FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	223	340

GENERAL 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.

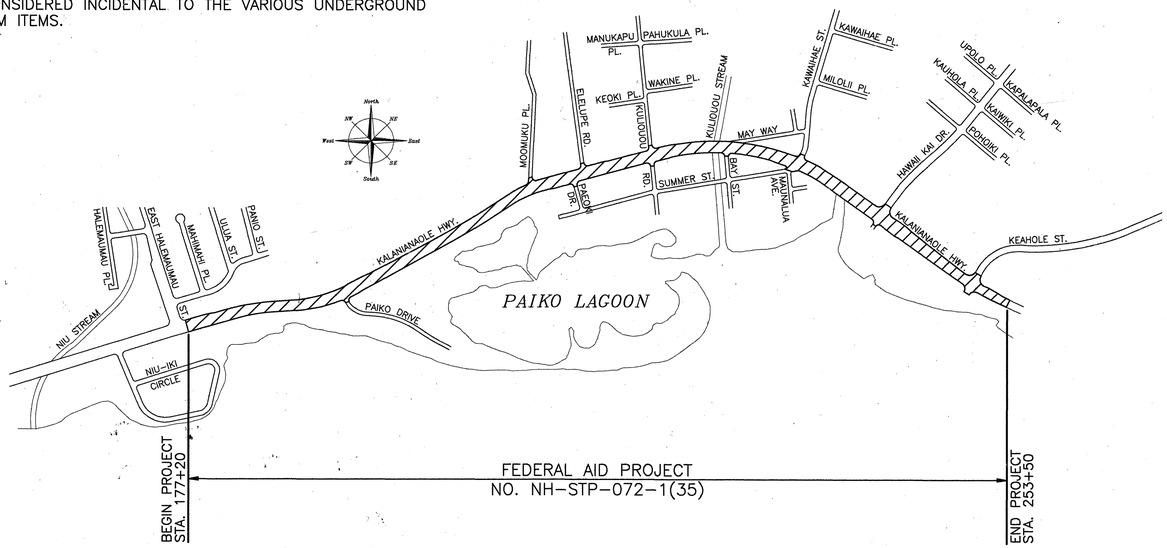
2. LOCATIONS OF TRAFFIC MARKINGS AND MARKERS (LANE LINES, STOP LINES, CROSSWALK, ETC.) SHOWN ON THE PLANS SHALL BE VERIFIED WITH THE ENGINEER PRIOR TO THE INSTALLATION OF THE TRAFFIC SIGNAL SYSTEM.

3. 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 (1988) 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.

4. DEPARTMENT OF TRANSPORTATION SERVICES, CITY AND COUNTY OF HONOLULU, WILL ASSIST THE ENGINEER IN CONSTRUCTION INSPECTION FOR THE TRAFFIC SIGNAL SYSTEM.

5. LOCATION OF THE NEW UNDERGROUND DUCTLINES AND STRUCTURES IS SHOWN ON THE PROFILE DRAWINGS. THE CONTRACTOR SHOULD ANTICIPATE MAKING PROVISIONS FOR DEWATERING OF TRENCHES BELOW WATER LINE. ALL TRENCHES SHALL BE DRY AND FREE OF WATER BEFORE DUCTS, HANDHOLES AND MANHOLES ARE INSTALLED.

6. LAYER OF GRAVEL BED UNDER UNDERGROUND DUCT BANKS AND MANHOLES, WHICH ARE AT OR BELOW THE WATER TABLE, MAY FACILITATE DEWATERING OF THE TRENCHES DURING CONSTRUCTION/ INSTALLATION OF THE UNDERGROUND UTILITY SYSTEM. THE GRAVEL MATERIAL WILL NOT BE MEASURED AND SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS UNDERGROUND SYSTEM ITEMS.



UTILITY LAYOUT PLAN

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

APPROVED:

for RE [signature] 6/18/93
HAWAIIAN ELECTRIC COMPANY, DATE

[signature] 6/2/93
HAWAIIAN TELEPHONE COMPANY, DATE

CABLEVISION COMPANY, DATE

DEXTER S. LEE REGISTERED PROFESSIONAL ENGINEER NO. 7156 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

[signature]

6/30/93	C.O.# 1
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY LAYOUT PLAN & GENERAL NOTES

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35).

SCALE: 1"=600' DATE: 10/1/92

SHEET No. E-1 OF 62. SHEETS

C.O. 223

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	224	340

GENERAL NOTES FOR HAWAIIAN TELEPHONE CO. HAWAIIAN ELECTRIC CO., OCEANIC CABLEVISION, AND CHRONICLE CABLEVISION OF HAWAII.

1. ALL EXISTING HTCO, HECO AND OCEANIC FACILITIES SHALL REMAIN IN PLACE UNTIL THE PROPOSED PERMANENT FACILITIES ARE COMPLETED.

2. ALL EXISTING FACILITIES SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND SHALL MAKE ADJUSTMENTS TO ANY NEW OR EXISTING FACILITIES AS DIRECTED BY THE STATE'S RESIDENT ENGINEER.

3. ALL PROPOSED MANHOLES, PULLBOXES, CONDUITS/DUCTLINES INCLUDING RISER BENDS, MANHOLE FRAMES AND COVERS, AND GROUND RODS REQUIRED BY HTCO, HECO, OCEANIC AND CHRONICLE CABLEVISION WITHIN THE HIGHWAY RIGHT-OF-WAY SHALL BE INSTALLED BY THE CONTRACTOR.

4. THE STATE'S SPECIAL PROVISIONS, PROPOSAL CONTRACT AND BOND – SECTION 630 AND SECTION 646 SHALL APPLY TO THE PROJECT.

5. THE TERM "ENGINEER FOR THE UTILITY COMPANIES" SHALL ALSO MEAN HIS DELEGATED REPRESENTATIVE AND/OR THE UTILITIES' INSPECTOR OF RECORD.

6. THE TERM "PULLBOX" SHALL MEAN SPLICE CAN, SPLICE OR SERVICE BOX, PULLBOX OR HANDHOLE.

7. THE TERM "MANHOLE" SHALL MEAN ANY SUBSURFACE ENCLOSURE IN WHICH MEN MUST ENTER TO WORK.

8. THE CONTRACTOR TO STAKEOUT ALL FACILITIES FOR VERIFICATION BY THE UTILITY INVOLVED AND/OR AFFECTED BEFORE PROCEEDING.

9. THE LOCATION AND DEPTH OF ALL MANHOLES AND PULLBOXES AND THE ROUTING OF ALL DUCTLINES SHALL BE VERIFIED BY THE UTILITIES BEFORE EXCAVATION STARTS.

10. THE CONTRACTOR SHALL FURNISH ALL MATERIALS REQUIRED TO COMPLETE THE CONSTRUCTION OF THE DUCTLINE SYSTEM.

11. ALL MANHOLES, PULLBOXES AND DUCTLINES TO BE INSTALLED IN CONCRETE SHALL BE INSPECTED AND APPROVED BY THE UTILITY COMPANY BEFORE PLACING CONCRETE. NOTIFY UTILITY COMPANY 48 HOURS BEFORE PLACING CONCRETE.

12. MANHOLE DEPTHS SHOWN ON PLANS REFER TO INSIDE DEPTH OF MANHOLE.

13. THE MINIMUM DEPTH OF DUCTLINES FROM FINISH GRADE TO TOP OF CONCRETE ENCASEMENT OR COVER IS AS FOLLOWS:

    A. WITHIN ROADWAY: 3'-0"
    B. WITHIN SIDEWALK AREA: 1'-6"
    C. IN PRIVATE PROPERTY: 1'-6"

14. ALL COMPLETED DUCTLINES SHALL BE MANDREL TESTED BY THE CONTRACTOR IN THE PRESENCE OF THE UTILITY COMPANY'S INSPECTOR USING THE UTILITY COMPANY'S STANDARD PRACTICE.

15. THE CONTRACTOR SHALL INSTALL A 1/8" POLYOLEFIN PULL LINE IN ALL COMPLETED HECO AND CATV DUCTLINES AFTER MANDREL TESTING IS COMPLETE.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROPOSED WORK WITHIN PRIVATE PROPERTY TO ENABLE THE CONVERSION FROM OVERHEAD TO UNDERGROUND OR THE CHANGE OVER TO NEW OR REPLACED SERVICE POLES. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE UTILITY COMPANIES.

17. THE CONTRACTOR SHALL GIVE HTCO AND CATV FORTY FIVE (45) WORKING DAYS NOTICE TO PROCEED WITH IT'S PORTION OF THE WORK.

18. HECO, HTCO AND CATV SHALL COORDINATE IT'S WORK IN SUCH A MANNER AS NOT TO IMPEDE CONSTRUCTION.

19. HTCO AND CATV SHALL REMOVE ALL EXISTING HTCO AND CATV FACILITIES EXCEPT AS NOTED ON PLANS.

20. THE CONTRACTOR SHALL GIVE HECO FORTY (40) WORKING DAYS NOTICE TO PROCEED WITH IT'S PORTION OF THE WORK.

21. BARRICADING OF HECO'S FACILITIES, IF REQUIRED, SHALL BE DONE BY CONTRACTOR. BREAKING INTO EXISTING HECO FACILITIES SHALL BE DONE BY HECO.

22. HECO SHALL REPAIR ALL TEMPORARY OPENINGS IN MANHOLES AND PULLBOXES AFTER COMPLETION OF TEMPORARY CONSTRUCTION.

23. HECO SHALL REMOVE ALL EXISTING HECO FACILITIES EXCEPT AS NOTED ON THE PLANS.

24. HTCO SHALL BE THE JP REMOVAL COMPANY.

25. SPECIAL NOTE:
    THE EXISTING ELECTRICAL CIRCUITS WILL REMAIN ENERGIZED DURING CONSTRUCTION. THE CONTRACTOR WILL WORK CAUTIOUSLY AT ALL TIMES TO AVOID ACCIDENTS AND/OR DAMAGE TO THESE CIRCUITS, WHICH CAN RESULT IN ELECTROCUTION. THE CONTRACTOR SHALL NOT DISTURB BARRICADES ERECTED BY HECO. HE SHALL WORK CAUTIOUSLY TO AVOID ACCIDENTS AND DAMAGES TO EXISTING FACILITIES.

26. THE CONTRACTOR WILL IMMEDIATELY REPORT DAMAGES DISCOVERED OR CAUSED BY HIS WORK TO :
    A. HTCO @ PH. NO.: 611
    B. HECO @ PH. NO.: 543-7874
    C. OCEANIC @ PH. NO.: 623-8497
    D. CHRONICLE CABLEVISION @ PH. NO.: 395-1847

27. THE FOLLOWING TERMS WILL BE USED INTERCHANGEABLY THROUGHOUT THIS PROJECT:
    A. HTCO OR "T" FOR HAWAIIAN TELEPHONE CO.
    B. HECO OR "E" FOR HAWAIIAN ELECTRIC CO.
    C. OCEANIC OR "C" FOR OCEANIC CABLEVISION.
    D. CHRONICLE OR "CCH" FOR CHRONICLE CABLEVISION OF HAWAII.

28. THE CONTRACTOR WILL COORDINATE THE DRAIN LINE CONSTRUCTION AND INSTALLATIONS OF STREET LIGHTING FOUNDATIONS WITH THE ELECTRIC, TELEPHONE, AND CABLEVISION UTILITY CONSTRUCTION. WHERE CONFLICT OCCURS, THE UTILITY CONSTRUCTION WILL BE ROUTED AROUND THE CONFLICT.

29. THE CONTRACTOR SHALL FURNISH HIS CONSTRUCTION SCHEDULE FORTY-FIVE (45) WORKING DAYS PRIOR TO STARTING ANY HECO, HTCO, OR CATV WORK.

30. THE CONTRACTOR SHALL PLACE MULETAPE (WP1800P) IN EACH TELEPHONE DUCT THROUGHOUT IT'S ENTIRE LENGTH WITH PROTRUSIONS OF 2 FEET IN MANHOLES & HANDHOLES AT EACH END AFTER MANDREL TESTING IS COMPLETE.

31. THE CONTRACTOR SHALL INSURE THAT DEWATERING OF HTCO TRENCHES AND EXCAVATED HTCO MANHOLE LOCATIONS ARE CONTINUED UNTIL CONCRETE IS CURED FOR 8 HOURS. THE CONTRACTOR SHALL INSURE THAT DEWATERING OPERATIONS WILL NOT CAUSE "QUICK" CONDITIONS IN EXCAVATED AREAS DURING CURING PERIOD.

32. ALL HTCO DUCTLINE WITH LESS THAN 24" COVER UNDER ROADWAY SHALL BE ENCASED IN REINFORCED CONCRETE.

33. POWER LINES (INCLUDING STREET LIGHT, TRAFFIC SIGNAL, ETC.) RUNNING IN PARALLEL WITH HTCO DUCTLINE SHALL NOT BE INSTALLED ABOVE OR BELOW HTCO DUCTLINE.

34. FOR VERIFYING THE LOCATION OF UNDERGROUND DUCTLINES AND FOR ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF UNDERGROUND DUCTLINES, THE CONTRACTOR SHALL CONTACT THE HECO UNDERGROUND SUPERINTENDENT AT 543-7836, A MINIMUM OF 72 HOURS IN ADVANCE.

35. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGES TO HECO'S FACILITIES. THE CONTRACTOR SHALL REPORT ANY HECO FACILITY DAMAGE TO THE HECO TROUBLE DISPATCHER AT 548-7961. LOCATION AND DEPTH OF ALL HANDHOLES AND MANHOLES SHALL BE VERIFIED AND APPROVED IN THE FIELD BY HECO PRIOR TO EXCAVATION, CONSTRUCTION, OR INSTALLATION.

36. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN THE EXCAVATION AND CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY TO UNDERGROUND ELECTRICAL FACILITIES AND SHALL MAINTAIN MINIMUM 13'-0" CLEARANCE FOR HIS EQUIPMENT WHILE WORKING CLOSE TO AND/OR UNDER OVERHEAD FACILITIES.

37. WHEN TRENCH EXCAVATION IS ADJACENT TO OR UNDER EXISTING STRUCTURES OR FACILITIES, THE CONTRACOTR SHALL BE RESPONSIBLE FOR PROPERLY SHEETING AND BRACING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE FROM POSSIBLE SLIDES, CAVE-INS AND SETTLEMENT, AND FOR PROPERLY SUPPORTING EXISTING STRUCTURES AND FACILITIES WITH BEAMS, STRUTS OR UNDERPINNING TO FULLY PROTECT IT FROM DAMAGE.

38. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS TO COMPLETE CONSTRUCTION OF THE UNDERGROUND DUCTLINE SYSTEM, INCLUDING RISER CONDUITS. ALL ELECTRIC DUCTS SHALL BE ENCASED IN CONCRETE JACKET UNLESS OTHERWISE SPECIFIED. ALL DUCTS AND CONDUITS SHALL BE INSPECTED AND APPROVED BY HECO PRIOR TO PLACING CONCRETE. THE CONTRACTOR SHALL NOTIFY HECO'S INSPECTION DIVISION (PHONE 548-7763) AT LEAST 24 HOURS PRIOR TO PLACING CONCRETE.

39. THE CONTRACTOR IS TO STAKE OUT ALL TEMPORARY & PERMANENT NEW POLE LOCATIONS SO AS NOT TO CONFLICT WITH ANY EXISTING OR PROPOSED UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COST INCURRED BY CONFLICTING UTILITIES.

40. THE CONTRACTOR SHALL INSTALL SCHEDULE 40 PVC CONDUIT FOR ALL HECO DUCTLINE. NO SPLIT DUCTS WILL BE ALLOWED. NO NOTCHING OF HECO BOXES WILL BE ALLOWED.

41. HECO TO RECIEVE 75 WORKING DAYS NOTICE FOR ANY RELOCATION WORK.

42. WHEN EXCAVATING NEAR UTILITY POLES, THE CONTRACTOR SHALL PROTECT, SUPPORT, SECURE AND TAKE ALL OTHER PRECAUTIONS TO PREVENT DAMAGE TO OR LEANING OF THESE POLES. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED TO REPAIR OR STRAIGHTEN POLE.

43. ALL HTCO SECONDARY DUCTS SHALL ENTER PULLBOXES FROM THE END(SHORT) WALL OR AS DIRECTED BY THE HTCO INSPECTOR.

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

APPROVED:

for RL [signature] 6/18/93
HAWAIIAN ELECTRIC COMPANY, DATE

[signature] 6/2/93
HAWAIIAN TELEPHONE COMPANY, DATE

OCEANIC CABLEVISION, DATE

CHRONICLE CABLEVISION, DATE

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5496-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

[signature]

DATE	REVISION
6/30/93	C.O. # 1
1/20/93	REVISION PER HECO REQMTS.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HTCO, HECO, OCEANIC & CHRONICLE GENERAL NOTES

KALANIANAOLE HIGHWAY WIDENING
EAST HALEMAUMAU ST. TO KEAHOLE ST.
F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: NONE DATE: 10/1/92

SHEET No. E-2 OF 62 SHEETS

C.O. ADD. 224

UTILITY SYMBOLS AND LEGEND

ITEM	DESCRIPTION
R	EXISTING LUMINAIRE, BRACKET ARM AND EXISTING WOOD POLE TO BE REMOVED, UNLESS OTHERWISE NOTED.
REL	EXISTING RELOCATED LUMINAIRE AND BRACKET ARM ONTO NEW UTILITY COMPANY WOOD POLE.
REL	EXISTING RELOCATED LUMINAIRE AND BRACKET ARM ONTO EXISTING WOOD POLE.
rel	EXISTING LUMINAIRE AND BRACKET ARM TO BE REMOVED AND RELOCATED EXISTING WOOD POLE TO BE REMOVED.
	EXISTING LUMINAIRE, BRACKET ARM AND WOOD POLE TO REMAIN.
	EXISTING LUMINAIRE, BRACKET ARM AND METAL STANDARD TO REMAIN.
	NEW METAL STANDARD ON GRADE WITH FOUNDATION AND 250 WATT H.P.S. LUMINAIRE.
SL	NEW TEMPORARY LIGHTING SYSTEM LUMINAIRE, BRACKET ARM AND WOOD POLE.
	NEW TEMPORARY LIGHTING SYSTEM LUMINAIRE AND BRACKET ARM ONTO NEW UTILITY COMPANY WOOD POLE.
—SL—	NEW UNDERGROUND LIGHTING SYSTEM RACEWAY.
TS	NEW STANDARD TRAFFIC AND PEDESTRIAN SIGNAL HEADS MOUNTED ON TYPE I SIGNAL STANDARD, HEIGHT = 10'–0".
TS 30'	NEW STANDARD TRAFFIC SIGNAL HEADS MOUNTED TYPE II SIGNAL STANDARD, ARM SPREAD SHOWN IS 30'–0".
R ts	EXISTING TRAFFIC SIGNAL STANDARD TO BE RELOCATED.
ts(R)	EXISTING TRAFFIC SIGNAL STANDARD TO BE REMOVED AND CONCRETE BASE TO BE DEMOLISHED AND REMOVED.
—TS—	NEW UNDERGROUND TRAFFIC SIGNAL SYSTEM RACEWAY.
	NEW TRAFFIC SIGNAL HEAD.
	LOOP DETECTOR
C	EXISTING TRAFFIC SIGNAL SYSTEM CONTROLLER CABINET AND FOUNDATION.
C	NEW TRAFFIC SIGNAL SYSTEM CONTROLLER CABINET AND FOUNDATION.
	AUXILIARY SELECTOR CABINET.
S	NEW SIGN CONTROLLER CABINET AND FOUNDATION.
ts	EXISTING TRAFFIC SIGNAL SYSTEM PULLBOX.
ts(D)	EXISTING TRAFFIC SIGNAL SYSTEM PULLBOX TO BE DEMOLISHED AND REMOVED.
	NEW TRAFFIC SIGNAL SYSTEM TYPE "A" PULLBOX.
TS	NEW TRAFFIC SIGNAL SYSTEM TYPE "B" PULLBOX.

ITEM	DESCRIPTION
	EXISTING UTILITY COMPANY MANHOLE.
(D)	EXISTING UTILITY COMPANY MANHOLE TO BE DEMOLISHED.
	NEW UTILITY COMPANY MANHOLE.
	EXISTING UTILITY COMPANY PULLBOX OR HANDHOLE.
	NEW UTILITY COMPANY PULLBOX, TYPE AS INDICATED ON PLANS.
P170	EXISTING UTILITY COMPANY WOOD JOINT POLE TO REMAIN, JOINT POLE NUMBER "170" INDICATED.
P108(R)	EXISTING UTILITY COMPANY WOOD JOINT POLE TO BE REMOVED.
P108	NEW UTILITY COMPANY WOOD JOINT POLE.
	EXISTING UTILITY COMPANY WOOD JOINT POLE W/TRANSFORMER.
	NEW UTILITY COMPANY WOOD JOINT POLE W/RELOCATED TRANSFORMER.
	NEW UNDERGROUND RACEWAY RISER UP EXISTING UTILITY COMPANY WOOD POLE.
	NEW UNDERGROUND RACEWAY RISER UP NEW UTILITY COMPANY WOOD POLE.
	EXISTING UNDERGROUND DISTRIBUTION DUCTS.
	NEW UNDERGROUND DISTRIBUTION DUCTS.
	EXISTING UNDERGROUND TRUNKING DUCTS.
	NEW UNDERGROUND TRUNKING DUCTS.
g	EXISTING GUY WIRES.
e/t/c	EXISTING OVERHEAD CONDUCTORS. (e=HECO, t=HTCO, & c=CATV)
E/T/C	NEW OVERHEAD CONDUCTORS. (E=HECO, T=HTCO, & C=CATV)
	TEMPORARY OVERHEAD CONDUCTORS OR GUY WIRES.
	EXISTING HECO VAULT
(1)	NEW HECO VAULT (WITH TRANSFORMER NUMBER AS INDICATED)

ARROW INDICATES DIRECTION OF VIEW

3C 4T 4E 4E

INDICATES BOTTOM OF DUCT BANK

BAR INDICATES CUTTING PLANE

DUCT SECTION INDICATOR, NUMERAL INDICATES SIZE... EX: ¾", 2", 3", 4", 5", 6" & 8", ALPHABET INDICATES OWNERSHIP... EX: C= OCEANIC CABLEVISION, T= HAWAIIAN TELEPHONE COMPANY, E= HAWAIIAN ELECTRIC COMPANY, CE= OCEANIC CABLEVISION EXPRESS FEEDER, CCH= CHRONICLE CABLEVISION OF HAWAII.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	~~NH-STP-072-1(35)~~	1993	225	340

HECO CONSTRUCTION STANDARDS APPLICABLE TO THIS PROJECT*

DRAWING TITLE	HECO STANDARD DWG. NO.
MANHOLE TYPE NO.1 (6'–0" x 14'–0") UNDERGROUND STANDARDS	71133
MANHOLE TYPE NO.4 (7'–2" x 16'–0") STRUCTURAL PLAN, SECTIONS & DETAILS	15588
MANHOLE (6'X11')	18775
HANDHOLE TYPE 611 (6'x11') UNDERGROUND STANDARDS	18844
HANDHOLE TYPE 46 (4'–0" x 6'–0") UNDERGROUND STANDARDS	18842
HANDHOLE (5'-0" X 5'-0") UNDERGROUND STANDARDS	18841
SERVICE BOX, 1'–6" x 3'–6" INSTALLATION DETAILS UNDERGROUND	30–2005
1'–6" x 3'–5 1/2" x 1'–0" DP CONCRETE SERVICE BOX EXTENSION	011311
CONCRETE COVER FOR 1'–6" x 3'–5 1/2" SERVICE BOX	011312
MISCELLANEOUS DETAILS HANDHOLES & MANHOLES UNDERGROUND STANDARDS	16688
1ø PADMOUNTED TRANSFORMER SITE PREPARATION UNDERGROUND INSTALLATION	30–5001
1ø PADMOUNTED TRANSFORMER 3'–4" x 4'–2" CONCRETE PAD	011249
HANDHOLE TYPE 57 (5'x7') UNDERGROUND STANDARD	18843
3ø PADMOUNTED DEADFRONT TRANSFORMER CONCRETE PAD UNDERGROUND INSTALLATION	30–5011
TYPICAL DUCT CONSTRUCTION INSTALLATION DETAILS UNDERGROUND DETAILS	30–1030
PLASTIC DUCTS INSTALLATION DETAILS UNDERGROUND STRUCTURES	30–1035
AUTOMATIC TRANSFER SWITCH PAD	070813
PMH–3 SWITCH PAD	30–5033
1'-6" X 3'-5 ½" CONCRETE SERVICE BOX BODY	011310
KAL HNIT WIDENING PH. 2 STRUCTURAL DETAILS FOR 10' X 20' MH	74949 74948

* AVAILABLE AT STATE HIGHWAYS

HTCO CONSTRUCTION STANDARDS APPLICABLE TO THIS PROJECT*

DRAWING TITLE	HTCO STANDARD DWG. NO.
TYPE "A–3" MANHOLES FOR 6.0' TO 7.0' HEADROOM	34064
TYPE "A–3" MANHOLES FOR 7.5' TO 10.0' HEADROOM	34065
STANDARD DETAILS FOR ~~3560TB~~ PULL BOX & ~~3x5~~ PRECAST 4500-4-GTE 3x5x4	34082 / 180043
435–TBC PULLBOX (3 COVERS)	34078
LARGE PULL BOX NO. 435 T–B	34056
STANDARD HANDHOLE TYPE 1 USING 435–TB PULLBOX COVERS	34029
STANDARD DUCT FORMATIONS, MANHOLE DETAILS	34028
TYPE "B" AND "SB" 27" DIA. MANHOLE FRAMES & COVER	34086
X–CONNECTED PAD DETAILS, 5'x 7'x 4"	34079–C
SMALL PULLBOX TYPE 434T & 436T	34024

CATV CONSTRUCTION STANDARDS AND NOTES APPLICABLE TO THIS PROJECT*

DRAWING TITLE	DRAWING NO.
LARGE PULL BOX NO. T–B	HTCO STD. DWG. NO. 34056
STANDARD DUCT FORMATIONS, MANHOLE DETAILS (SEE "TYPICAL PVC CONDUIT BEND INSTALLATION DETAILS")	HTCO STD. DWG. NO. 34028
TYPICAL DUCT CONSTRUCTION INSTALLATION DETAILS UNDERGROUND DETAILS	HECO STD. DWG. NO. 30–1030
PLASTIC DUCTS INSTALLATION DETAILS UNDERGROUND STRUCTURES	HECO STD. DWG. NO. 30–1035

CABLE TELEVISION NOTES

1. USE STANDARD ELECTRIC DUCT SPACING FOR CABLE TELEVISION DUCTS ENTERING OR EXITING HANDHOLES AND MANHOLES. SEE HECO STANDARD DRAWING NUMBER 30–1030.

APPROVED:

per RL 6/18/93
HAWAIIAN ELECTRIC COMPANY, DATE

6/2/93
HAWAIIAN TELEPHONE COMPANY, DATE

9-16-93
OCEANIC CABLEVISION, DATE

7-20-93
CHRONICLE CABLEVISION, DATE

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5496-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

DATE	REVISION
6/30/93	C.O.# 1
1/20/93	REVISED HECO CONSTRUCTION STANDARDS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY SYMBOLS AND LEGEND

KALANIANAOLE HIGHWAY WIDENING
EAST HALEMAUMAU ST. TO KEAHOLE ST.
F.A. PROJECT NO. NH–STP–072–1(35)

SCALE: NONE DATE: 10/1/92

SHEET No. E-3 OF 62 SHEETS

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

"AS-BUILT"

C.O. ADD. 225

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	226	340

NOTES:

(1) CONNECT TO EXISTING STUBOUT.

(2) ELECTRIC DUCT TO DIVE UNDER TPB.

(3) TELEPHONE DUCT TO DIVE UNDER EPB.

(4) EXISTING UTILITY POLE TO REMAIN. CONTRACTOR SHALL EXCAVATE AROUND POLE AND PROVIDE BRACES AND TRAFFIC BARRIERS TO PREVENT UNSAFE CONDITIONS DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH HECO, HTCO AND CATV PRIOR TO STARTING OF EXCAVATION.

(5) EXISTING STREET LIGHT TO BE RELOCATED. EXISTING POLE TO BE REMOVED.

(6) RELOCATED STREET LIGHT, RECONNECT BACK TO EXISTING LIGHTING CIRCUIT.

(7) EXISTING UTILITY POLE AND STREET LIGHT TO REMAIN. PROVIDE TRAFFIC BARRIERS.

(8) EXISTING UTILITY POLE MAY BE RELOCATED BY HECO. COORDINATE RELOCATION WITH HECO, HTCO AND CATV.

(9) RELOCATED UTILITY POLE. TEMPORARY LOCATION.

(10) EXISTING GUY POLE MAY BE REMOVED AND RELOCATED BY HECO.

(11) RELOCATED GUY POLE BY HECO.

(12) EXISTING METER LOCATION, FINAL CONNECTION BY HECO. CONTRACTOR TO FIELD VERIFY LOCATION.

(13) TEMPORARY OVERHEAD SECONDARY SERVICE AND GUY WIRES CROSSING HIGHWAY SHOULD BE A MINIMUM OF 18'-0" FROM FINISH GRADE.

(14) EXISTING OVERHEAD CONDUCTORS TO BE REMOVED.

(15) TEMPORARY OVERHEAD SERVICE.

(16) EXISTING UNDERGROUND DUCTS TO BE ABANDONED IN PLACE.

(17) RISER UP NEW UTILITY POLE PER HECO, HTCO AND CATV REQUIREMENTS.

(18) PROVIDE 12"x12"x6" SURFACE MOUNTED JUNCTION BOX FOR ELECTRIC SERVICE AND 4"x4"x4" SURFACE MOUNTED JUNCTION BOX (1 EACH) FOR TELEPHONE AND CATV SERVICE. REQUIREMENTS TO BE VERIFIED BY HECO BEFORE INSTALLATION.

