

ELECTRICAL SYMBOLS

 EXISTING 150W HPS STREET LIGHTING FIXTURE ON WOOD POLE
 NEW 150W HPS STREET LTG FIXT ON EXST WOOD POLE
 AERIAL TRAFFIC SIGNAL CABLE - TYPE 3 CABLE
 (SOLID #19 AWG, 12 PAIRS) SEE INSTALLATION DETAIL 
 AERIAL 12KV LINE
 WIRING & CONDUIT INSTALLED UNDERGROUND
 STREET LIGHT IDENTIFICATION TAG, SEE DET 

1. 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: 527-5007).
2. THE STREET LIGHTING AND TRAFFIC SIGNALS SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. ANY RELOCATION REQUIRED SHALL BE APPROVED BY THE ELECTRICAL & MAINTENANCE SERVICES DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, AND PAID FOR BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING STREET LIGHTING AND TRAFFIC SIGNAL FACILITIES, INCLUDING THE TRAFFIC SIGNAL INTERCONNECT SYSTEM, AND ANY AND ALL DAMAGES TO THESE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS COST IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND COUNTY OF HONOLULU.

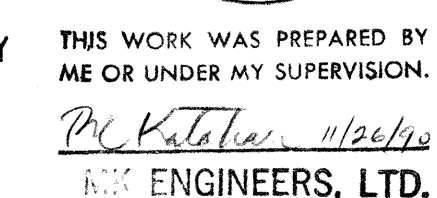
- ① HTC PULLBOX TO BE ABANDONED.
- ② PULLBOX, ADJUST BOX ELEVATION TO MATCH ELEVATION OF TOP OF NEW SIDEWALK. SEE DET
- ③ TRAFFIC SIGNAL POLE, PROVIDE NEW FOOTING & DUCT. PER STATE OF HAWAII DEPT. OF TRANSPORTATION HIGHWAY DIVISION STANDARD PLAN TE-38 & TE-39 RELOC. TS POLE TO NEW LOCATION & DEMOLISH EXISTING FOOTING.
- ④ STREET LIGHT POLE, ADJUST POLE TO MATCH ELEVATION OF TOP OF NEW SIDEWALK. SEE DET
- ⑤ FURNISH & INSTALL LOOP DETECTORS - SEE DETAIL VERIFY EXACT LOCATION WITH ELEC. & MAINT. SERVICES DIVISION REPRESENTATIVE.
- ⑥ TRAFFIC SIGNAL CONTROLLER TO REMAIN.

1. THE CONTRACTOR SHALL NOTIFY THE JOINT POLE COMMITTEE TWO (2) WEEKS IN ADVANCE OF ANY RELOCATION OF UTILITY POLE(S).
2. THE CONTRACTOR SHALL NOTIFY THE HIGHWAY LIGHTING AND TRAFFIC SIGNAL SUPERVISOR, DEPARTMENT OF TRANSPORTATION, THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK ON THE STREET LIGHTING OR TRAFFIC SIGNAL SYSTEM (PHONE 548-4077).
3. STREET LIGHTING AND TRAFFIC SIGNALS SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. ANY RELOCATION REQUIRED SHALL BE APPROVED BY THE HIGHWAY LIGHTING AND TRAFFIC SIGNAL SUPERVISOR, DEPARTMENT OF TRANSPORTATION AND PAID FOR BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING STREET LIGHTING AND TRAFFIC SIGNAL FACILITIES AND DAMAGES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS COST.
5. THE CONTRACTOR SHALL MEASURE AND RECORD THE GROUND RESISTANCE AT EACH STANDARD WITH NO EXTERNAL GROUND WIRES CONNECTED TO THE GROUND ROD. CONTRACTOR SHALL SCHEDULE GROUND RESISTANCE MEASUREMENTS 48 HOURS IN ADVANCE AND SHALL NOT PROCEED WITH MEASUREMENTS UNTIL APPROVAL IS GRANTED. SCHEDULES ARE SUBJECT TO CHANGE DEPENDING UPON WEATHER CONDITIONS. REPORTS SHALL INCLUDE NAME OF PERSONNEL CONDUCTING THE TEST, METER TYPE AND SERIAL NUMBER, DATE OF TEST AND SOIL CONDITIONS. TEST RESULTS SHALL BE CERTIFIED BY THE CONTRACTOR AND SUBMITTED TO THE STATE HIGHWAYS DIVISIONS, 727 KAKOI STREET.
6. CONTRACTOR SHALL NOT BACKFILL TRENCHES UNTIL APPROVAL IS GRANTED BY THE HIGHWAY LIGHTING AND TRAFFIC SIGNAL SUPERVISOR.

