FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	311	424

RECEPTACLE OUTLETS

	SINGLE RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET-RECESSED BOX & COVER ONLY
	SINGLE SPECIAL-PURPOSE RECEPTACLE OUTLET (30 AMP, 2 POLE, OR AS NOTED)*
	DUPLEX SPECIAL-PURPOSE RECEPTACLE OUTLET *
	FLOOR BOX WITH SINGLE RECEPTACLE
	FLOOR BOX WITH DUPLEX RECEPTACLE
	FLOOR BOX WITH SERVICE FITTING AS NOTED
	FLOOR BOX - PUBLIC TELEPHONE
	FLOOR BOX - PRIVATE TELEPHONE
UFD	UNDERFLOOR DUCTS WITH ASSOCIATED OUTLETS AS INDICATED
TD TD	TRENCH DUCT

* USE SUBSCRIPT LETTERS TO INDICATE FUNCTION (AC - AIR CONDITIONER, ETC.)

SWITCH OUTLETS

S	SINGLE-POLE SWITCH
S_2	DOUBLE-POLE SWITCH
S_3	THREE-WAY SWITCH
S_4	FOUR-WAY SWITCH
S_K	KEY-OPERATED SWITCH
S_P	SWITCH WITH PILOT LAMP
S_D	DOOR SWITCH
S_T	TIME SWITCH
S_M	MANUAL MOTOR STARTER WITH OVERLOAD DEVICE
S_{MC}	MOMENTARY CONTACT SWITCH OR PUSHBUTTON FOR OTHER THAN SIGNALLING SYSTEM
S_a	SUBSCRIPT $_a$ DENOTES SWITCH CIRCUIT

LIGHTING OUTLETS

CLG	WALL	
O_E	O_E	OUTLET FOR LIGHTING FIXTURE E - EMERGENCY
		FLUORESCENT FIXTURE OUTLET
		EXIT LIGHT OUTLET
B	B	BLANKED OUTLET
J_E	J_E	JUNCTION BOX E - EMERGENCY
O_a	O_a	LETTER SUBSCRIPT ADJACENT TO FIXTURE OUTLET DESIGNATES SWITCH CONTROL
		FLOODLIGHT - ARROWS INDICATE DIRECTION OF BEAM
		EMERGENCY LIGHT OUTLETS
		EMERGENCY LIGHT OUTLETS

PANELBOARDS, SWITCHBOARDS, ETC.

	LIGHTING PANELBOARD
	EMERGENCY LIGHTING PANELBOARD
C I C	TERMINAL CABINET - TYPES AS FOLLOWS: CIC - COMMUNICATION INTERFACE CABINET TTC - TELEPHONE TERMINAL CABINET
	JUNCTION BOX (TUNNEL LIGHTING)
	JUNCTION BOX (EMERGENCY TUNNEL LIGHTING)
PB	PULL BOX
2	MOTOR CONTROLLER, SUBSCRIPT INDICATES NEMA SIZE
30/3	FUSED DISCONNECT SWITCH, SUBSCRIPT INDICATES FUSE SIZE AND NUMBER OF POLES
30/3	NON-FUSED DISCONNECT SWITCH, SUBSCRIPT INDICATES SWITCH SIZE AND NUMBER OF POLES
2	COMBINATION ELECTRICAL MOTOR STARTER, FUSIBLE, SUBSCRIPT INDICATES NEMA SIZE
3	COMBINATION ELECTRICAL MOTOR STARTER, NON-FUSIBLE, SUBSCRIPT INDICATES NEMA SIZE
4	COMBINATION ELECTRICAL MOTOR STARTER, WITH CIRCUIT BREAKER, SUBSCRIPT INDICATES NEMA SIZE
5 M47	MOTOR WITH IDENTIFICATION, INSERT INDICATES HORSEPOWER; THREE PHASE OR SINGLE PHASE
	POWER PANEL
	SWITCHBOARD (SWBD) OR MOTOR CONTROL CENTER (MCC)
	CONTROL PANEL

CONDUCTORS AND RACEWAYS

MH	ELECTRICAL MANHOLE
H	ELECTRICAL HANDHOLE
	UNDERGROUND RACEWAY, ENCASED
	RACEWAY EMBEDDED IN CONCRETE WALL OR CEILING E-EMERGENCY, F-FLOOR, UG-UNDERGROUND
	RACEWAY, EXPOSED
LL2 - 1,2,3	BRANCH CIRCUIT HOMERUN TO PANELBOARD. LL2 DENOTES PANEL AND NUMERALS IDENTIFY CIRCUIT NUMBERS
PHASE NEUTRAL GROUND	INDICATES NUMBER OF #12 WIRES, NO CROSS LINES INDICATES 2 #12 WIRES UNLESS NOTED.
3 - #8 - 1"C	WIRE AND RACEWAY SIZE FOR #8 AND LARGER
10	INDICATES NUMBER OF #10 WIRES, SIMILAR TO DESIGNATIONS FOR #12 WIRES
	FEEDER OR HOMERUN RACEWAY
	GROUND WIRE, EMBEDDED OR RUN UNDERGROUND
E	EMERGENCY LIGHTING CONDUIT
	RACEWAY TURNED UP OR TOWARD VIEWER
	RACEWAY TURNED DOWN OR AWAY FROM VIEWER
	UNDERGROUND CONDUIT BANK, INDICATE TYPE, SIZE, AND NUMBER OF CONDUITS BY CROSS-SECTION, IDENTIFICATION OF EACH RUN OR BY NOTATION
G	GROUND ROD
	RACEWAY CAPPED
	CONDUIT SEAL

MISCELLANEOUS

TV	CLOSED CIRCUIT TELEVISION MONITOR
	BUZZER
	BELL
	PUSHBUTTON
	DOOR OPENER
	ALARM TRIP
	HORN
PC	PROGRAMMABLE LOGIC CONTROLLER
PE	PHOTO-ELECTRIC CELL
	SELECTOR SWITCH, H.O.A. UNLESS OTHERWISE NOTED
C	CLOCK OUTLET
D	ELECTRIC DOOR OPENER
M	MANUAL STATION
M_A	MANUAL STATION WITH AUDIBLE ALARM
SD	SMOKE DETECTOR
EOL	END OF LINE RESISTOR
HD	HEAT DETECTOR
D	MAGNETIC DOOR (FURNISHED WITH DOOR HARDWARE)
S	ELECTRICALLY OPERATED DEVICE, TYPE PER LETTERS AS FOLLOWS: S - SOLENOID, D - DAMPER OPERATOR, R - RELAY, DO - DOOR OPERATOR, EP - ELECTRO-MAGNETIC RELAY

ABBREVIATIONS

+4'-6"	MOUNTING HEIGHT TO ℄ OUTLET AFF
AFF	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
EL	ELEVATION
FL	FLOOR
FUT	FUTURE
FVNR	FULL VOLTAGE, NON-REVERSING
FVR	FULL VOLTAGE, REVERSING
GND	GROUND
GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
GRS	GALVANIZED RIGID STEEL CONDUIT
IMC	INTERMEDIATE METAL CONDUIT
J.B.	JUNCTION BOX
KCMIL	1000 CIRCULAR MILS (FORMERLY MCM)
MC	METALLIC CONDUIT
MTD, MTG	MOUNTED, MOUNTING
N.I.C.	NOT IN CONTRACT
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
NMC	NON-METALLIC CONDUIT
PVC	POLYVINYL CHLORIDE CONDUIT
PWR	POWER
RTU	REMOTE TERMINAL UNIT
S.B.	SWITCH BOX
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
TEL	TELEPHONE
ZC	ZONE CONTROL

PANELBOARD NUMBERING METHOD

IB I H L 2

PORTAL
- IB - INBOUND
- OB - OUTBOUND

FLOOR LEVEL
- B - BASEMENT
- G - GROUND
- M - MAIN
- 1 - FIRST
- 2 - SECOND
- Etc.

VOLTAGE
- H - 277Y/480V 3PH 4W
- L - 120Y/208V 3PH 4W OR 120/240V 1PH 3W

PANEL PURPOSE
- P - POWER
- L - LIGHTING
- C - CONTROL
- E - EMERGENCY LIFE SAFETY
- EG - EMERGENCY GENERATOR
- UPS - UNINTERRUPTED POWER

PANEL NUMBER per TYPE per FLOOR
- 1 - FIRST
- 2 - SECOND
- 3 - THIRD
- Etc.