(19) PROVIDE NEW OVERHEAD SERVICE CONDUCTORS* FROM SURFACE MOUNTED JUNCTION BOX ON GARAGE TO EXISTING METER (TELEPHONE AND CATV BOXES) ON HOUSE. A MINIMUM OF 10'-0" FROM FINISH GRADE SHOULD BE MAINTAINED. JUNCTION BOXES SHOULD BE COORDINATED WITH HECO CUSTOMER ENGINEERING.

(20) EXISTING UNDERGROUND SERVICE TO BE ABANDONED IN PLACE AFTER PERMANENT POWER IS COMPLETE.

(21) CATV DUCTS TO DIVE UNDER TPB.

* BY CUSTOMER

(22) EXISTING UTILITY POLE AND STREET LIGHT TO BE RELOCATED.

(23) RELOCATED UTILITY POLE AND STREET LIGHT.

(24) PROVIDE 4"x4" SURFACE MOUNTED JUNCTION BOX, NEMA "3R", (1 EACH) FOR HTCO AND CATV.

(25) EXISTING GUY WIRES TO BE REMOVED.

(26) EXISTING UTILITY POLE TO BE REMOVED BY HECO.

(27) RISER UP EXISTING UTILITY POLE PER HECO, HTCO AND CATV REQUIREMENTS.

(28) EXISTING OVERHEAD SECONDARY SERVICE AND GUY WIRES CROSSING HIGHWAY SHOULD BE A MINIMUM OF 18'-0" FROM FINISH GRADE.

(29) EXISTING UNDERGROUND DUCTS TO BE ABANDONED IN PLACE. PROVIDE TEMPORARY OVERHEAD SECONDARY SERVICE.

(30) PROVIDE TEMPORARY OVERHEAD SECONDARY SERVICE WITH A MINIMUM OF 10'-0" CLEARANCE FROM FINISH GRADE. A 4"x4" SUFACE MOUNTED JUNCTION BOX, NEMA "3R" (3 EACH) SHALL BE PROVIDED FOR TEMPORARY OVERHEAD SERVICE AND SHALL BE REMOVED AFTER UNDERGROUND RELOCATION IS MADE.

(31) INTERCEPT EXISTING ELECTRIC DUCTS WITH NEW HANDHOLE INDICATED ON PLAN.

(32) STUB & CAP; PROVIDE MARKER FOR 1- (3E), 1- (2T) AND 1- (1C).

(33) INTERCEPT EXISTING TELEPHONE DUCT WITH NEW HANDHOLE.

(34) INTERCEPT EXISTING CATV DUCT WITH NEW HANDHOLE.

(35) PROVIDE TEMPORARY OVERHEAD SERVICE TO RELOCATED METER.

(36) PROVIDE 4"x4" SURFACE MOUNTED JUNCTION BOX, NEMA "3R", FOR HTCO.

(37) RAISE EXISTING SECONDARY SERVICE DROP, BY HECO.

(38) EXISTING GUY POLE TO REMAIN.

(39) CONTRACTOR SHALL EXCAVATE TO LOCATE AND EXPOSE EXISTING U/G POWER, TEL. & CATV CONDUITS. INSTALL NEW HANDHOLES FOR POWER, TEL. AND CATV IN THE MOST CONVENIENT LOCATIONS TO INTERCEPT EXISTING CABLES AND RACEWAYS. NOTIFY AND COORDINATE WITH HECO, HTCO & CATV BEFORE EXCAVATION & INTERCEPTION OF EXISTING RACEWAYS BEGINS. CONTRACTOR SHALL PREPARE TO CUT & SPLICE NEW CIRCUITS ONLY AFTER NEW CIRCUITS HAVE BEEN ENERGIZED.

(40) EXISTING UTILITY POLE TO BE REMOVED BY HECO.

(41) CATV & HECO DUCTS TO DIVE UNDER TPB.

(42) CATV EXPRESS FEEDER TO BY-PASS 2'x4' CPB.

(43) CATV EXPRESS FEEDER TO GO INTO 2'X6' CPB.

(44) CHRONICLE CABLEVISION 3GCH INTO 2'X4' CPB.

(45) TELEPHONE DUCT TO DIVE UNDER CPB.

(46) 2"CI (CONTROLLER INTERCONNECT) FOR TRAFFIC SIGNAL SYSTEM.

(47) NEW TELEPHONE & CATV JUNCTION BOXES LOCATION.

(48) EXISTING U/G DUCTS TO REMAIN. AND REUSED.

(49) REMOVE EXISTING EMH. INTERCEPT EXISTING CIRCUITS WITH NEW (2) 5" DUCTS AND EXTEND TO EMH #15.

(50) STUB & CAP (2)- (4E); PROVIDE MARKER.

(51) RISER UP TO NEW UTILITY POLE PER HECO, HTCO AND CATV REQUIREMENTS. (2)-5"C (HECO) & (1)-3"C (CATV)

(52) TEMPORARY OH SERVICE FOR TELEPHONE AND CATV SERVICE. TEMPORARY OH SERVICE FOR HECO TO BE DETERMINED ON A CASE BY CASE BASIS.

(53) IRRIGATION PULLBOX BY OTHERS.

(54) CONTRACTOR TO INSTALL 2-#12 & 1-#12 GROUND FOR POWER TO IRRIGATION CONTROLLER.

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

DEXTER S. YEE
REGISTERED PROFESSIONAL ENGINEER
No. 5496-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

DATE	REVISION
6/30/93	C.O. #1
1/20/93	REVISED PER HECO REQMTS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES

KALANIANAOLE HIGHWAY WIDENING
EAST HALEMAUMAU ST. TO KEAHOLE ST.
F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: NONE DATE: 10/1/92

SHEET No. E-4 OF 62 SHEETS

C.O. ADD. 226

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	227	340

EAST HALEMAUMAU STREET

END PROJ. F-072-1(34);B
BEGIN PROJ. NH-STP-072-1(35)
℄ "A" STA. 177+20
℄ "C" STA. 177+20

P.O.B. STA. 177+20

CONNECT TO EXISTING STUBOUTS

EXISTING EMH 6'x14' STA. 177+30, 32' LT.

EXISTING TPB

EXISTING EPB

EXIST EPB (9'x5')

EXIST. 3x5 2x4EPB

2x4CPB(42)

3x5TPB

3x5EPB

TO EMH #1

STREET LIGHTS SHOWN FOR CLARITY ONLY. FOR STREET LIGHTING LOCATION AND CIRCUITING SEE DWG'S E-37 THRU E-51 (TYPICAL).

TRUE NORTH
SCALE: 1"=20'

N 7000
N 6800
N 7200
W 10400
W 10200
W 10000

5773
TMK:3-7-02:14

5783
TMK:3-7-02:19

5789
TMK:3-7-02:21

5795
TMK:3-7-02:16

5797
TMK:3-7-02:75

MATCH LINE ℄ STA. 182+00

APPROVED:

HAWAIIAN ELECTRIC COMPANY,	6/18/93 DATE
HAWAIIAN TELEPHONE COMPANY,	6/2/93 DATE
OCEANIC CABLEVISION,	9-16-93 DATE
CHRONICLE CABLEVISION,	9-20-93 DATE

SCALE IN FEET: 20' 10' 0' 20' 40'

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5496-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

DATE	REVISION
6/30/93	C.O. # 1

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

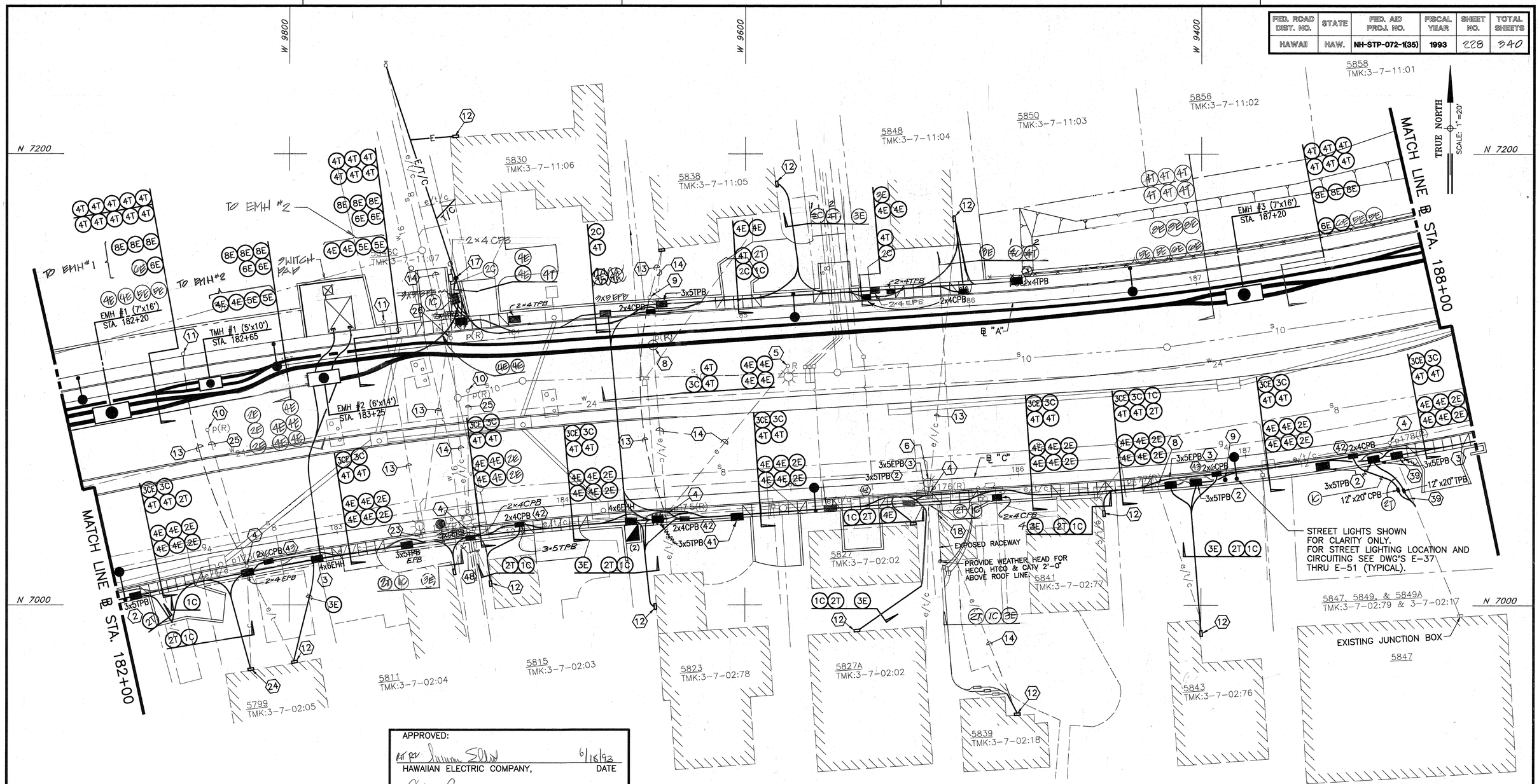
SHEET No. E-5 OF 62 SHEETS

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

"AS-BUILT"

C.O. 227

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	228	240



APPROVED:

HAWAIIAN ELECTRIC COMPANY,	6/18/93 DATE
HAWAIIAN TELEPHONE COMPANY,	6/2/93 DATE
OCEANIC CABLEVISION,	9-16-93 DATE
CHRONICLE CABLEVISION,	9-20-93 DATE

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

DATE	REVISION
6/30/93	C.O. #1
1/20/93	REVISED EXIT SECTIONS

SCALE IN FEET: 20' 10' 0' 20' 40'

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5496-E HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-6 OF 62 SHEETS

"AS-BUILT"

C.O. ADD. 228

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	229	340

TRUE NORTH
SCALE: 1"=20'

N 7200 · N 7400 · W 9200 · W 9000 · W 8800

5864A TMK:3-8-14:19
5864B TMK:3-8-14:39
5864C TMK:3-8-14:31
5864D TMK:3-8-14:32
5902 TMK:3-8-14:15
5906 TMK:3-8-14:14
5849
5857 TMK:3-7-02:01
5881 TMK:3-8-01:19
5889 TMK:3-8-01:48
5897 TMK:3-8-01:49
304 PAIKO DRIVE TMK:3-8-01:15
381 PAIKO DR. TMK:3-8-01:16

PAIKO DR.

℄ STA. 188+00 · MATCH LINE ℄ STA. 194+00

TMH #2 (5'x10') STA. 188+10
TMH #3 (5'x10') STA. 193+20
EMH #4 (7'x16') STA. 192+20

℄ "A" · ℄ "B" · ℄ "C"

2x4 EPB FIELD LOCATE W/ HECO
HOMEOWNER TO PAY FOR THIS PORTION OF U.G. UTILITY INSTALLATION
NEW POLE (BY HECO) LOCATE IN FIELD
2'x4' IRRIGATION FILLER
IRRIGATION CONTROLLER "A" (BY OTHERS)
FROM VLT "E"
CATV JB · TEL JB · EXIST METER

STREET LIGHTS SHOWN FOR CLARITY ONLY.
FOR STREET LIGHTING LOCATION AND CIRCUITING SEE DWG'S E-37 THRU E-51 (TYPICAL).

INSET

MATCH LINE

MATCH LINE (SEE INSET THIS SHEET)

C.O. # 2	
6/30/93	C.O # 1
1/20/93	2'x4' EPB FOR IRRIGATION CONTROL
DATE	REVISION

APPROVED:

HAWAIIAN ELECTRIC COMPANY,	6/18/93 DATE
HAWAIIAN TELEPHONE COMPANY,	6/2/93 DATE
OCEANIC CABLEVISION,	9-16-93 DATE
CHRONICLE CABLEVISION,	9-20-93 DATE

SCALE IN FEET: 20' 10' 0' 20' 40'

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

DEXTER S. YEE · REGISTERED PROFESSIONAL ENGINEER · No. 5496-E · HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

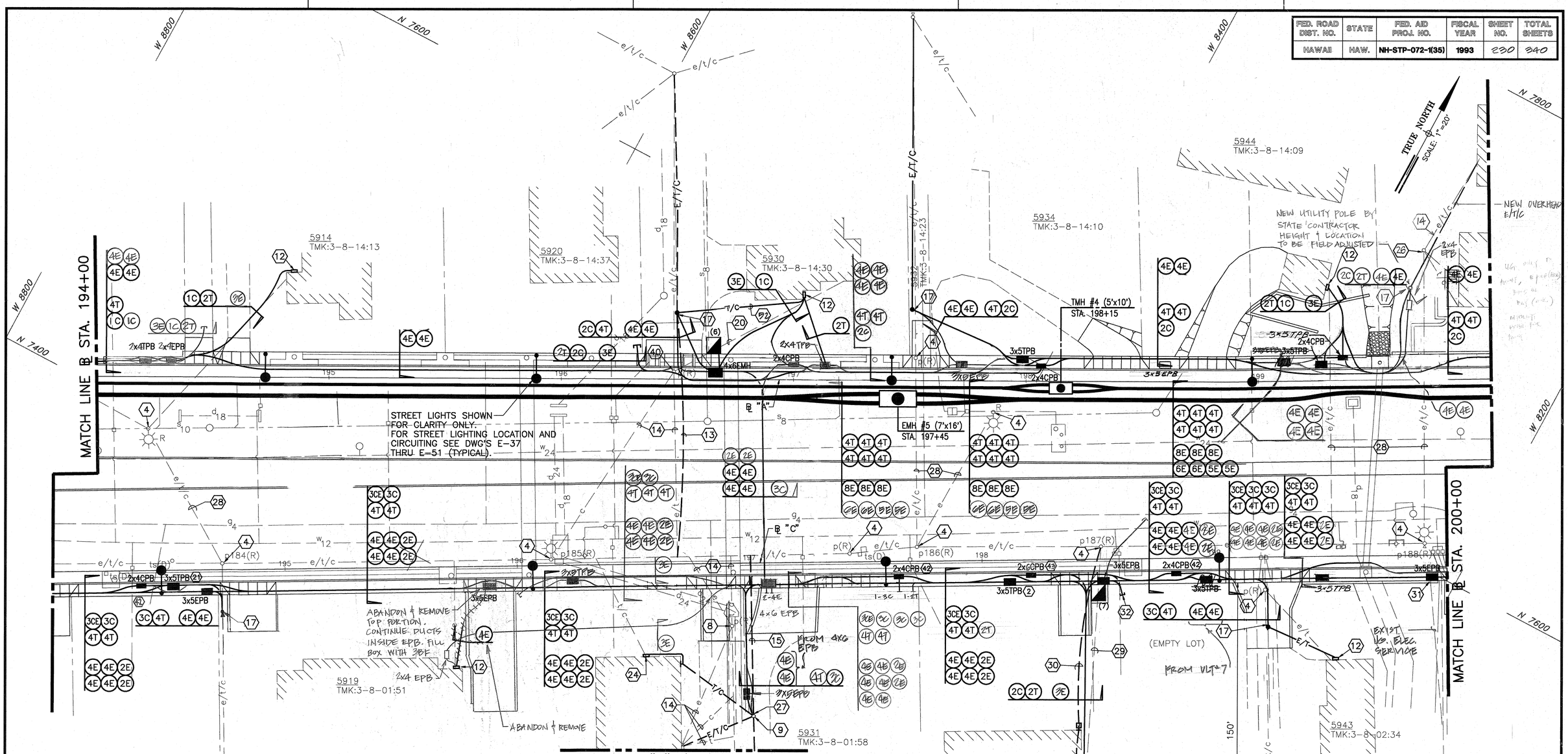
SHEET No. E-7 OF 62 SHEETS

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

"AS-BUILT"

C.O. ADD. 229

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	230	340



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

APPROVED:

for Suzanne Ellard HAWAIIAN ELECTRIC COMPANY,	6/18/93 DATE
Catherine Chong HAWAIIAN TELEPHONE COMPANY,	6/2/93 DATE
Danielle Wingate OCEANIC CABLEVISION,	9-16-93 DATE
Peter A. Cannis CHRONICLE CABLEVISION,	9-20-93 DATE

DATE	REVISION
	C.O. # 2
6/30/93	C.O. # 1

SCALE IN FEET:
20' 10' 0' 20' 40'

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

DEXTER S. YEE
REGISTERED PROFESSIONAL ENGINEER
No. 5496-E
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

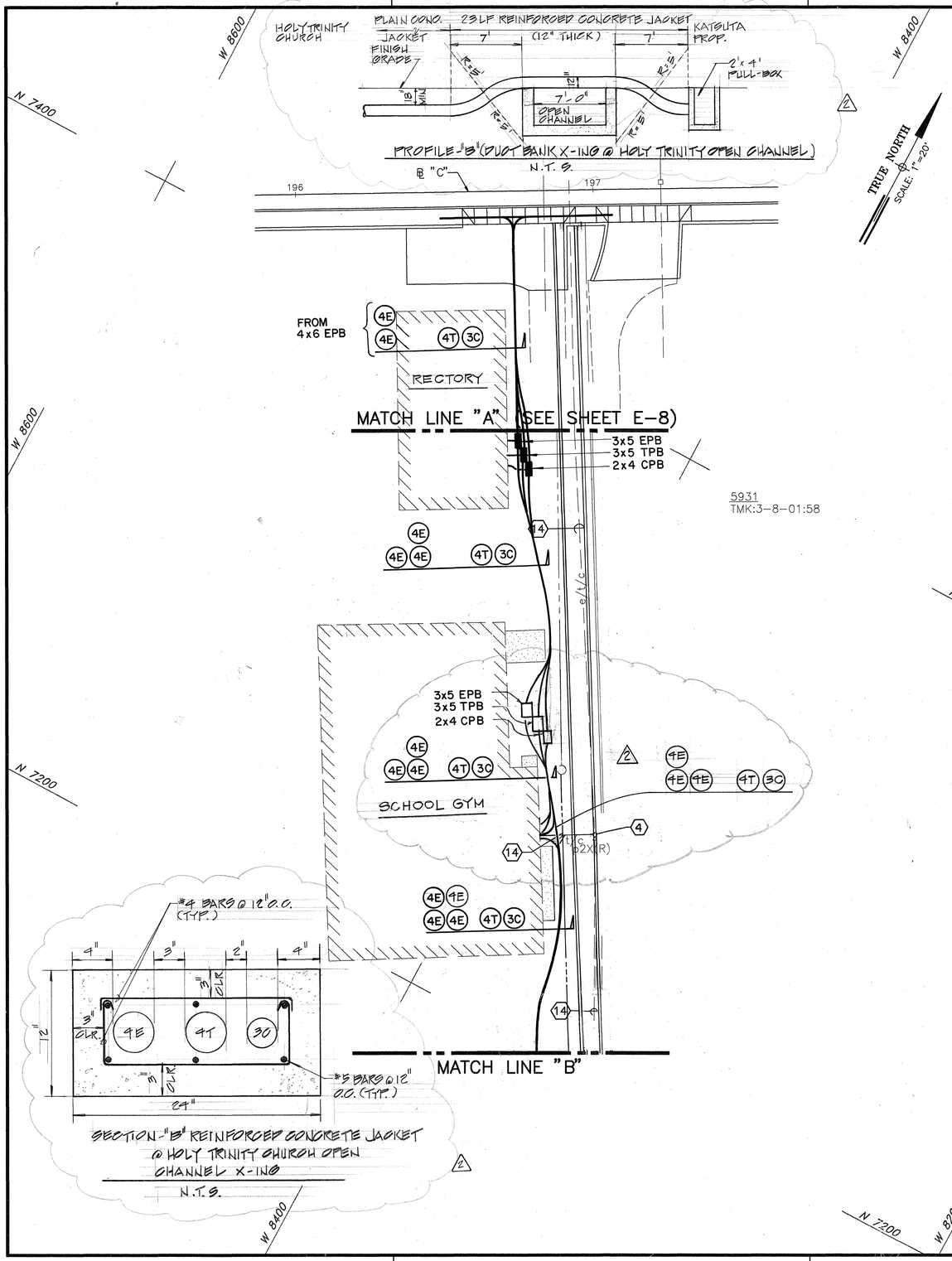
SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-8 OF 62 SHEETS

"AS-BUILT"

C.O. 230

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	231	340



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

APPROVED:

RT RI — 6/18/93
HAWAIIAN ELECTRIC COMPANY, DATE

6/2/93
HAWAIIAN TELEPHONE COMPANY, DATE

OCEANIC CABLEVISION, DATE

9-20-93
CHRONICLE CABLEVISION, DATE

SCALE IN FEET:
20' 10' 0' 20' 40'

DEXTER S. YEE
REGISTERED PROFESSIONAL ENGINEER
No. 5496-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

DATE	REVISION
7/26/93	C.O. # 2
6/30/93	C.O. # 1

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

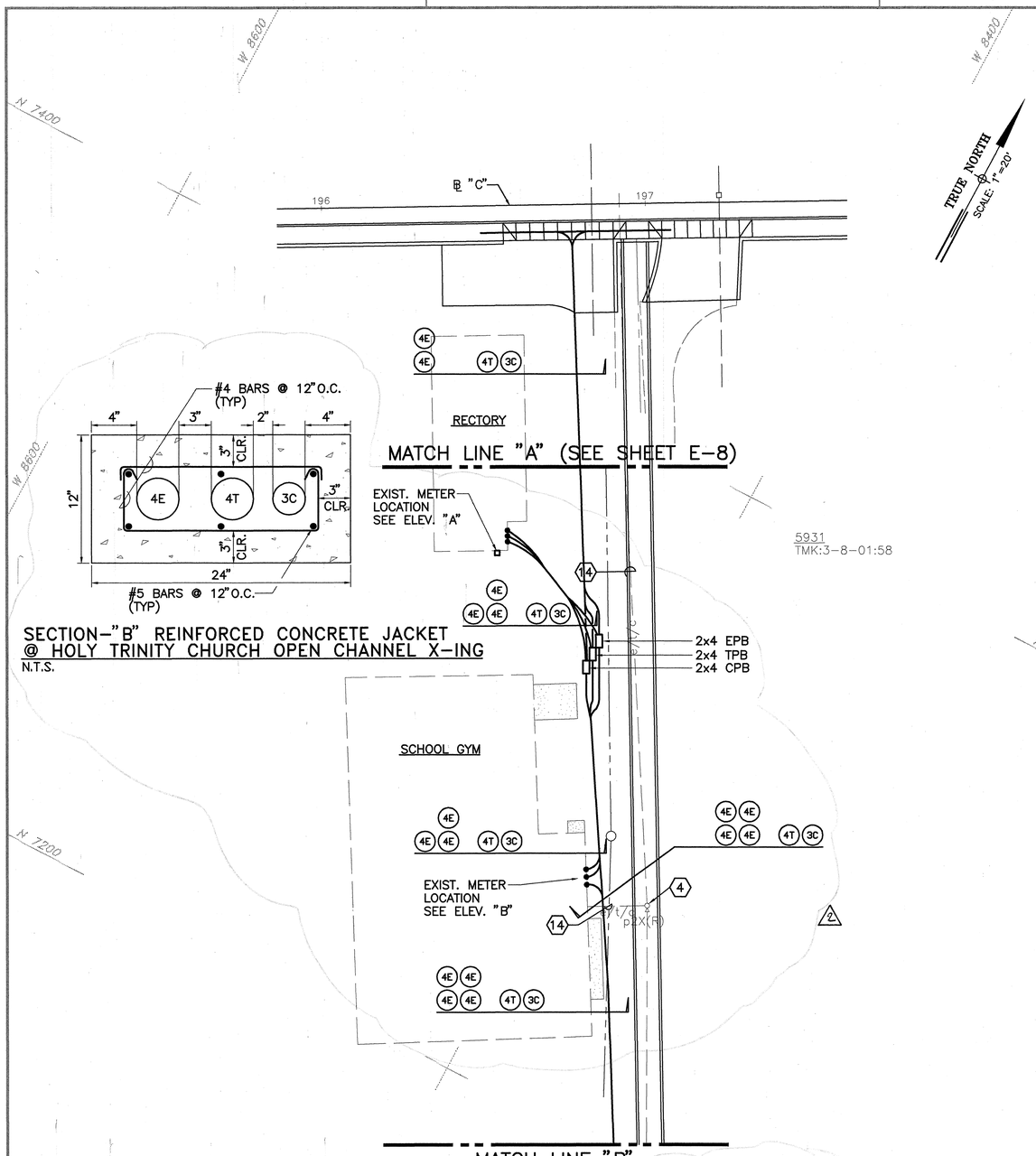
F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-9 OF 62 SHEETS

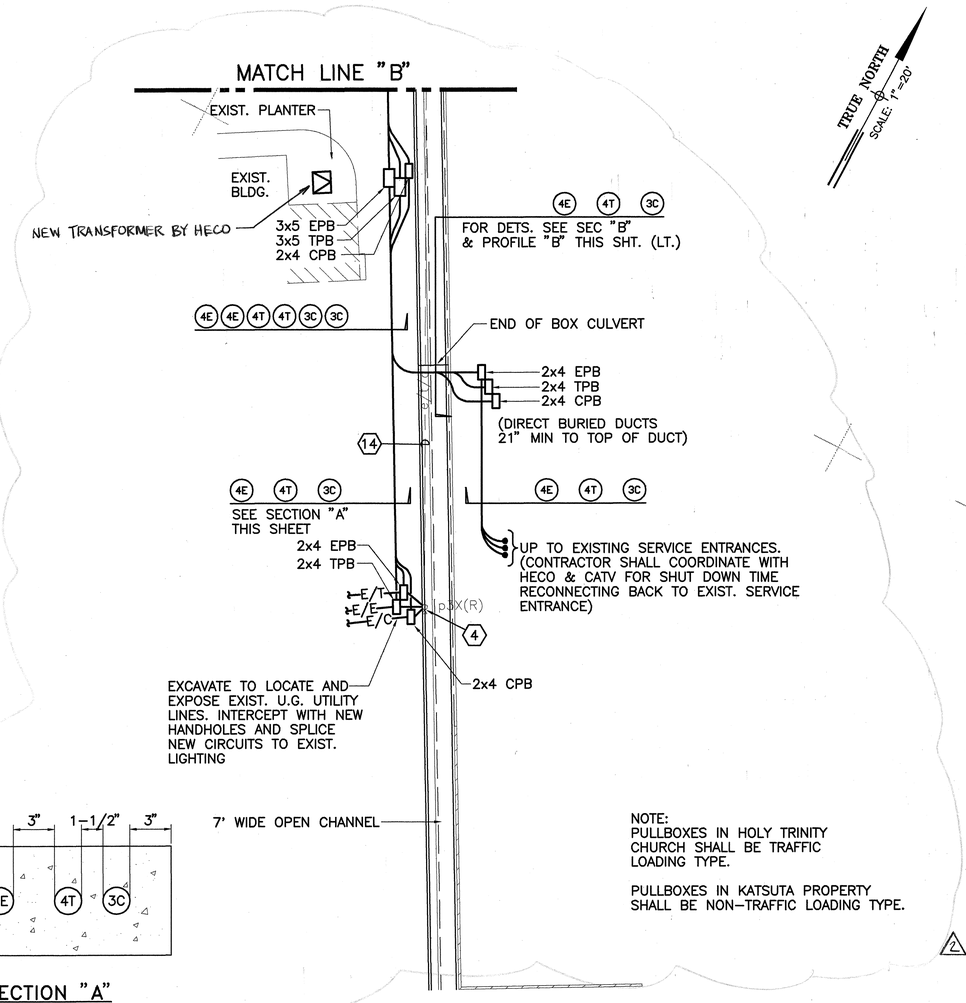
C.O. 231

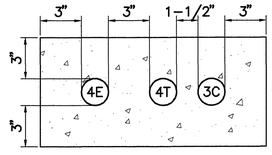
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993		



SECTION–"B" REINFORCED CONCRETE JACKET @ HOLY TRINITY CHURCH OPEN CHANNEL X–ING
N.T.S.

PROFILE–"B" (DUCT BANK X–ING @ HOLY TRINITY OPEN CHANNEL)
N.T.S.





SECTION "A"
N.T.S.