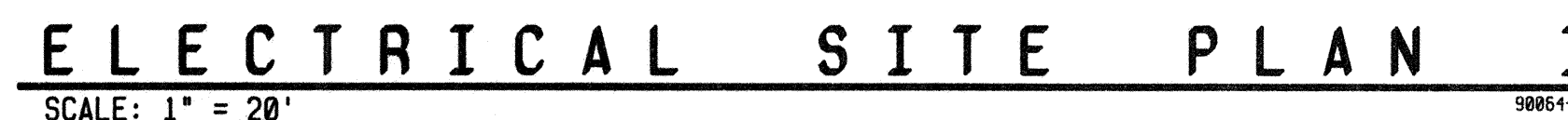
2/26/90
DATE

4/15/90
DATE

SHEET No. 1 OF 3 SHEETS

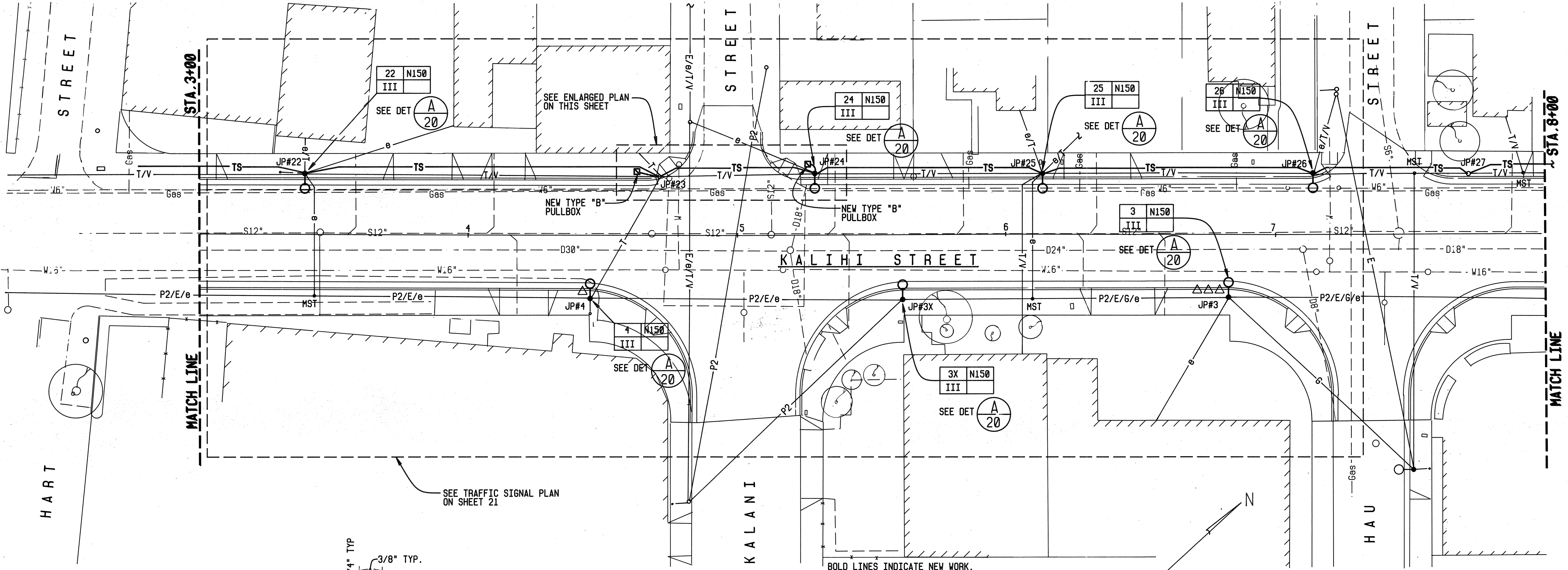


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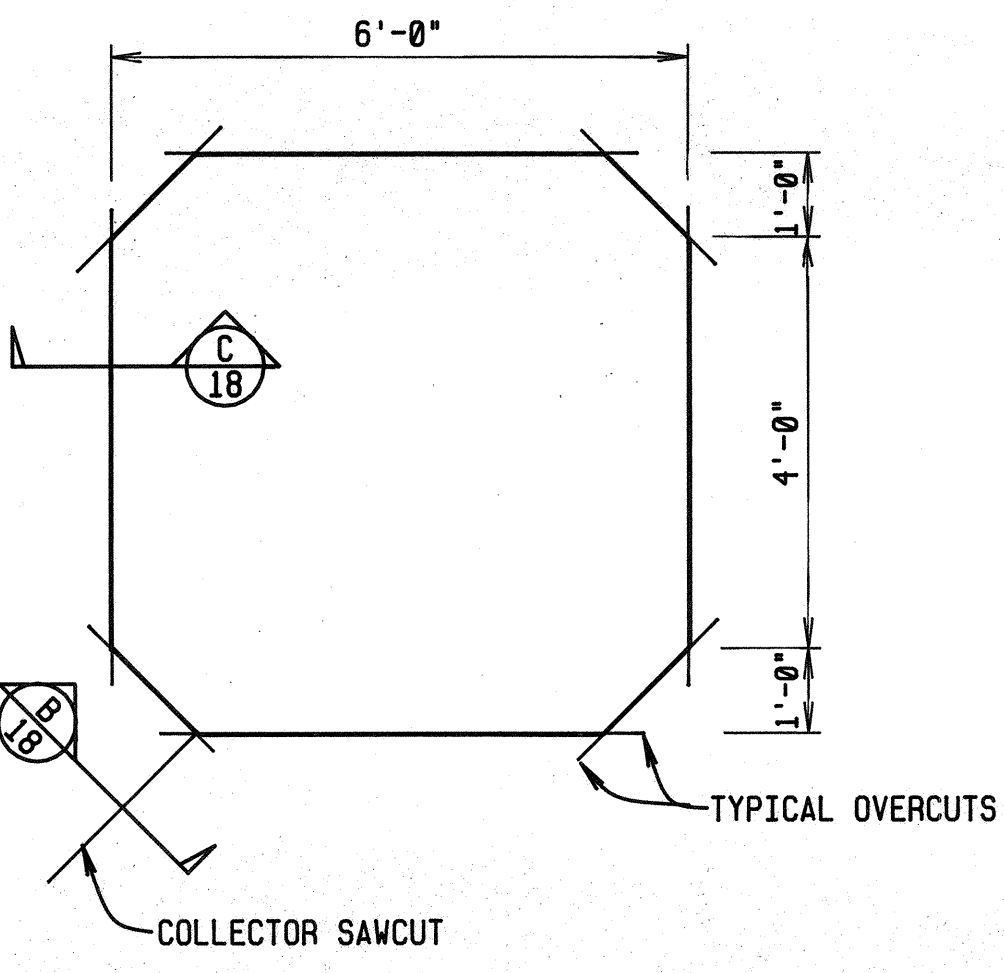


ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____
NOTE BOOK	DRAWN BY _____
	TRACED BY _____
	DESIGNED BY _____
	QUANTITIES BY _____
No. _____	CHECKED BY _____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-02-89	1991	18	23

