 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 (1984) 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.
- REMOVAL OF EXISTING SIGNS SHALL ALSO INCLUDE THE REMOVAL OF POSTS AND FOUNDATIONS UNLESS OTHERWISE NOTED. ALL SIGN MATERIALS REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR. COSTS FOR REMOVAL AND TEMPORARY INSTALLATION OF SIGNS, POSTS, AND FOUNDATIONS SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.

TRAFFIC SIGNAL NOTES

- ALL TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE COMPLETELY WIRED IN THE CABINET AND SHALL CONTROL THE TRAFFIC SIGNALS AS CALLED FOR IN THE PLANS.
- SIGNAL INDICATIONS DURING CLEARANCE INTERVAL:
 - 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.
 - 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.
 - IF A SIGNAL IS R AND WILL REMAIN R OR BECOMES G DURING THE NEXT PHASE, IT SHALL REMAIN R DURING THE CLEARANCE INTERVAL.
- THE CONTROLLER FURNISHED SHALL BE A 2-8 PHASE CONTROLLER. THE CONTROLLER SHALL BE MODULAR BY PHASE; KEYBOARD ENTRY WILL NOT BE ACCEPTABLE. A COORDINATION UNIT IS NOT REQUIRED FOR THIS PROJECT. HOWEVER, THE CABINET SHALL BE WIRED FOR FUTURE INSTALLATION OF A COORDINATION UNIT OF THE SAME MANUFACTURER AS THE CONTROLLER UNIT.
- THE LOOP AMPLIFIER UNITS FURNISHED FOR THIS PROJECT SHALL BE CAPABLE OF OPERATING THE LOOP DETECTOR CONFIGURATIONS SHOWN ON THE PLANS.
- MINIMUM CONTROLLER CABINET SIZE SHALL BE 59" HIGH, 38" WIDE AND 24" DEEP.
- CONTRACTOR SHALL FURNISH A 50-AMPERE CIRCUIT BREAKER.
- 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.

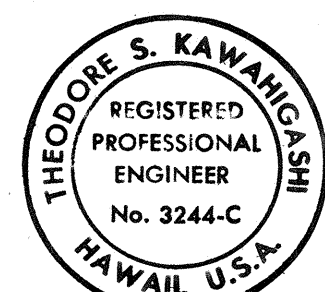
This detail prepared during "As-Built" posting.



CONDUIT BY-PASS DETAIL
NOT TO SCALE

NOTES:

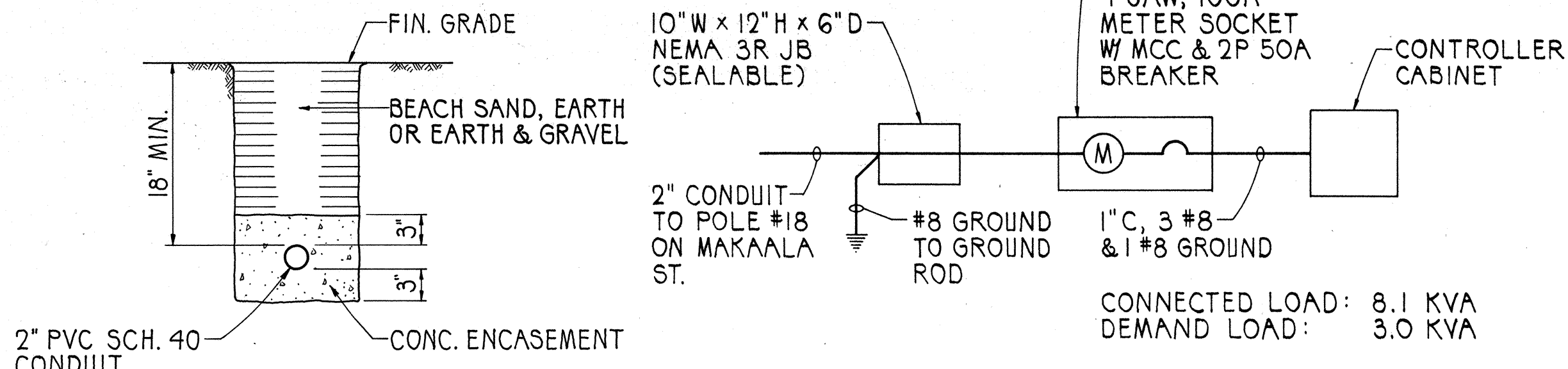
- HAWAII ELECTRIC LIGHT CO. SHALL FURNISH AND INSTALL CABLE BETWEEN SECONDARY AND JUNCTION BOX.
- CONTRACTOR SHALL MAKE ALL ELECTRICAL CONNECTIONS TO CONTROLLER, AND SHALL PROVIDE BREAKER AND GROUND.
- CONTRACTOR SHALL PROVIDE HAWAII ELECTRIC LIGHT CO. ONE (1) WEEK ADVANCE NOTICE FOR ANY WORK BY HAWAII ELECTRIC LIGHT CO.