APPROVED:

HAWAIIAN ELECTRIC COMPANY, DATE

HAWAIIAN TELEPHONE COMPANY, DATE

OCEANIC CABLEVISION, DATE

CHRONICLE CABLEVISION, DATE

SCALE IN FEET:
20' 10' 0' 20' 40'

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

	C.O.# 2
6/30/93	C.O.#1
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING
EAST HALEMAUMAU ST. TO KEAHOLE ST.
F.A. PROJECT NO. NH-STP-072-1(35)

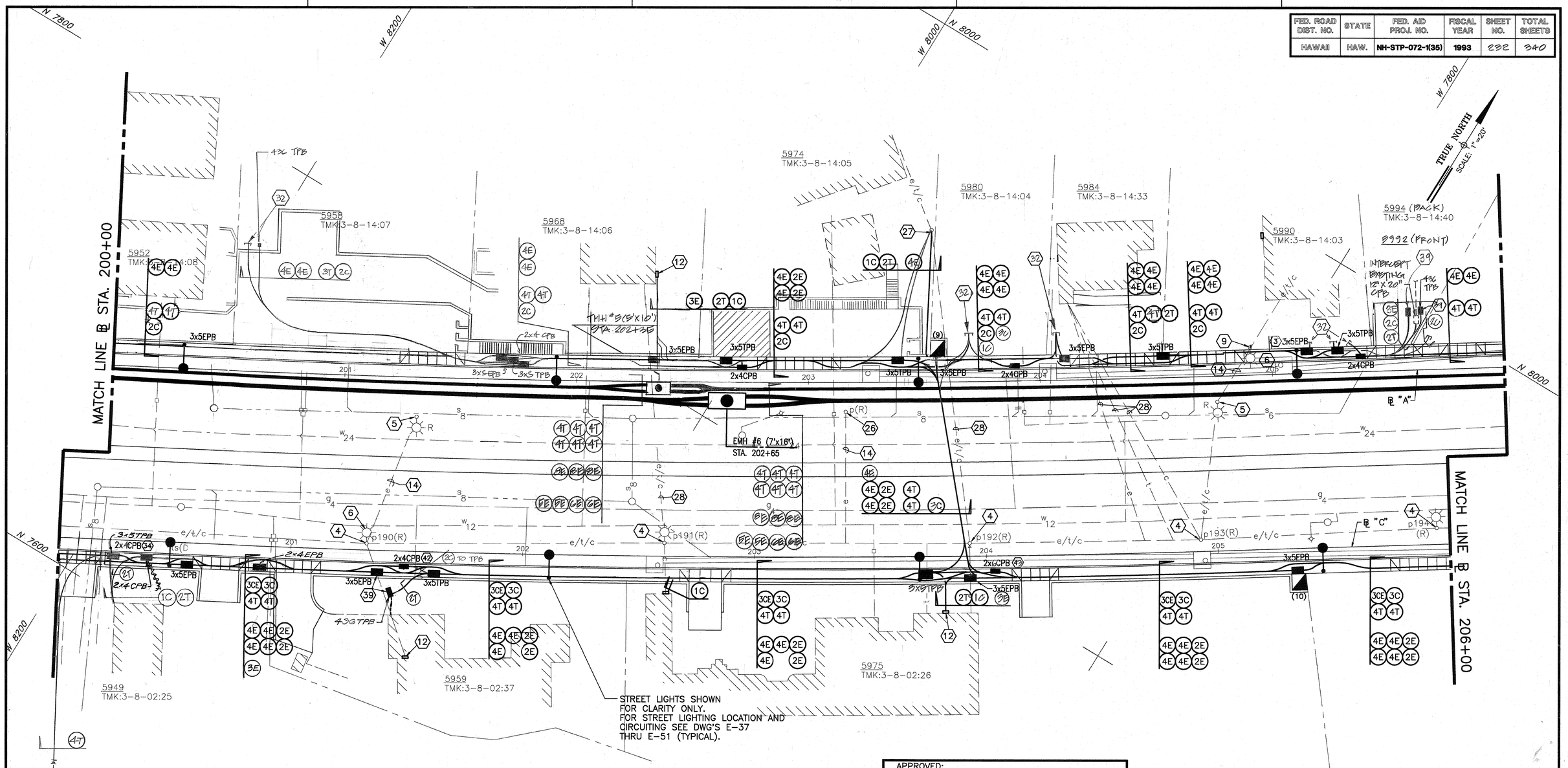
SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-9 OF 62 SHEETS

C.O. 231S-1

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	232	340



	C.O. #2
6/30/93	C.O. #1
DATE	REVISION

APPROVED:

HAWAIIAN ELECTRIC COMPANY,	6/18/93 DATE
HAWAIIAN TELEPHONE COMPANY,	6/2/93 DATE
OCEANIC CABLEVISION,	9-16-93 DATE
CHRONICLE CABLEVISION,	9-20-93 DATE

SCALE IN FEET:

20' 10' 0' 20' 40'

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5496-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-10 OF 62 SHEETS

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

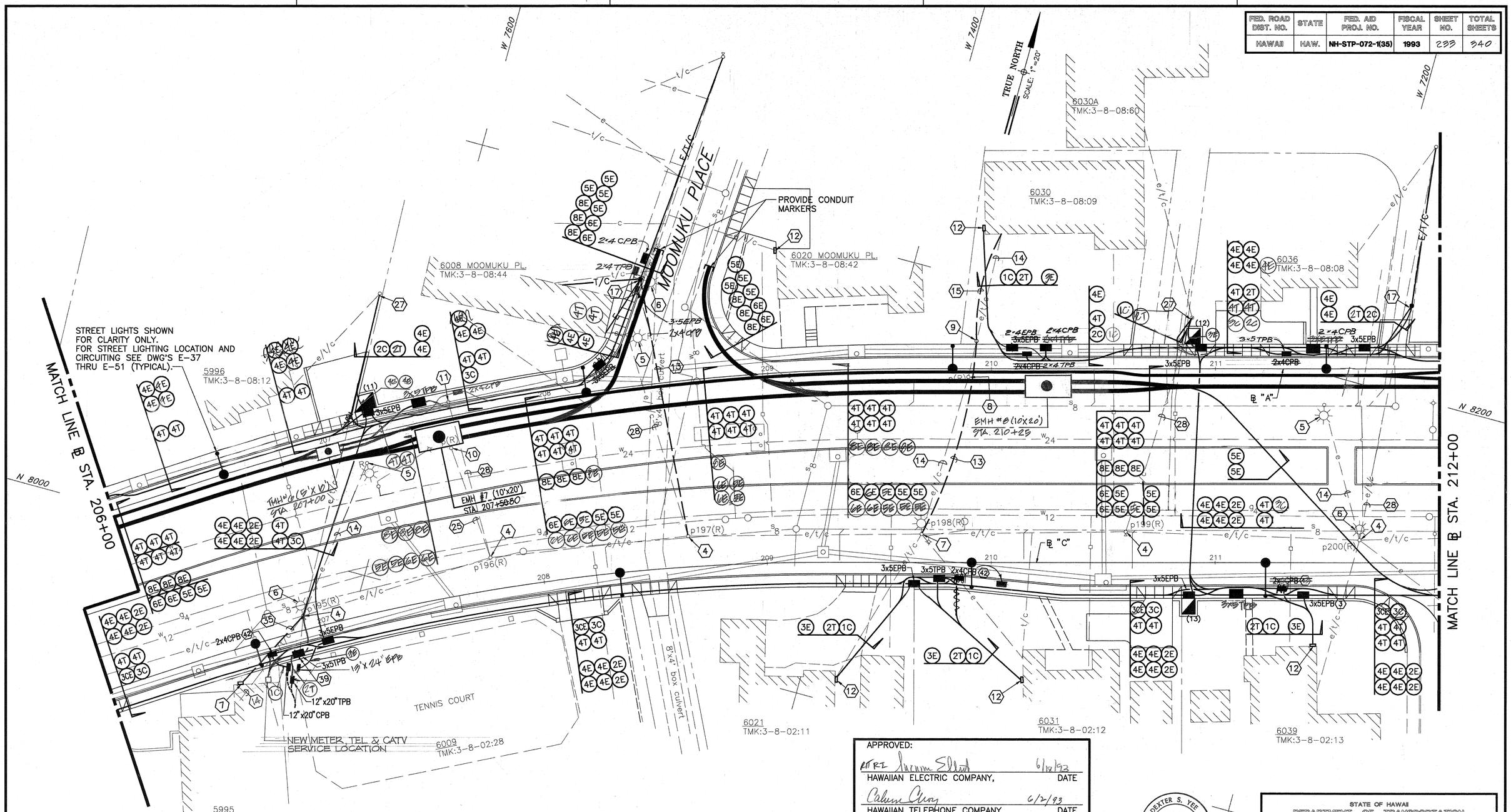
"AS-BUILT"

C.O. 232

11/17/94

7/28/94 C.O. #4

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	233	340



6/30/93	C.O. #1
1/18/93	REVISED DIST SECTION
DATE	REVISION

APPROVED:

HAWAIIAN ELECTRIC COMPANY, 6/18/93 DATE

HAWAIIAN TELEPHONE COMPANY, 6/2/93 DATE

OCEANIC CABLEVISION, 9-16-93 DATE

CHRONICLE CABLEVISION, 9-20-93 DATE

SCALE IN FEET: 20' 10' 0' 20' 40'

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5496-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-11 OF 62 SHEETS

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

"AS-BUILT"

C.O. ADD. 233

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	234	340

TRUE NORTH
SCALE: 1" =20'

ELELUPE STREET

PAEOKI DRIVE

209 ELELUPE ST.
TMK:3-8-07:34

6044
TMK:3-8-08:29

6070
TMK:3-8-07:32

6064
TMK:3-8-07:33

6076
TMK:3-8-07:31

6082
TMK:3-8-07:29

208 KULIOUOU RD.
TMK:3-8-07:27
& 3-8-07:26

6091
TMK:3-8-03:55

6085
TMK:3-8-03:57

6075
TMK:3-8-03:14

6065
TMK:3-8-02:19

6059
TMK:3-8-02:18

6041
TMK:3-8-02:17

STREET LIGHTS SHOWN FOR CLARITY ONLY.
FOR STREET LIGHTING LOCATION AND CIRCUITING SEE DWG'S E-37 THRU E-51 (TYPICAL).

TMH #7 (5'x10')
STA. 212+20

EMH #8A (6'x11')
STA. 212+17

EMH #9 (7'x16')
STA. 215+00

TMH #8 (5'x10')
STA. 217+20

EMH #9A(6'x14')
STA 217+60
BYPASS EMH #9A

EMH #10 (7'x16')
STA. 216+70

MATCH LINE ℄ STA. 212+00

MATCH LINE ℄ STA. 218+25

℄ "A"

℄ "C"

2-4"C TELEPHONE TO NEXT POLE

RISER UP EXISTING UTILITY POLE PER HTCO REQUIREMENTS.

2-3"C TO BYPASS EMH #10.

SWITCH PAD

3-4 CATV PAD

APPROVED:

HAWAIIAN ELECTRIC COMPANY,	DATE 6/18/93
HAWAIIAN TELEPHONE COMPANY,	DATE 6/2/93
OCEANIC CABLEVISION,	DATE 9-16-93
CHRONICLE CABLEVISION,	DATE 9-20-93

DATE	REVISION
	C.O. #2
6/30/93	C.O. #1
1/20/93	CLARIFICATION OF HANDHOLE AND MANHOLE SIZE

SCALE IN FEET: 20' 10' 0' 20' 40'

DEXTER S. YEE
REGISTERED PROFESSIONAL ENGINEER
No. 5496-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

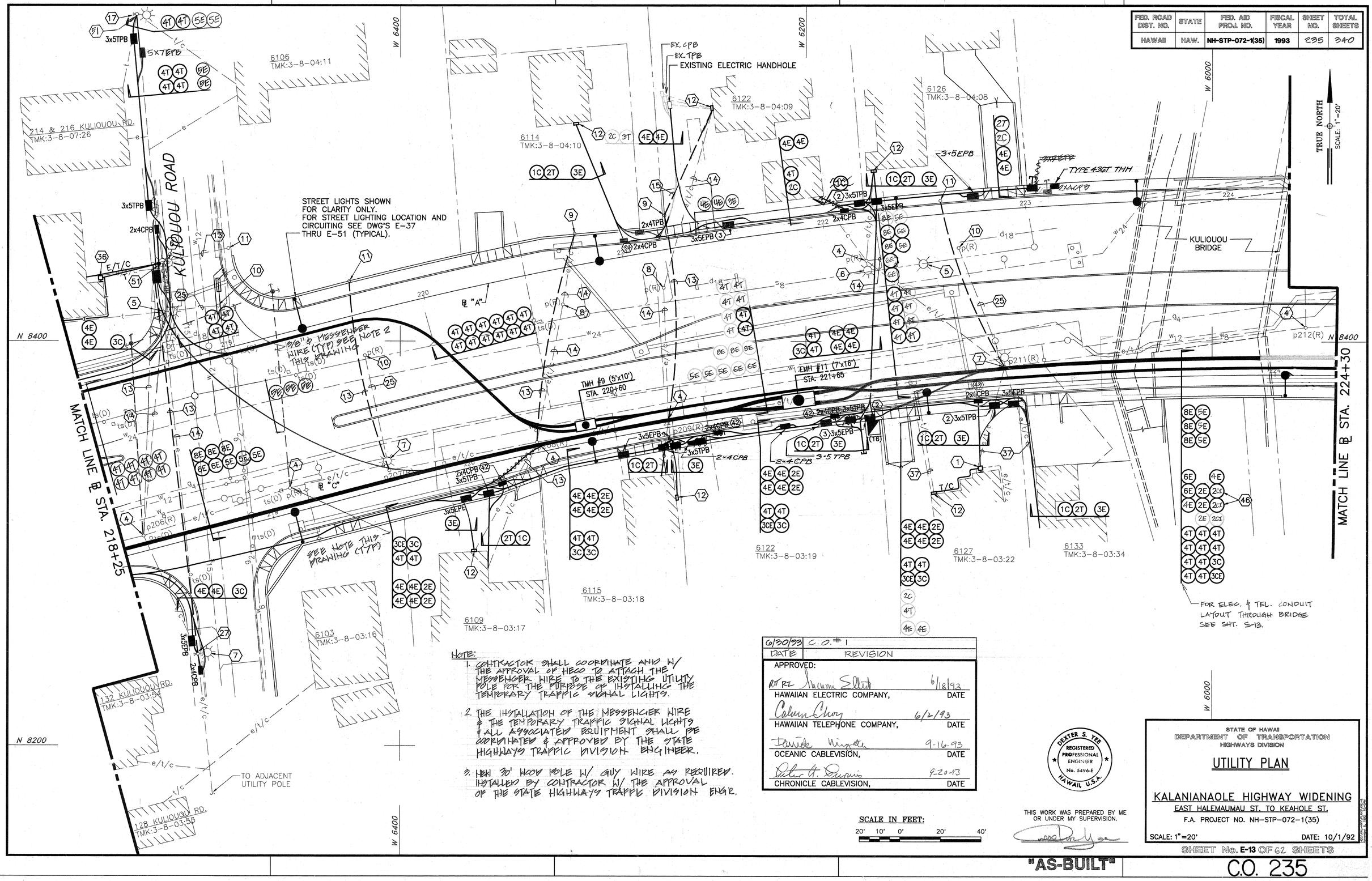
SHEET No. E-12 OF 62 SHEETS

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

"AS-BUILT"

C.O. ADD. 234

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	235	340



NOTE:

1. CONTRACTOR SHALL COORDINATE AND W/ THE APPROVAL OF HECO TO ATTACH THE MESSENGER WIRE TO THE EXISTING UTILITY POLE FOR THE PURPOSE OF INSTALLING THE TEMPORARY TRAFFIC SIGNAL LIGHTS.
2. THE INSTALLATION OF THE MESSENGER WIRE & THE TEMPORARY TRAFFIC SIGNAL LIGHTS & ALL ASSOCIATED EQUIPMENT SHALL BE COORDINATED & APPROVED BY THE STATE HIGHWAYS TRAFFIC DIVISION ENGINEER.
3. NEW 30' WOOD POLE W/ GUY WIRE AS REQUIRED. INSTALLED BY CONTRACTOR W/ THE APPROVAL OF THE STATE HIGHWAYS TRAFFIC DIVISION ENGR.

DATE	REVISION
6/30/93	C.O. # 1

APPROVED:

RT RL — 6/18/93
HAWAIIAN ELECTRIC COMPANY, DATE

6/2/93
HAWAIIAN TELEPHONE COMPANY, DATE

9-16-93
OCEANIC CABLEVISION, DATE

9-20-93
CHRONICLE CABLEVISION, DATE

SCALE IN FEET: 20' 10' 0' 20' 40'

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

DEXTER S. YEE
REGISTERED PROFESSIONAL ENGINEER
No. 5496-E
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-13 OF 62 SHEETS

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

"AS-BUILT"

C.O. 235

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	236	340

N 8600 W 5800 W 5600 W 5400 N 8400 W 6000 N 8200 W 5800

TRUE NORTH
SCALE: 1" = 20'

6172 MAY WAY
TMK:3-8-04:04

6162
TMK:3-8-04:05

6154
TMK:3-8-04:06

6154A
TMK:3-8-04:77

6162A
TMK:3-8-04:78

6146
TMK:3-8-04:58

MAY WAY

CATV 4367

6166
TMK:3-8-03:36

EXISTING HAWTEL KUHIOKOU CO. BUILDING

6186
TMK:3-8-03:56

PENETRATE BLDG. WALL WHERE EXISTING DUCTS ENTER BLDG.

EMH #13 (7'x16')
STA. 228+30

℄ STA. 230+00

℄ "A"

EXISTING TMH

TMH #10 (5'x10')
STA. 225+30

EMH #12 (7'x16')
STA. 224+72

℄ STA. 224+30

MATCH LINE

TMH #10A (5'x10')
STA. 227+50

℄ "C"

EXISTING TMH

MATCH LINE

6169
6169A
TMK:3-8-03:49

6161
TMK:3-8-03:23

6159
TMK:3-8-03:40

STREET LIGHTS SHOWN FOR CLARITY ONLY.
FOR STREET LIGHTING LOCATION AND CIRCUITING SEE DWG'S E-37 THRU E-51 (TYPICAL).

6178 SUMMER ST.
TMK:3-8-03:24

6180 SUMMER ST.
TMK:3-8-03:25

TO EXISTING METER LOCATION

TO EXISTING UTILITY POLE

6143
TMK:3-8-03:21

BAY STREET

124 BAY STREET
TMK:3-8-03:50

165'

SUMMER STREET

TO EXISTING UTILITY POLE

APPROVED:

HAWAIIAN ELECTRIC COMPANY,	6/18/93 DATE
HAWAIIAN TELEPHONE COMPANY,	6/2/93 DATE
OCEANIC CABLEVISION,	9-16-93 DATE
CHRONICLE CABLEVISION,	9-20-93 DATE

DATE	REVISION
6/30/93	C.O. # 1

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

SCALE IN FEET:
20' 10' 0' 20' 40'

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 6[illegible] HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

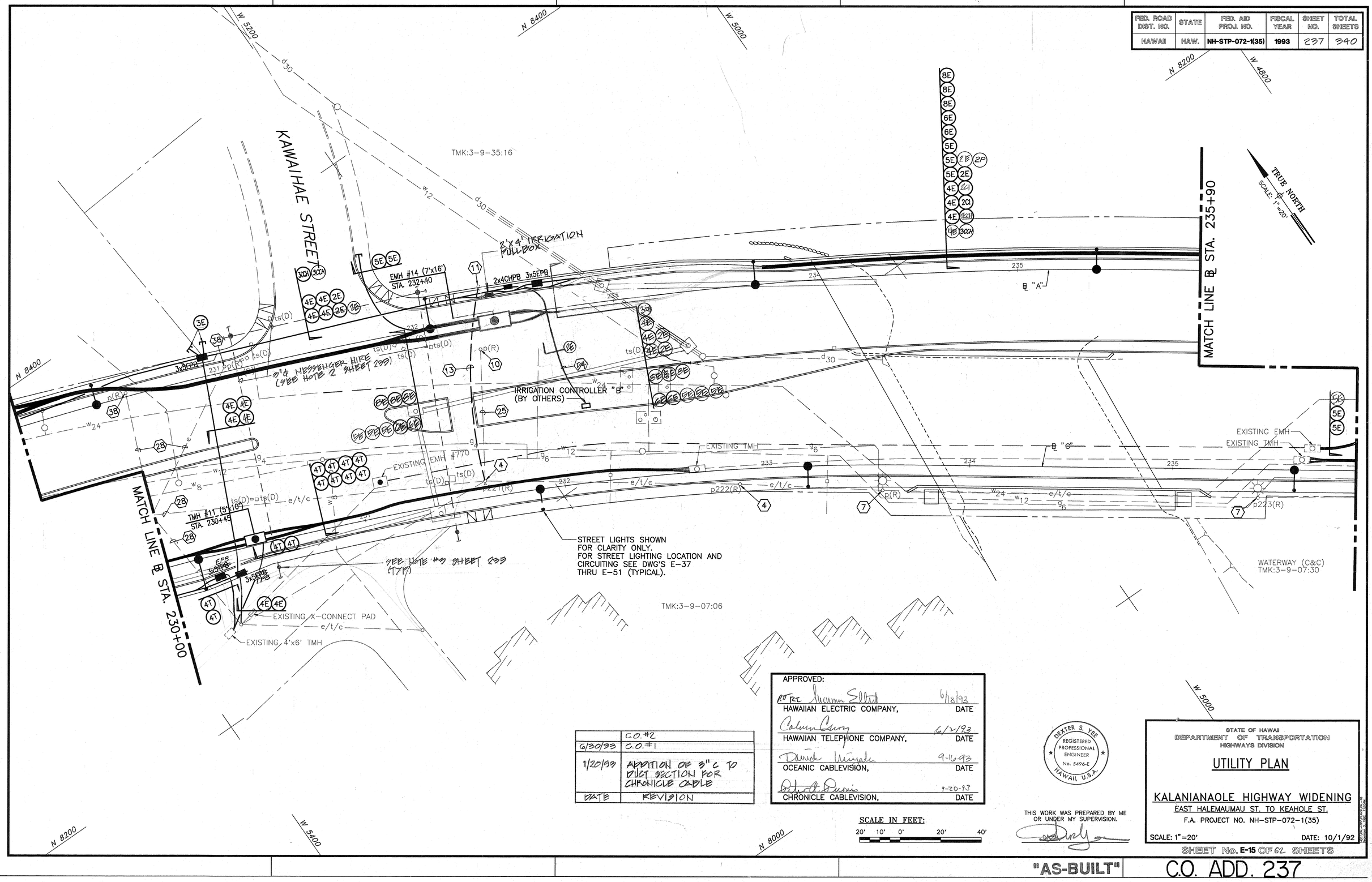
SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-14 OF 62 SHEETS

"AS-BUILT"

C.O. 236

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	237	340



	C.O. #2
6/30/93	C.O. #1
1/20/93	ADDITION OF 3" C TO DUCT SECTION FOR CHRONICLE CABLE
DATE	REVISION

APPROVED:

HAWAIIAN ELECTRIC COMPANY, — DATE 6/18/93

HAWAIIAN TELEPHONE COMPANY, — DATE 6/7/93

OCEANIC CABLEVISION, — DATE 9-16-93

CHRONICLE CABLEVISION, — DATE 9-20-93

SCALE IN FEET: 20' 10' 0' 20' 40'

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5496-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-15 OF 62 SHEETS

ORIGINAL PLAN | NOTE BOOK | No.

SURVEY PLOTTED BY — DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

"AS-BUILT"

C.O. ADD. 237

6/21/94

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	238	340

W 4800 N 8200 W 4600 N 8000 W 4400 N 7800

TO EXIST. EMH

EMH #158 (7'x16' HH)
STA 240+13 ± 9'= 114' Lt.
INTERCEPT EXIST. CIRCUITS

HAWAII KAI DRIVE

EXISTING TELEPHONE DUCTS

INTERCEPT EXISTING UNDERGROUND TELEPHONE DUCTS WITH NEW 5x10 TMH

5x10TMH

EMH #15C (10'x20' HH)
STA. ~~237+70~~ 238+20

TMK:3-9-35:17

TMK:3-9-35:30 → 20

EMH #15A (6'x14')
STA. 240+60

EXISTING OUTDOOR RECEPTACLE TO BE REMOVED (TYP.-4 EA.)

EXISTING CABINET (TO BE REMOVED)

EXISTING EMH(D)

EXISTING TMH

EXISTING OUTDOOR LIGHTING TO BE REMOVED (TYP.-7 EA.)

3x5EPB

2x4CHPB

3x5TPB

MINIMUM 12" SEPARATION EITHER IN JACKET OR TRENCH IS REQUIRED

2-4" & 1-3" ELEC. DUCTS (IN SAME TRENCH WITH TRAFFIC CONTROLLER DUCTS SHT. 270)

TO STUB OUT

℄ "A"

℄ "C"

℄ STA. 235+90

℄ STA. 241+60

MATCH LINE

MATCH LINE

EXISTING EMH(D)

POLE 225
STREET LIGHTS SHOWN FOR CLARITY ONLY.
FOR STREET LIGHTING LOCATION AND CIRCUITING SEE DWG'S E-37 THRU E-51 (TYPICAL).

3x5 EPB
STUD & CAP

TO RELOCATED PHONE BOOTH

TMK:3-9-07:08
(C&C)

WORK TO BE DONE BY HARBORS DIV.

TMK:3-9-07:08
(STATE OF HAWAII)

MAUNALUA BAY SERVICE EQUIPMENT

TMK:3-9-07:34
(STATE OF HAWAII)

TRUE NORTH
SCALE: 1" = 20'

APPROVED:

HAWAIIAN ELECTRIC COMPANY,	6/28/93 DATE
HAWAIIAN TELEPHONE COMPANY,	6/2/93 DATE
OCEANIC CABLEVISION,	9-16-93 DATE
CHRONICLE CABLEVISION,	9-20-93 DATE

DATE	REVISION
	C.O. #2
6/30/93	C.O. #1
1/20/93	REVISED DKT SECTION

SCALE IN FEET:
20' 10' 0' 20' 40'

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

DEXTER S. YEE
REGISTERED PROFESSIONAL ENGINEER
No. 5496-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-16 OF 62 SHEETS

"AS-BUILT"

C.O. ADD. 238

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	233	340

N 7800 W 4200

W 4000

N 7600

TRUE NORTH
SCALE: 1" = 20'

℄ STA. 241+60

EMH #16 (7'x16')
STA. 243+~~10~~ 30

3x5EPB

EXISTING METER

2x4CHPB

℄ STA. 247+25

℄ "A"

℄ "B"

℄ "C"

TMH #12 (5'x10')
STA. 242+60

MATCH LINE

MATCH LINE

p228(R) p229(R) p230(R) p231(R)

STREET LIGHTS SHOWN
FOR CLARITY ONLY.
FOR STREET LIGHTING LOCATION AND
CIRCUITING SEE DWG'S E-37
THRU E-51 (TYPICAL).

EXISTING CIVIL DEFENSE
SIREN

HECO TO INSTALL
277/480V TO 240V STEP
DOWN TRANFORMER
BEFORE EXIST. METERING
EQUIPMENT.

N 7400

W 4000

N 7600

W 4400

N 7400

APPROVED:

HAWAIIAN ELECTRIC COMPANY,	DATE 6/18/93
HAWAIIAN TELEPHONE COMPANY,	DATE 6/2/93
OCEANIC CABLEVISION,	DATE 9-16-93
CHRONICLE CABLEVISION,	DATE 9-20-93

DATE	REVISION
6/30/93	C.O. #1

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

DEXTER S. YEE
REGISTERED PROFESSIONAL ENGINEER
No. 5496-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SCALE IN FEET:
20' 10' 0' 20' 40'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-17 OF 62 SHEETS

"AS-BUILT"

C.O. 239

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	240	340

EXIST. S.L.
EXIST. F.H.
EXIST. E.P.B.
EXIST. XFMR.

CONSTRUCT 5'x5' CONC. PAD FOR ELECT. METER/TRANSFORMER ENCLOSURES. (SEE SHT. C.O. 276S-1 AFTER INSTALLATION REMOVE EXIST. TRANSFORMER & REVISE EASEMENT LOCATION (6'x7') TO NEW METER TRANSFORMER LOCATION.

KEAHOLE STREET

SAWCUT A.C. PAV'T.

EXISTING HECO VAULT (6'x11'EHH) PENETRATE EXISTING HECO VAULT WITH NEW ELECTRIC DUCTS INTERCEPT (2) EXISTING 12KV, 750MCM CIRCUITS

TMK:3-9-17:16

TMK:3-9-17:11

TRUE NORTH
SCALE: 1" = 20'

SWITCH PAD

℄ STA. 247+25

4x6EPB
2x4CHPB

EMH #17 (7'x16')
STA. 248+35

EMH #17A (6'x11')
STA. 248+20

TMH #13 (5'x10')
STA. 247+90

℄ "A"
℄ "C"

3x5EPB

MATCH LINE

MATCH LINE

℄ STA. 252+50

EXISTING EPB

EXISTING EPB

EXISTING HECO PULLBOX

TO EXISTING UTILITY POLE

2x4CHPB

STREET LIGHTS SHOWN FOR CLARITY ONLY. FOR STREET LIGHTING LOCATION AND CIRCUITING SEE DWG'S E-37 THRU E-51 (TYPICAL).