GENERAL NOTES:

1. MIN. SIZE OF EMBEDDED CONDUIT SHALL BE ¾" GALVANIZED RIGID STEEL.
2. RECEPTACLE OUTLET BOXES SHALL BE 18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. RECEPTACLE OUTLET BOXES SHALL BE 2x4x2⅛ INCHES DEEP. FURNISHED & INSTALL BLANK COVER.
3. SWITCH BOXES SHALL BE MOUNTED 4'-6" AFF. SWITCH BOXES SHALL BE A MINIMUM OF 4"x2"x2½" DEEP UNLESS NOTED OTHERWISE. FURNISH AND INSTALL BLANK COVER.
4. LIGHTING OUTLET BOXES IN THE CEILING SHALL BE 4" DEEP. ALONGSIDE, INSTALL A FIXTURE HANGING HOOK INSERT. FURNISH AND INSTALL BLANK COVER.

DATE	REVISION
	AS BUILT

FIXTURE TYPE SYMBOL

MH
A / 60 — 3

UPPER LETTER- TYPE OF FIXTURE
LOWER NO.- LAMP WATTS
MH - INDICATES MOUNTING HEIGHT ABOVE FINISHED FLOOR
3 - INDICATES QUANTITY OF FIXTURES

SPECIAL IDENTIFICATION

(USED NEXT TO SYMBOL)

GP - GENERAL PURPOSE (NEMA 1)	DP - DRIP PROOF (NEMA 2)	R - RECESSED
WP - WEATHER PROOF (NEMA 3A)	VT - VAPOR TIGHT	G - GROUND
WT - WATER TIGHT (NEMA 4)	EP - EXPLOSION PROOF (NEMA 7, 8 OR 9)	F - FLUSH
WTX - WATER TIGHT, CORROSION RESISTANT (NEMA 4X)		DT - DUST TIGHT (NEMA 3 OR 12)

EQUIPMENT IDENTIFICATION

CIC	COMMUNICATIONS INTERFACE CABINET
ETS	EMERGENCY TRIP STATION
LP	LIGHTING PANEL
MCP	MOTOR CIRCUIT PROTECTOR
P & LP	POWER AND LIGHTING PANEL
SWGR	SWITCHGEAR
TSP	TUNNEL SUMP PUMP

ORIGINAL PLAN	SURVEY PLOTTED BY	CADD	DATE 10/1/88
	DRAWN BY		10/1/88
NOTE BOOK	TRACED BY	MASON	10/1/88
	DESIGNED BY		7/25/89
NO.	QUANTITIES BY	J. J. SASSANI	
	CHECKED BY		

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

PETER A. MASON — REGISTERED PROFESSIONAL ENGINEER — No. 6460-E — HAWAII, U.S.A.

Peter A. Mason

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL LEGEND

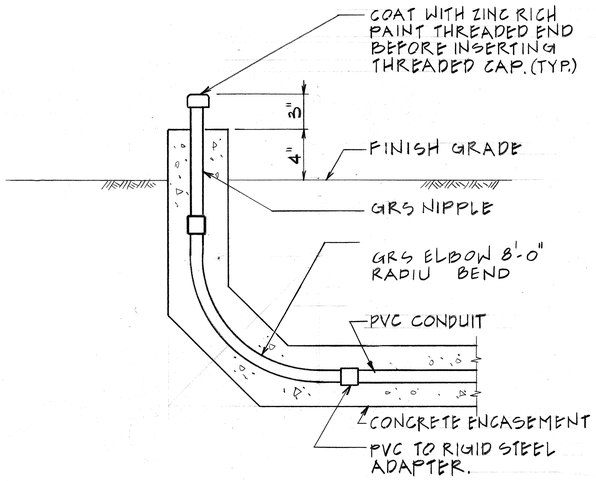
STANDARDS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NONE — DATE: JAN. 1990

SHEET NO. E1 OF 6 SHEETS

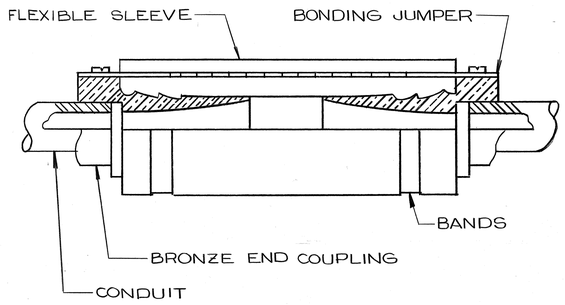
2410V153 2410: V153 ES0070.FGB r1 22JUN89-18.23.50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	312	424



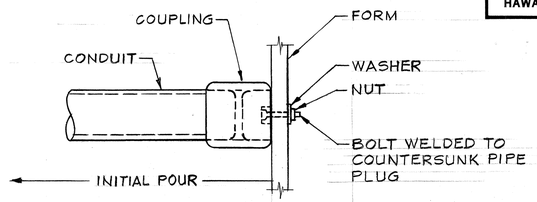
DETAIL 1
N.T.S.

UNDERGROUND CONDUIT STUB-UP

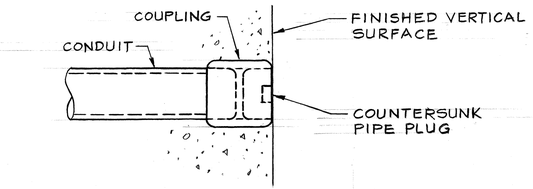


DETAIL 2
N.T.S.

TYPICAL EXPANSION/DEFLECTION FITTING
(SIMILAR TO OZ/GEDNEY TYPE DX)



IN FORM WORK

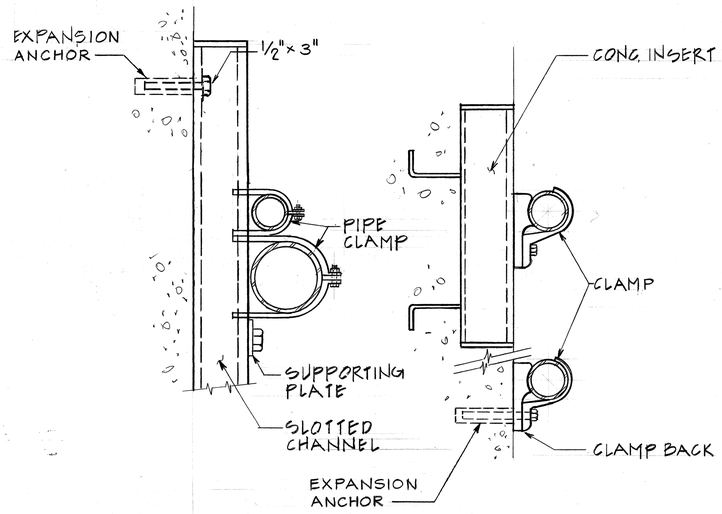


PLUGGED AFTER FORM HAS BEEN REMOVED

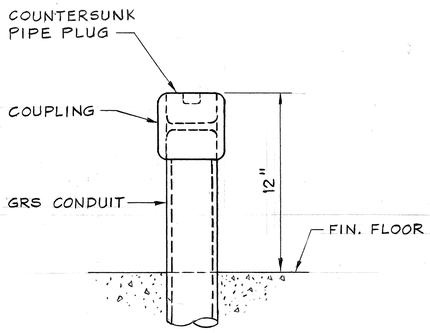
NOTE: REPLACE PLUG WITH NIPPLE AND GROUNDING BUSHING BEFORE INSTALLING CABLE OR WIRE.

DETAIL 3
N.T.S.

TERMINATION OF METAL CONDUIT AT VERTICAL SURFACES

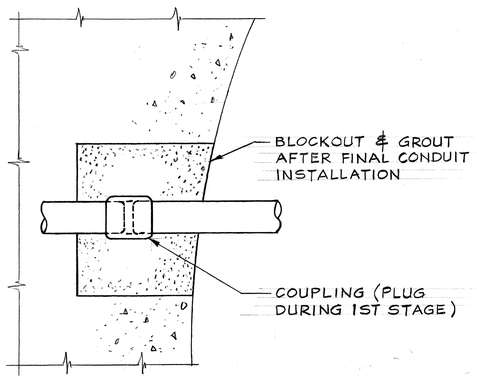


DETAIL 4
TYP. CONDUIT SUPPORT
N.T.S.



DETAIL 5
N.T.S.

