

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 IN THE PLANS.
2. SIGNAL INDICATIONS DURING CLEARANCE INTERVAL:
- A. 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.
- B. 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.
- 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. 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.
4. CONTRACTOR SHALL INSTALL METER SOCKET AND BREAKER ON THE POWER POLE AS SHOWN ON PLANS IN ACCORDANCE WITH HECO REQUIREMENTS. METER SHALL BE MOUNTED BETWEEN 5' AND 7' ABOVE GROUND. METER SOCKETS SHALL BE 4-PRONG, COMPLETE WITH A MANUAL CIRCUIT CLOSING DEVICE.
5. THE LOOP AMPLIFIER UNITS FURNISHED FOR THIS PROJECT SHALL BE CAPABLE OF OPERATING THE LOOP DETECTOR CONFIGURATIONS SHOWN ON THE PLANS.
6. DETECTOR ASSIGNMENT SHALL BE PER CALIFORNIA DEPARTMENT OF TRANSPORTATION "TRAFFIC SIGNAL CONTROL LOCAL INTERSECTION PROGRAM", JULY 1978.
7. THE CONTRACTOR SHALL FURNISH 50 AMP CIRCUIT BREAKERS.

LEGEND

- TS NEW TRAFFIC SIGNAL STANDARD
- 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 30' AND DISTANCE BETWEEN SIGNAL HEADS IS 12'
- 12" RY ← TRAFFIC SIGNAL HEAD
- CONTROLLER CABINET
- TYPE "A" PULLBOX
- TYPE "B" PULLBOX
- LOOP DETECTOR, SERIES-PARALLEL CONNECTED
- LOOP DETECTOR, SERIES CONNECTED
- LP LIGHT POLE
- PP POWER POLE
- WV WATER VALVE
- WM WATER METER
- SMH SEWER MANHOLE
- EXISTING MARKINGS
- EXISTING UTILITY LINES AND SIZES AS INDICATED
- W = WATER
- S = SEWER
- T = TELEPHONE
- D = STORM DRAIN
- E = ELECTRICAL
- ABD = ABANDONED
- G = GAS
- L = STREET LIGHT
- TS = TRAFFIC SIGNAL