1-3" CABLE TV DUCTS TO RISER UP EXISTING UTILITY POLE PER HECO & CATV REQUIREMENTS

TMK:3-9-07:11

N 7400 W 3600
N 7400 W 3400
N 7200
N 7000
W 4000
N 7200 W 4000

	C.O. #2
6/30/93	C.O. #1
1/20/93	REVISED DUCT SECTION
DATE	REVISION

APPROVED:

HAWAIIAN ELECTRIC COMPANY, 6/18/93 DATE

HAWAIIAN TELEPHONE COMPANY, 6/2/93 DATE

OCEANIC CABLEVISION, 9-16-93 DATE

CHRONICLE CABLEVISION, 9-20-93 DATE

SCALE IN FEET:
20' 10' 0' 20' 40'

DEXTER S. YEE
REGISTERED PROFESSIONAL ENGINEER
No. 5496-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

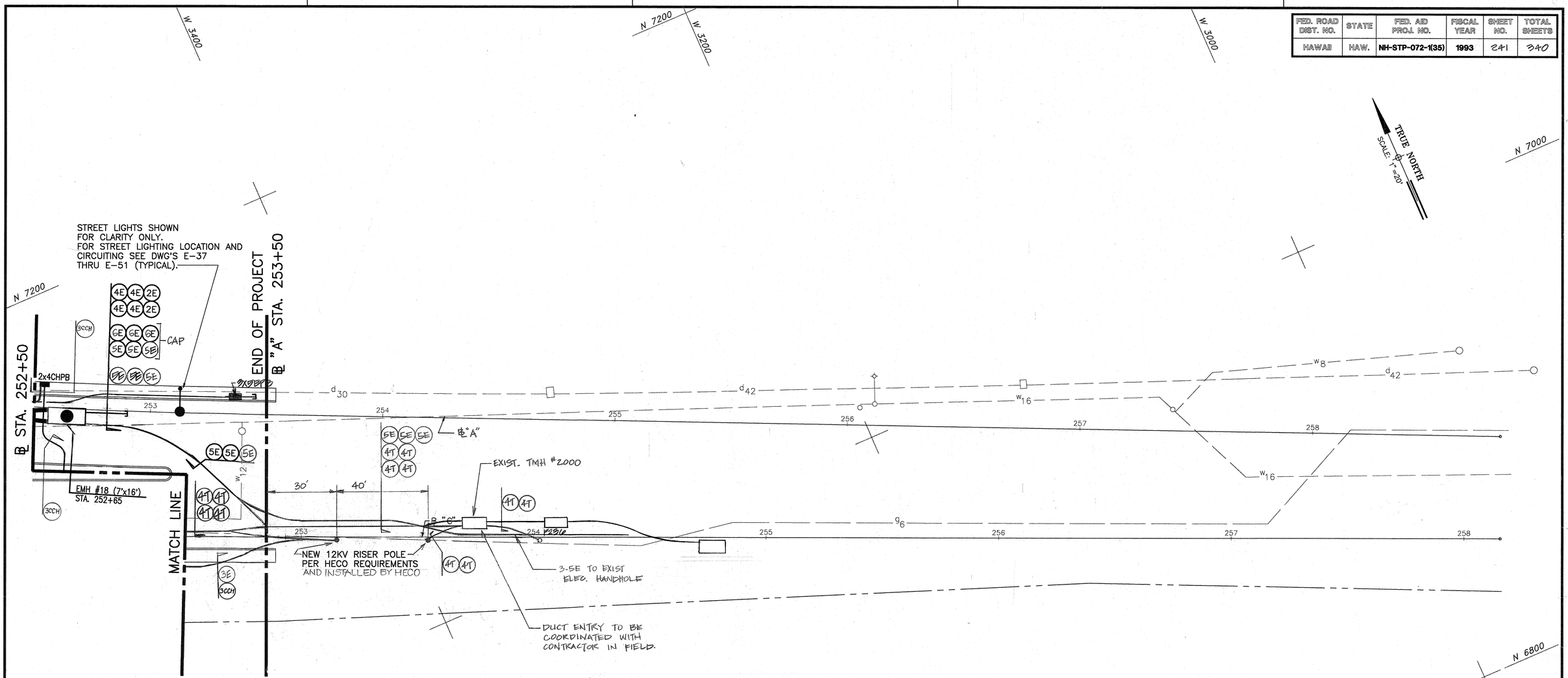
SHEET No. E-18 OF 62 SHEETS

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

"AS-BUILT"

C.O. ADD. 240

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	241	340



APPROVED:

HAWAIIAN ELECTRIC COMPANY,	6/18/93 DATE
HAWAIIAN TELEPHONE COMPANY,	6/21/93 DATE
OCEANIC CABLEVISION,	9-16-93 DATE
CHRONICLE CABLEVISION,	9-20-93 DATE

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

SCALE IN FEET:
20' 10' 0' 20' 40'

DEXTER S. YEE
REGISTERED PROFESSIONAL ENGINEER
No. 5496-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

DATE	REVISION
	C.O.#2
6/30/93	C.O.#1

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 1"=20' DATE: 10/1/92

SHEET No. E-19 OF 62 SHEETS

"AS-BUILT"

C.O. 241

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-072-1(85)	1993	242	340

E. HALEMAUMAU ST.

BEGIN PROJECT ℄ "A" STA. 177+20

EXIST. EMH ℄ STA. 177+30 (7½ 8'-6" RT.) 6'x 19'x 6'-6" DEEP

TRUE NORTH SCALE: 1"=20'

℄ STA. 182+00 MATCH LINE

℄ "A"

℄ "B"

℄ "C"

ELECTRICAL DUCTS

TELEPHONE DUCTS

EXIST. W24

NEW W16

EXIST. G4 (TO BE ABAND.)

BEGIN PROJECT STA. 177+20

EXISTING EMH STA. 177+30

TELEPHONE DUCTS

ELECTRICAL DUCTS

APPROX. FINISH GRADE ALONG DUCTLINES

NEW P24

NEW W6

20' V.C.

60' V.C.

179+00

MATCH LINE ℄ STA. 182+00

SCALES: HORIZ: 1"=20'
VERT: 1"=4'

DATE	REVISION
6/30/93	C.O. # 1

APPROVED: _____ DATE: 7/2/93
CHIEF, ~~DIV. OF~~ WASTEWATER MGMT.
(FOR EFFECT ON SEWERS ONLY)

APPROVED BY:

HAWAIIAN ELECTRIC CO. — 6/18/93 DATE

HAWAIIAN TELEPHONE CO. — 6/2/93 DATE

OCEANIC CABLEVISION — 6/16/93 DATE

CHESTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5494-E HAWAII, U.S.A.

DAIL RHEE REGISTERED PROFESSIONAL ENGINEER No. 1915-C HAWAII, U.S.A.

SURVEY PLOTTED BY — DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

ORIGINAL PLAN — NOTE BOOK — No.

177 178 179 180+00 181 182

SHEET No. E-20 OF 62 SHEETS

C.O. 242

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-072-1(65)	1993	243	340

TMH #1
℄ STA. 182+65 (9' 3"-2" RT.)
5' x 10' x 6'-6" DEEP

SWITCH PAD

EMH #2
℄ "A" STA. 183+25 (9' 8'-6" RT.)
6' x 14' x 6'-6" DEEP

EMH #3
℄ "A" STA. 187+20 (9' 8'-6" RT.)
7' x 16' x 8'-6" DEEP

EMH #1
℄ "A" STA. 182+20 (9' 8'-6" RT.)
7' x 16' x 6'-6" DEEP

TELEPHONE DUCTS

ELECTRICAL DUCTS

EXIST. G8 (TO BE ABAND.)

℄ "A"

℄ "C"

MATCH LINE ℄ STA. 182+00

MATCH LINE ℄ STA. 188+00

TRUE NORTH SCALE: 1"=20'

182 183 184 185+00 186 187

10 5 0

MATCH LINE ℄ STA. 182+00

EMH #1 ℄ "A" 182+20

T.M.H. #1 ℄ "A" 182+65

EMH #2 ℄ "A" 183+25

40'

PIVC 2.8

EVC 2.8

EVC 2.0

APPROX. FINISH GRADE ALONG DUCTLINES

NEW D24

EXIST. W16

NEW D18

EXIST. WATER LAT.

NEW W6

EXIST. GAS LAT.

EXIST. WATER LAT.

NEW W4

EXIST. WATER LAT.

TELEPHONE DUCTS

EXIST. G8

EXIST. S6

EXIST. S10

ELECTRICAL DUCT

TELEPHONE DUCTS

2-5"C & 2-4"C TO BYPASS EMH #1

FOR PROFILE ON DUCTS TO SWITCH PAD, SEE SHEET 2487-1

(-) 1.4

(-) 0.7

(-) 1.4

EMH #3 ℄ "A" 187+20

40'

PVC 1.5

MVC 2.3

EVC 2.3

MATCH LINE ℄ STA. 188+00

TELEPHONE DUCTS

ELECTRIC DUCTS

EVC (-) 3.2

MVC (-) 3.4

EVC (-) 2.9

(-) 2.6

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN

NOTE BOOK

No.

SCALES: HORIZ.: 1"=20'
VERT: 1"=4'

6/30/93	C.O. #1
DATE	REVISION

APPROVED: DATE: 7/2/93
CHIEF ~~DIV. OF~~ WASTEWATER MGMT.
(FOR EFFECT ON SEWERS ONLY)

APPROVED BY:

HAWAIIAN ELECTRIC CO. — 6/11/93 DATE

HAWAIIAN TELEPHONE CO. — 6/2/93 DATE

OCEANIC CABLEVISION CO. — 9-16-93 DATE

DEXTER & YEE REGISTERED PROFESSIONAL ENGINEER No. 5896-E HAWAII, U.S.A.

DALE RHEE REGISTERED PROFESSIONAL ENGINEER No. 19156 HAWAII, U.S.A.

SHEET No. E-21 OF 62 SHEETS

C.O. 243

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-072-1(55)	1993	244	340

TMH #2
℄ "B" STA. 188+10 (31'-2" RT.)
5'x 10'x 6'-6" DEEP

EMH #4
℄ "A" STA. 192+20 (358'-6" RT.)
7'x 6'x 8'-6" DEEP

TRUE NORTH
SCALE: 1"= 20'

TMH #3
℄ "A" STA. 193+20 (33'-2" RT.)
5'x 10'x 10'-0" DEEP

MATCH LINE ℄ STA. 188+00

MATCH LINE ℄ STA. 194+00

TELEPHONE DUCTS

ELECTRICAL DUCTS

EXIST W6T

EXIST. W6 (TO BE ABAND.)

℄ "C"

PAIKO DRIVE

P.I.V.C. 2.3

B.V.C. 2.3

E.V.C. 2.2

20 V.C.

MATCH LINE ℄ STA. 188+00

TMH #2 ℄ STA. 188+10

188+22

188+32

14" (T)

188+42

APPROX. FINISH GRADE ALONG DUCTLINES

EXIST. WATER LAT.

EXIST. S8 (TO BE ABAND)

EXIST. GAS LAT.

EXIST. SEWER LAT. (TO BE ABAND.)

NEW D36

NON-BONDING FELT MATL.

NEW S8

NEW D18

ELECTRICAL DUCTS

EMH #4 ℄ STA. 192+20

EXIST. WATER LAT.

EXIST. WATER LAT.

TMH #3 ℄ STA. 193+20

EXIST. WATER LAT.

NEW W6

EXIST S6 (TO BE ABAND.)

EXIST. S6

MATCH LINE ℄ STA. 194+00

TELEPHONE DUCTS

(+) 4.2

(+) 4.8

SCALES: HORIZ. 1" = 20
VERT. 1" = 4'

	C.O. #2
6/30/93	C.O. #1
DATE	REVISION

APPROVED: G. Uyeno
CHIEF, DIV. OF WASTEWATER MGMT. (FOR EFFECT ON SEWERS ONLY)
DATE: 7/2/93

APPROVED BY:

HAWAIIAN ELECTRIC CO.	6/18/93 DATE
HAWAIIAN TELEPHONE CO.	6/2/93 DATE
OCEANIC CABLEVISION	9/16/93 DATE

DEXTER S. YEE — REGISTERED PROFESSIONAL ENGINEER — No. 5494-E — HAWAII, U.S.A.

DALE RHEE — REGISTERED PROFESSIONAL ENGINEER — No. 1915-C — HAWAII, U.S.A.

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

SHEET No. E-22 OF 62 SHEETS

C.O. 244

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-072-1(85)	1993	245	340

EMH #5
℄ "A" STA. 197+45 (75 8'-6" RT)
7'x16'x8'-6" DEEP

TMH #4
℄ STA. 198+15 (75 3'-2" RT)
5'x10'x9'-0" DEEP

TRUE NORTH
SCALE: 1"=20'

TELEPHONE DUCTS

ELECTRICAL DUCTS

℄ STA. 194+00

MATCH LINE

℄ STA. 200+00

MATCH LINE

NEW W16

EXIST. W16

EXIST. G4 (TO BE ABAND.)

NEW W16

EXIST. W12

℄ "A"

℄ "C"

MATCH LINE ℄ STA. 194+00

APPROX. FINISH GRADE ALONG DUCTLINES

NEW 6'x2' BOX CULVERT

NEW 6'x2' BOX CULVERT

NEW W6

EXIST. S6

EXIST. S6

EXIST. S6

EXIST. S6

EXIST. S6

TELEPHONE DUCTS

EMH #5 ℄ STA. 197+45

TMH #4 ℄ STA. 198+15

NEW W4

EXIST. S6

TELEPHONE DUCTS

ELECTRICAL DUCTS

EXIST. S6

W6

P.I.V.C.

E.V.C.

B.V.C.

30' V.C.

MATCH LINE ℄ STA. 200+00

0.0%

3.8%

10

5

0

194

195+00

196

197

198

199

SCALES: HORIZ. 1" = 20'
VERT. 1" = 4'

6/30/93	C.O. #1
DATE	REVISION

APPROVED: _____ DATE: 7/2/93
CHIEF, DIV. OF WASTEWATER MGMT.
(FOR EFFECT ON SEWERS ONLY)

APPROVED BY:

HAWAIIAN ELECTRIC CO. — 6/18/93 DATE

HAWAIIAN TELEPHONE CO. — 6/2/93 DATE

OCEANIC CABLEVISION — 9-16-93 DATE

DEXTER T. YAP — REGISTERED PROFESSIONAL ENGINEER — No. 5496-E — HAWAII, U.S.A.

DAIL RHEE — REGISTERED PROFESSIONAL ENGINEER — No. 1915-C — HAWAII, U.S.A.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

SHEET No. E-33 OF 62 SHEETS

C.O. 245

245

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ETR-072-1(85)	1993	246	340

TMH #5
@ "A" STA. 202+35 (36 3'-0" RT)
5'x10'x8'-6" DEEP

EMH #6
@ "A" STA. 202+65 (36 3'-0" RT)
7'x16'x8'-6" DEEP

TRUE NORTH
SCALE: 1"=20'

TELEPHONE DUCTS

ELECTRICAL DUCTS

EXIST. G4 (TO BE ABAND.)

@ STA. 200+00

@ STA. 206+00

MATCH LINE

MATCH LINE @ STA. 200+00

MATCH LINE @ STA. 206+00

NEW W6

NON BONDING FELT MATL.

EXIST. 5/8

TELEPHONE DUCTS

0.0%

ELECTRICAL DUCTS

TMH #5 @ "A" 202+35

EMH #6 @ "A" 202+65

F.I.V.O. 2.6

B.V.O. 0.8

E.V.C. (-) 1.0

20 V.C.

203+02

203+12

203+32

203+22

(-) 0.5

1.7

B.V.O. 2.6

E.V.C. 0.8

F.I.V.O. (-) 1.0

APPROX FINISH GRADE ALONG DUCTLINES

EXIST. 5/8

NON-BONDING FELT MATL.

ELECTRICAL DUCTS

205+68

F.I.V.O. (-) 1.0

SCALES: HORIZ. 1" = 20'
VERT. 1" = 4'

DATE	REVISION
6/30/93	C.O. #1

APPROVED: _____ DATE: 7/2/93
CHIEF, DIV. OF WASTEWATER MGMT.
(FOR EFFECT ON SEWERS ONLY)

DEXTER S. YEE
REGISTERED PROFESSIONAL ENGINEER
NO. 3496-E
HAWAII, U.S.A.

APPROVED BY:

HAWAIIAN ELECTRIC CO.	6/18/93 DATE
HAWAIIAN TELEPHONE CO.	6/17/93 DATE
OCEANIC CABLEVISION	9/16/93 DATE

DAIL RHEE
REGISTERED PROFESSIONAL ENGINEER
No. 1915-C
HAWAII, U.S.A.

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

200+00 201 202 203 204 205+00

SHEET No. E-24 OF 62 SHEETS

C.O. 246

246

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-072 (6)	1993	247	340

TMH #6
℄ "A" STA. 207+~~55~~30 (⅌ 3'-2" RT.)
5' x 10'-1" x 6'-0" DEEP

EMH #7
℄ "A" STA. 207 +~~55~~80 (⅌ 8'-10" RT.)
10' x 20' x 8'-6" DEEP

EMH #8
℄ "A" STA. 210+40 (⅌ 8'-10" RT.)
10' x 20' x 8'-6" DEEP

TRUE NORTH
SCALE: 1" = 20'

MOOMUKU PL.

TELEPHONE DUCTS

℄ "A"

MATCH LINE ℄ STA. 206+00

EXIST. G4 (TO BE ABANDON)

℄ "C"

ELECTRICAL DUCTS SEE SHT. 252-S1 ALSO

MATCH LINE ℄ STA. 212+00

D24 D18 W24 W16 W12 W8 G4 G8 I2 I2½ 1'-0"

206 207 208 209 210 210+00 211

MATCH LINE ℄ STA. 206+00

TMH #6 STA. 207+00

EMH #7 ℄ "A" 207+50

TELEPHONE DUCT

EXIST. WATER LAT.

EX. 8"ϕ

ELECTRICAL DUCTS

(-) 1.0

(-) 9.5

STUB-OUT TO MOOMUKU PL.

EXIST. 8'x4' BOX CULVERT

EXIST. W8

EXIST. WATER LAT.

EXIST. S8

TELEPHONE DUCTS

ELECTRICAL DUCTS

(-) 7.0 P.V.C.

(-) 5.0 E.V.C.

208+25 E.V.C. (-) 1.7

APPROX. FINISH GRADE ALONG DUCTLINES

EMH #8 ℄ "A" STA. 210+40

NEW W6

EXIST. S8

EXIST. WATER LAT.

EXIST. GAS LAT.

EXIST. WATER LAT.

EXIST. SEWER LAT.

EXIST. WATER LAT.

EXIST. S8

2-5" ϕ TO EMH #8A (SEE SHT. 253-1)

2-4½" TELEPHONE DUCTS

ELECTRICAL DUCTS

MATCH LINE ℄ STA. 212+00

10 5 0

206 207 208 209 210+00 211

SCALES: HORIZ. 1" = 20'
VERT. 1" = 4'

DATE	REVISION
6/30/93	C.O. # 1

APPROVED: G. Ceppos DATE: 7/2/93
CHIEF, ~~DIV. OF~~ WASTEWATER MGMT.
(FOR EFFECT ON SEWERS ONLY)

APPROVED BY:
HAWAIIAN ELECTRIC CO. — 6/18/93 DATE
HAWAIIAN TELEPHONE CO. — 6/2/93 DATE
OCEANIC CABLEVISION — 9-16-93 DATE

DEXTER S. YEE REGIS. PROFESSIONAL ENGINEER ~~No. 8496-E~~ HAWAII, U.S.A.

DAIL RHEE REGISTERED PROFESSIONAL ENGINEER ~~No. 1915-C~~ HAWAII, U.S.A.

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

SHEET No. ~~B-25~~ OF 62 SHEETS 212

"AS-BUILT"

C.O. 247

Check

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-072-1(65)	1993	248	340

TRUE NORTH
SCALE: 1"=20'

EMH #9
℄ "A" STA. 215+00 (9'-6" RT)
7'x16'x8'-6" DEEP

TELEPHONE DUCTS

ELECTRICAL DUCTS

EXIST. W24

EXIST. G4 (TO BE ABAND.)

ELECTRICAL DUCTS

TMH #7
℄ "A" STA. 212+20 (9'-2" RT)
5'x10'x9'-0" DEEP

EMH #8A
℄ "C" STA. 212+17
6'x11'x8'x6" DEEP

TMH #8
℄ "A" STA. 217+20 (9'-2" RT)
5'x10'x8'-6" DEEP

EMH #10
℄ "C" STA. 216+70
(0/S ~~8'-6" LT.~~)1'-0" LT.
7'x16'x8'-6" DEEP

EMH #9A
℄ "C" STA. 217+60
(9'-~~1'-0" LT.~~)1'-0" LT.
6'x11'x8'-6" DEEP

~~SWITCH PAD~~

SWITCH PAD

MATCH LINE ℄ STA. 212+00

MATCH LINE ℄ STA. 218+25

PAEOKI DRIVE

EXIST. G4

EXIST. W8

EXIST. W12

EXIST. I1

EXIST. I2

EXIST. I2½

212 213 214 215 216 217 218

MATCH LINE ℄ STA. 212+00

TMH #7
℄ "A" 212+20

212+35 F.I.V.O. (-) 5.5

212+44 B.V.O. (-) 7.7

212+74 E.V.O. (-) 8.7

20' V.C.

212+90 E.V.O. (-) 6.1

212+64 F.I.V.O. (-) 8.7

212+90 E.V.O. (-) 5.5

(-) 6.9

NEW W6

EXIST. W24

EXIST. S6

213+48 20' V.C.

213+68 F.I.V.O. (-) 8.7

213+88 E.V.O. (-) 8.7

E.V.O. (-) 8.2

214+48 F.I.V.O. (-) 4.4

EMH #9
℄ "A" 215+00

APPROX. FINISH GRADE ALONG ℄ "A"

FOR CONTINUATION SEE SHT 2489-1 MATCH LINE 215+15 (℄ "A")

214+88 20' V.C.

214+68 E.V.O. (-) 4.9

214+88 E.V.O. (-) 4.4

(-) 4.2

2.44%

11.03%

2.00

+5.0%

ELECTRICAL DUCTS

TELEPHONE DUCTS

EXIST. S6 @ ℄ "A"

EXIST. S6 @ ℄ "A"

T.M.H. #8
℄ "A" 217+20

217+35 B.V.O. (-) 4.7

217+48 E.V.O. (-) 4.5

10' V.C.

217+48 F.I.V.O. (-) 4.7

(-) 5.3

FOR CONTINUATION SEE SHEET 2489-1 MATCH LINE 218+25 (℄ "A")

MATCH LINE ℄ STA. 218+25

SCALES: HORIZ = 1" = 20'
VERT : 1" = 4'

6/30/93	C.O. # 1
DATE	REVISION

APPROVED: _____ 7/2/93
CHIEF, ~~DIV. OF~~ WASTEWATER MGMT. (FOR EFFECT ON SEWERS ONLY)

APPROVED BY:

_____ HAWAIIAN ELECTRIC CO.	6/18/93 DATE
_____ HAWAIIAN TELEPHONE CO.	6/2/93 DATE
_____ OCEANIC CABLEVISION	9-16-93 DATE

DEXTER S. YEE — REGISTERED PROFESSIONAL ENGINEER — No. 5496-E — HAWAII, U.S.A.

CARL RHEE — REGISTERED PROFESSIONAL ENGINEER — No. 1915-C — HAWAII, U.S.A.

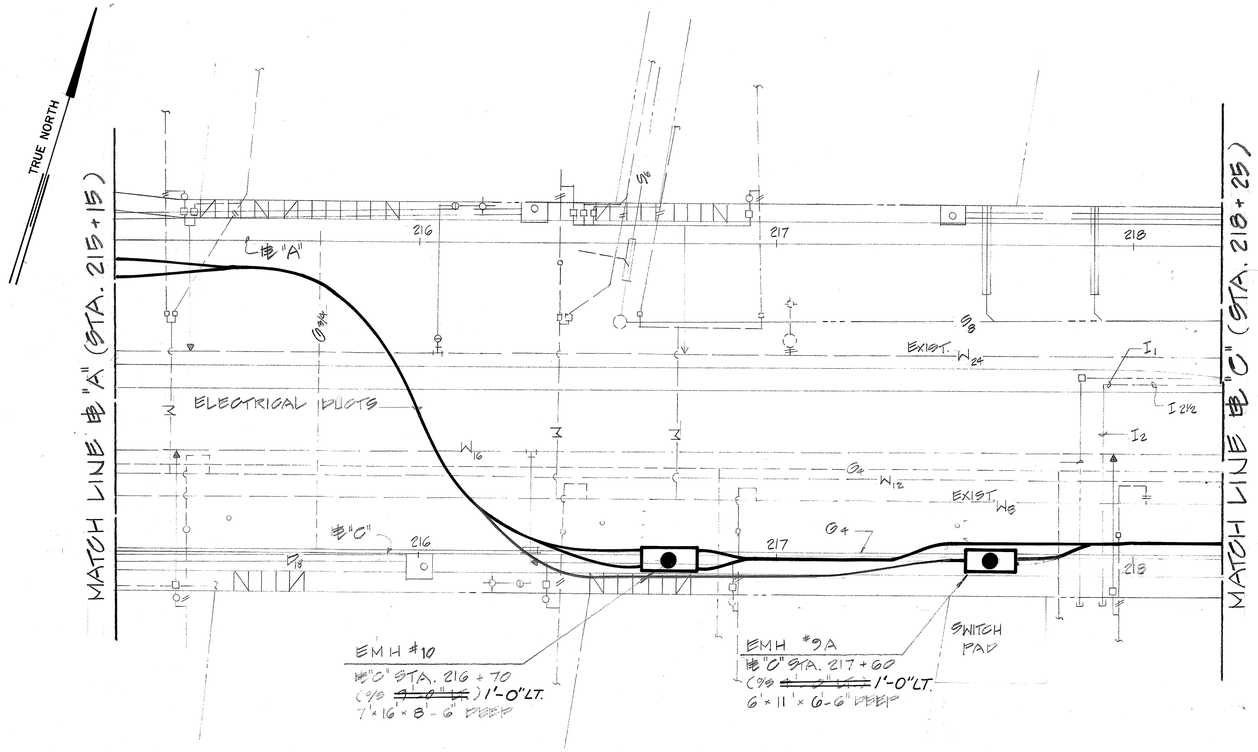
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
No.	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

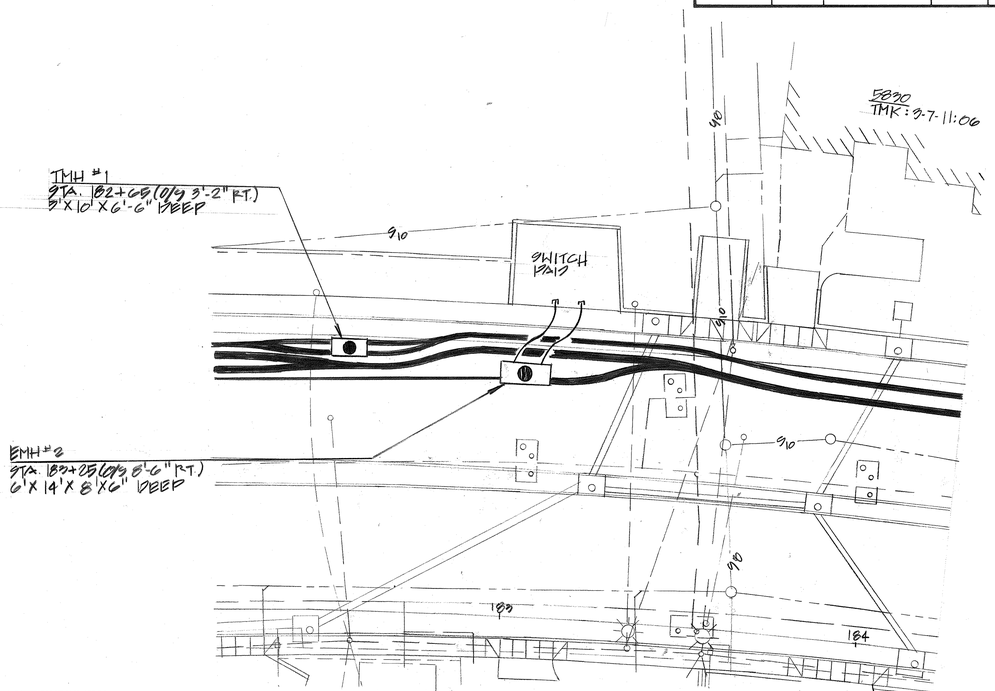
SHEET No. B-86 OF 62 SHEETS

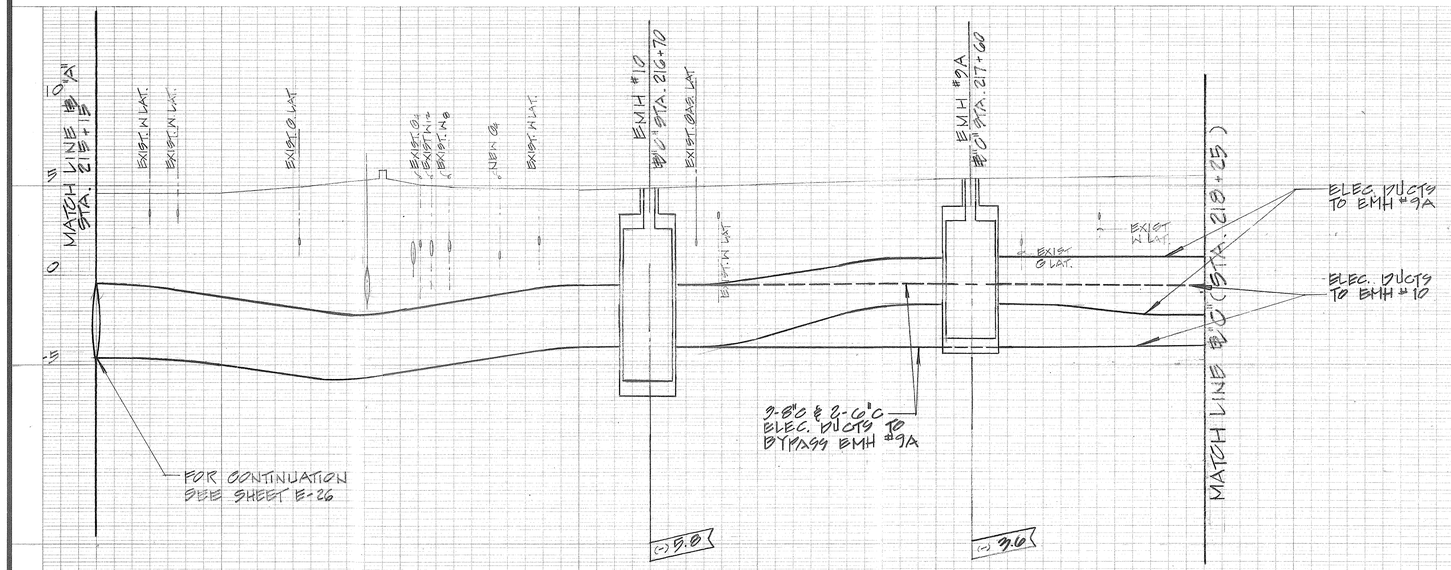
"AS-BUILT"

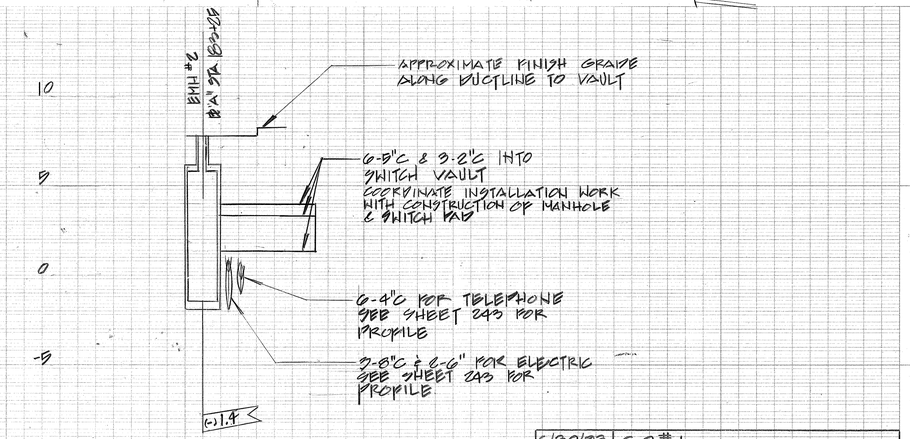
C.O. 248

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-135	1993	C.O. 248 S-1	340









SCALES: HORIZ. = 1" = 20'
VERT. = 1" = 4'

DATE	REVISION
6/30/93	C.O. # 1

APPROVED: G. Cayman DATE: 7/2/93
CHIEF, DIV. OF WASTEWATER MGMT.
(FOR EFFECT ON SEWERS ONLY)

DEXTER S. YEE — REGISTERED PROFESSIONAL ENGINEER — No. 5496-E — HAWAII, U.S.A.