TYP. STUB OUT & CAP



DETAIL 6
N.T.S.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY G.W. YANG	12-3-89
NOTE BOOK	TRACED BY	
	DESIGNED BY G. LEHMAN	10-1-89
No.	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	11-25-89

DATE	REVISION
4/26/90	REVISED DETAIL 2

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONDUIT STANDARDS-I

STANDARDS
INTERSTATE ROUTE H-3
F. A. I. PROJ. NO. I-H3-1(61)

SCALE: AS NOTED DATE: JAN. 1990

SHEET E2 OF 6 SHEETS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No 6460-E
HAWAII, U.S.A.

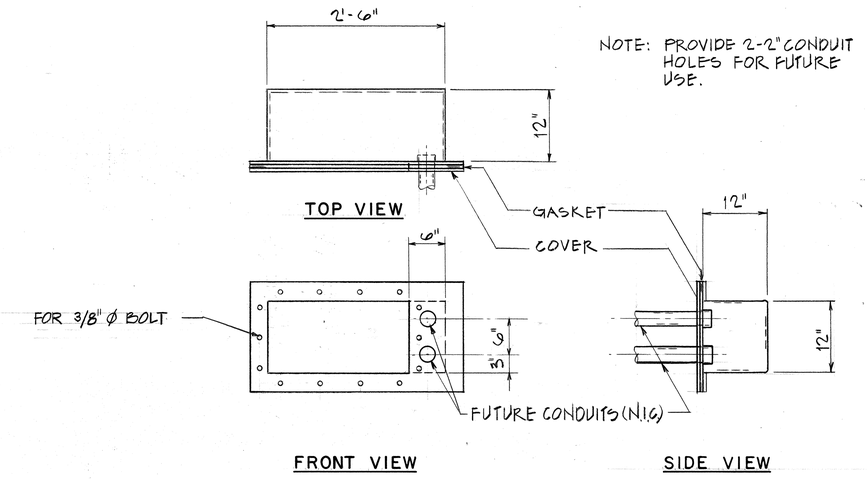
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

ADD. 312

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	313	424

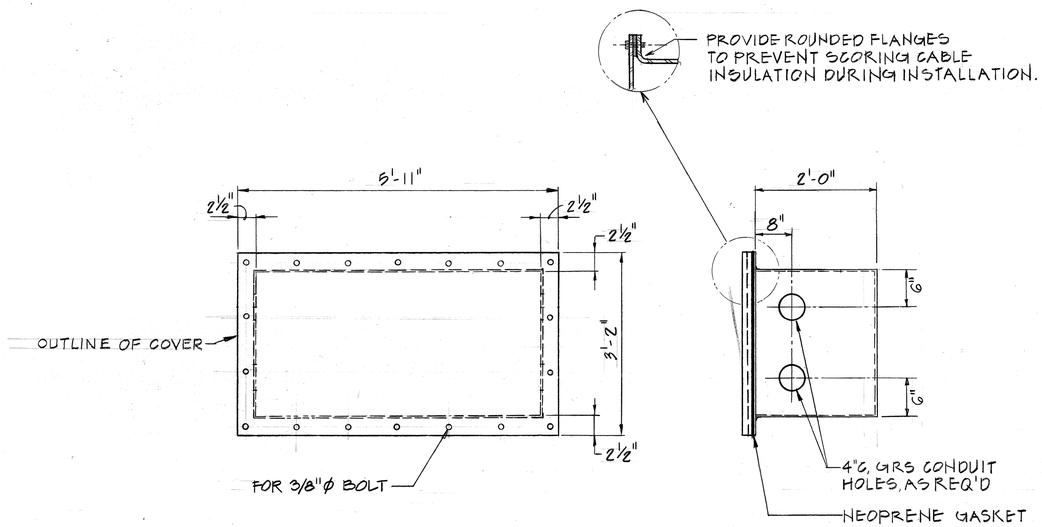
NOTES:

1. PULL BOXES SHALL BE NO. 10 CODE GAUGE STEEL HOT DIP GALVANIZED AFTER FABRICATION. SEE SPECIFICATION 630.02(C).
2. NEMA CLASSIFICATION SHALL BE WATER TIGHT NEMA TYPE 4.
3. PROVIDE COVERS & GASKETS, AS SHOWN.
4. PROVIDE A 4/0 GROUNDING WIRE LUG ATTACHED TO EACH BOX.
5. PULL BOX DIMENSIONS GIVEN ARE MINIMUM DIMENSIONS. FOR TYPE, SIZE AND LOCATION OF PULLBOXES IN TUNNELS SEE SHEET No's ST 8 AND ST10.

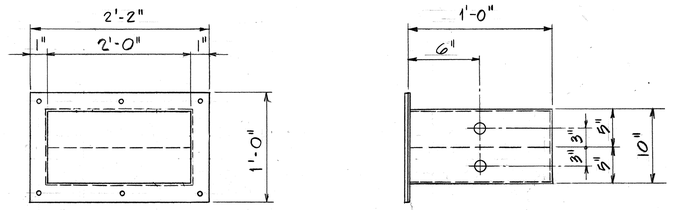


480V PULL BOX

(COVERS FACE CROSS PASSAGES)



12.47kV PULL BOX



HECO METERING PULL BOX

(ALL COVERS FACE TUNNELS)

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY G. OW-YANG	11-3-89
	TRACED BY	
NOTE BOOK	DESIGNED BY G. LOHMAN	6-1-89
	QUANTITIES BY	
No.	CHECKED BY J.J. SASSANI	11-25-89

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6920-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

DATE	REVISION
	AS BUILT
3/11/91	REVISED HDOT & HECO PB'S PER DCN 61-005
MAR 19 1990 ADDENDUM 1	REVISED PULL BOX DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONDUIT STANDARDS-2

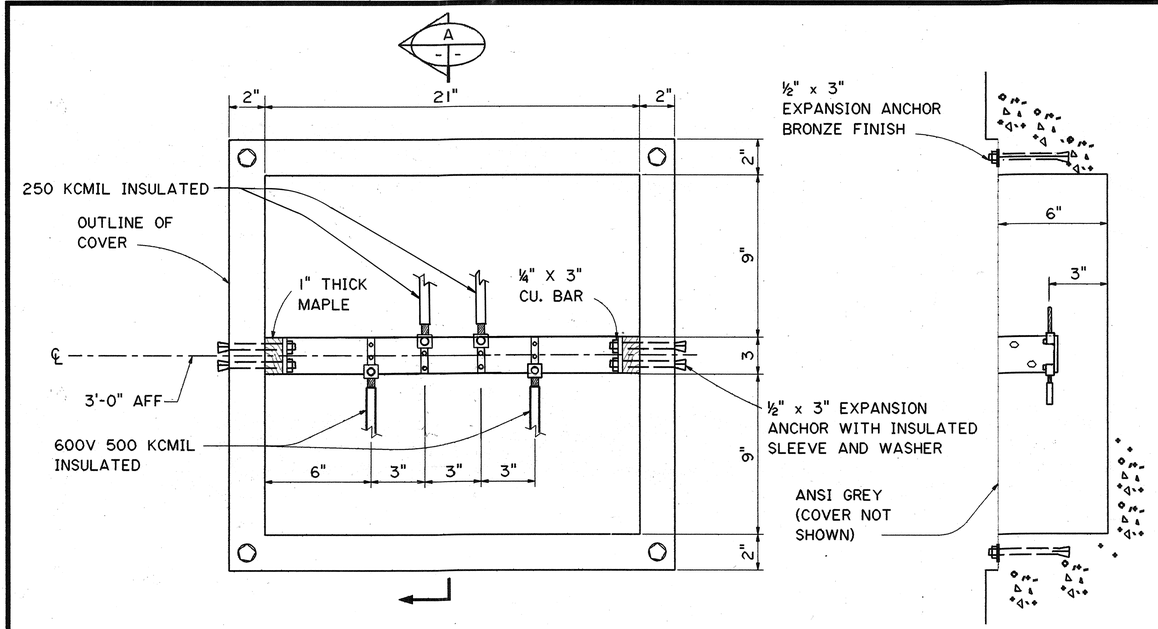
STANDARDS
INTERSTATE ROUTE H-3
F. A. I. PROJ. NO. I-H3-1(61)

SCALE: NONE DATE: JAN. 1990

SHEET NO. E3 OF 6 SHEETS

ADD. 313

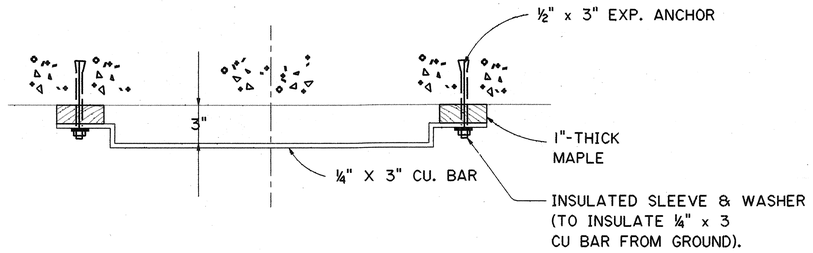
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	314	424

