FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-02-96	1997	6	19

GENERAL NOTES - TRAFFIC SIGNAL SYSTEM

1. 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.
2. 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.
3. ALL NEW CONDUITS UNDER ROADWAY SHALL BE PVC SCHEDULE 80.
4. A SOLID #8 BARE COPPER WIRE SHALL BE INSTALLED IN THE ENTIRE TRAFFIC SIGNAL CONDUIT SYSTEM FOR USE AS A SYSTEM GROUND.
5. LEAD-IN WIRES IN PULLBOX NEAR LOOPS SHALL BE TAGGED WITH LOOP NUMBER(S).
6. 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) MAKE ALL ELECTRICAL EQUIPMENT CONNECTIONS IN THE FIELD FOR SIGNAL SYSTEM AFTER THE SYSTEM HAS BEEN INSTALLED IN PLACE BY THE CONTRACTOR.
   (b) FINAL ADJUSTMENT OF TRAFFIC SIGNAL CONTROL EQUIPMENT.
7. LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES SUCH AS PIPE-LINES, CONDUITS, CABLES, ETC., SHOWN ON PLANS ARE APPROXIMATE ONLY. IT IS NOT THE INTENT OF THESE PLANS TO SHOW THE EXACT LOCATION OF ALL UNDER-GROUND UTILITIES AND STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRAC-TOR 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.
8. 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.
9. ALL TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE COMPLETELY WIRED IN THE CABINET AND SHALL CONTROL THE TRAFFIC SIGNALS AS CALLED FOR IN THE PLANS.
10. 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 THE SIGNAL IS R AND WILL REMAIN R OR BECOMES G DURING THE NEXT PHASE, IT SHALL REMAIN R DURING THE CLEARANCE INTERVAL.

DEPARTMENT OF TRANSPORTATION SERVICES- ELECTRICAL & MAINTENANCE SERVICES DIVISION NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", SEPTEMBER, 1986, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU, EXCEPT AS MODIFIED HEREIN OR IN THE SPECIAL PROVISIONS.
2. THE CONTRACTOR SHALL VERIFY WITH THE RESPECTIVE UTILITY COMPANIES AND GOVERNMENT AGENCIES, THE LOCATIONS OF ALL ELECTRIC, TELEPHONE, TRAFFIC SIGNAL, STREET LIGHT, FIRE ALARM, GAS, WATER, SEWER, DRAIN, AND OTHER LINES CROSSING THE EXCAVATION PATH OR IN EXCAVATION AREAS.
3. THE LOCATIONS OF ALL NEW TRAFFIC SIGNAL STANDARDS AND CONTROLLERS ON THE DRAWINGS ARE APPROXIMATE. EXACT LOCATION WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. CONFLICTS BETWEEN STANDARDS AND CROSSWALK LOCATIONS SHALL BE AVOIDED WHEREVER POSSIBLE. THE LOCATIONS OF TRAFFIC SIGNAL STANDARDS, CONTROLLERS, PULLBOXES, AND CONDUITS SHALL BE STAKED OUT BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO ANY EXCAVATION.
4. ALL STRUCTURES, PAVEMENTS, UTILITIES, LANDSCAPING, AND OTHER TOPOGRAPHICAL FEATURES SHOWN ON THE INTERSECTION DRAWINGS ARE EXISTING AND ARE TO REMAIN UNLESS NOTED OR INDICATED OTHERWISE.
5. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITY COMPANIES AND GOVERNMENT AGENCIES OF THEIR INTENT TO BEGIN CONSTRUCTION ON ANY INTERSECTION OR STREET AT LEAST TWO (2) WEEKS PRIOR TO THE START OF SUCH CONSTRUCTION.
6. THE CONTRACTOR MAY CLOSE ONLY ONE LANE OF TRAFFIC AT A TIME FOR ANY REASON. DURING THE PEAK TRAFFIC PERIODS FROM 6:00 TO 9:00 A.M. AND FROM 3:00 TO 6:00 P.M., MONDAY THROUGH FRIDAY, ALL LANES SHALL BE KEPT OPEN AND MAINTAINED AT ALL TIMES.
7. ALL CABLES EXCEPT TYPE 4 SENSOR LOOP CABLES SHALL BE INSTALLED IN CONDUITS IN GROUPS OF ONE OR MORE CABLES BETWEEN PULLBOXES AS SPECIFIED ON THE PROJECT PLANS. TYPE 4 CABLES SHALL BE INSTALLED IN SAWCUTS AND CONDUITS IN THE GROUPS SHOWN ON THE DETAILS FOR SENSOR LOOPS.
8. THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL & MAINTENANCE SERVICES DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK ON THE TRAFFIC SIGNAL SYSTEM (PHONE 523-4589).