CONSTRUCTION NOTES

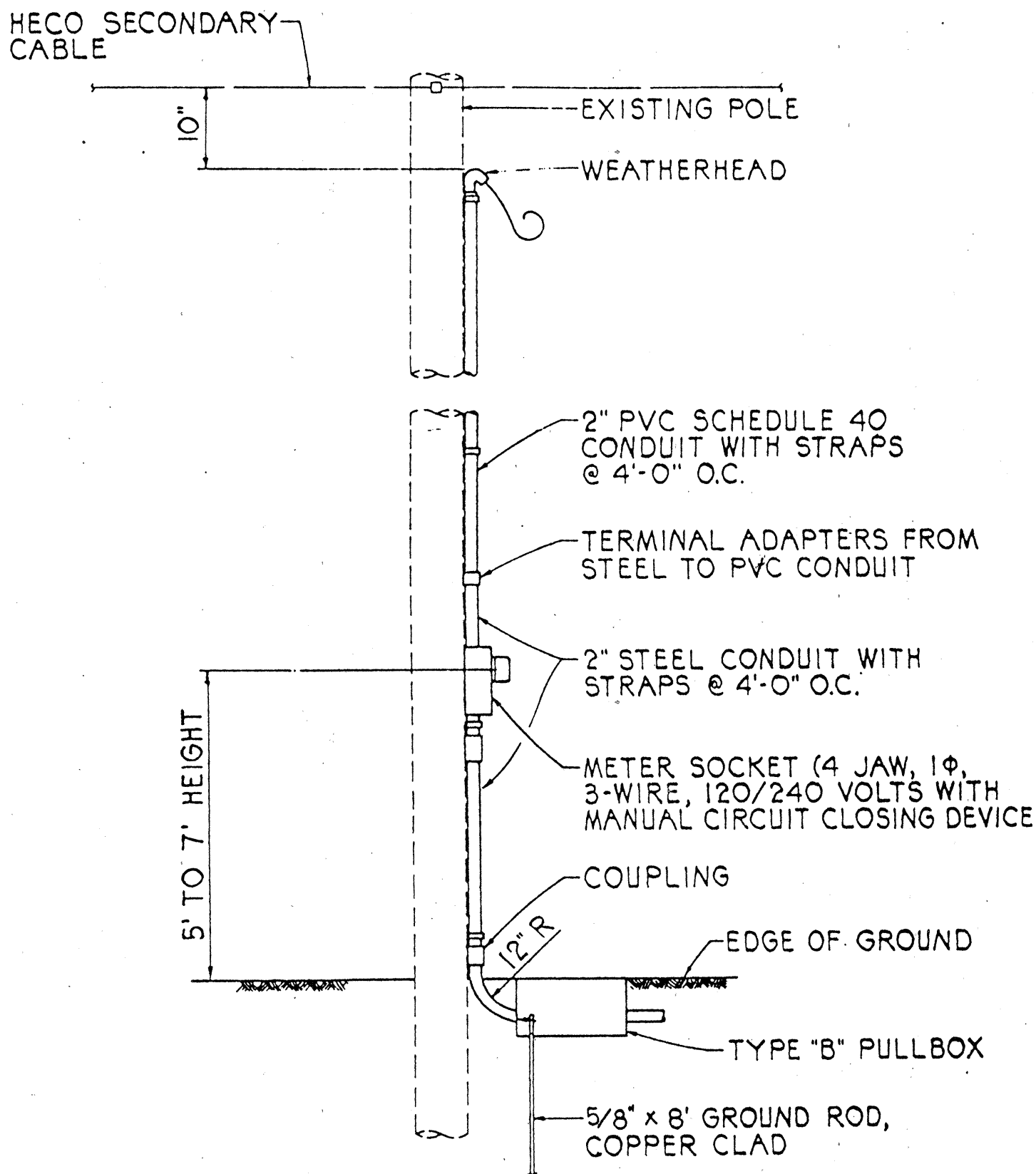
1. LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES SUCH AS PIPELINES, CONDUITS, CABLES, ETC., SHOWN ON PLANS ARE APPROXIMATE ONLY. IT IS NOT THE INTENT OF THESE PLANS TO SHOW THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY 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 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.
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 (1984) AND AMENDMENTS.
4. LOCATIONS OF TRAFFIC MARKINGS AND MARKERS (LANE LINES, STOP LINES, CROSS-WALK, ETC.) SHOWN ON THE PLANS SHALL BE VERIFIED WITH THE ENGINEER PRIOR TO THE INSTALLATION OF THE TRAFFIC SIGNAL SYSTEM.
5. 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.
6. DEPARTMENT OF TRANSPORTATION SERVICES, CITY AND COUNTY OF HONOLULU, WILL ASSIST THE ENGINEER IN CONSTRUCTION INSPECTION FOR THE TRAFFIC SIGNAL SYSTEM.
7. WHERE REQUIRED BY THE PLANS, SIGNS AND/OR POSTS SHALL BE REMOVED. COSTS SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK.

GAS FACILITIES NOTES

1. THE GASCO, INC. GAS PIPELINES IN THE PROJECT AREA ARE PLASTIC COATED AND CATHODICALLY PROTECTED. THE CONTRACTOR SHALL BE EXTREMELY CAREFUL WHEN WORKING NEAR THESE GAS PIPELINES.
2. PRIOR WRITTEN CLEARANCE MUST BE OBTAINED FROM GASCO, INC. AT LEAST FIVE WORKING DAYS BEFORE STARTING EXCAVATION NEAR THESE GAS LINES.
- SINCE GAS LINE LOCATIONS ON FIELD MAPS ARE APPROXIMATE, THE CONTRACTOR, AFTER OBTAINING WRITTEN CLEARANCE, SHALL CALL GASCO, INC., A MINIMUM OF 48 HOURS BEFORE STARTING EXCAVATION TO ARRANGE FOR FIELD LOCATION OF EXISTING GAS LINES. THE TELEPHONE NUMBER IS 547-3575 DURING BUSINESS HOURS, AND 526-0066 AFTER HOURS.
- THE CONTRACTOR SHALL EXCAVATE AND BACKFILL AROUND GAS PIPELINES IN THE PRESENCE OF A GASCO, INC. REPRESENTATIVE. ALL BACKFILL WITHIN SIX INCHES OF ANY GAS PIPELINE SHALL BE SELECT CUSHION MATERIAL APPROVED BY GASCO, INC.
3. THE CONTRACTOR SHALL NOTIFY GASCO, INC. IMMEDIATELY AFTER ANY DAMAGE HAS BEEN CAUSED TO EXISTING GAS PIPELINE, THEIR COATINGS OR THEIR CATHODIC PROTECTION DEVICES. REPAIR WORK ON THIS DAMAGE SHALL BE DONE BY GASCO, INC. WITH PAYMENT FOR THIS WORK TO BE BORNE BY THE CONTRACTOR.
4. MINIMUM VERTICAL OR HORIZONTAL CLEARANCE BETWEEN GAS PIPELINES AND OTHER PIPELINES, CONDUITS OR DUCTLINES SHALL BE 12 INCHES. ADEQUATE SUPPORT AND PROTECTION FOR GAS PIPELINES EXPOSED IN THE TRENCH SHALL BE PROVIDED AND APPROVED BY GASCO, INC.
5. THE CONTRACTOR SHALL WORK IN AN EXPEDITIOUS MANNER IN ORDER TO KEEP UNCOVERED GAS PIPELINES EXPOSED FOR AS SHORT A PERIOD OF TIME AS POSSIBLE.