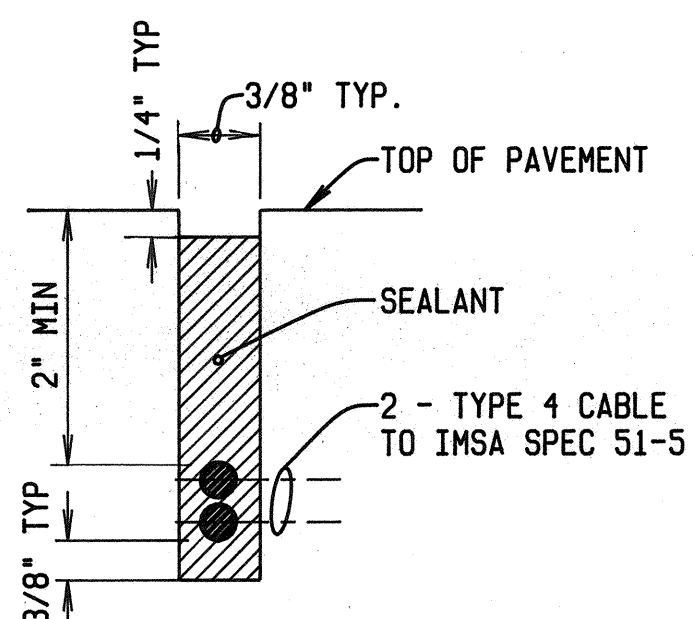


ELECTRICAL SITE PLAN II
 SCALE: 1" = 20'
 90864-S1

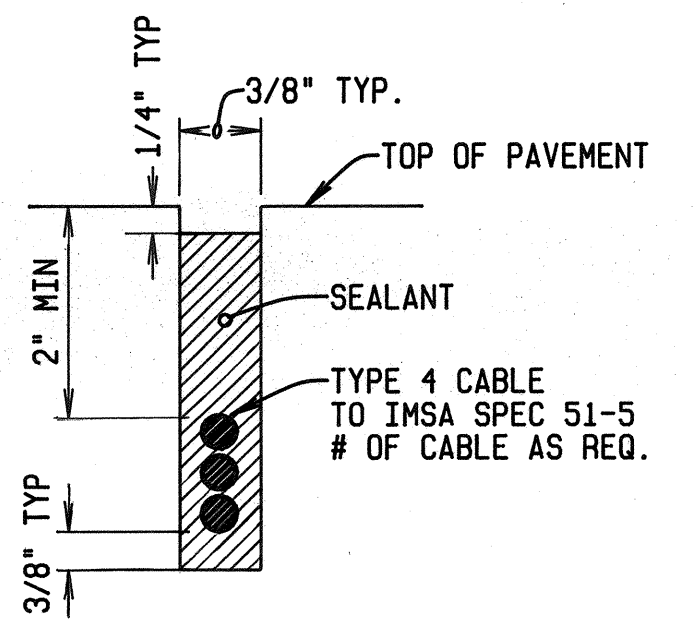


- NOTES:
1. LENGTH OF OVERCUTS SHALL BE KEPT TO A MINIMUM. ALL OVERCUTS SHALL BE BACKFILLED WITH EPOXY OR OTHER APPROVED SEALER.
 2. CENTER DETECTOR LOOPS IN LANES.
 3. COLLECTOR CABLE SHALL BE TWISTED 2 TURNS PER FOOT.
 4. TYPE 4 CABLE - SOLID #12 SINGLE CONDUCTOR TO I.M.S.A. SPEC 51-5.

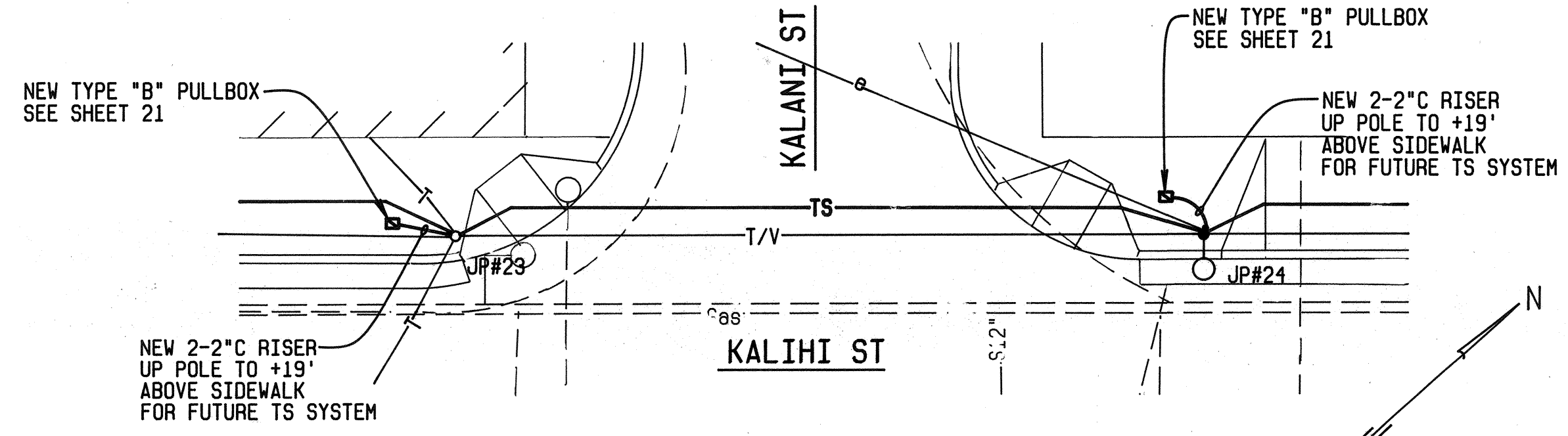
A TYPICAL LOOP DETECTOR SAWCUT DETAIL
 NTS
 90864-JJ