DAIL RHEE — REGISTERED PROFESSIONAL ENGINEER — No. 1915-C — HAWAII, U.S.A.

APPROVED BY:
Ref Pg Suzanne Schmidt 6/18/93
HAWAIIAN ELECTRIC CO. DATE

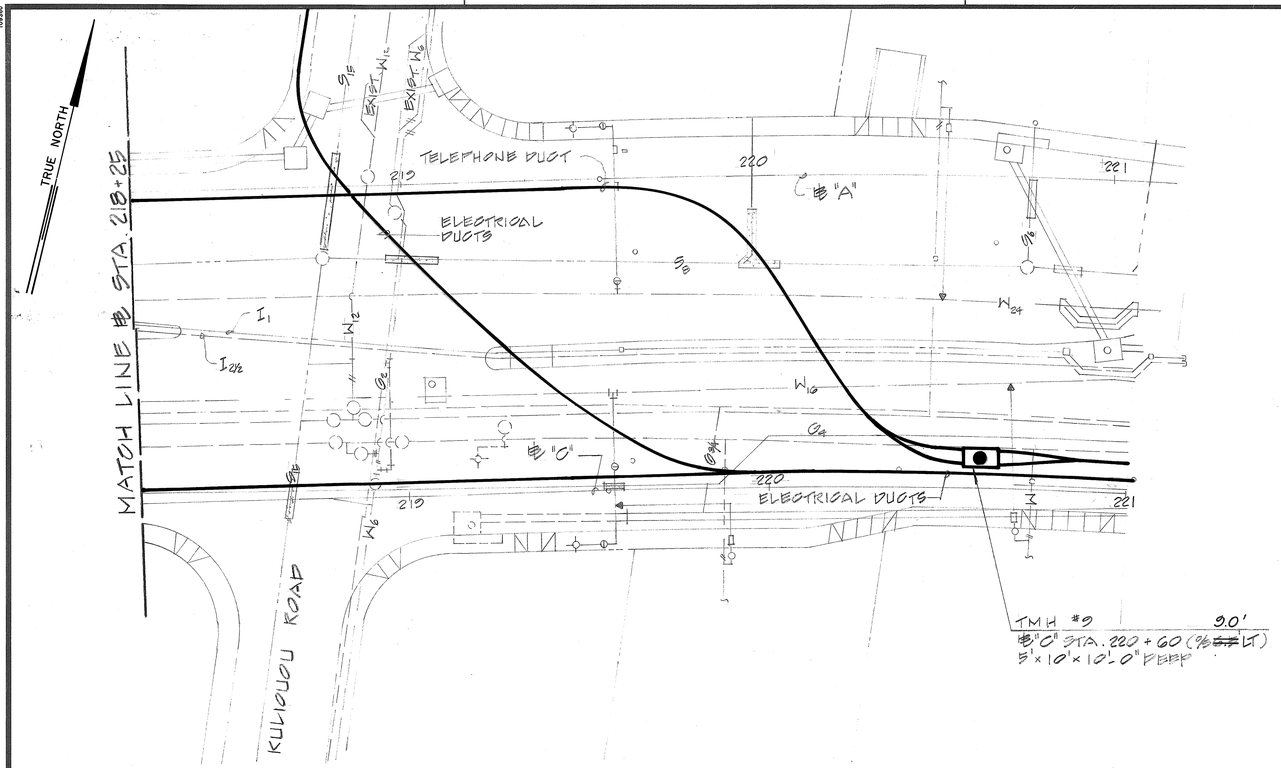
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

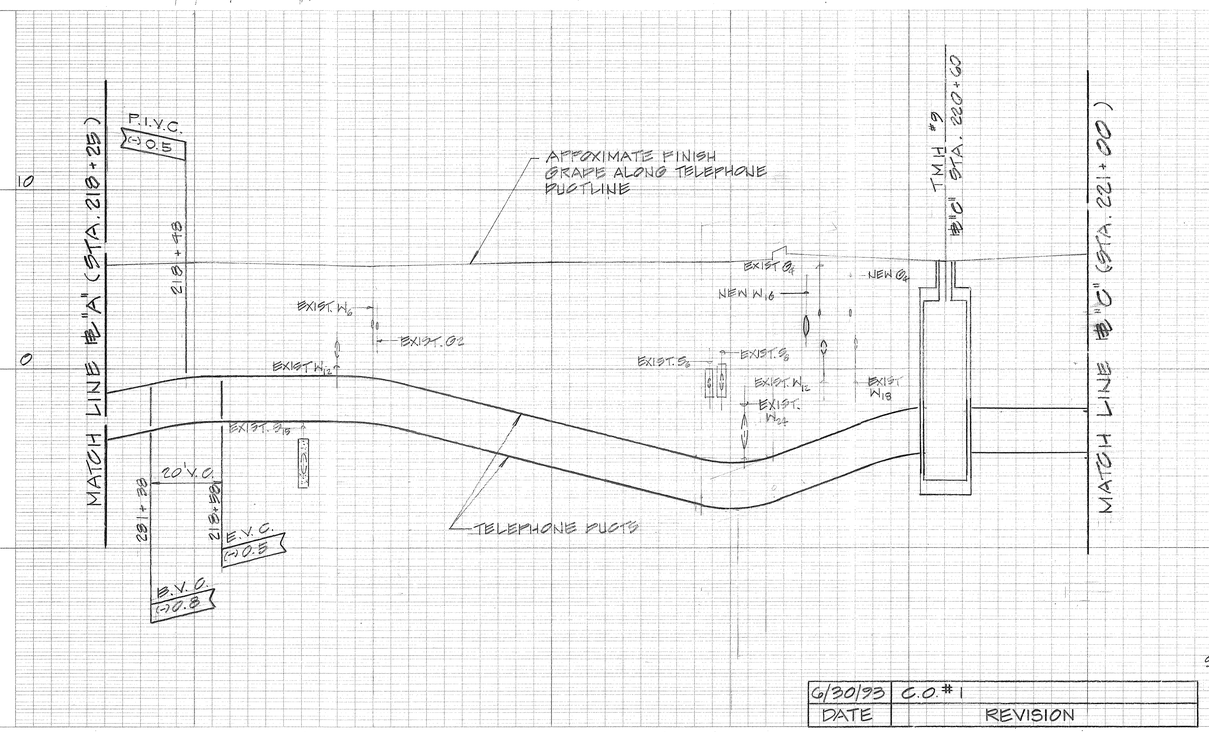
SHEET No. OF SHEETS

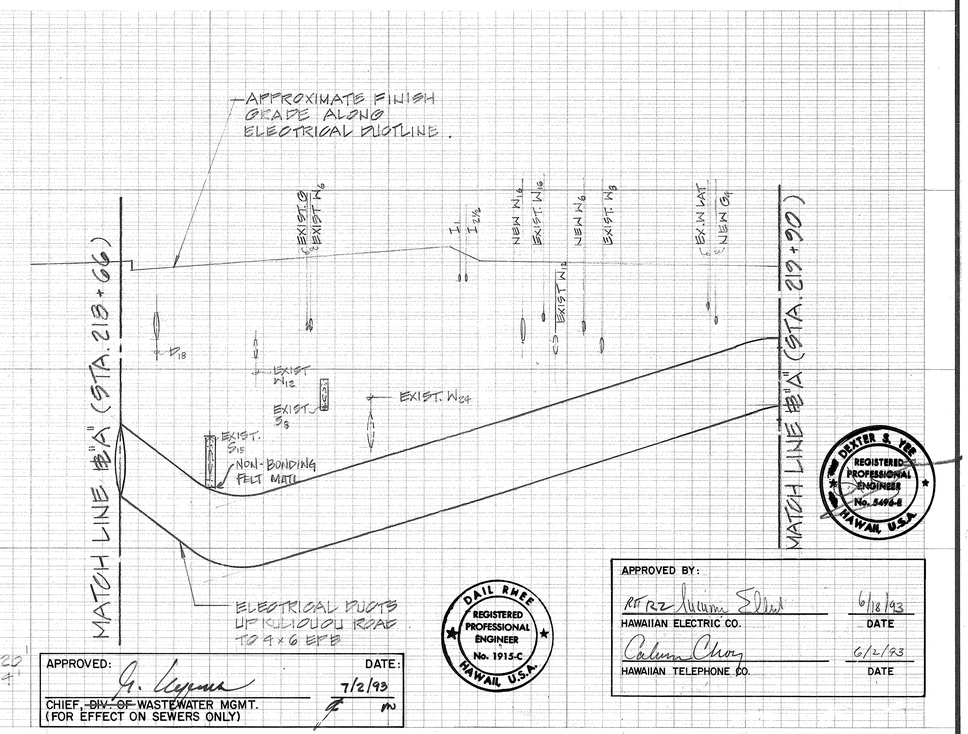
"AS-BUILT"

C.O. 248S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)			







SCALES: HORIZ. 1" = 20'
VERT. 1" = 4'

6/30/93	C.O.# 1
DATE	REVISION

APPROVED: G. Lyons DATE: 7/2/93
CHIEF, ~~DIV. OF~~ WASTEWATER MGMT.
(FOR EFFECT ON SEWERS ONLY)

DAIL RHEE REGISTERED PROFESSIONAL ENGINEER No. 1915-C HAWAII, U.S.A.

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5476-E HAWAII, U.S.A.

APPROVED BY:

RT Rz Hawaiian Electric Co. — 6/18/93 DATE

Hawaiian Telephone Co. — 6/2/93 DATE

ORIGINAL PLAN
NOTE BOOK
No.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

SHEET No. OF SHEETS

"AS-BUILT"

C.O. 248S-2

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-072-1(65)	1993	249	340

TRUE NORTH

MATCH LINE ℄ STA. 218+25

TELEPHONE DUCT

ELECTRICAL DUCTS

EXIST. CI

EXIST. MH

KULIOUOU ROAD

℄ "C"

ELECTRICAL DUCTS

EXIST. G4 (TO BE ABAND.)

TMH #9
℄ "C" STA. 220+60 (9' S 6.5' LT.)
5'x10'x10'-0" DEEP

EMH #11
℄ "C" STA. 221+65 (9' S 4.5' LT.)
7'x16'x8'-6" DEEP

ELECTRICAL DUCT

TELEPHONE DUCTS

MATCH LINE ℄ STA. 224+30

APPROX. FINISH GRADE ALONG ℄ "C"

EMH #11 ℄ "C" 221+65

EXIST. WATER LAT.

EXIST. GAS LAT.

EXIST. GAS

NEW W6

NEW W16

ELEC. DUCTS

TELEPHONE DUCTS

EXIST. DRAIN DITCH

KULIOUOU BRIDGE

EXIST. S15

FOR CONTINUATION, SEE SHEET 248-2 MATCH LINE 219+90 (℄ "C")

FOR CONTINUATION, SEE SHEET 248-2 MATCH LINE 221+00 (℄ "C")

20' V.C.

(-)10%

(-)4.0

(-)5.2 EVC

(-)8.0 PVC

(-)8.0 EVC

(-)9.0 PVC

221+92

222+12

222+32

222+50

222+40

SCALES: HORIZ. 1" = 20'
VERT. 1" = 4'

6/30/93	C.O. #1
DATE	REVISION

APPROVED: _____ DATE 7/2/93
CHIEF, DIV. OF WASTEWATER MGMT.
(FOR EFFECT ON SEWERS ONLY)

APPROVED BY:

HAWAIIAN ELECTRIC CO. — 6/18/93 DATE

HAWAIIAN TELEPHONE CO. — 6/2/93 DATE

OCEANIC CABLEVISION — 9-16-93 DATE

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 6998 HAWAII, U.S.A.

DAIL RHEE REGISTERED PROFESSIONAL ENGINEER No. 1915-C HAWAII, U.S.A.

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

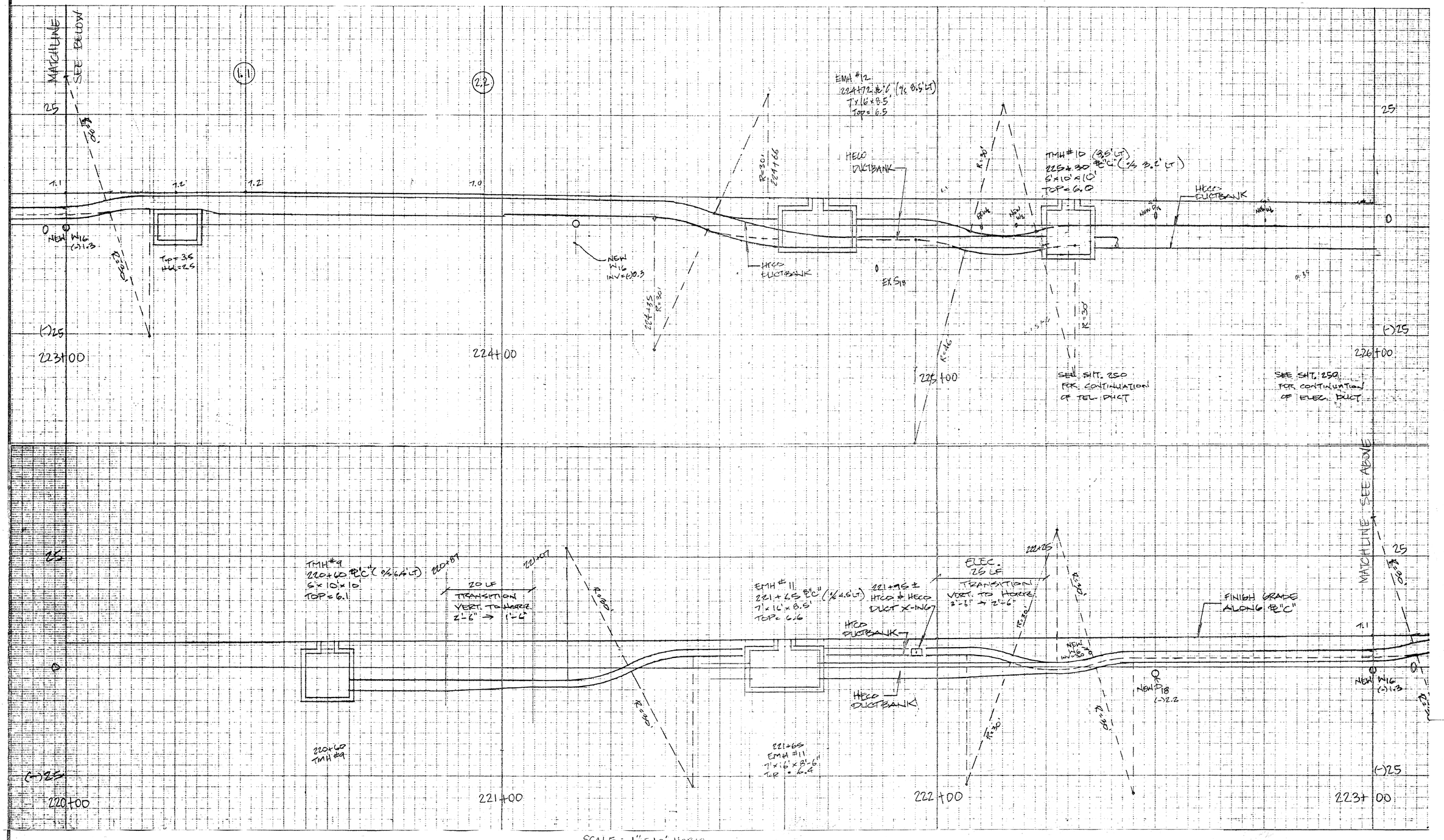
SHEET No. E-27 OF 62 SHEETS

C.O. 249

10/7/94

Δ 12/5/92

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993		340



SCALE : 1" = 10' HORIZ.
1" = 10' VERT.

SHEET No. OF SHEETS

C.O. 249S-1

ORIGINAL PLAN
NOTE BOOK
No.

SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-072-1(65)	1993	250	340

HH-

℄ STA. 224+30

MATCH LINE

EMH #12
℄"C" STA. 224+72
(0'S 8'-6" LT.)
7'x16'x8'-6" DEEP

TMH #10
℄"C" STA. 225+30
(0'S 3'-2" LT.)
5'x10'x10'-0" DEEP

BAY ST.

℄ "A" EXIST G4 (TO BE ABAND.)

ELECTRICAL DUCT

TMH #10A
℄"C" STA. 227+50
(0'S 31'-0" RT.)

EMH #13
℄ "A" STA. 228+90
(0'S 8'-6" LT.)

7'x16'x8'-6" DEEP

TELEPHONE DUCT

℄ STA. 230+00

MATCH LINE

TRUE NORTH

APPROX. FINISH GRADE ALONG DUCTLINES

MATCH LINE ℄ STA. 224+30

NEW W16

NEW W16

NEW W8

EX W8

NEW W8

NEW W8

EX W24

G24

NEW W16

EXIST W12

EXIST W8

EXIST G24

EXIST W24

FOR CONTINUATION, SEE SHT. E-33

ELECTRICAL DUCTS

TMH #10 ℄"C" STA 225+30

EMH #13 ℄ "A" STA. 228+90

MATCH LINE ℄ STA. 230+00

FROM STA. 227+00 APPROX. FINISH GRADE ALONG ELEC. DUCTLINE

FOR CONTINUATION OF TEL. DUCTS SEE SHT. B

FOR CONTINUATION OF ELEC. DUCTS SEE SHT. B

EX. S18

TELEPHONE DUCTS

(-)6.0

(-)3.2

10
5
0

224 | 225+00 | 226 | 227 | 228 | 229 | 230+00

SCALES: HORIZ: 1" = 20'
VERT: 1" = 4'

DATE	REVISION
6/30/93	C.O. #1

APPROVED: _____ DATE: 7/2/93
CHIEF, ~~DIV. OF~~ WASTEWATER MGMT.
(FOR EFFECT ON SEWERS ONLY)

APPROVED BY:

RITTER ELECTRIC SIGNATURE — 6/18/93
HAWAIIAN ELECTRIC CO. — DATE

Calvin Chow — 6/2/93
HAWAIIAN TELEPHONE CO. — DATE

Dennis Murphy — 9-16-93
OCEANIC CABLEVISION — DATE

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5496-E HAWAII, U.S.A.

DAIL RHEE REGISTERED PROFESSIONAL ENGINEER No. 1915-C HAWAII, U.S.A.

SURVEY PLOTTED BY _____ DATE
DRAWN BY _____
TRACED BY _____
DESIGNED BY _____
QUANTITIES BY _____
CHECKED BY _____

ORIGINAL PLAN
NOTE BOOK
No. _____

SHEET No. E-28 OF 62 SHEETS

C.O. 250

PH 250

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-072-1(85)	1993	251	340

EMH #14
℄ "A" STA. 232+40 (% 8'-6" RT)
7' x 16' x 8'-6" DEEP

KAWAIHAE ST.

TRUE NORTH

NEW R/W

℄ STA. 235+90

℄ "A"

ELECTRICAL DUCTS

EXIST R/W

TMH #11
℄ "A" STA. 230+45 (% 8'-2" RT)
5' x 10' x 6'-0" DEEP

EXIST. D30
(TO BE ABAND.)

EXIST R/W

℄ "C"

EXIST. EMH

MATCH LINE ℄ STA. 230+00

TELEPHONE DUCTS

EXISTING TMH

NEW R/W

EXISTING TMH

MATCH LINE

EMH #14
℄ "A" STA. 232+40

APPROX FINISH GRADE ALONG ELECTRICAL DUCTLINE

EXIST EMH

EXIST. WAT. LAT.

NEW W6

EXIST. W6

EX. H18

EXIST. D30

ELECTRICAL DUCTS (IN BRIDGE)

NEW D30

MATCH LINE ℄ STA. 235+20

FOR CONTINUATION, SEE SHEET 2529-1

SCALES: HORIZ. 1" = 20'
VERT. 1" = 4'

DATE	REVISION
6/30/93	C.O. #1

APPROVED:

HAWAIIAN ELECTRIC CO. — DATE 6/18/93

HAWAIIAN TELEPHONE CO. — DATE 6/2/93

DAIL RHEE — REGISTERED PROFESSIONAL ENGINEER — No. 1913-C — HAWAII, U.S.A.

DEXTER S. YEE — REGISTERED PROFESSIONAL ENGINEER — No. 5496-E — HAWAII, U.S.A.

ORIGINAL PLAN

NOTE BOOK

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
No.

230+00 231 232 233 234 235+00

SHEET No. E-89 OF 62 SHEETS

C.O. 251

PH 3 251

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STR-072-1(85)	1993	252	340

EMH # 15
℄ "A" STA. 237+70 (95.8'-6" T)
10'X20'X 6'-6" DEEP HH

5X10 TMH

EMH # 15A
℄ STA. 240+60 (95.0' RT)
6'X14'X 6'-6" DEEP

TO EXIST. EMH

HAWAII KAI DR.

3X5 TPB

NH -

℄ STA. 241+60

TRUE NORTH

℄ STA. 235+90

236 237 238 239 240 241

℄ "A"

EXISTING TMH

ELECTRICAL DUCTS

MATCH LINE

TELEPHONE DUCTS

℄ "C"

3X5 TPB

MATCH LINE ℄ STA. 235+90

2-3"C FROM EXIST. EMH FOR CONTINUATION, SEE SHT 2529-1; MATCH LINE 237+55 (℄ "A")

3

℄ "A" STA. 237+70

APPROX. FINISH GRADE ALONG ELEC. DUCTLINE

EMH #15A ℄ "A" STA. 240+60

5X10 TMH (BEYOND)

NEW 6'-4"C TELEPHONE DUCTS

EX W24

EX G4

NEW D30

(-)0.5'

3-8"C, 2-6"C & 1-5"C TO BYPASS EMH #15A

(-)5.0'

MATCH LINE ℄ STA. 241+60

SCALES: HORIZ. 1" = 20'
VERT 1" = 4'

6/30/93	C.O. # 1
DATE	REVISION

APPROVED:

HAWAIIAN ELECTRICAL CO. — DATE 6/18/93

HAWAIIAN TELEPHONE CO. — DATE 6/2/93

DAIL RHEE REGISTERED PROFESSIONAL ENGINEER No. 1915-C HAWAII, U.S.A.

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5496-E HAWAII, U.S.A.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

SHEET No. E-30 OF 62 SHEETS

C.O. 252

PH-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				

EMH #15
℄"A" STA. 237+70 (9% 8'-6" LT.)
10' x 20' x 6'-6" DEEP

TRUE NORTH

MATCH LINE ℄"C" (STA. 239+70)

MATCH LINE ℄"A" (STA. 237+89)

EXIST. EMH

237

236

237

D30

D18

W12

H16

T

E

EMH #8
℄"A" STA. 210+25 (9% 8'-10" RT.)
10' x 20' x 8'-6" DEEP

MATCH LINE ℄"A" (STA. 210+00)

210

211

212

213

D24

D18

W24

W16

G24

G16

G8

I2

I2½

I-0

ELECTRICAL DUCTS

THH #7
℄"A" STA. 212+20 (9% 3'-2" RT.)
5' x 10' x 5'-0" DEEP

℄"A"

℄"C"

EMH #8A
℄"C" STA. 212+17
6' x 11' x 6'-6" DEEP

PACIFIC DRIVE

EXIST. POLE

TRUE NORTH

EXIST EMH
℄"C" (STA. 239+70)

I2½

I2

EXIST. W24

NEW D30

236+74 ℄"C"
237+24 ℄"A"

EMH #15
℄"A" STA. 237+70

10

0

ELECTRICAL DUCTS

FOR CONTINUATION SEE SHEET 252

MATCH LINE ℄"A" (STA. 237+89)

MATCH LINE ℄"A" (STA. 210+00)

EMH #8
℄"A" STA. 210+25

EXIST. W LAT.

EXIST. S. LAT.

EX. D LAT.

EX. N LAT.

EXIST. S8

EX. W24

NEW W16

EX. G8

EX. W12

NEW H16

EX. H16

EXIST. W8

NEW H16

EXIST. S8

EXIST S10

EMH #8A
℄"C" STA. 212+17

ELECTRICAL DUCT

FOR CONTINUATION SEE SHEET 247

SCALES: HORIZ. 1" = 20'
VERT. 1" = 4'

DESIGNED BY
DRAWN BY
TRACED BY
CHECKED BY
QUANTITIES BY
NOTE BOOK
SURVEY PLOTTED BY
DATE
NO.

APPROVED: G. Cayetano DATE: 7/2/93
CHIEF, ~~DIV. OF~~ WASTEWATER MGMT.
(FOR EFFECT ON SEWERS ONLY)

APPROVED BY:
HAWAIIAN ELECTRIC CO.
DATE 6/28/93

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 5496-E HAWAII, U.S.A.

DAIL RHEE REGISTERED PROFESSIONAL ENGINEER No. 1915-C HAWAII, U.S.A.

6/30/93	C.O.#1
DATE	REVISION

SHEET No. OF SHEETS

C.O. 252S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-078-1(6)	1993	253	340

NH-

℄ STA. 241+60

NEW R/W

EXIST. R/W

℄ "A"

EMH #16
℄ "A" STA. 243+30 (9'S 8'-6" RT.)
7'x16'x6'-6" DEEP

ELECTRICAL DUCTS

℄ STA. 247+25

TRUE NORTH

EXIST. W8

EXIST. W8

W16 (EXIST.)

MATCH LINE

TELEPHONE DUCTS

℄ "C"

W12

W6

TMH #12
℄ "C" STA. 242+60 (9'S 16'-0" LT.)
5'x10'x6'-0" DEEP

3x3 TYP

EXIST. R/W

MATCH LINE

242 243 244 245 246 247

MATCH LINE ℄ STA. 241+60

EMH #16
℄ "A" 243+10

APPROX. FINISH GRADE ALONG

NEW D18

(-) 4.7

ELECTRICAL DUCTS

NEW D18

MATCH LINE ℄ STA. 247+25

10
5
0

241 242 243 244 245+00 246 247

SCALES: HORIZ. 1"=20'
VERT. 1"=4'

DATE	REVISION
6/30/93	C.O. #1

APPROVED BY:

HAWAIIAN ELECTRIC CO. — 6/18/93 DATE

HAWAIIAN TELEPHONE CO. — 6/17/93 DATE

DAIL RHEE
REGISTERED PROFESSIONAL ENGINEER
No. 1915-C
HAWAII, U.S.A.

DEXTER S. YEE
REGISTERED PROFESSIONAL ENGINEER
No. 5496-E
HAWAII, U.S.A.

SHEET No. E-31 OF 62 SHEETS

"AS-BUILT"

C.O. 253

ORIGINAL PLAN

	DATE
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

NOTE BOOK

No.

PH-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-078-1(65) NH-	1993	254	340

EMH #17A
℄ "A" STA. 248+20
6'x11'x 6'6" DEEP
(0/S 10'-0" LT.)

SWITCH PAD.

EXIST. HECO VAULT

KEAHOLE ST.

EMH #18
℄ "A" STA. 252+65
~~(0/S 4'-6" RT.)~~
7'x6'x6'-6" DEEP

3x5 EPB

℄ STA. 247+25

ELECTRICAL DUCTS

EMH #17
℄ "A" STA. 248+35
(0/S 4'-6" RT.)
7'x16'x6'-6" DEEP

TELEPHONE DUCTS

MATCH LINE

3x5 TPB

TMH #13
℄ "C" STA. 247+90
(0/S ~~19'-6" LT.~~) 23'-6" LT.
5'x10'x6'-0" DEEP

TMH #14 (5'x10')
STA. 252+75

TRUE NORTH

NOTES:

1. 2-4"C TO EXIST. POLE #236
2. 2-4"C TO EXIST. POLE #235
3. 6-4"C STUB-OUT.