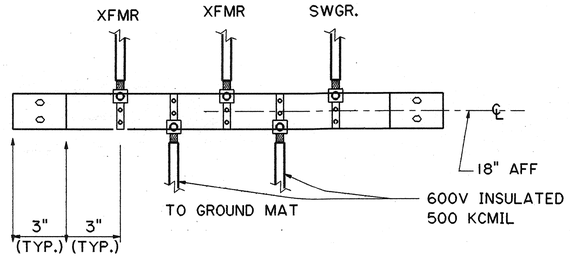


EQUIPMENT GROUND TEST STATION - ELEVATION

DETAIL 1 (EQ4 | EM2 EQ2)

SECTION A - -



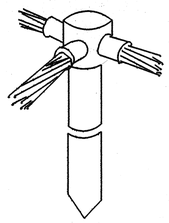


NEUTRAL GROUND BUS TEST STATION - ELEVATION

DETAIL 2 (EQ4 | EM2 EQ2)

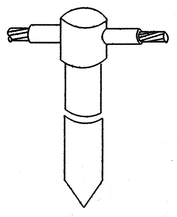
NOTE:

IN DETAILS 3 THRU 8, ALL CABLE JOINTINGS SHALL BE EXOTHERMIC.



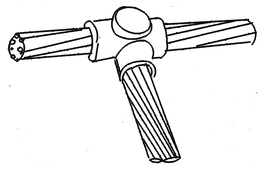
CABLE TO GROUND ROD

DETAIL 3 (- -)



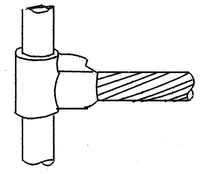
CABLE TO GROUND ROD

DETAIL 6 (- -)



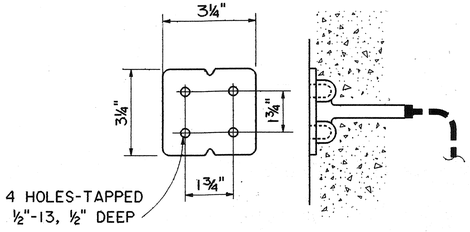
CABLE TO CABLE

DETAIL 4 (- -)



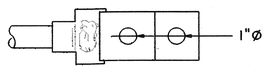
CABLE TO REBAR

DETAIL 7 (- -)



CAST BRONZE GROUND PLATE

DETAIL 5 (- -)



CABLE TO LUG

DETAIL 8 (- -)

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GROUNDING STANDARDS

STANDARDS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NONE DATE: JAN. 1990

SHEET NO. E4 OF 6 SHEETS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6400 E
HAWAII, U.S.A.

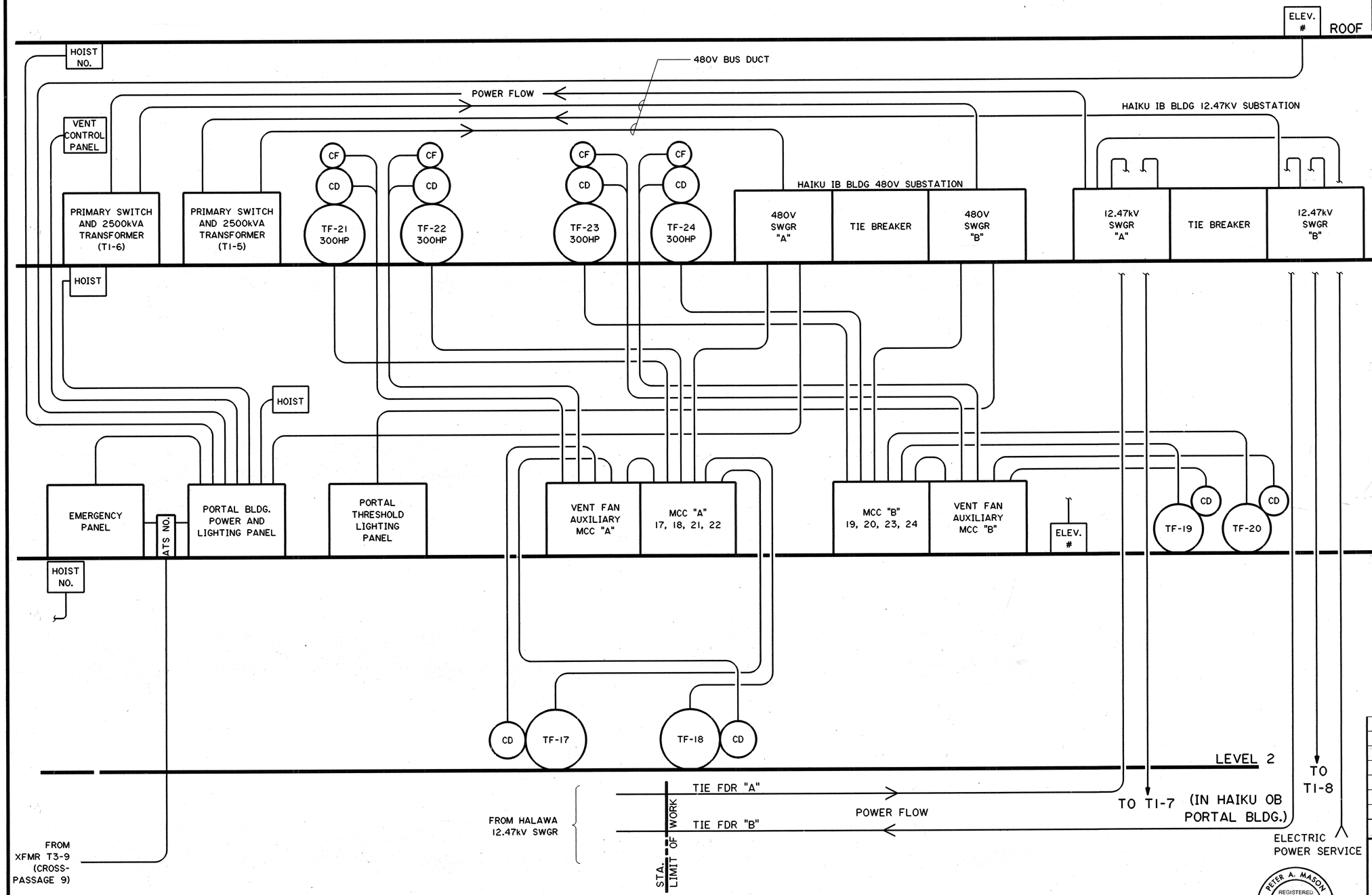
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

ORIGINAL PLAN	NOTE BOOK	NO.
SURVEY PLOTTED BY		DATE 10/18/89
DRAWN BY CADD		" " 7/28/89
TRACED BY		" "
DESIGNED BY F. JIMENEZ		" " 11/24/89
QUANTITIES BY		
CHECKED BY J. J. SASSANI		

2410V156_2410: V156 ES0116.FOB#1 07JUN89-16.42.40

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	315	424



NOTES:

1. SEE SHEET E6 FOR CONTROL WIRING PROVISIONS.
2. INBOUND PORTAL BLDG SHOWN; OUTBOUND PORTAL BLDG SIMILAR.

LEGEND:

TF	TUNNEL FAN
CF	COOLING FAN
CD	CONTROL DAMPER
HS	HIGH SPEED
LS	LOW SPEED
CL	CURRENT LIMITING

FOR INFORMATION ONLY. ALL EXPOSED CONDUITS AND EQUIPMENT (N.I.C.).