B SECTION 18
 NTS



C SECTION 18
 NTS



ENLARGED SITE PLAN
 SCALE: 1" = 10'
 90864-S3

APPROVED:
As Roy M. Hiyama for SE 12/26/90
 HAWAIIAN ELECTRIC Co. DATE
James L. Young 11/15/90
 C & C DEPARTMENT OF TRANSPORTATION SERVICES DATE
 (FOR TRAFFIC SIGNAL WORK ONLY)



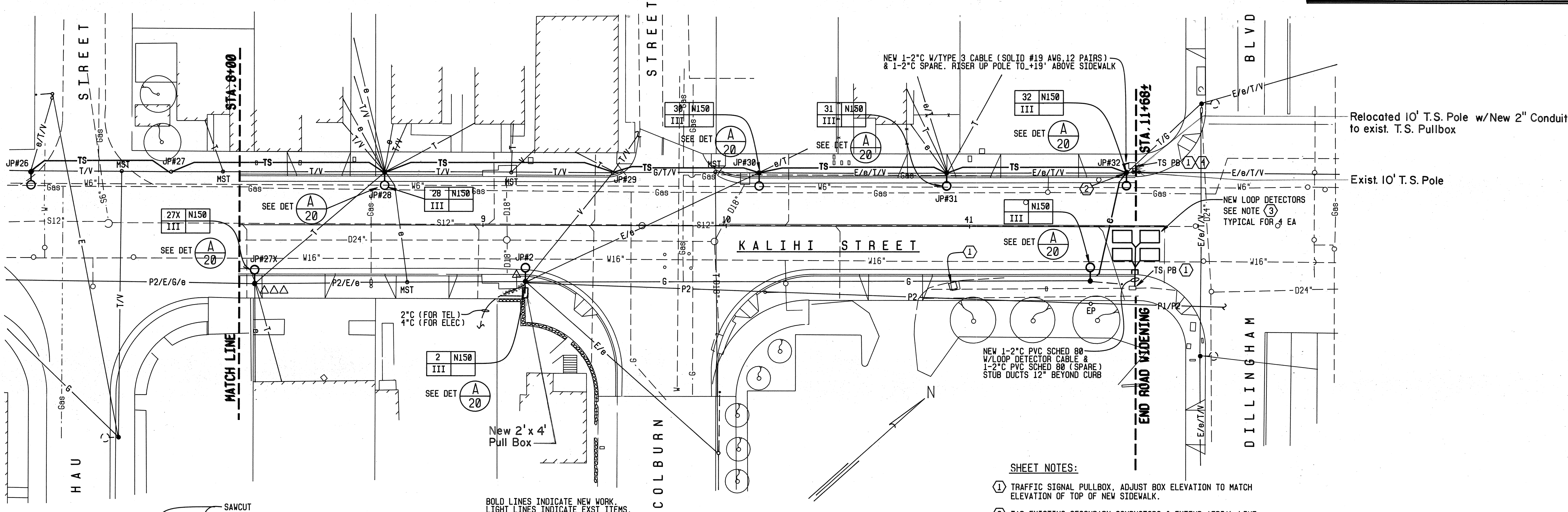
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
R. C. KATAHARA 11/26/90
 MK ENGINEERS, LTD.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

ELECTRICAL SITE PLAN II
ENLARGED SITE PLAN,
LOOP DETECTOR SAWCUT DETAIL
 KALIHI STREET IMPROVEMENTS
 NIMITZ HWY TO DILLINGHAM BLVD
 PROJECT NO. 63A-02-89
 SCALE: AS NOTED
SHEET No. 2 OF 3 SHEETS