ELECTRICAL SYMBOLS

ITEM	DESCRIPTION
	STANDARD TRAFFIC AND PEDESTRIAN SIGNAL HEADS MOUNTED ON TYPE I SIGNAL STANDARD, HEIGHT = 10'-0".
30'	STANDARD TRAFFIC SIGNAL HEADS MOUNTED ON TYPE II SIGNAL STANDARD, MAST ARM LENGTH SHOWN IS 30'-0".
	PEDESTRIAN SIGNAL HEAD
	PEDESTRIAN PUSHBUTTON ASSEMBLY & SIGN R10-4a(L) OR R10-4a(R), AS INDICATED BY ARROW DIRECTION.
	TRAFFIC SIGNAL HEAD, RYG.
	TRAFFIC SIGNAL HEAD, RYG-STRAIGHT AHEAD ARROW.
	PROGRAMMED VISIBILITY TRAFFIC SIGNAL HEAD, RYG-LEFT TURN ARROW.
	OPTICOM DETECTOR
E	ELECTRICAL DUCTLINE & WIRING AS INDICATED.
ts	EXISTING UNDERGROUND TRAFFIC SIGNAL SYSTEM RACEWAY
TS	UNDERGROUND TRAFFIC SIGNAL SYSTEM RACEWAY, SEE DETAILS OF TRENCH SECTION ON SHEET E-2.
	LOOP DETECTOR, SEE DETAILS ON SHEET E-13.
	TRAFFIC SIGNAL SYSTEM TYPE "D" PULLBOX, SEE DETAIL ON SHEET E-12.
	TRAFFIC SIGNAL SYSTEM TYPE "C" PULLBOX, SEE DETAIL ON SHEET E-12.
	TRAFFIC SIGNAL SYSTEM TYPE "B" PULLBOX, SEE DETAIL ON SHEET E-12.
	TRAFFIC SIGNAL SYSTEM TYPE "B" PULLBOX, WITH MODIFIED COVER, SEE DETAIL ON SHEET E-12.
	EXISTING TRAFFIC SIGNAL PULLBOX
	HECO 2' X 4' PRECAST CONCRETE PULLBOX WITH PRECAST CONCRETE COVER, PER HECO STANDARD DWG NO 30-2006.
C	TRAFFIC SIGNAL CONTROLLER, MODEL 170 WITH 332 CABINET, SEE DETAIL ON SHEET E-8.

ANDREW I. MIYASATO
LICENSED PROFESSIONAL ENGINEER
No. 4340-E
HAWAII, U.S.A.

PRINCIPAL-IN-CHARGE
Andrew I. Miyasato
RONALD N.S. HO & ASSOCIATES, INC.
2/6/97

TIMOTHY S. HIGA
LICENSED PROFESSIONAL ENGINEER
No. 5791-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Timothy S. Higa
RONALD N.S. HO & ASSOCIATES, INC.
2/6/97

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL SYMBOLS, CONSTRUCTION NOTES

LIKELIKE HIGHWAY

Inters. Improvements at Alu St.

PROJECT NO. 63A-02-96

SCALE: AS NOTED DATE: FEB 1997

SHEET No. E-1 OF E-13 SHEETS

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