MATCH LINE @ STA. 247+25

APPROX. FINISH GRADE ALONG DUCTLINE

EXIST. D24

EXIST. D24 (BEYOND)

EXIST. G6

D18 (BEYOND)

EXIST. W12

UP KEAHOLE ST. TO EXIST. HECO VAULT

NEW D18

ELECTRICAL DUCTS

EMH #18
℄ "A" STA. 252+65

ELECTRICAL DUCTS TO EMH #17A

EMH #17A
℄ "A" STA. 248+20

EMH #17
℄ "A" STA. 248+35

3-8"C & 2-6"C TO BYPASS EMH #17A

ELECTRICAL DUCTS FROM EMH #17A

SCALES: HORIZ: 1" = 20'
VERT: 1" = 4'

DATE	REVISION
6/30/93	C.O. #1

APPROVED BY:

HAWAIIAN ELECTRIC CO. — 6/18/93

HAWAIIAN TELEPHONE CO. — 6/2/93

DAIL RHEE — REGISTERED PROFESSIONAL ENGINEER — No. 1913-C — HAWAII, U.S.A.

DEXTER S. YEE — REGISTERED PROFESSIONAL ENGINEER — No. 5496-E — HAWAII, U.S.A.

ORIGINAL PLAN

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

NOTE BOOK
No.

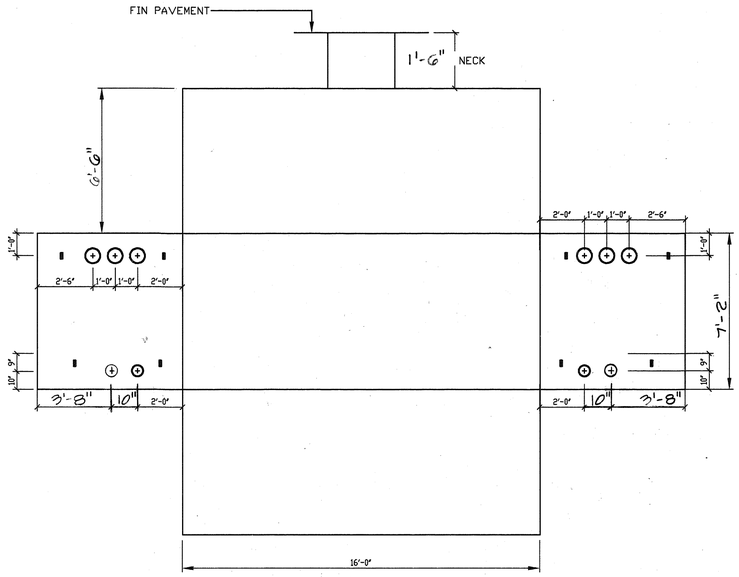
247 248 249 250+00 251 252

SHEET No. E32 OF 62 SHEETS

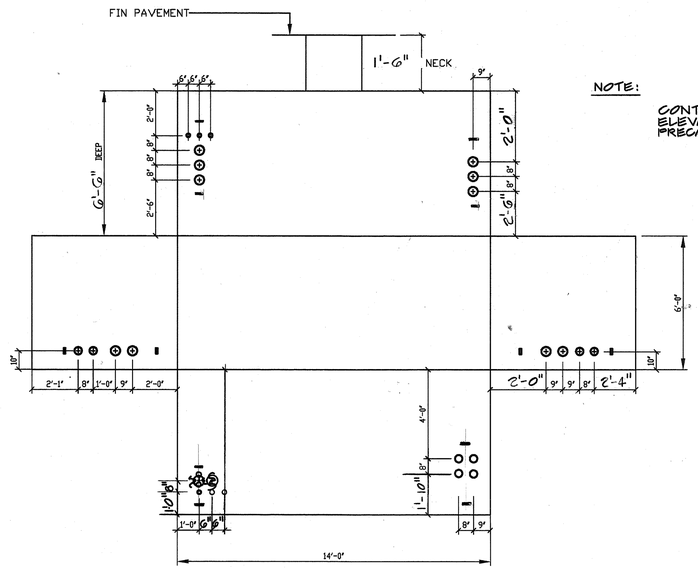
"AS-BUILT"

C.O. 254

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993		340

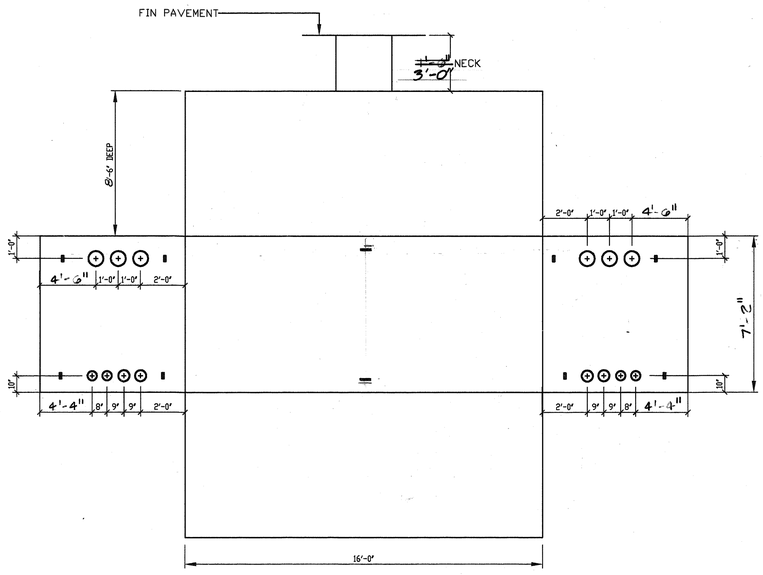


MANHOLE NO.1 DEVELOPMENT PLAN
7'-0" X 16'-0" X 6'-6" DEEP

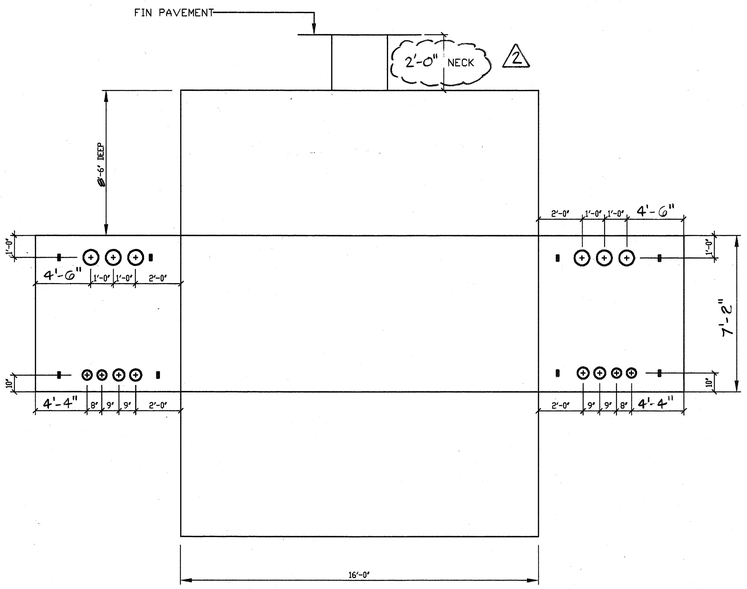


NOTE:
CONTRACTOR TO VERIFY FIELD ELEVATIONS W/HECO BEFORE PRECASTING EMH # 2

MANHOLE NO.2 DEVELOPMENT PLAN
6'-0" X 14'-0" X 6'-6" DEEP



MANHOLE NO.3 DEVELOPMENT PLAN
7'-0" X 16'-0" X 8'-6" DEEP



MANHOLE NO.4 DEVELOPMENT PLAN
7'-0" X 16'-0" X 8'-6" DEEP

APPROVED BY:

RTR RE [signature] 6/18/93
HAWAIIAN ELECTRIC CO DATE

	C.O. # 2
6/30/93	C.O. # 1
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALANIANAOLE HIGHWAY WIDENING PHASE 2
MANHOLE DEVELOPMENT – EMH #1, 2, 3 & 4
12KV UNDERGROUND

KALANIANAOLE HIGHWAY WIDENING
EAST HALEMAUMAU ST. TO KEAHOLE ST.
F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 3/8" = 1'-0" DATE: 10/1/92

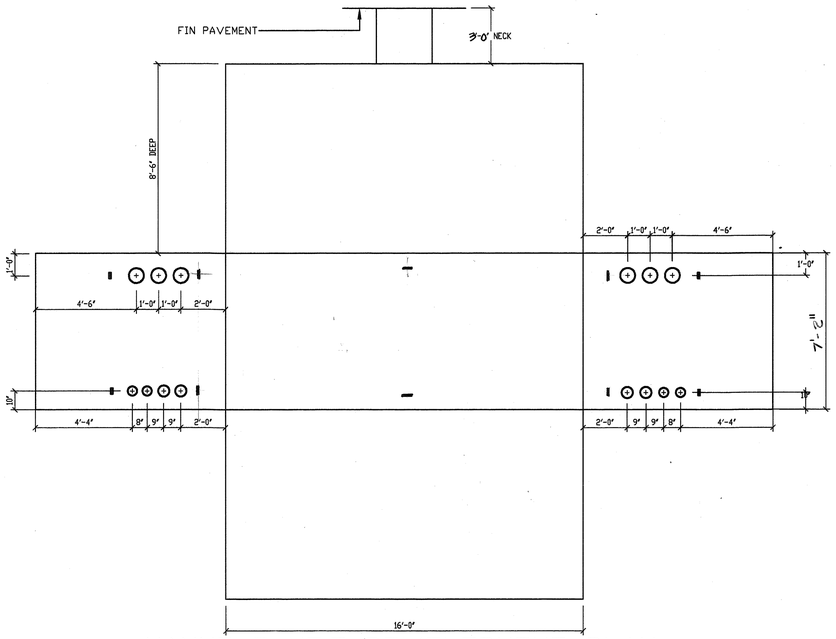
SHEET No. OF SHEETS

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

"AS-BUILT"

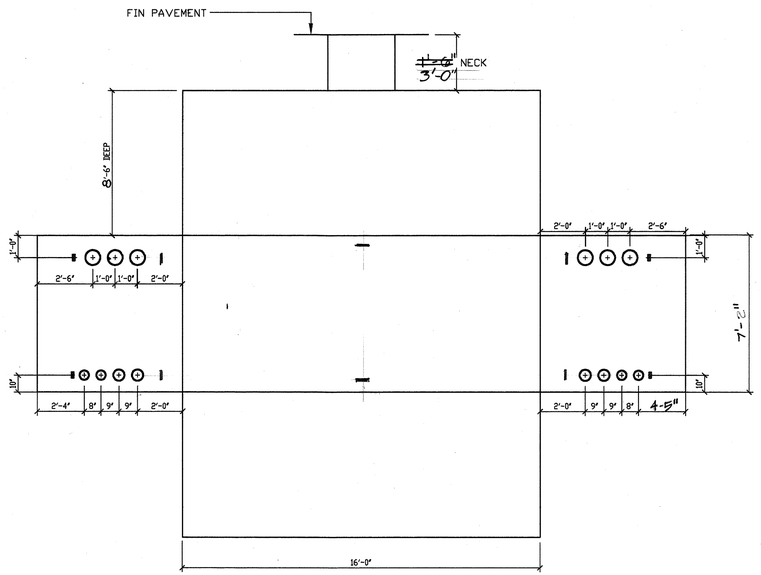
C.O. 254S - 1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993		340



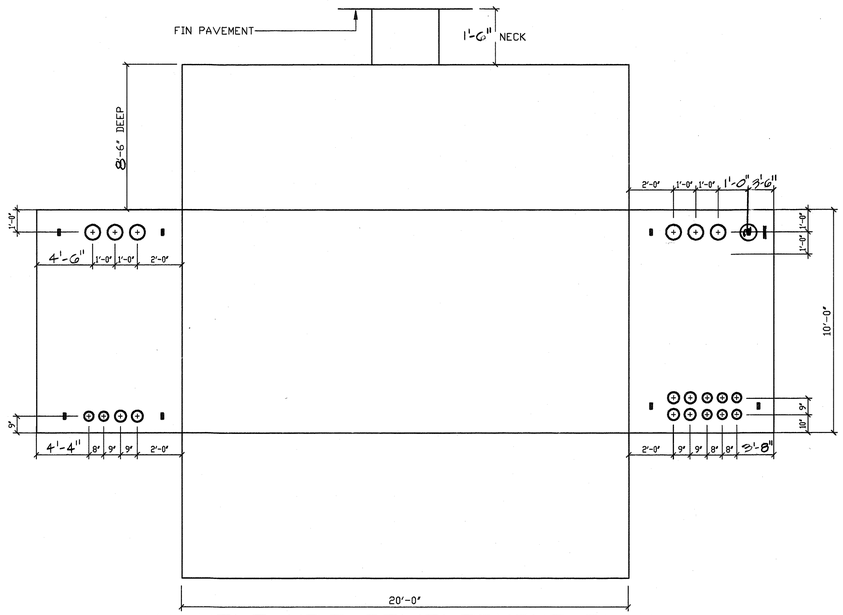
MANHOLE NO.5 DEVELOPMENT PLAN

7'-0" X 16'-0" X 8'-6" DEEP



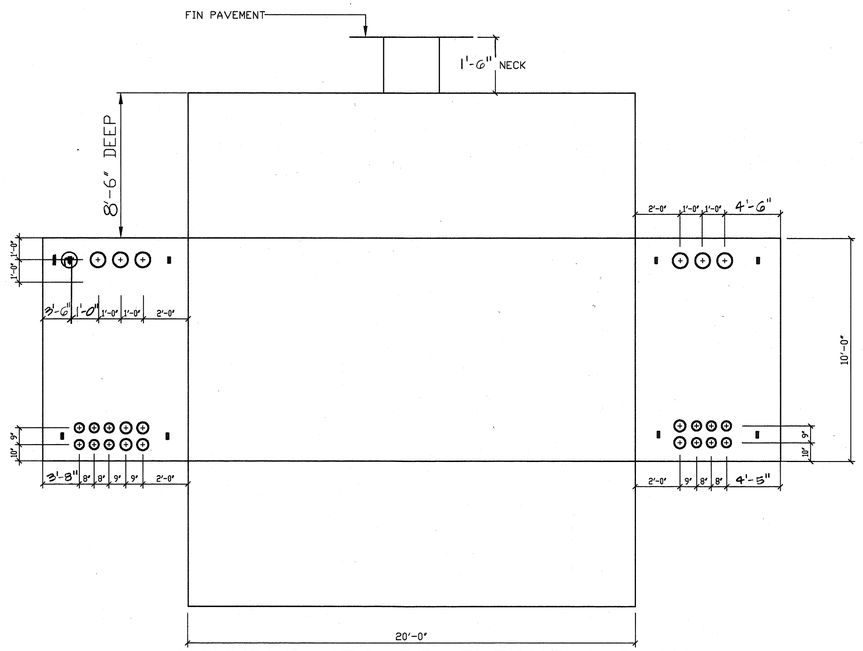
MANHOLE NO.6 DEVELOPMENT PLAN

7'-0" X 16'-0" X 8'-6" DEEP



MANHOLE NO.7 DEVELOPMENT PLAN

10'-0" X 20'-0" X 8'-6" DEEP



MANHOLE NO.8 DEVELOPMENT PLAN

10'-0" X 20'-0" X 8'-6" DEEP

APPROVED BY:

RD RZ Thomas Elliot
HAWAIIAN ELECTRIC CO. 6/18/93 DATE

DATE	REVISION
6/30/93	C.O.#1

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALANIANAOLE HIGHWAY WIDENING PHASE 2
MANHOLE DEVELOPMENT - EMH #5, 6, 7 & 8
12KV UNDERGROUND

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 3/8"=1'-0" DATE: 10/1/92

SHEET No. OF SHEETS

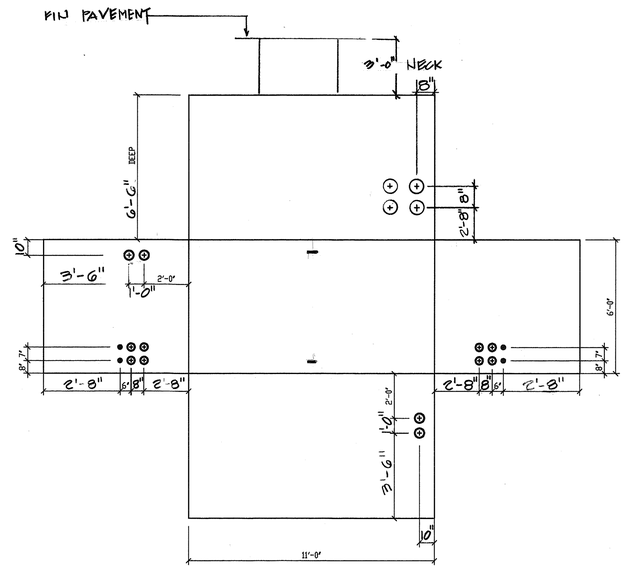
C.O. 254S-2

ORIGINAL PLAN
NOTE BOOK

SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGN BY
QUANTITIES BY
CHECKED BY
No.

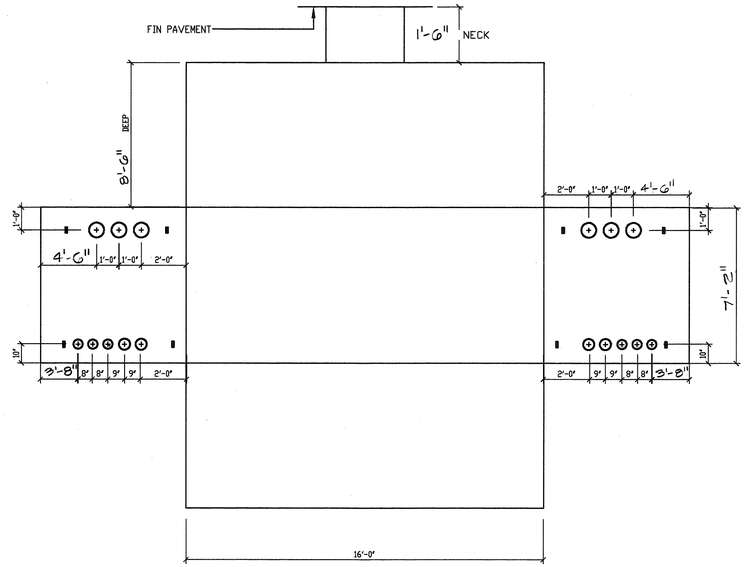
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993		340



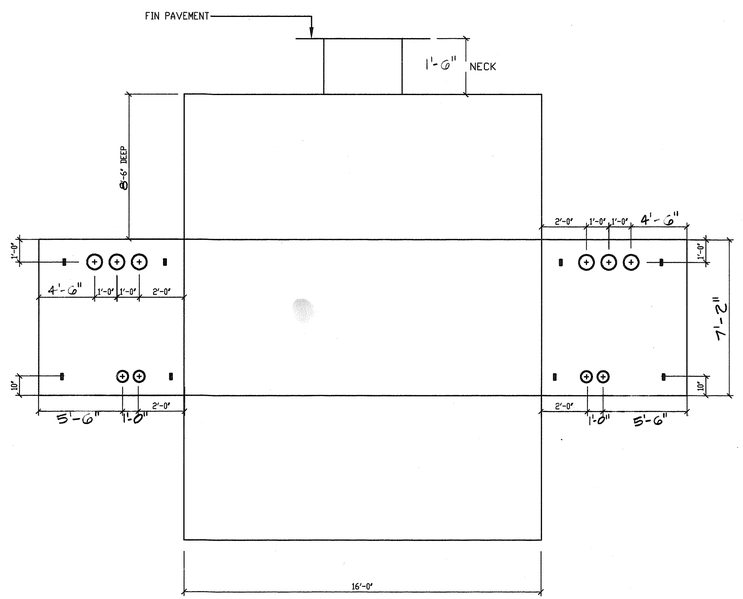
MANHOLE NO.8A DEVELOPMENT PLAN

6'-0" X 11'-0" X 6'-6" DEEP



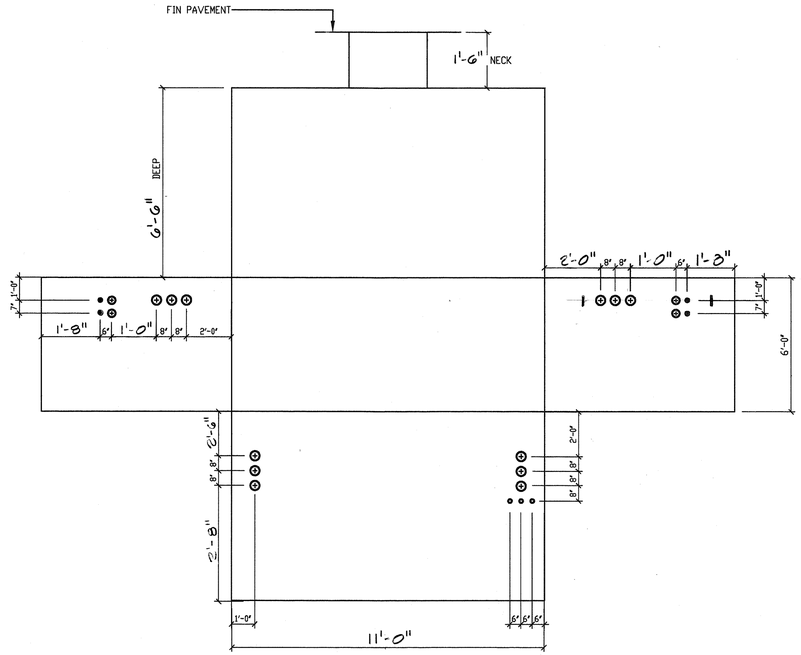
MANHOLE NO.9 DEVELOPMENT PLAN

7'-0", X 16'-0" X 8'-6 DEEP



MANHOLE NO.10 DEVELOPMENT PLAN

7'-0" X 16'-0" X 8'-6" DEEP



MANHOLE NO.9A DEVELOPMENT PLAN

6'-0" X 11'-0" X 6'-6" DEEP

ORIGINAL PLAN

NOTE BOOK

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
No.

APPROVED:

HAWAIIAN ELECTRIC COMPANY, 6/18/93 DATE

6/30/93	C.O.#1
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALANIANAOLE HIGHWAY WIDENING PHASE 2
MANHOLE DEVELOPMENT - EMH #8A, 9, 10 & 10A
12KV UNDERGROUND

KALANIANAOLE HIGHWAY WIDENING
EAST HALEMAUMAU ST. TO KEAHOLE ST.
F.A. PROJECT NO. NH-STP-072-1(35)

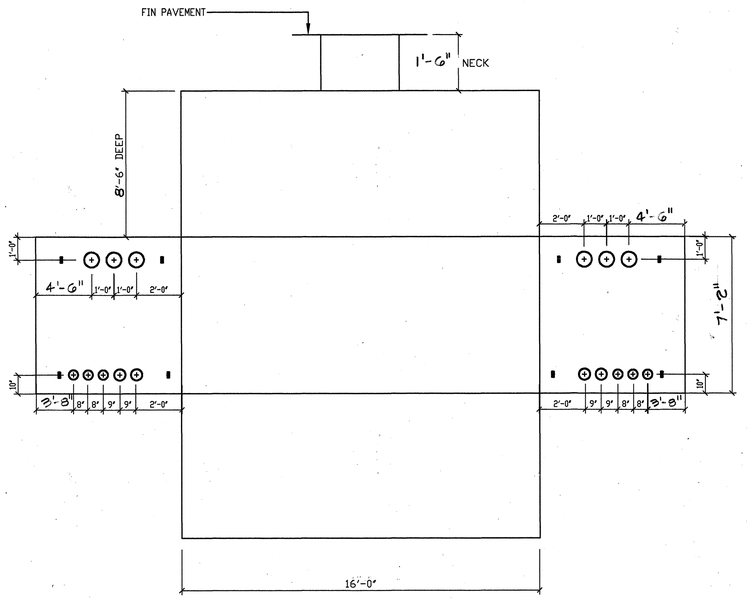
SCALE: 3/8"=1'-0" DATE: 10/1/92

SHEET No. OF SHEETS

"AS-BUILT"

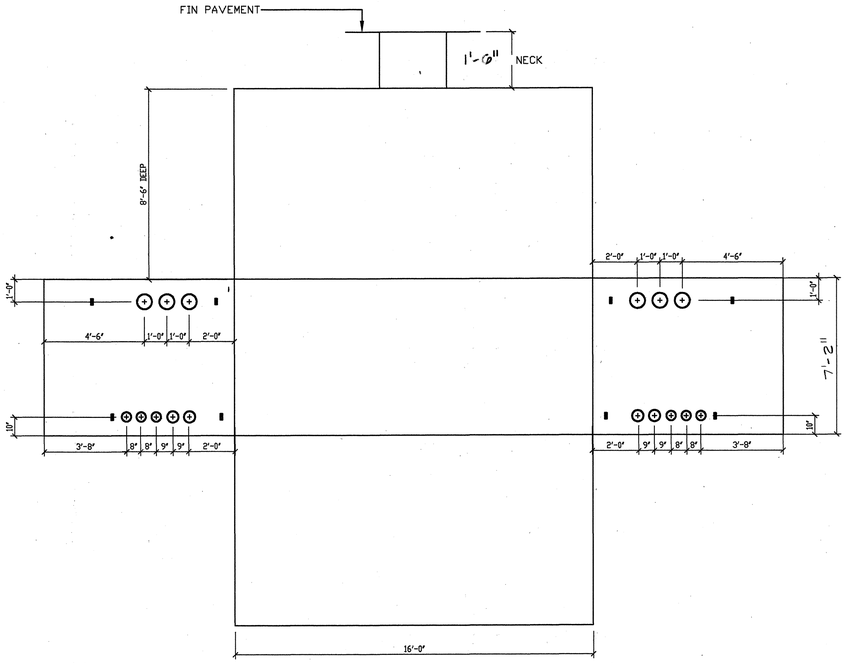
C.O. 254S-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993		340



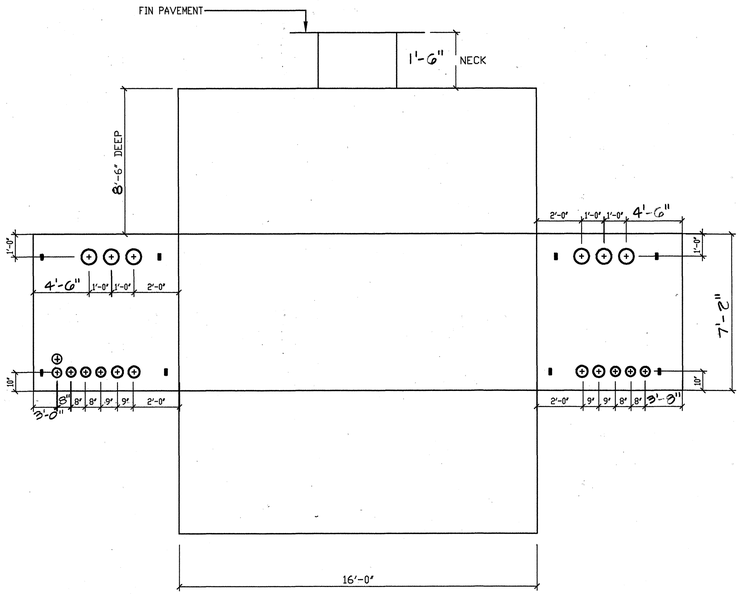
MANHOLE NO.11 DEVELOPMENT PLAN

7'-0" X 16'-0" X 8'-6" DEEP



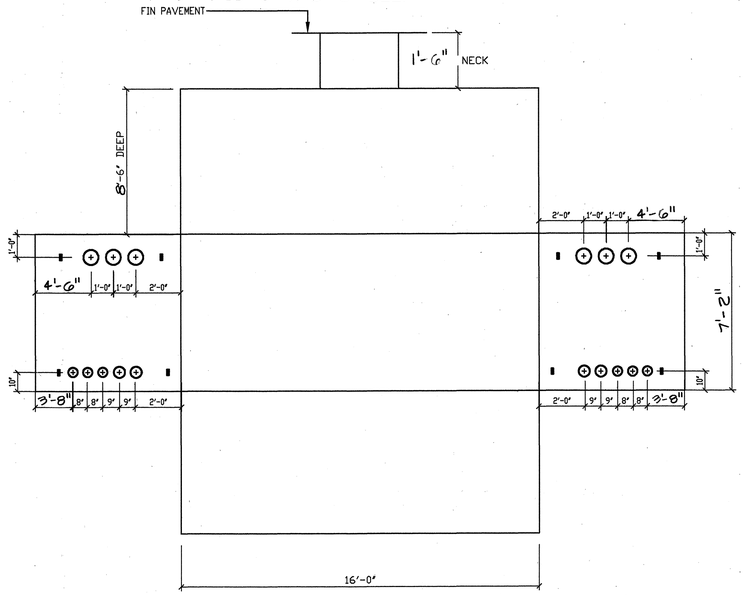
MANHOLE NO.12 DEVELOPMENT PLAN

7'-0" X 16'-0" X 8'-6" DEEP



MANHOLE NO.12A DEVELOPMENT PLAN

7'-0" X 16'-0" X 8'-6" DEEP



MANHOLE NO.13 DEVELOPMENT PLAN

7'-0" X 16'-0" X 8-6" DEEP

APPROVED BY:

ATTY [signature]
HAWAIIAN ELECTRIC CO

6/16/93
DATE

DATE	REVISION
6/30/93	C.O.#1

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALANIANAOLE HIGHWAY WIDENING PHASE 2
MANHOLE DEVELOPMENT – EMH #11, 12, 12A & 13
12KV UNDERGROUND