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	63A-02-89	1991	19	23



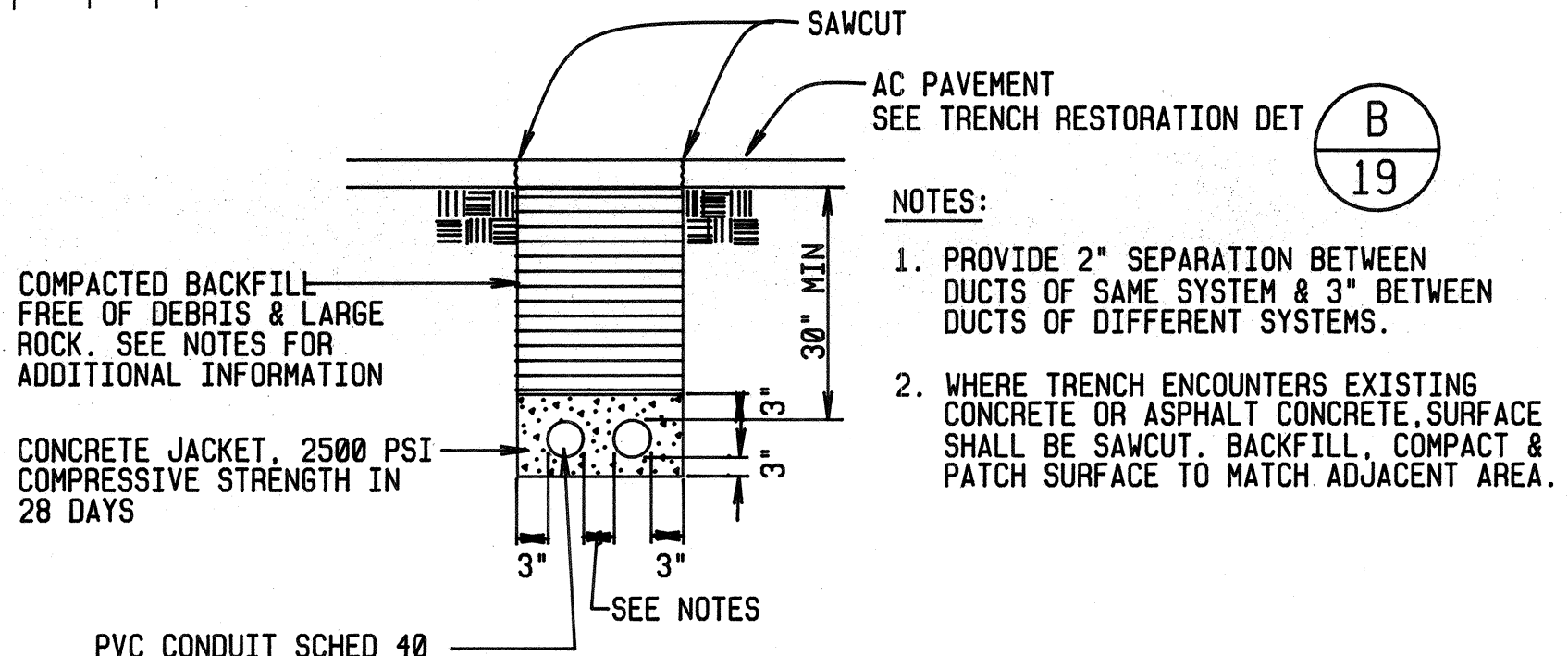
Relocated 10' T.S. Pole w/New 2" Conduit to exist. T.S. Pullbox

Exist. 10' T.S. Pole

- SHEET NOTES:**
- TRAFFIC SIGNAL PULLBOX, ADJUST BOX ELEVATION TO MATCH ELEVATION OF TOP OF NEW SIDEWALK.
 - TAP EXISTING SECONDARY CONDUCTORS & EXTEND AERIAL LINE TO NEW STREET LIGHT FIXTURE.
 - FURNISH & INSTALL LOOP DETECTORS - SEE DETAIL A 18. VERIFY EXACT LOCATION WITH ELEC. & MAINT. SERVICES DIVISION REPRESENTATIVE.
 - COIL 30ft OF TYPE 3 CABLE IN EXISTING TRAFFIC SIGNAL PB.