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	5/17/89
NOTE BOOK	TRACED BY	4/7/89
	DESIGNED BY H. TURK	
NO.	QUANTITIES BY	
	CHECKED BY J. J. SASSANI	11/24/89

DATE	REVISION
	AS BUILT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL POWER RISER DIAGRAM

STANDARDS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

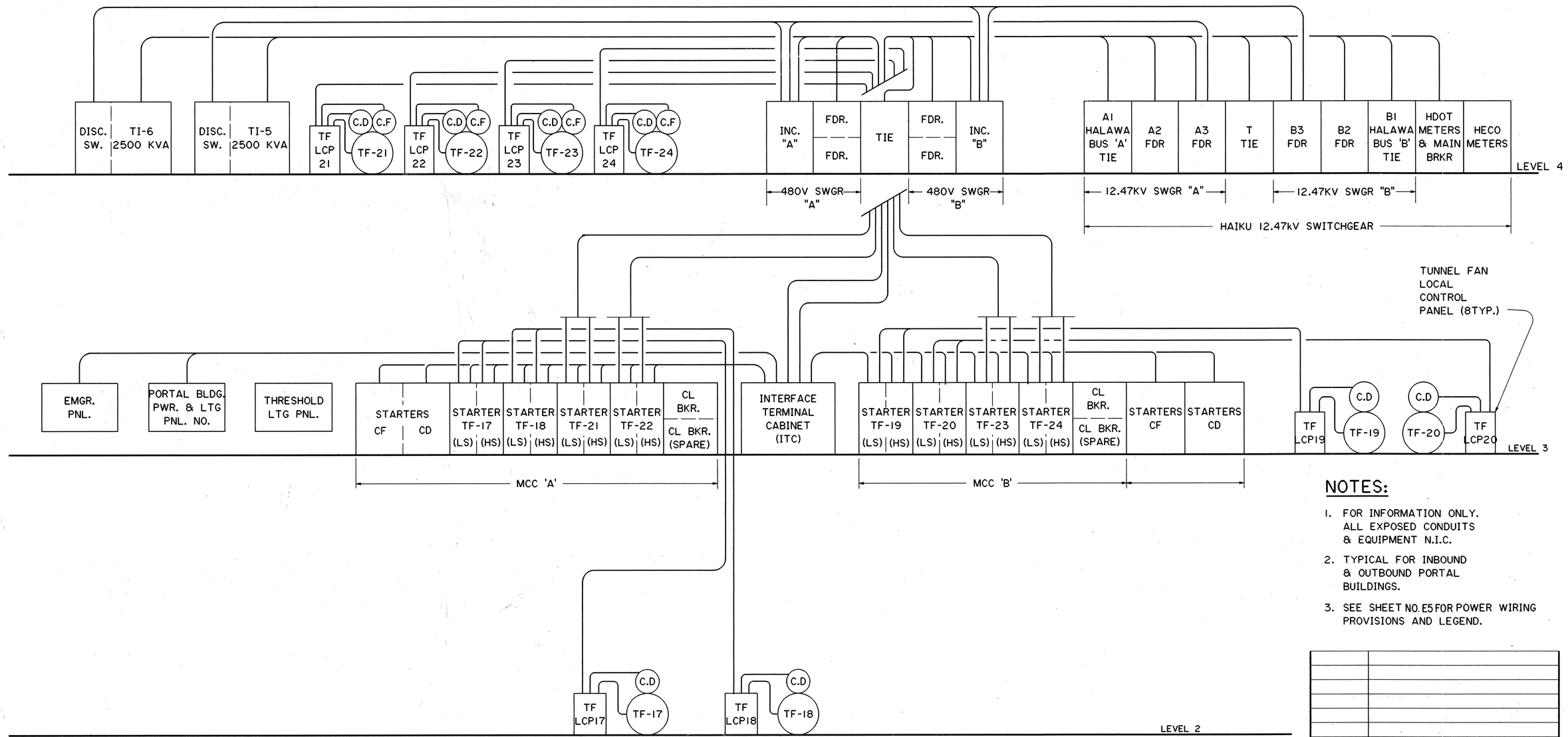
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

SCALE: NONE DATE: JAN. 1990

SHEET NO. E5 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	316	424



NOTES:

1. FOR INFORMATION ONLY. ALL EXPOSED CONDUITS & EQUIPMENT N.I.C.
2. TYPICAL FOR INBOUND & OUTBOUND PORTAL BUILDINGS.
3. SEE SHEET NO. E5 FOR POWER WIRING PROVISIONS AND LEGEND.

DATE	REVISION
	AS BUILT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL CONTROL RISER DIAGRAM

STANDARDS

INTERSTATE ROUTE H-3

F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NONE DATE: JAN. 1990

SHEET NO. E6 OF 6 SHEETS

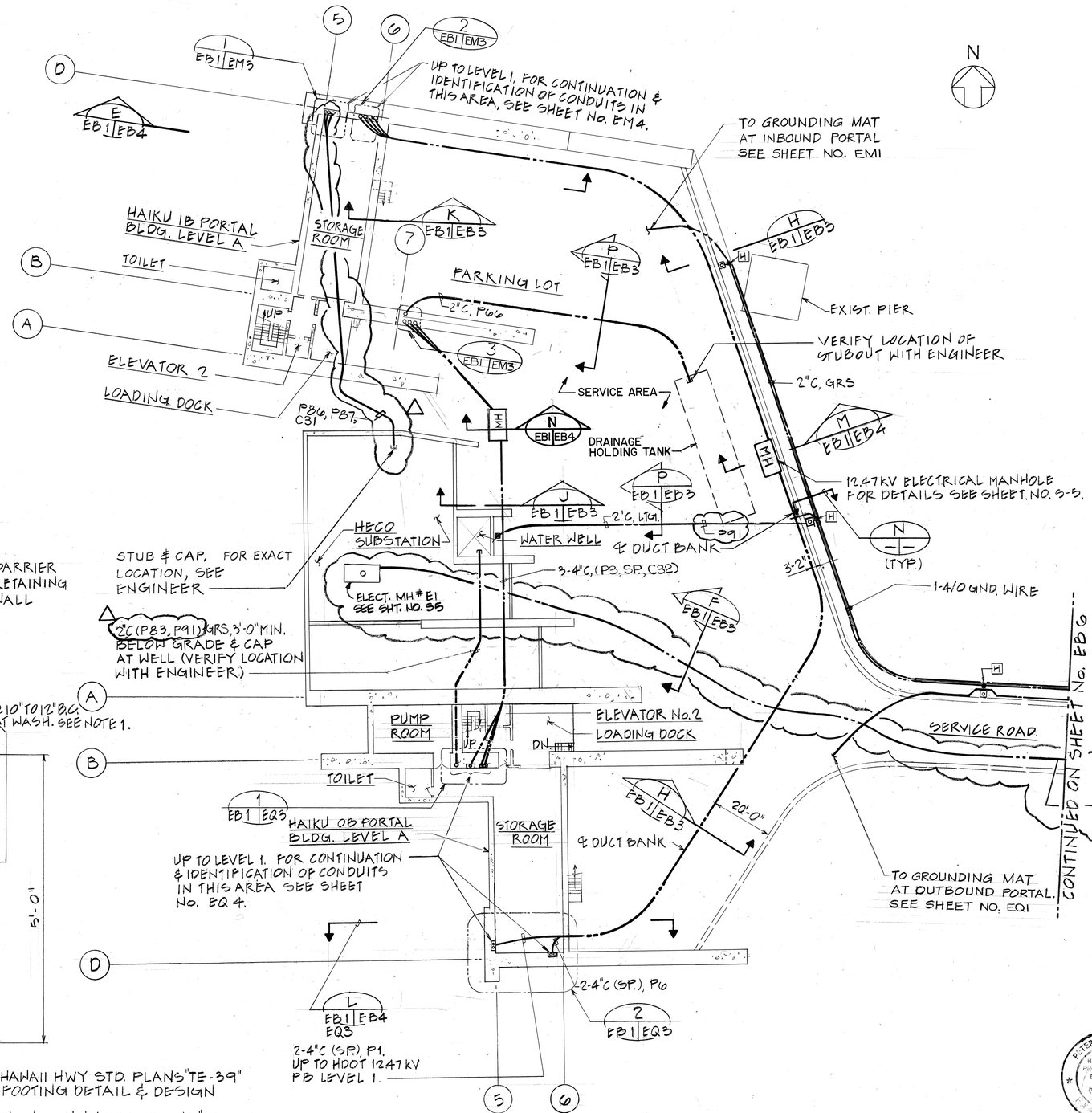
PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 04304E HAWAII, U.S.A.