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 3/8"=1'-0" DATE: 10/1/92

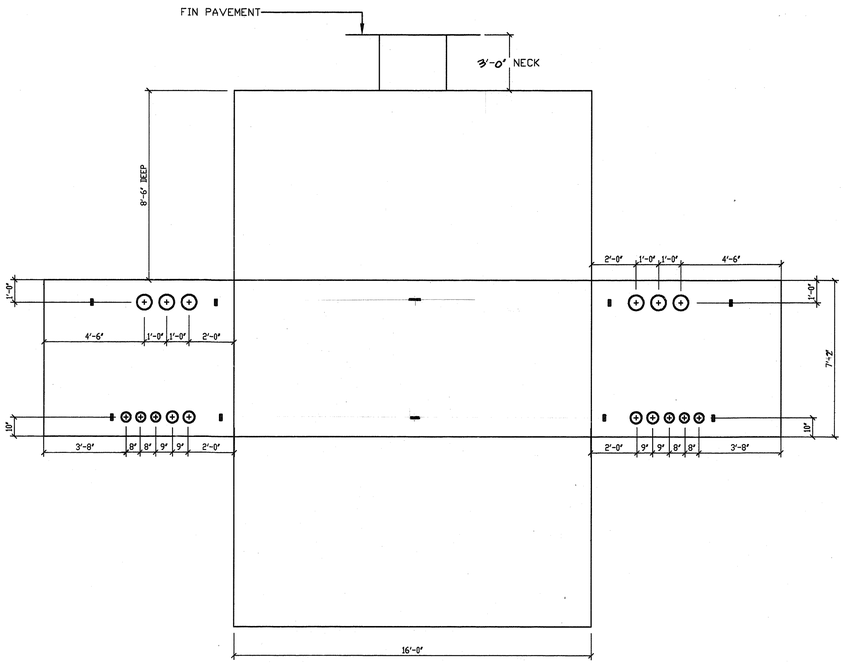
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

SHEET No. OF SHEETS

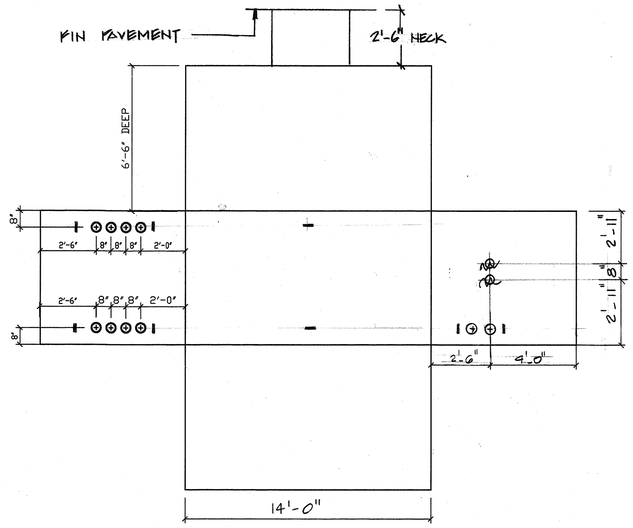
C.Q 254S-4

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993		340



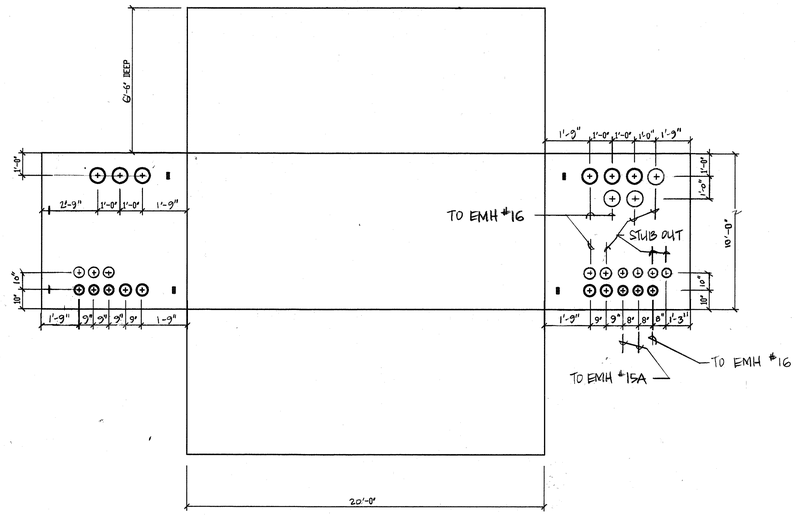
MANHOLE NO.14 DEVELOPMENT PLAN

7'-0" X 16'-0" X 8'-6" DEEP



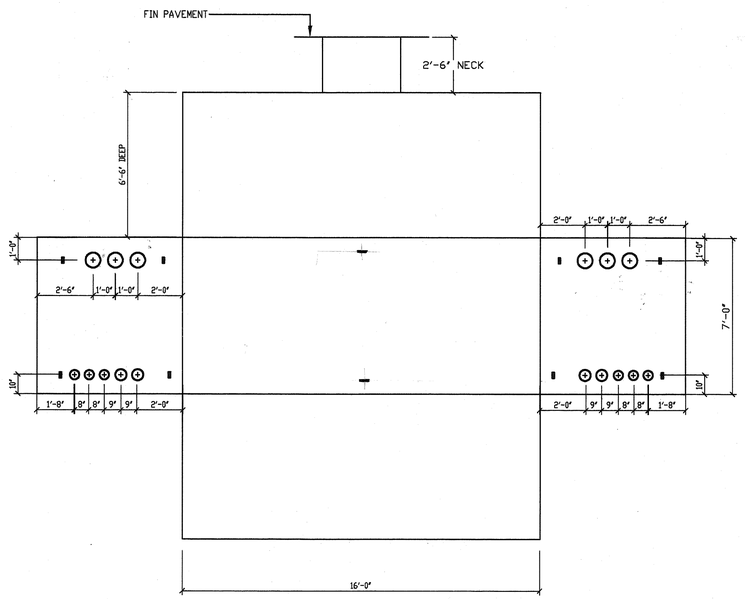
HANDHOLE 15A DEVELOPMENT PLAN

6'-0" X 14'-0" X 6'-6" DEEP



HANDHOLE NO.15 DEVELOPMENT PLAN

10'-0" X 20'-0" X 6'-6" DEEP



MANHOLE NO.16 DEVELOPMENT PLAN

7'-0" X 16'-0" X 6'-6" DEEP

APPROVED BY:

RT RZ Suzanne Elliott
HAWAIIAN ELECTRIC CO.

6/18/93
DATE

	C.O.# 2
6/30/93	C.O.#1
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALANIANAOLE HIGHWAY WIDENING PHASE 2
MANHOLE DEVELOPMENT – EMH #14, 15, 15A & 16
12KV UNDERGROUND

KALANIANAOLE HIGHWAY WIDENING
EAST HALEMAUMAU ST. TO KEAHOLE ST.
F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 3/8"=1'-0" DATE: 10/1/92

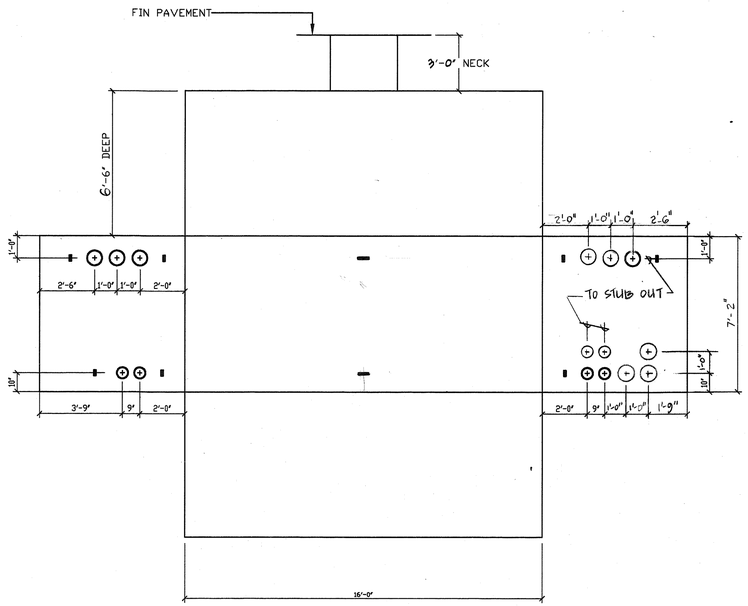
SHEET No. OF SHEETS

C.O. 254S-5

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

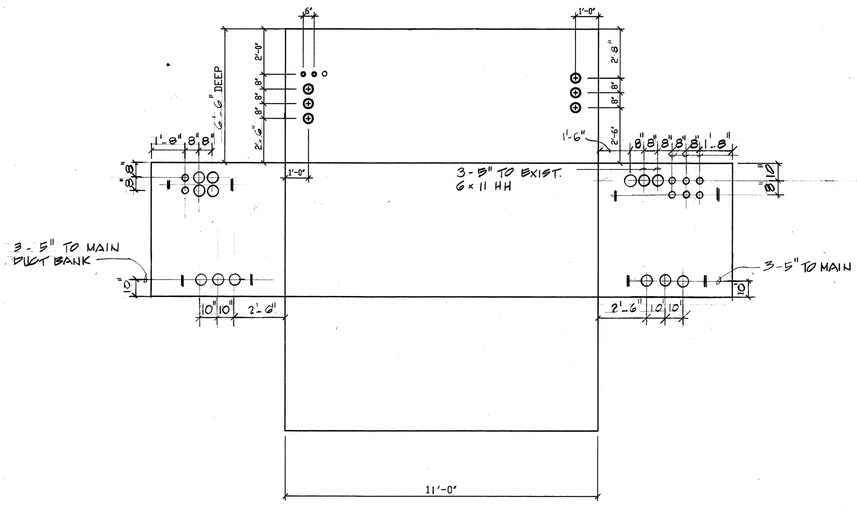
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993		



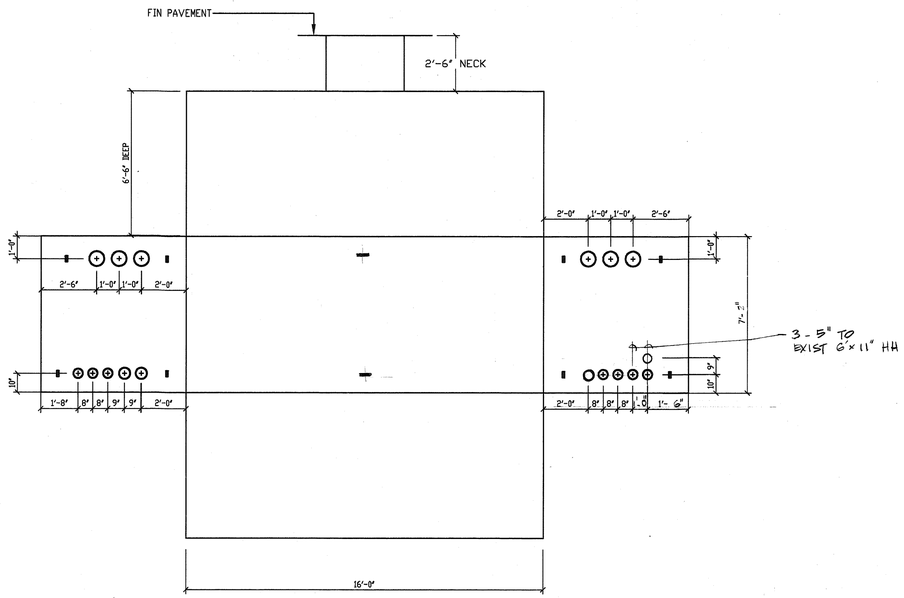
MANHOLE NO.17 DEVELOPMENT PLAN

7'-0" X 16'-0" X 6'-6" DEEP



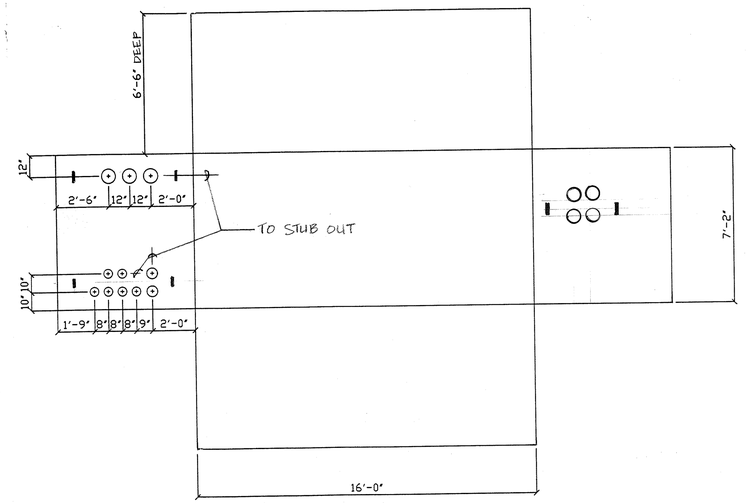
HANDHOLE NO.17A DEVELOPMENT PLAN

6'-0" X 11'-0" X 6'-6" DEEP



MANHOLE NO.18 DEVELOPMENT PLAN

7'-0" X 16'-0" X 6'-6" DEEP



HANDHOLE NO.15B DEVELOPMENT PLAN

7'-2" X 16'-0" X 6'-6" DEEP

APPROVED BY:

ROP for Norman Sakamoto
HAWAIIAN ELECTRIC CO.

6/16/93
DATE

	C.O.# 2
6/30/93	C.O.# 1
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALANIANAOLE HIGHWAY WIDENING PHASE 2
MANHOLE DEVELOPMENT - EMH #17, 17A & 18
12KV UNDERGROUND

KALANIANAOLE HIGHWAY WIDENING
EAST HALEMAUMAU ST. TO KEAHOLE ST.
F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: 3/8"=1'-0" DATE: 10/1/92

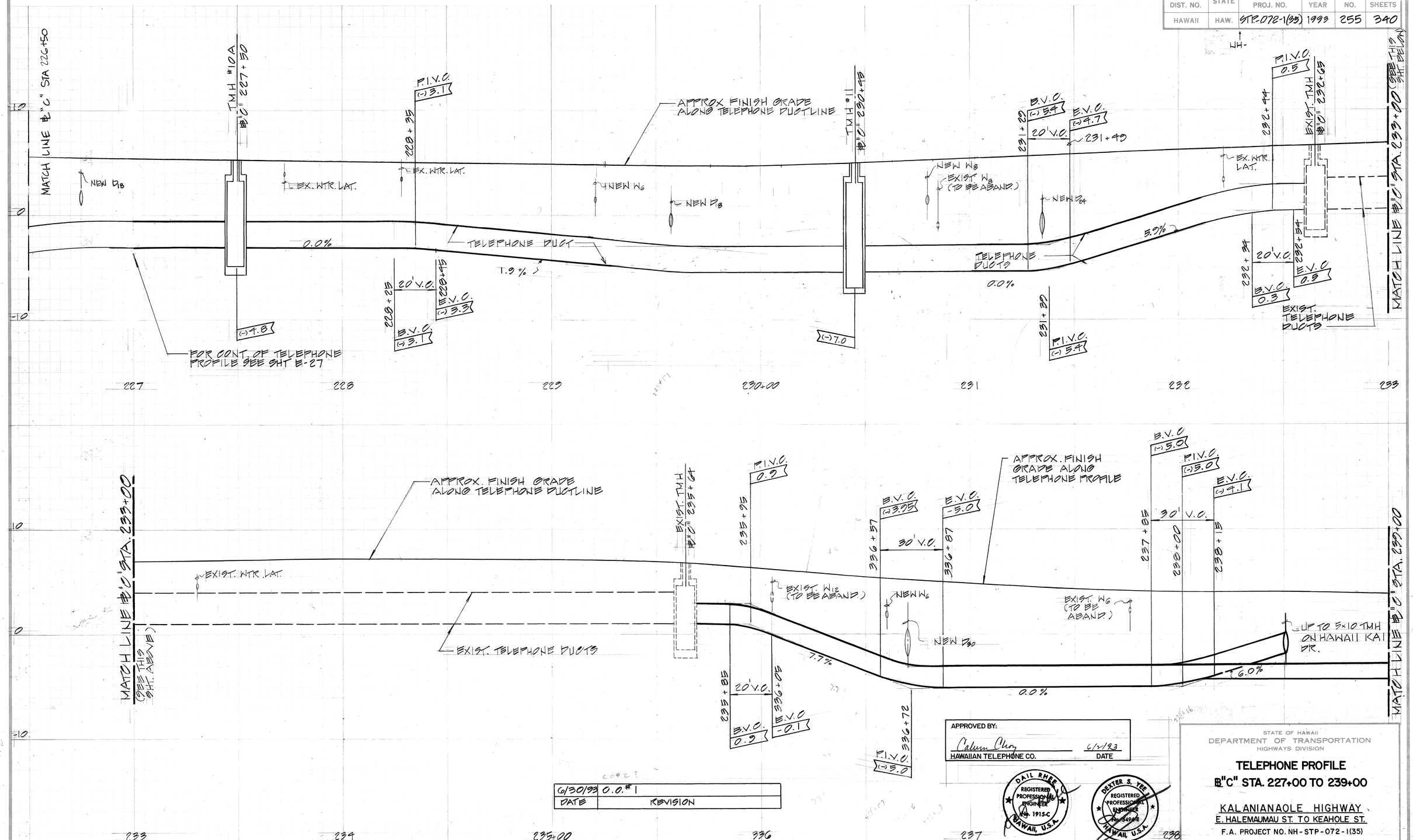
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGN BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

"AS-BUILT"

SHEET No. OF SHEETS
C.O. 2545-6

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-072-1(35)	1993	255	340



DATE	REVISION
6/30/93	C.O. #1

APPROVED BY:

Calvin Chuy — HAWAIIAN TELEPHONE CO. — 6/1/93 DATE

DAIL RHEE — REGISTERED PROFESSIONAL ENGINEER — No. 1915-C — HAWAII, U.S.A.

DENTER S. YEE — REGISTERED PROFESSIONAL ENGINEER — No. 3404-E — HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

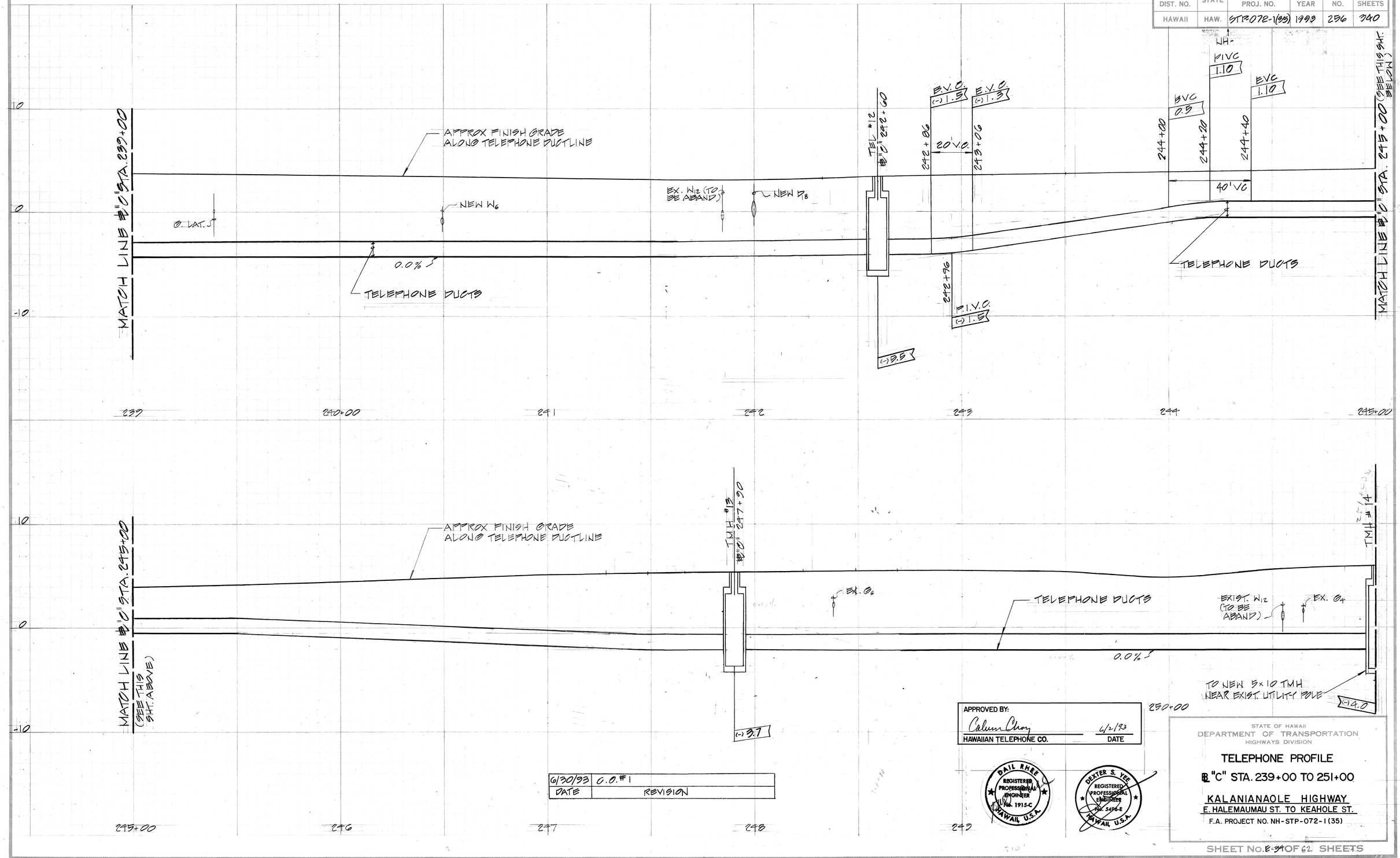
TELEPHONE PROFILE
"C" STA. 227+00 TO 239+00

KALANIANAOLE HIGHWAY
E. HALEMAUMAU ST. TO KEAHOLE ST.
F.A. PROJECT NO. NH-STP-072-1(35)

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

C.O. 255

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP072-1(35)	1993	256	340



6/30/93	C.O. #1
DATE	REVISION

APPROVED BY:

Calvin Chong — 6/2/93

HAWAIIAN TELEPHONE CO. — DATE

DAIL RHEE — REGISTERED PROFESSIONAL ENGINEER — No. 1915-C — HAWAII, U.S.A.

DEXTER S. YEE — REGISTERED PROFESSIONAL ENGINEER — No. 3496-E — HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TELEPHONE PROFILE

℄ "C" STA. 239+00 TO 251+00

KALANIANAOLE HIGHWAY

E. HALEMAUMAU ST. TO KEAHOLE ST.

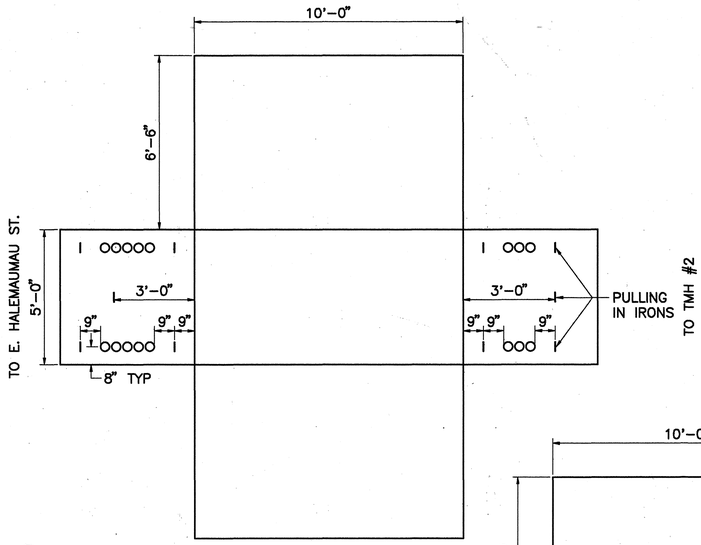
F.A. PROJECT NO. NH-STP-072-1(35)

SHEET NO. E-34 OF 62 SHEETS

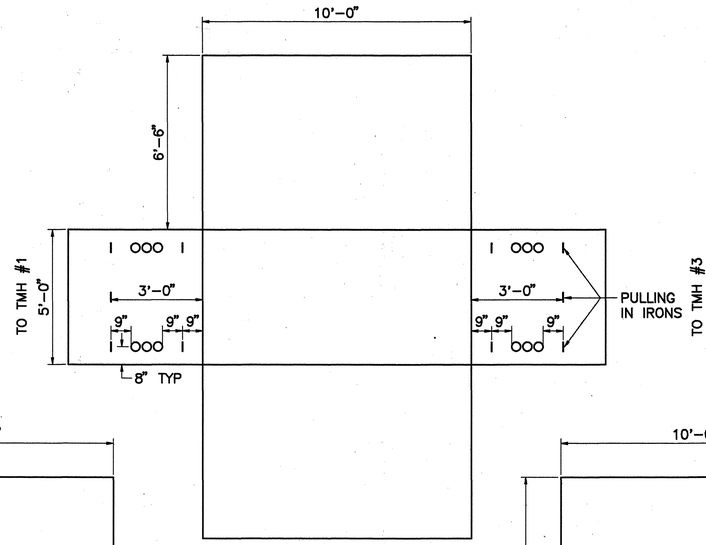
C.O. 256

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993		



TMH #1
NOT TO SCALE



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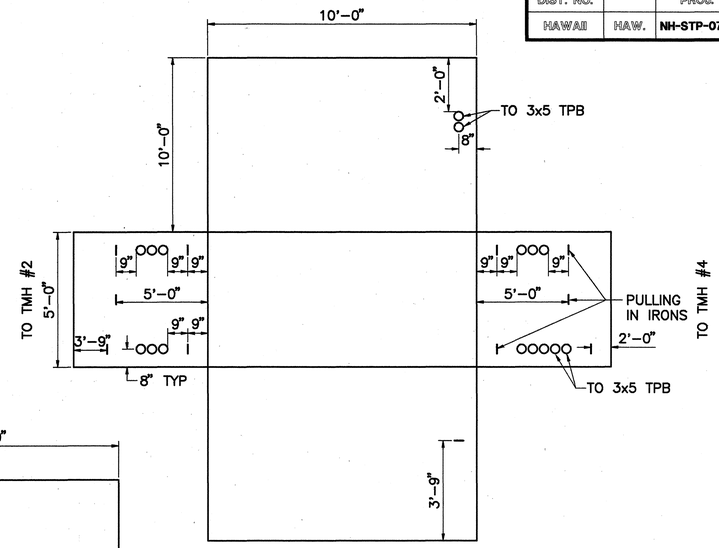
NOT TO SCALE



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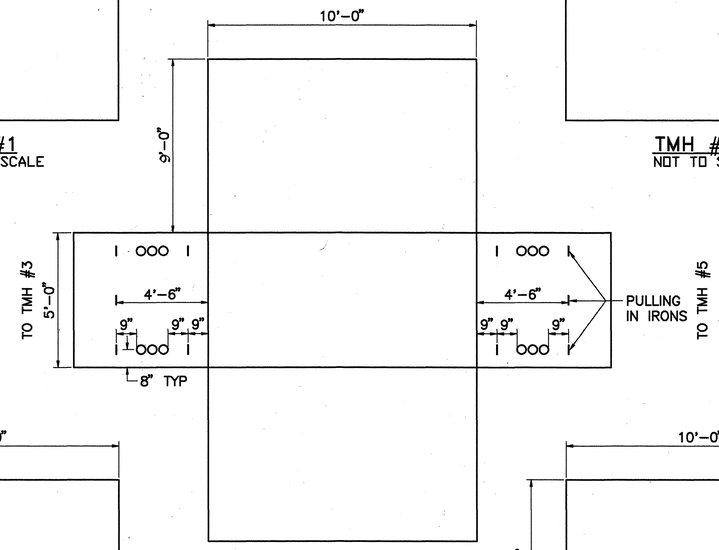

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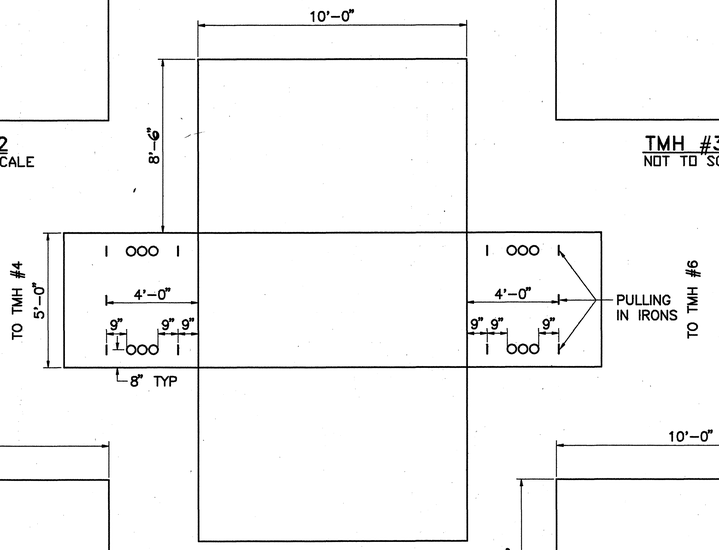

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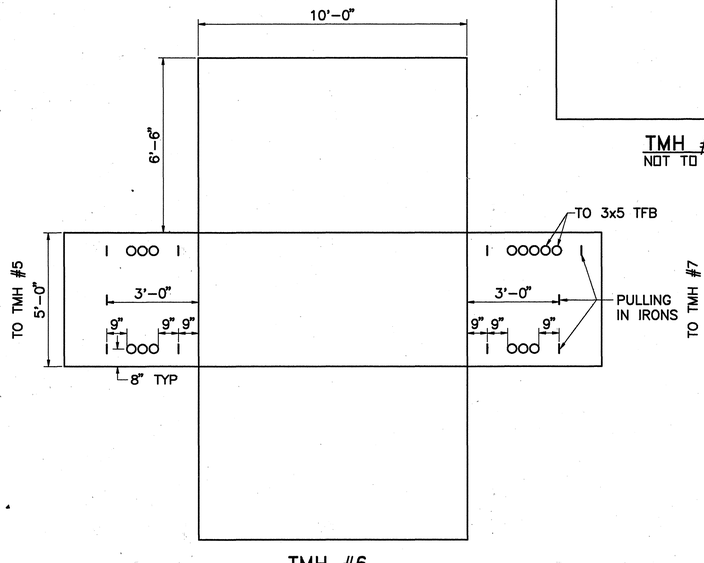