HTC NOTES:

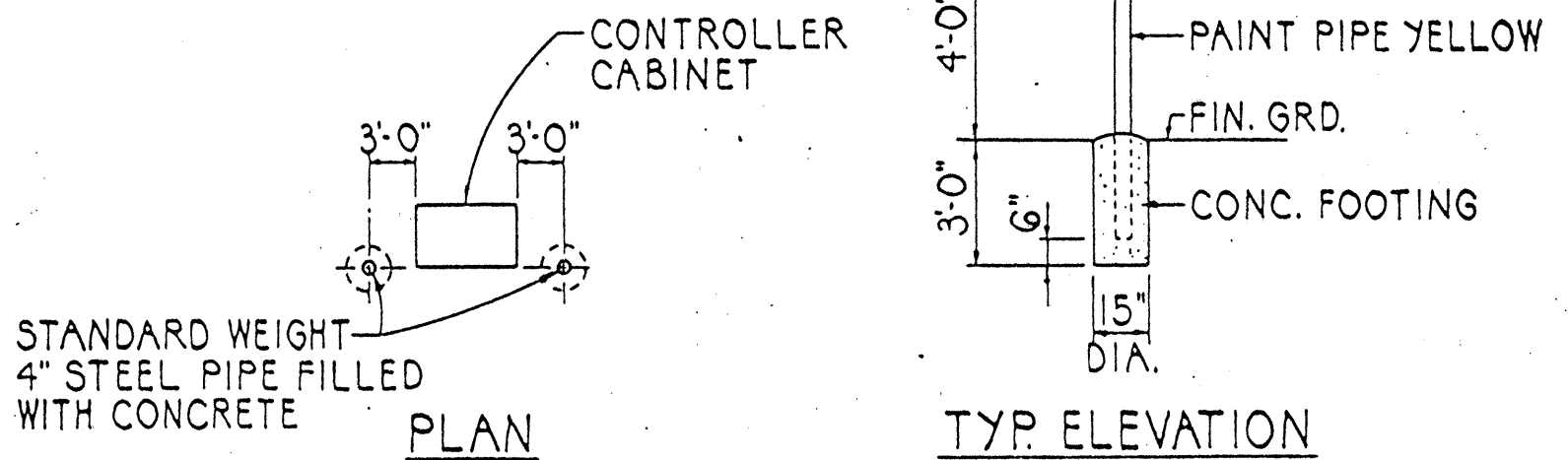
1. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN THE EXCAVATION AND CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY TO UNDERGROUND TELEPHONE AND SIGNAL CABLE FACILITIES AND SHALL MAINTAIN ADEQUATE CLEARANCE FOR HIS EQUIPMENT WHILE WORKING CLOSE TO AND/OR UNDER AERIAL FACILITIES.
2. THE CONTRACTOR SHALL BE LIABLE FOR ALL DAMAGES TO EXISTING HTC UNDERGROUND AND AERIAL FACILITIES.
3. THE CONTRACTOR SHALL REPORT ANY DAMAGED TO EXISTING FACILITIES TO HTC'S REPAIR SERVICE AT TELEPHONE: 611.
4. THE CONTRACTOR MUST OBTAIN AN EXCAVATION PERMIT FROM HTC'S OUTSIDE PLANT PERMIT SECTION LOCATED AT 3235 WALENA STREET A MINIMUM OF THREE WORKING DAYS PRIOR TO START OF EXCAVATION.
5. SHOULD FIELD CONDITIONS AND CONSTRUCTION PROCEDURES REQUIRE THAT ANY EXISTING HTC UNDERGROUND OR AERIAL FACILITIES BE RELOCATED, THE WORK SHALL BE DONE BY HTC AND PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION.
6. SHOULD IT BECOME NECESSARY FOR EXISTING UTILITY POLE TO BE BRACED, THE CONTRACTOR SHALL CONTACT HTC'S OUTSIDE PLANT SUPPORT CENTER AT PHONE: 834-6258, A MINIMUM OF THREE WORKING DAYS PRIOR TO ACTUAL REQUIRED BRACING.