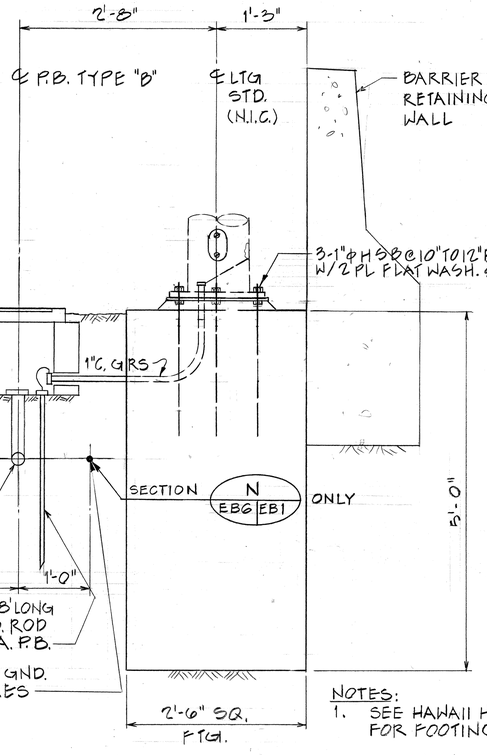
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/23/89
NOTE BOOK	TRACED BY	4/7/89
	DESIGNED BY H. TURK	
NO.	QUANTITIES BY	
	CHECKED BY J. J. SASSANI	11/24/89

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	317	424





NOTES:
1. SEE HAWAII HWY STD. PLANS "TE-39" FOR FOOTING DETAIL & DESIGN
2. SEE HAWAII HWY STD. PLANS "TE-41" FOR TYPE "B" PULL BOX.

SECTION N / N EB6 EB1
SCALE: 1" = 1'-0"

GENERAL NOTES:
1. VERIFY LIGHTING POLE BOLT CIRCLE (B.C.) DIAMETER WITH ENGINEER.
2. FOR LOCATION OF UNDERGROUND UTILITY, SEE SHEET No. CB7 & CB8.

FOR DETAIL AS-BUILT INFORMATION REFER TO CONSTRUCTION SUBMITTALS

DATE	REVISION
10/26/92	REV. ROUTING FOR DUCT BANK FROM IB PORTAL BLDG. AND REV. 46kV DUCT BANK PER DCN 61-032
1/27/92	ADDED MANHOLE PER DCN 61-022
4/26/90	REVISED CONDUIT LAYOUT IN INBOUND PORTAL

ORIGINAL PLANS	NOTE BOOK	No.	SURVEY PLOTTED BY / DRAWN BY / TRACED BY / DESIGNED BY / QUANTITIES BY / CHECKED BY	DATE
			DWT-YANKA	10/15/89
			GL LOHMAN	10/18/89
			J.J. SASSANI	11/29/89

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UNDERGROUND DUCTS PLAN - 1

HAIKU APPROACH
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1"=20' DATE: JAN. 1990

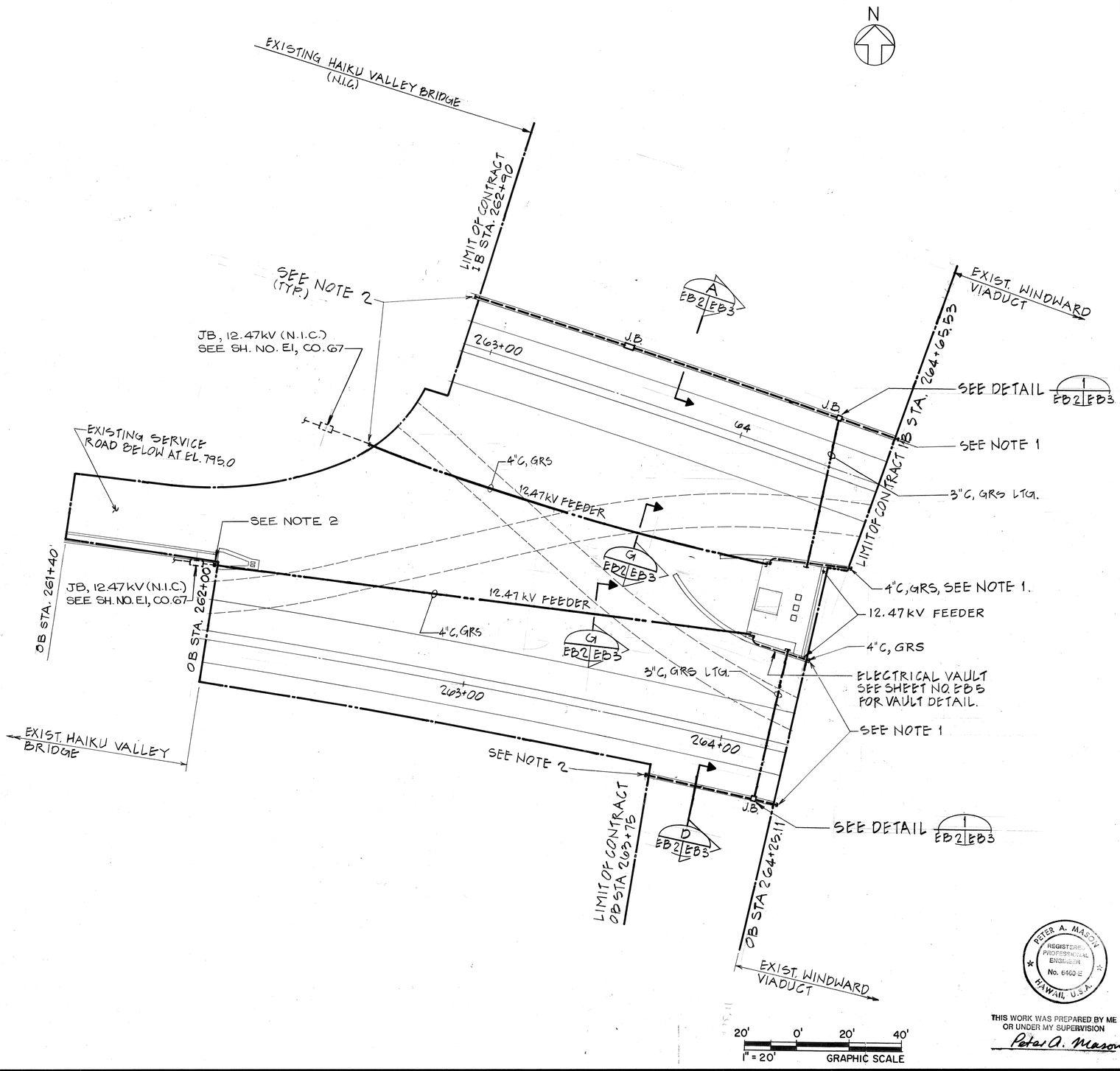
PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. [illegible]

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

SHEET NO. EB1 OF 6 SHEETS

C.O. ADD. 317

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	318	424



NOTES:

1. CONNECT CONDUITS TO EXISTING CONDUITS EMBEDDED IN SAFETY BARRIERS OF THE WINDWARD VIADUCTS.
2. CONNECT CONDUITS IN SAFETY BARRIER OF THE HAIKU VALLEY BRIDGES.

ORIGINAL PLANS	SURVEY PLOTTED BY	DATE
	DRAWN BY S.W.-YANG	11-3-89
NOTE BOOK	TRACED BY	10-1-89
	DESIGNED BY G. LOHMAN	10-1-89
No.	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	11-29-89

DATE	REVISION
	AS BUILT
4/20/90	ADDED 12.47kV J-BOXES (N.I.C.)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UNDERGROUND DUCTS PLAN-2

HAIKU APPROACH
INTERSTATE ROUTE H-3
F. A. I. PROJ. NO. I-H3-1(61)

SCALE: 1"=20' DATE: JAN. 1990

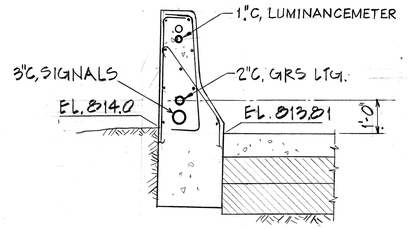
SHEET NO. EB2 OF 6 SHEETS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

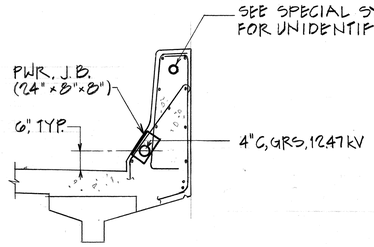
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

ADD. 318

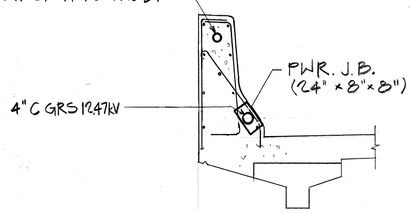
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	319	424



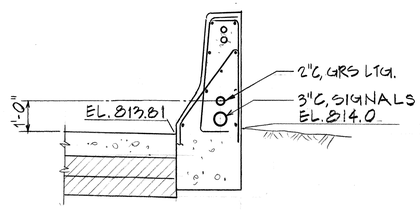
SECTION A (EB2 | EB3)
N.T.S.