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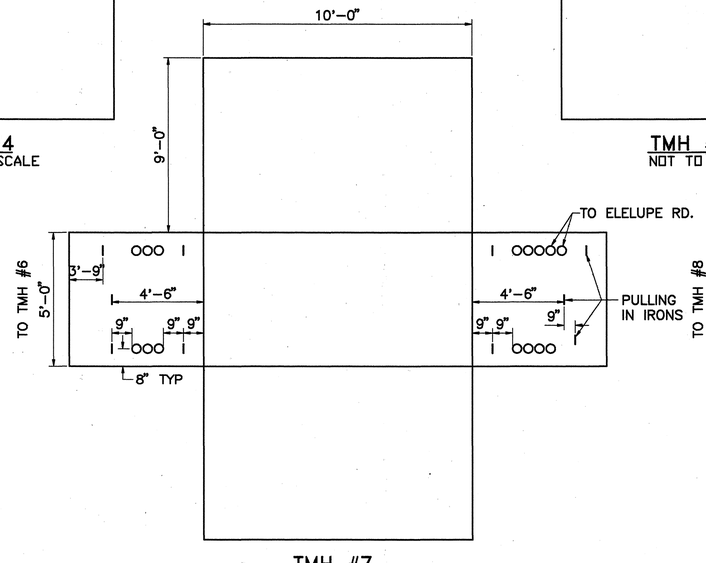

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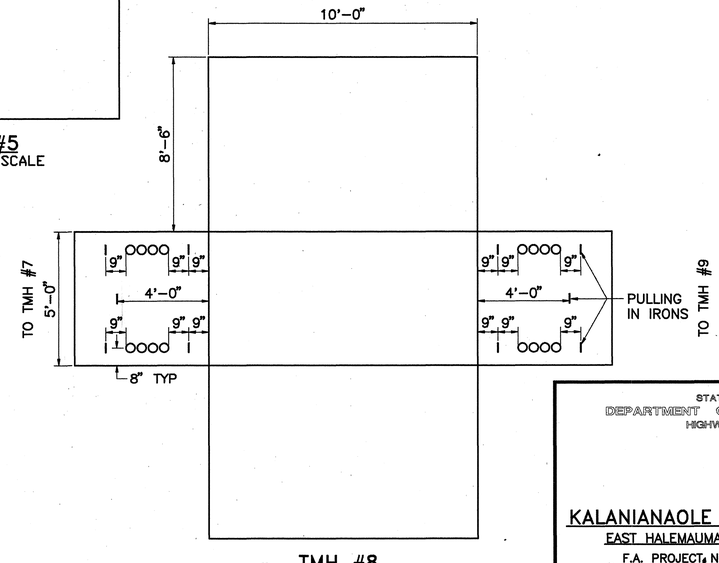
NOT TO SCALE



TMH #8
NOT TO SCALE

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

DATE	REVISION
6/30/93	C.O. # 1

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT, NO. NH-STP-072-1(35)

SCALE:

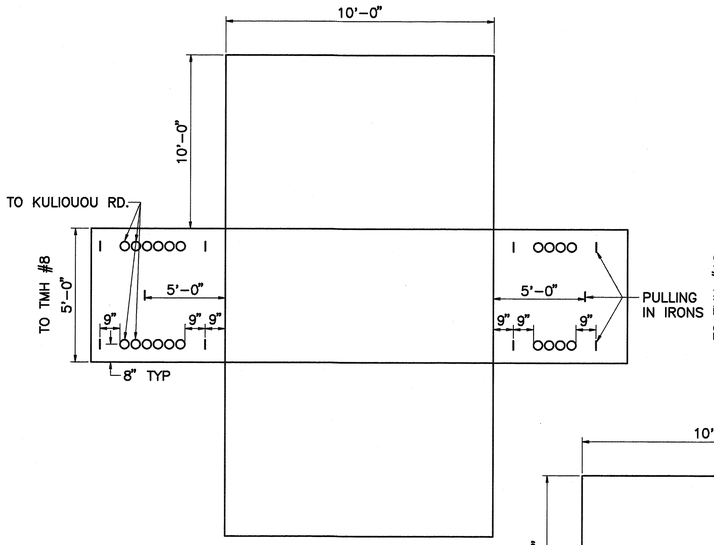
DATE: 10/1/92

SHEET No. OF SHEETS

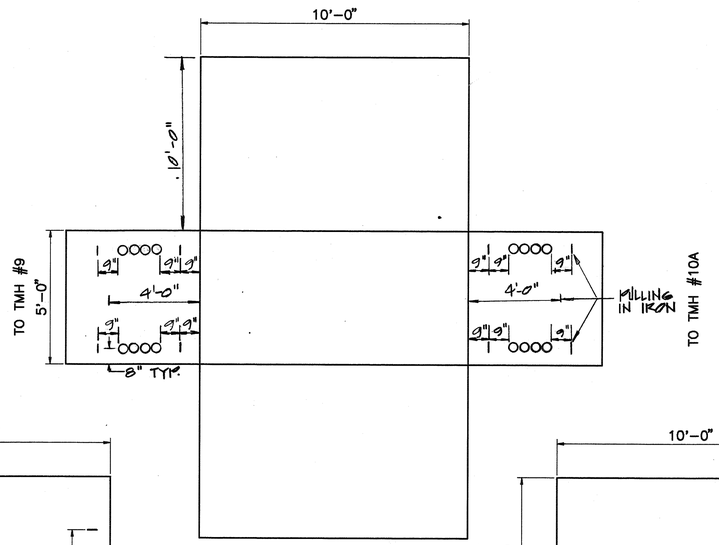
C.O. 256S-1

(D:\CAD\KALANIANAOLE\SHT1)
May 12, 1993
2:02PM

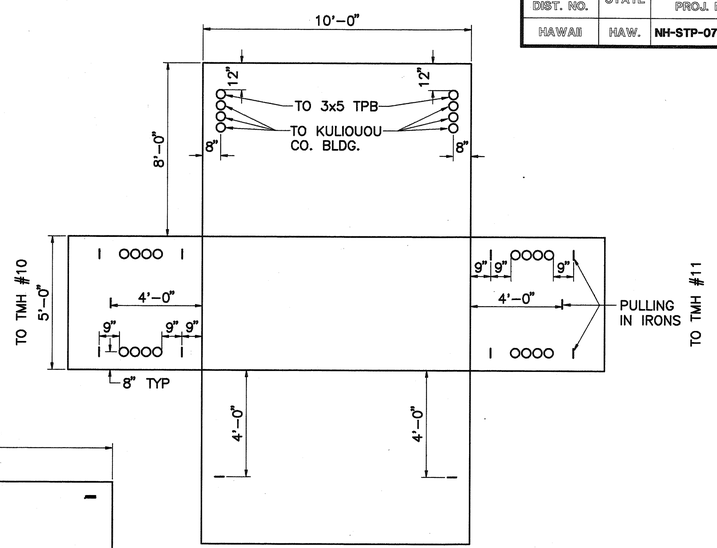
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993		



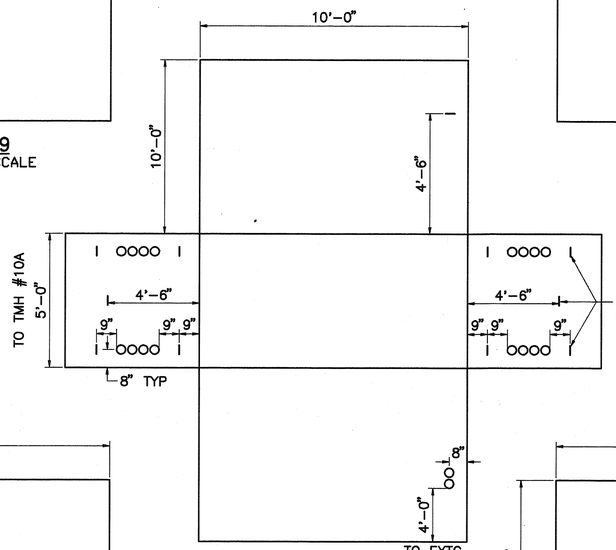
TMH #9
NOT TO SCALE



TMH #10
NOT TO SCALE



TMH #10A
NOT TO SCALE



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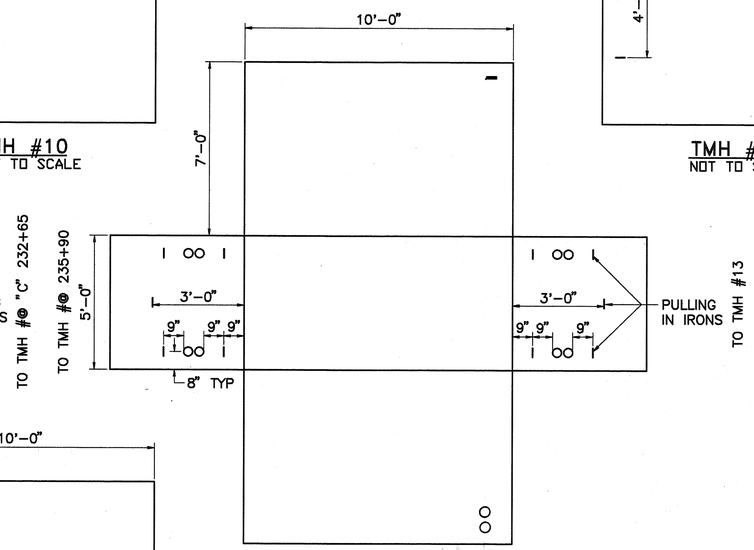
NOT TO SCALE



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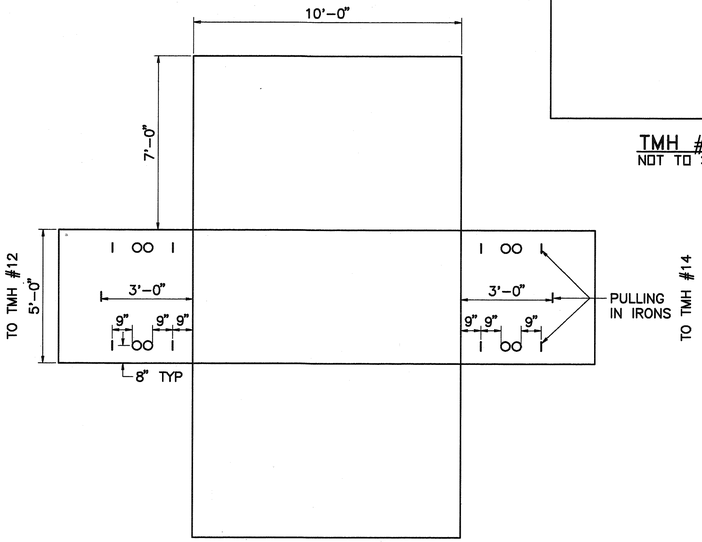
NOT TO SCALE



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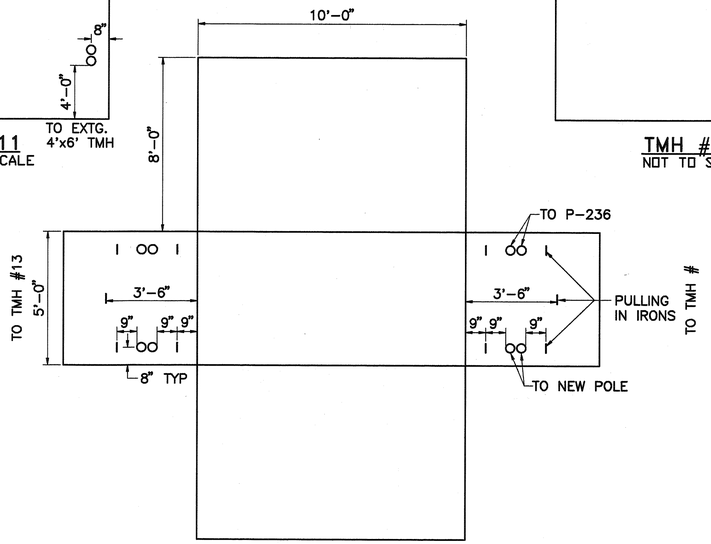
NOT TO SCALE



TMH #14
NOT TO SCALE

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

DATE	REVISION
6/30/93	C.O.#1

"AS-BUILT"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALANIANAOLE HIGHWAY WIDENING

EAST HALEMAUMAU ST. TO KEAHOLE ST.

F.A. PROJECT NO. NH-STP-072-1(35)

SCALE:

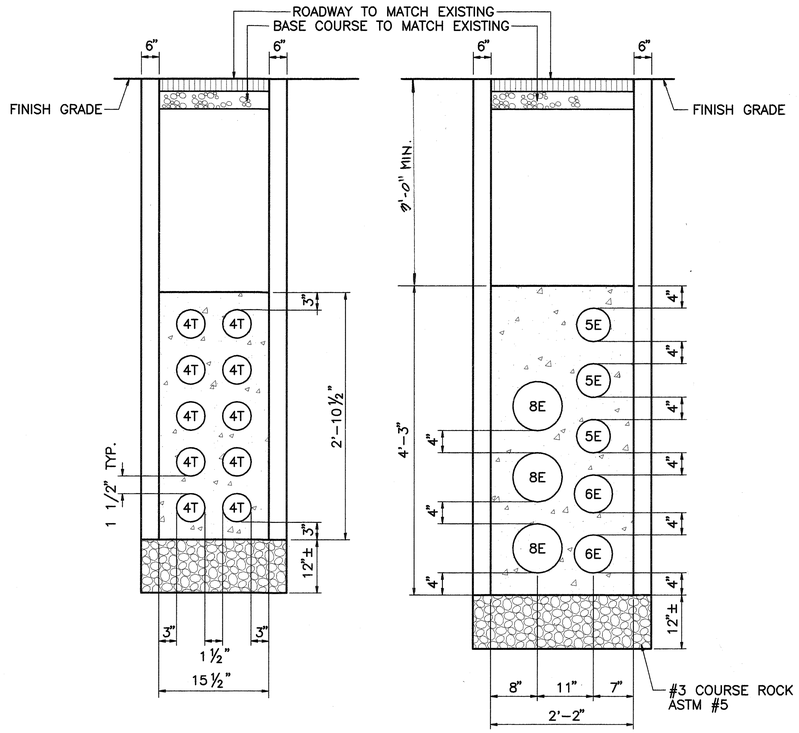
DATE: 10/1/92

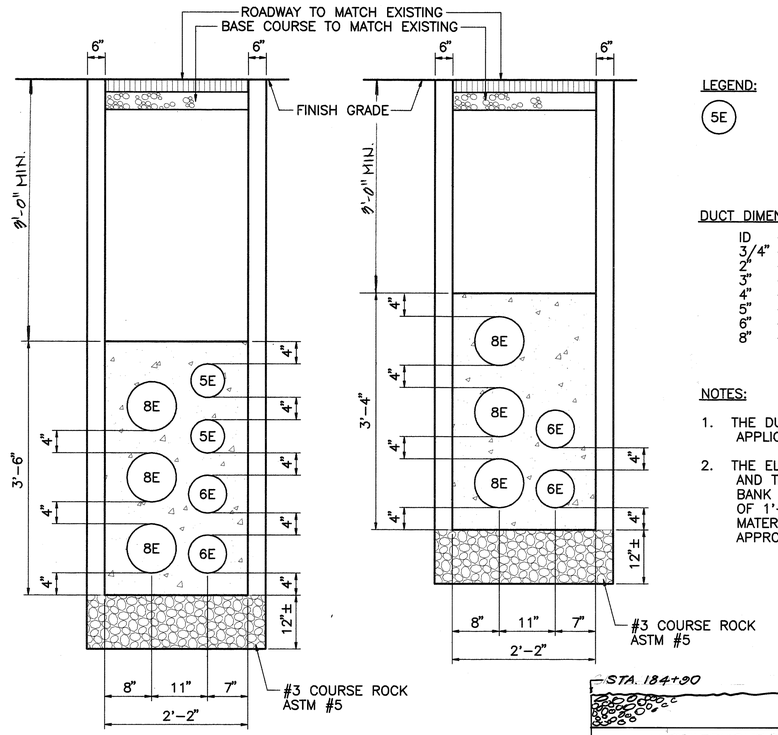
SHEET No. OF SHEETS

C.O. 256S-2

(10) VOL. HWY (LEG) SHT2
No. 24, 1993, 4:05PM

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	257	340





LEGEND:

(5E) REFER TO PROJECT PLAN DUCT SECTION INDICATOR FOR DUCT SIZES, OWNERSHIP, AND CONFIGURATION.

DUCT DIMENSIONS

ID	–	OD
3/4"	–	1.05(3/64)" (PW PIPE CO.)
2"	–	2.375(3/8)"
3"	–	3.500(1/2)"
4"	–	4.500(1/2)"
5"	–	5.563(9/16)"
6"	–	6.625(5/8)"
8"	–	8.625(5/8)" (PRECAST INC.)

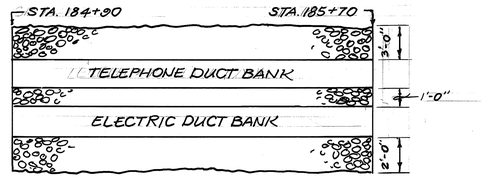
DUCT SEPARATION REQUIREMENTS:

E–E	=	1–1/2"	E	= ELECTRIC
E–T	=	3"	T	= TELEPHONE
E–C	=	3"	C	= OCEANIC CABLEVISION
T–T	=	1–1/2"	CCH	= CHRONICLE CABLEVISION
T–C	=	1–1/2"		
C–C	=	1–1/2"		

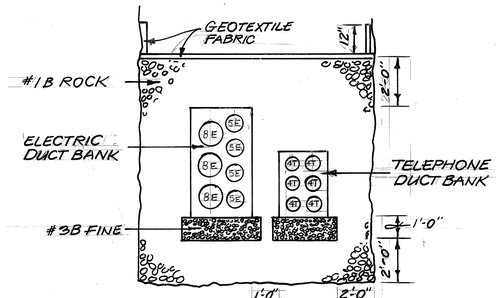
NOTES:

1. THE DUCT SEPARATION REQUIREMENTS SHALL BE APPLICABLE ONLY TO SECONDARY AND SERVICE LINES.
2. THE ELECTRIC MAIN TRUNKING DUCT BANK AND THE TELEPHONE MAIN TRUNKING DUCT BANK SHALL BE SEPARATED BY A MINIMUM OF 1'–0" WITH SAND OR SOIL. ANY OTHER MATERIAL SHALL NOT BE USED UNLESS APPROVED BY THE ENGINEER.

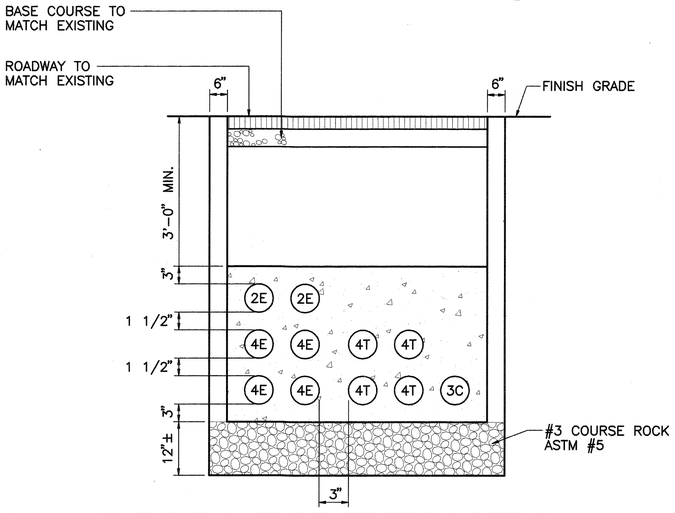
(1 / E-35) TYPICAL MAIN TRUNKING DUCT SECTION DETAILS
NOT TO SCALE



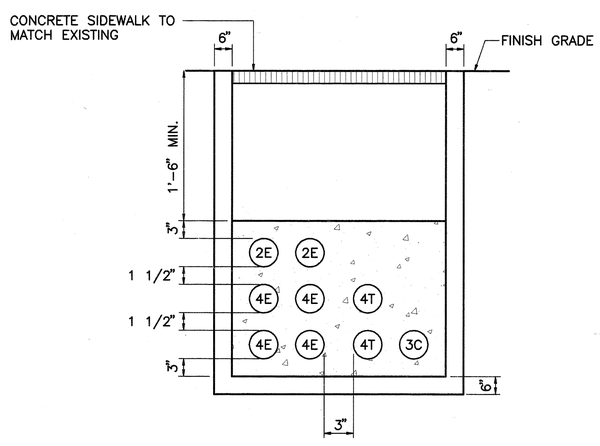
PLAN VIEW



TYPICAL CROSS SECTION
MAIN TRUNKING DUCT SECTION
@ "A" STA. 184+30 TO 185+70



(2 / E-35) TYPICAL DUCT SECTION DETAIL WITHIN ROADWAY AREAS
NOT TO SCALE



(3 / E-35) TYPICAL DUCT SECTION DETAIL WITHIN SIDEWALK AREAS
NOT TO SCALE

DATE	REVISION
6/30/93	C.O.# 1

APPROVED:

RTR — 6/18/93
HAWAIIAN ELECTRIC COMPANY, DATE

6/2/93
HAWAIIAN TELEPHONE COMPANY, DATE

OCEANIC CABLEVISION, DATE

CHRONICLE CABLEVISION, DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT SECTION DETAILS
TYP. SECTIONS & GENERAL NOTES
KALANIANAOLE HIGHWAY WIDENING
EAST HALEMAUMAU ST. TO KEAHOLE ST.
F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: AS NOTED DATE: 10/1/92

SHEET No. E-35 OF 62 SHEETS

DEXTER S. YEE REGISTERED PROFESSIONAL ENGINEER No. 4956-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

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

"AS-BUILT"

C.O. 257

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-072-1(35)	1993	258	340

NOTES:

1. THE ELECTRICAL RISER CONDUIT SHALL BE SCHEDULE 40 PVC CONDUIT WITH 18" MIN. RADIUS 90 DEGREE BENDS.
2. THE TELEPHONE AND CABLEVISION RISER CONDUITS SHALL BE 2" AND 1" SCHEDULE 40 PVC RESPECTIVELY, WITH 18" MIN. RADIUS 90 DEGREE BENDS EXTENDING 4'-0" FROM WALLS.
3. A SUITABLE CONNECTION COUPLING SHALL BE USED TO CONNECT TO THE PVC RUN TO THE PROPERTY LINE.
4. A 10" X 12" X 6" DEEP SEALABLE PULL BOX SHALL BE INSTALLED BETWEEN THE NEW RISER CONDUIT AND THE EXISTING METER SOCKET APPROXIMATELY AS SHOWN.
5. IF GREATER OFFSET IS REQUIRED DUE TO OBSTRUCTIONS OR CONDITIONS, COORDINATE WITH HECO DISTRIBUTION ENGINEERING DEPARTMENT.
6. WHENEVER POSSIBLE, THE EXISTING SERVICE ENTRANCE CONDUCTOR SHALL BE REROUTED TO THE NEW PULLBOX.

7 a. ALL ELECTRIC WORK IS TO BE COORDINATED WITH THE HAWAIIAN ELECTRIC CO., INC. CONTACT _____ @ PH. #_____ WITH 45 WORKING DAYS NOTICE.

b. ALL TELEPHONE WORK IS TO BE COORDINATED WITH THE HAWAIIAN TELEPHONE CO., INC. CONTACT _____ @ PH. #_____ WITH 45 WORKING DAYS NOTICE.

c. ALL OCEANIC CABLEVISION WORK IS TO BE COORDINATED WITH OCEANIC CABLEVISION CO., INC. CONTACT _____ @ PH. #_____WITH 45 WORKING DAYS NOTICE.

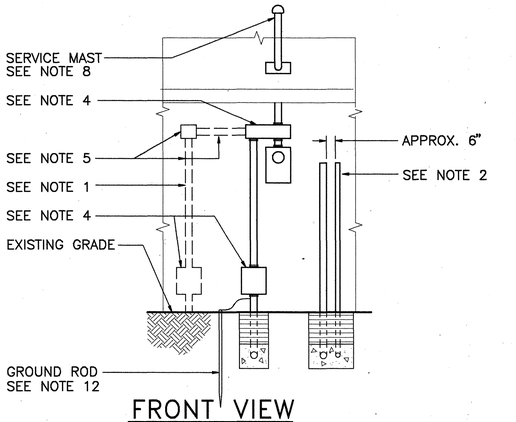
d. ALL CHRONICLE CABLEVISION WORK IS TO BE COORDINATED WITH CHRONICLE CABLEVISION OF HAWAII. CONTACT _____ @ PH. #_____WITH 45 WORKING DAYS NOTICE.

8. REMOVE SERVICE MAST UPON COMPLETION OF ELECTRICAL AND TELEPHONE CO. WORK. PATCH AND RESTORE ROOF WITH WATERTIGHT FLASHING OR AS APPROPRIATE.
9. PRIME NEW WORK ONE COAT AND PAINT TWO COATS TO MATCH EXISTING COLOR.
10. ALL EXISTING SERVICE DROPS TO BE REMOVED BY THE UTILITY CO. (E, T, OR C) UPON COMPLETION OF THE OVERHEAD TO UNDERGROUND CONVERSION.
11. ALL NEW RISERS SHALL BE INSTALLED AS CLOSE TO THE SERVICE POINT AS POSSIBLE, OBSTRUCTIONS AND CONDITIONS PERMITTING.
12. BOND AND GROUND ALL NEW METALLIC HARDWARE AS REQUIRED BY THE N.E.C.
13. ALL ELECTRICAL WORK TO BE DONE BY THE CONTRACTOR IS TO BE DONE UNDER SUPERVISION OF A LICENSED ELECTRICIAN.
14. THE CONTRACTOR SHALL LIMIT ALL WORK EXCEPT FOR INGRESS AND EGRESS TO A STRIP 5'-0" ON EACH SIDE OF THE UNDERGROUND TRENCH. HE WILL REPAIR ALL DAMAGE CAUSED BY HIS WORK AND/OR OPERATIONS. HE WILL REMOVE ALL HIS CONSTRUCTION DEBRIS FROM THE WORK SITE.
15. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND COORDINATE WITH BOTH THE PROPERTY OWNER/RESIDENTS WITH A 7 DAY NOTICE PRIOR TO ENTRY.
16. REFER TO SHEETS E-5 THROUGH E-19 FOR DUCTLINE ENTRY AT PROPERTY LINE.

17a. FOR STREET LIGHT NO. 73, 75 AND 77

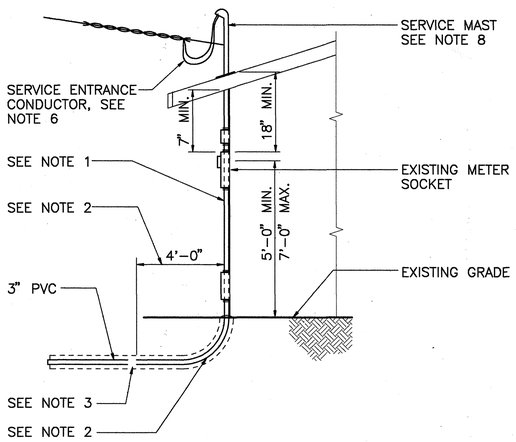
RESPECTIVE

EXISTING



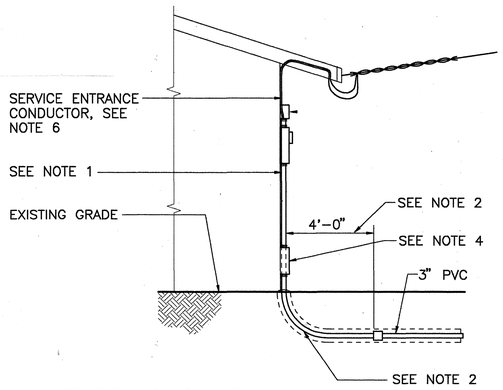
FRONT VIEW

NOT TO SCALE



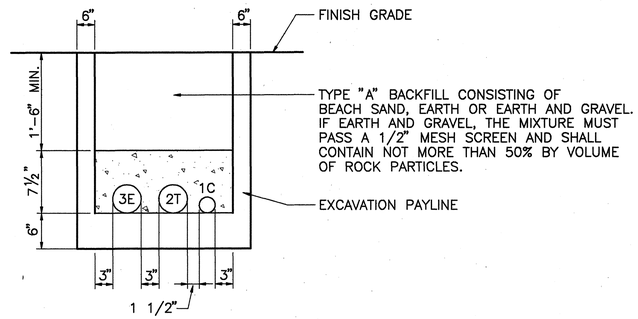
TYPE 1-SIDE VIEW

NOT TO SCALE



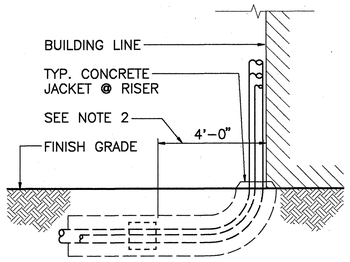
TYPE 2-SIDE VIEW

NOT TO SCALE



TYPICAL DUCT SECTION
WITHIN PRIVATE PROPERTY

NOT TO SCALE



TYPICAL CONCRETE SECTION
WITHIN PRIVATE PROPERTY

NOT TO SCALE

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

APPROVED:

HAWAIIAN ELECTRIC COMPANY, DATE

Calvin Chang 6/2/93

HAWAIIAN TELEPHONE COMPANY, DATE

OCEANIC CABLEVISION,

CHRONICLE CABLEVISION, DATE

DEXTER S. YEE
REGISTERED
PROFESSIONAL
ENGINEER
196-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

6/30/93	C.O.# 1
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

OVERHEAD SERVICE CONVERSIONS GENERAL NOTES AND TYP. DETAILS

KALANIANAOLE HIGHWAY WIDENING
EAST HALEMAUMAU ST. TO KEAHOLE ST.
F.A. PROJECT NO. NH-STP-072-1(35)

SCALE: AS NOTED DATE: 10/1/92

SHEET No. E-36 OF 62 SHEETS

C.O. 258