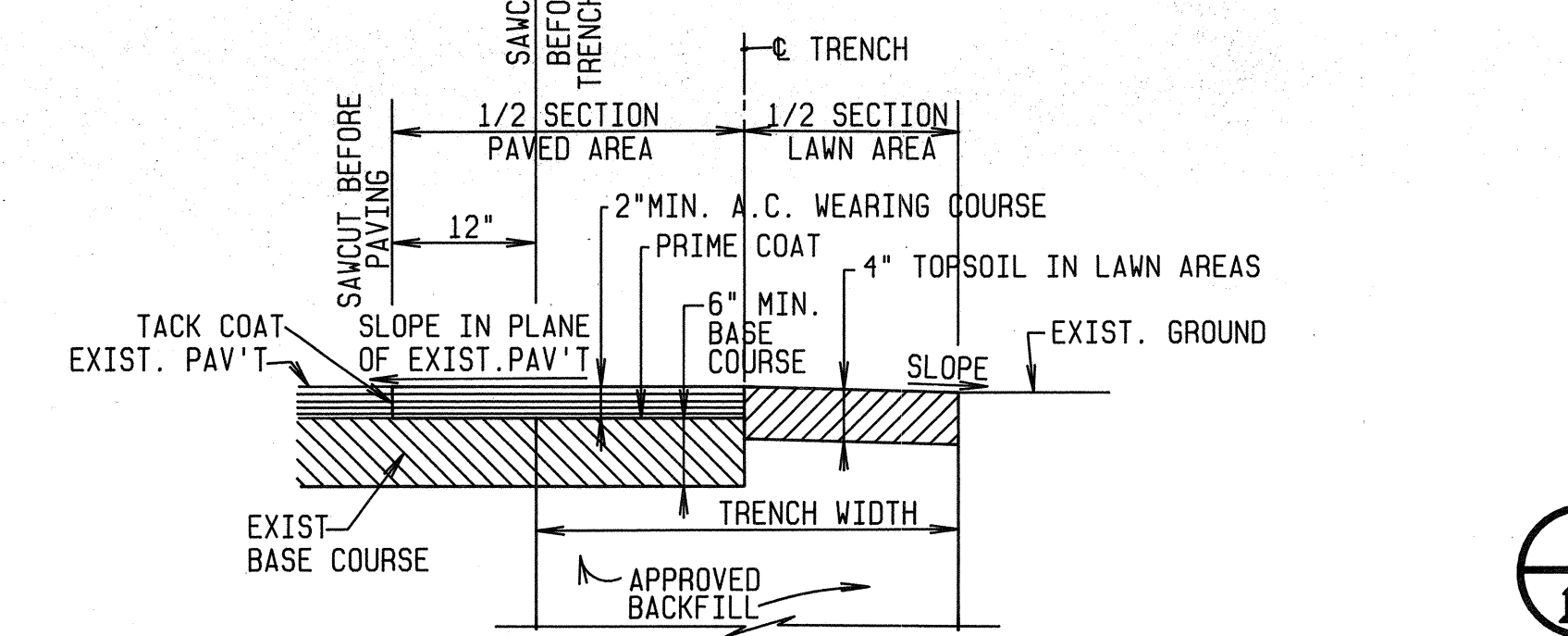
ELECTRICAL SITE PLAN

SCALE: 1" = 20'