SECTION B (EM4 | EB3)
N.T.S.
NOTE: EXIST. FOR INFORMATION ONLY

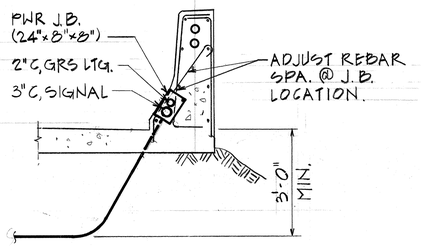


SECTION C (EQ4 | EB3)
N.T.S.
NOTE: EXIST. FOR INFORMATION ONLY.

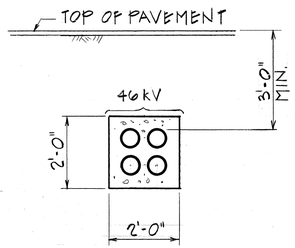


SECTION D (EB2 | EB3 | EQ4)
N.T.S.

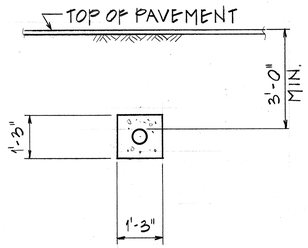
NOTES:
1. FOR CONCRETE BARRIER REINFORCING STEEL, SEE SHEET No. SB 2.
2. FOR ELECTRICAL DUCT BANK REINFORCING STEEL, SEE SHEET No. SB



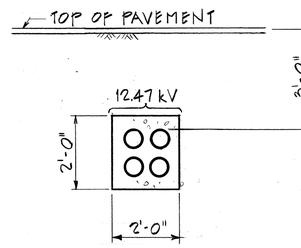
DETAIL I (EB2 | EB3)
N.T.S.



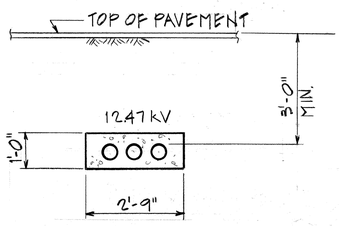
4-5"C PVC
SECTION F (EB1 | EB3)
N.T.S.



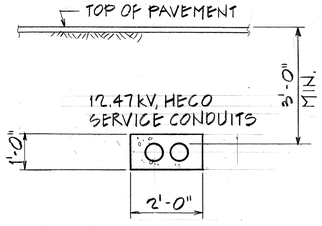
4"C. PVC
SECTION G (EB2 | EB3)
N.T.S.



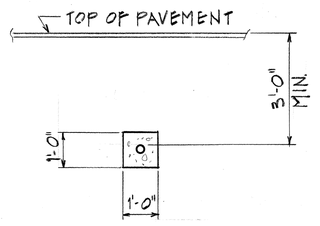
4-4"C PVC
SECTION H (EB1 | EB3)
N.T.S.



3-4"C PVC
SECTION J (EB1 | EB3)
N.T. S.



2-6"GRS
SECTION K (EB1 | EB3 | EB4)
N.T.S.



2" PVC
SECTION P (EB1 | EB3)
N.T.S.

ORIGINAL PLANS	SURVEY PLOTTED BY	DATE 11-05-89
	DRAWN BY G. CHUN-YANG	
NOTE BOOK	TRACED BY	DATE 02-17-89
	DESIGNED BY G. LOHMAN	
No.	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	DATE 11-05-89

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason
REGISTERED PROFESSIONAL ENGINEER No. 6100-E HAWAII, U.S.A.

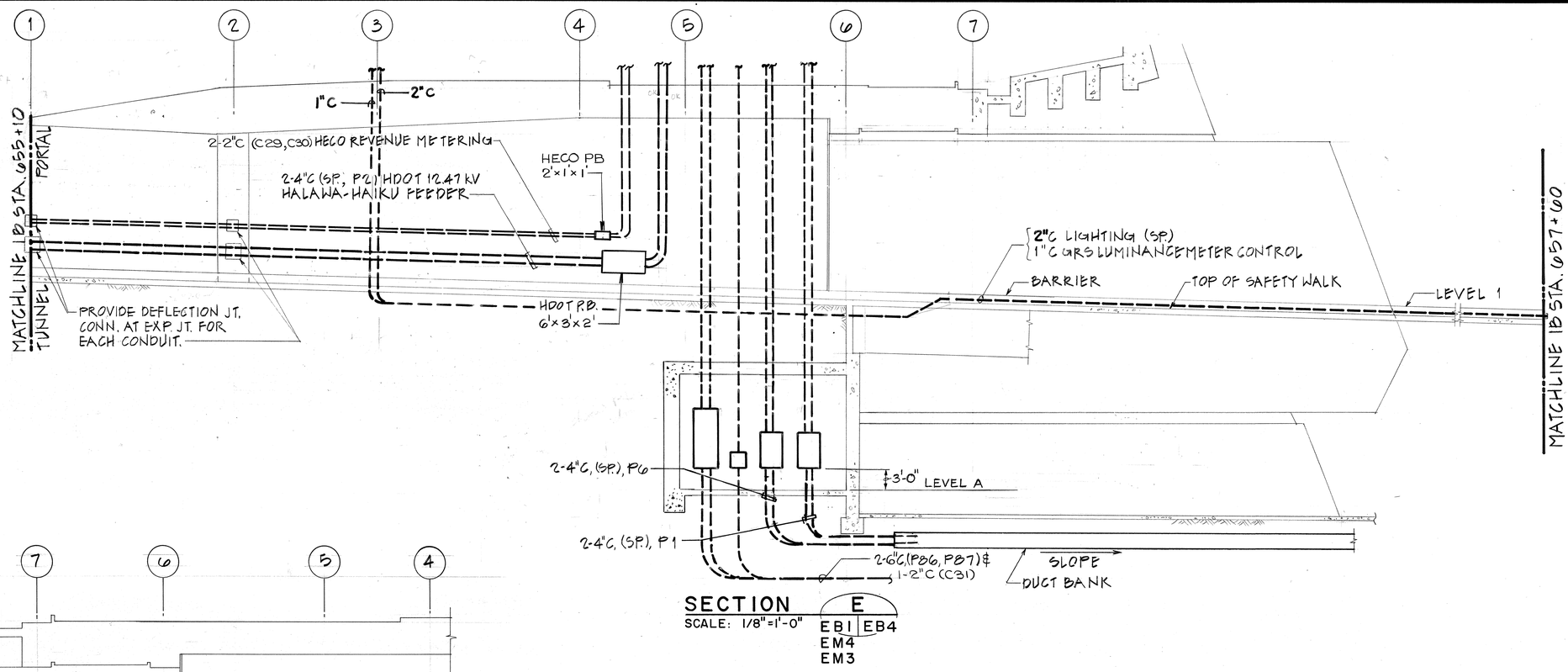
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

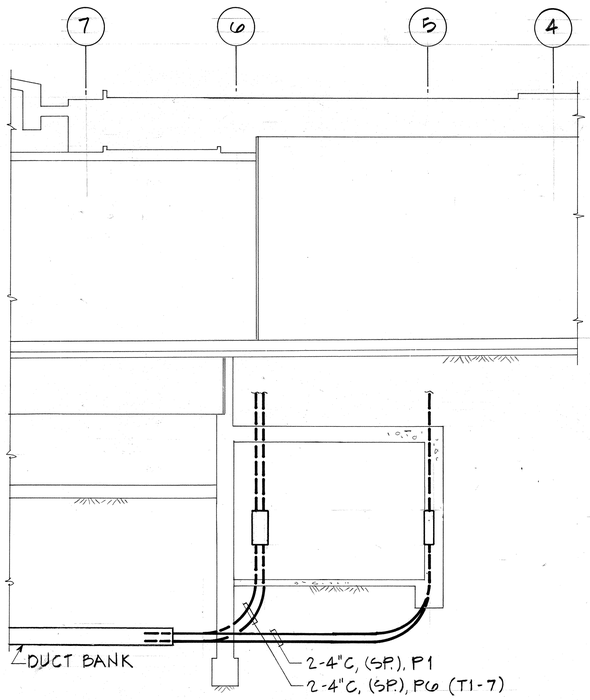
UNDERGROUND DUCTS SECTIONS & DETAILS-1

HAIKU APPROACH
INTERSTATE ROUTE H-3
F. A. I. PROJ. NO. I-H3-1(61)
SCALE: AS NOTED DATE: JAN. 1990
SHEET NO. EB3 OF 6 SHEETS