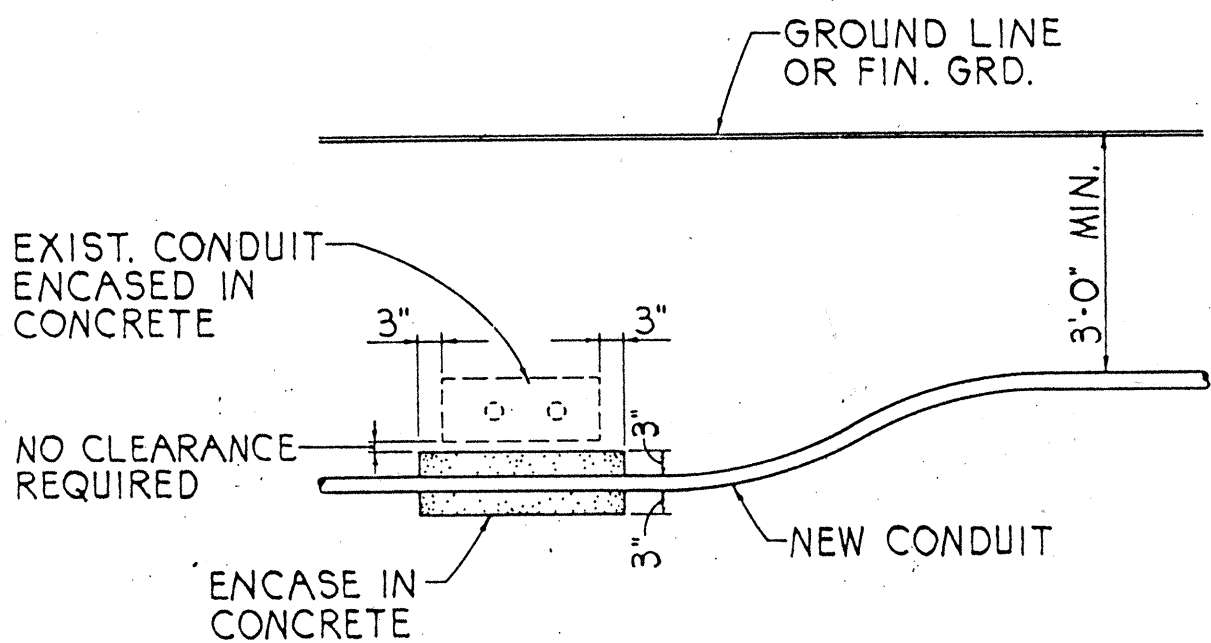
SERVICE POLE DETAIL  
NOT TO SCALE

NOTE:

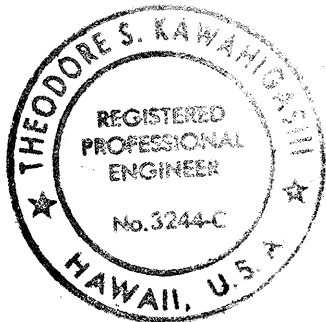
COST OF CONC. FILLED GALVANIZED POSTS SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK.



PIPE GUARD DETAIL  
NOT TO SCALE



CONDUIT BY-PASS DETAIL  
NOT TO SCALE



THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION  
*Theodore S. Kawachi*

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**LEGEND, NOTES AND DETAILS**

KAMEHAMEHA HIGHWAY  
TRAFFIC SIGNALS AT  
AVOCADO STREET / OHAI STREET  
FED. AID PROJECT NO. HES-080-1(9)

SCALE: AS NOTED DATE: APR 1990  
SHEET No. 1 OF 1 SHEETS