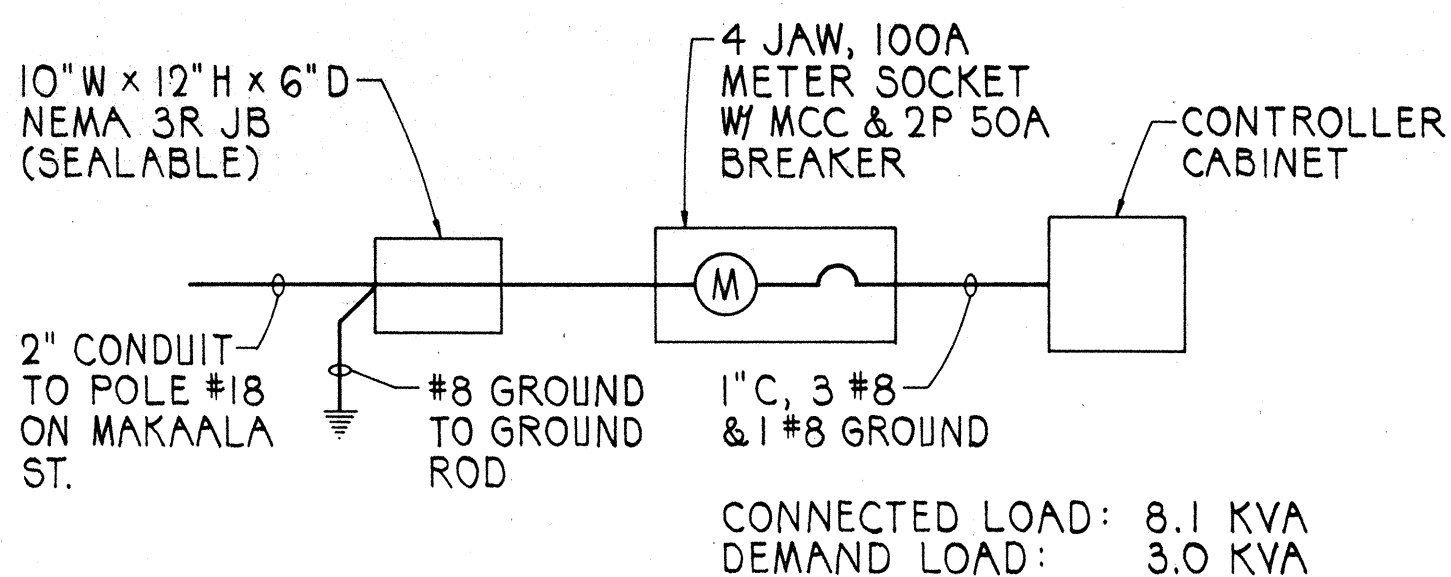
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Theodore S. Kawaguchi
Signature