TYPICAL DUCT SECTION

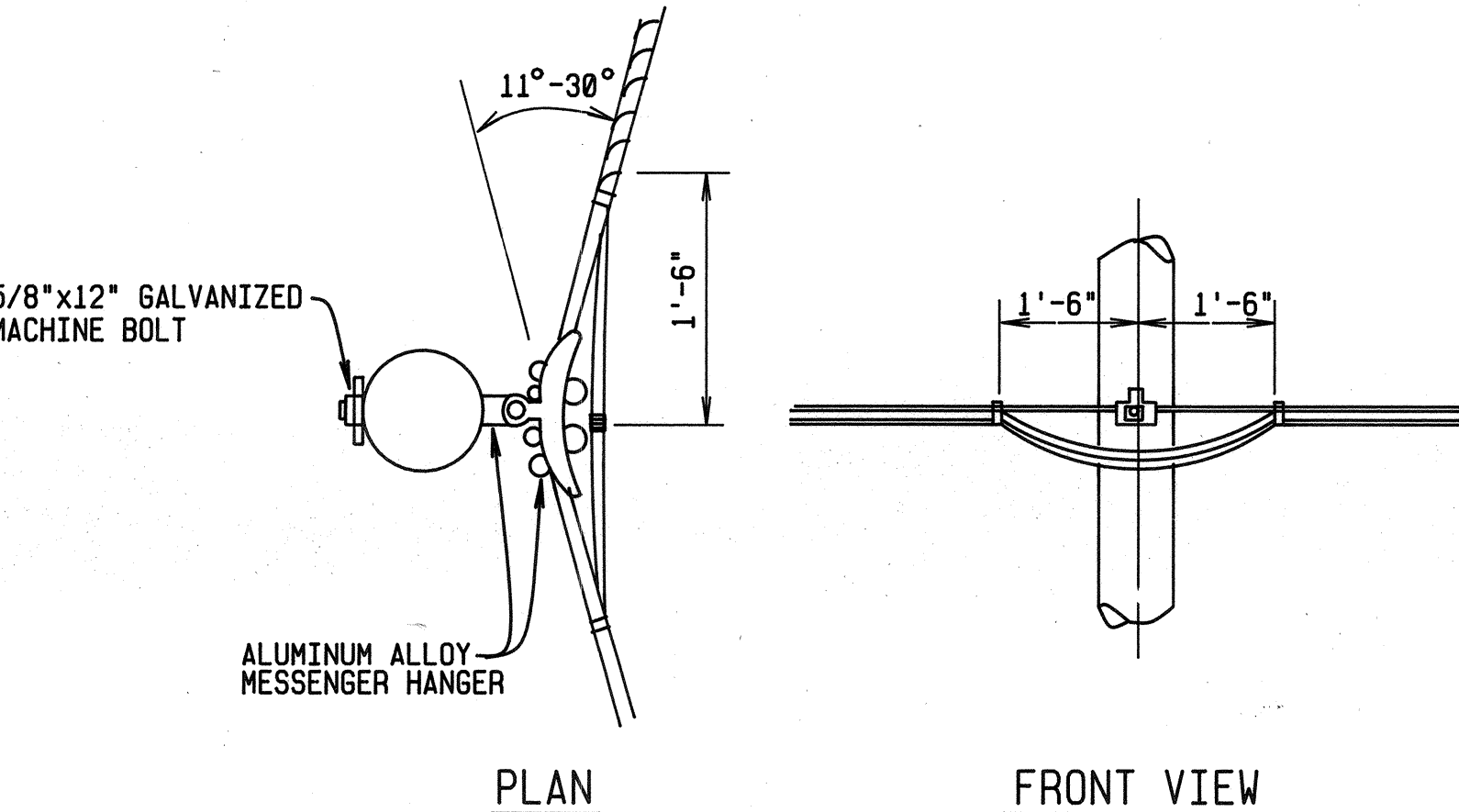
NOT TO SCALE



- LEGEND**
- A-LIGHT NO.
 - B-LAMP DATA
 - C-REFLECTOR TYPE
 - D-CIRCUIT DESIGNATION
- NOTES:**
- TAG MADE FROM 3-PLY LAMINATED PLASTIC BLACK-WHITE-BLACK.
 - LETTERS NO. 5 REDUCTION 1/5" ENGRAVED.
 - ATTACH 6'-0" ABOVE CURB OR FINISH GRADE. TAG SHALL BE ON STREET SIDE OF POLE.

TYPICAL IDENTIFICATION TAG DETAIL

NOT TO SCALE



AERIAL TS CABLE INSTALLATION DETAIL

NOT TO SCALE

APPROVED:

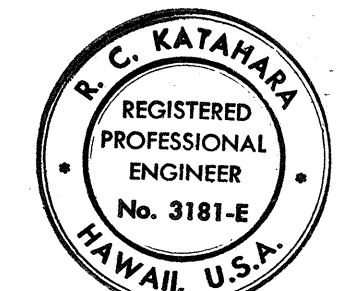
[Signature] 12/26/90
HAWAIIAN ELECTRIC Co. DATE

[Signature] 11/15/90
C & C DEPARTMENT OF TRANSPORTATION SERVICES (FOR TRAFFIC SIGNAL WORK ONLY) DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**ELECTRICAL SITE PLAN III
DUCT SECTION & DETAILS**

KALIHI STREET IMPROVEMENTS
NIMITZ HWY TO DILLINGHAM BLVD
PROJECT NO. 63A-02-89



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
[Signature]
MK ENGINEERS, LTD.

SCALE: AS NOTED
SHEET No. 3 OF 3 SHEETS