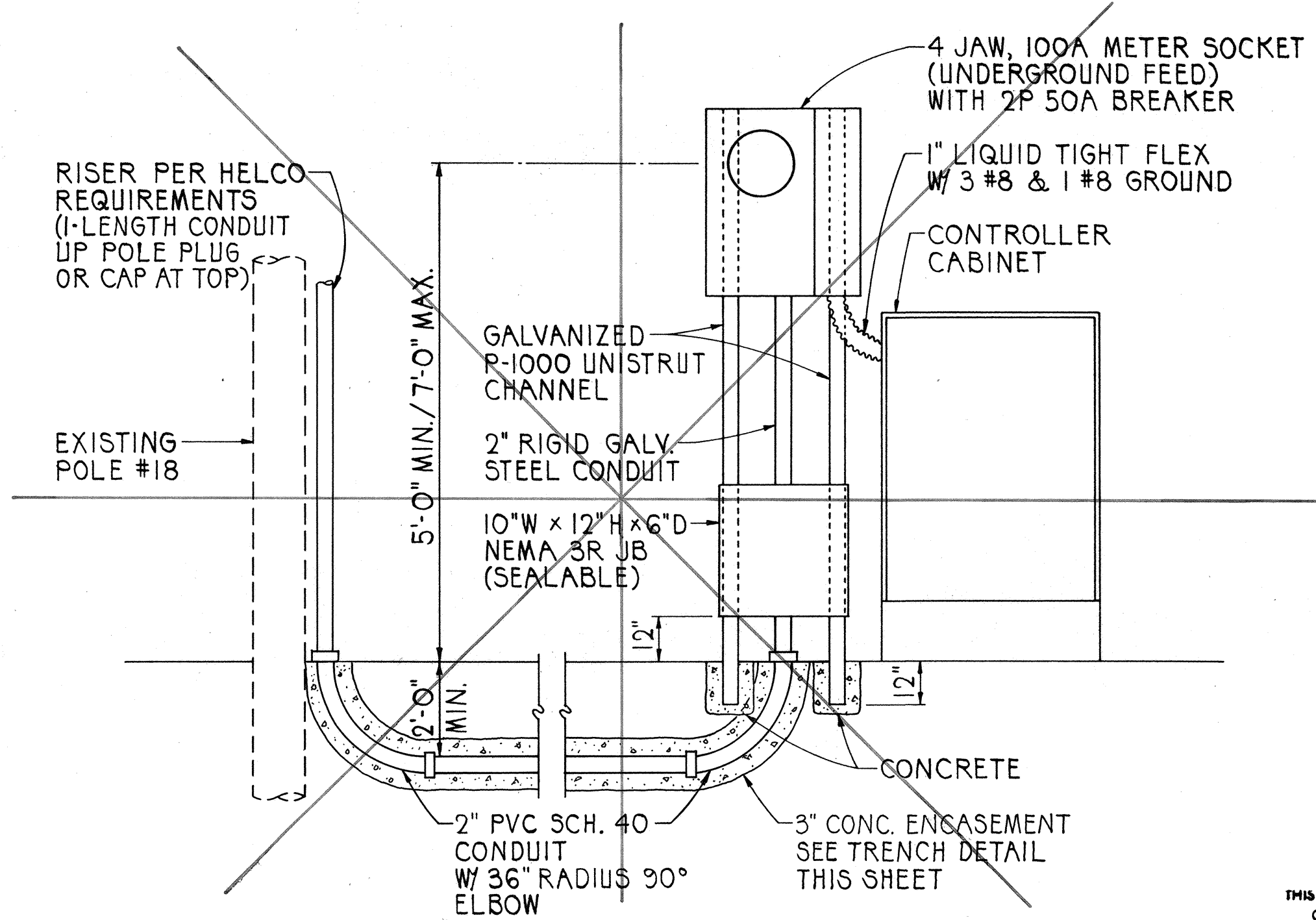
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
LEGEND AND NOTES
 KANOEHUA AVENUE
 TRAFFIC SIGNALS AT
 MAKAALA STREET
 PROJECT NO. IIN-01-87
 SCALE: AS NOTED
 DATE: MAR. 2, 1987
 SHEET No. 1 OF 1 SHEETS



TRENCH DETAIL
NOT TO SCALE



ONE-LINE DIAGRAM
NOT TO SCALE



SEE REVISED DETAIL THIS SHEET
ELECTRICAL SERVICE DETAIL
NOT TO SCALE

DATE:	
ORIGINAL PLAN	
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
NO.	