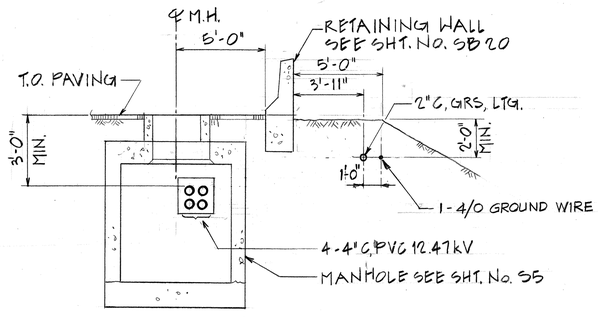
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	320	424



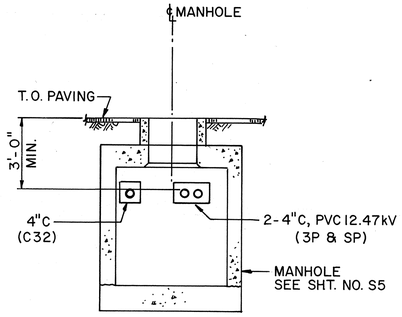
SECTION E
SCALE: 1/8"=1'-0"
EB1 | EB4
EM4
EM3



SECTION L
SCALE: 1/8"=1'-0"
EB1 | EB4
EQ3, EQ4



SECTION M
SCALE: 1/4"=1'-0"
EB1 | EB4



SECTION N
SCALE: 1/4"=1'-0"
EB1 | EB4

8' 0' 8' 16'
1/8" = 1'-0" GRAPHIC SCALE
4' 0' 4' 8'
1/4" = 1'-0" GRAPHIC SCALE

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. [illegible] U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

ORIGINAL PLAN	SURVEY PLOTTED BY	G. ONG-YANG	DATE	10/03/89
	DRAWN BY			05/13/90
NOTE BOOK	TRACED BY	G. LOHMAN		
	DESIGNED BY			
No.	QUANTITIES BY			11/15/89
	CHECKED BY	J.J. SASSANI		

DATE	REVISION
1/27/92	ADDED SECTION 'N' PER DCN 61-022
4/26/90	REVISED SECTION 'E'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UNDERGROUND DUCTS SECTIONS & DETAILS-2

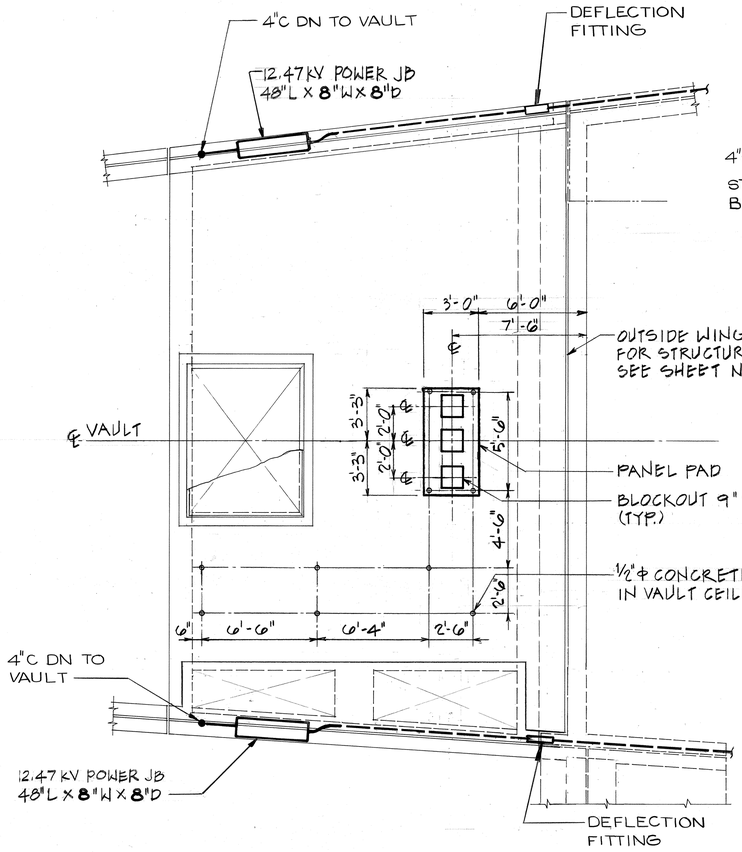
HAIKU APPROACH
INTERSTATE ROUTE H-3
F. A. I. PROJ. NO. I-H3-1(61)

SCALE: AS NOTED DATE: JAN. 1990

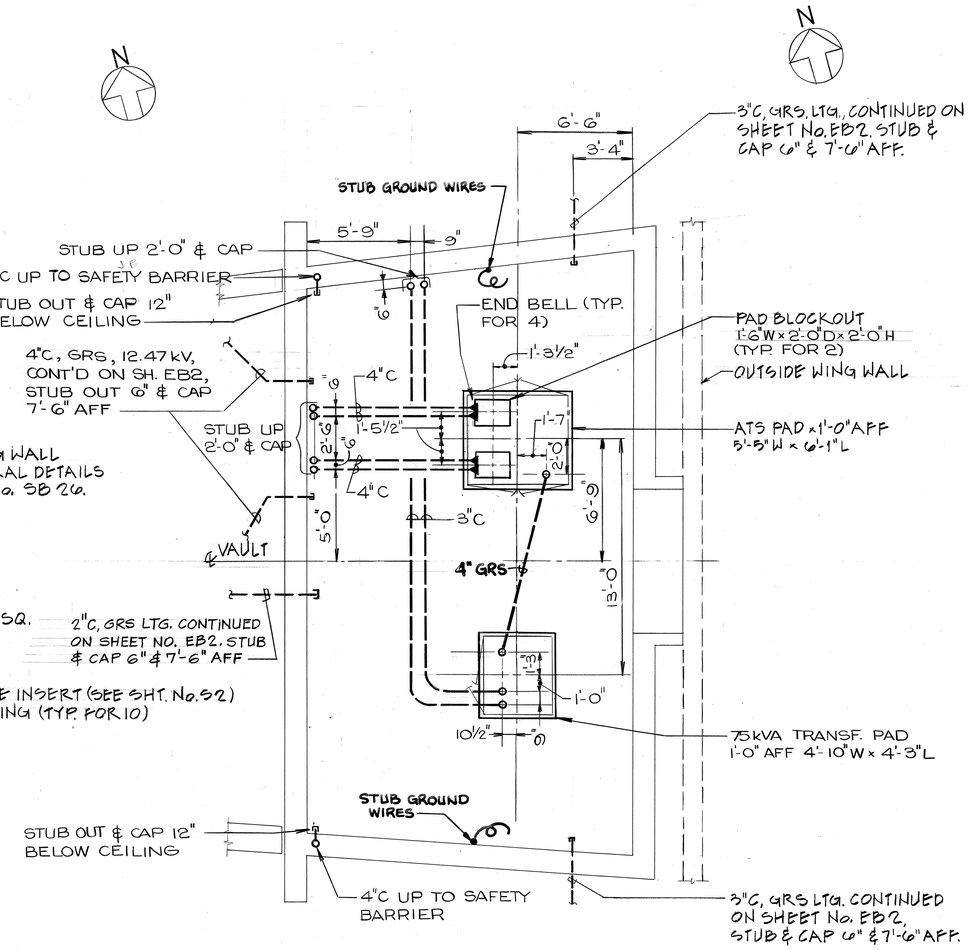
SHEET NO. EB4 OF 6 SHEETS

ADD. 320

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	321	424



ROOF PLAN



FLOOR PLAN

NOTE:

1. ALL STUB-UPS' IN EQUIPMENT PADS SHALL BE 6".

ORIGINAL PLANS	SURVEY PLOTTED BY	DW-YANG	DATE	11-2-89
	DRAWN BY	" "		
NOTE BOOK	TRACED BY	" "		10-17-89
	DESIGNED BY	G. LOHMAN		
No.	QUANTITIES BY	" "		11-25-89
	CHECKED BY	F.J. SASSANI		

4' 0' 4' 8'
1/4" = 1'-0" GRAPHIC SCALE

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6460-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

DATE	REVISION
4/26/90	REVISED CONDUIT ON ROOF PLAN & DELETED DETAIL 1

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSSOVER ELECTRICAL VAULT

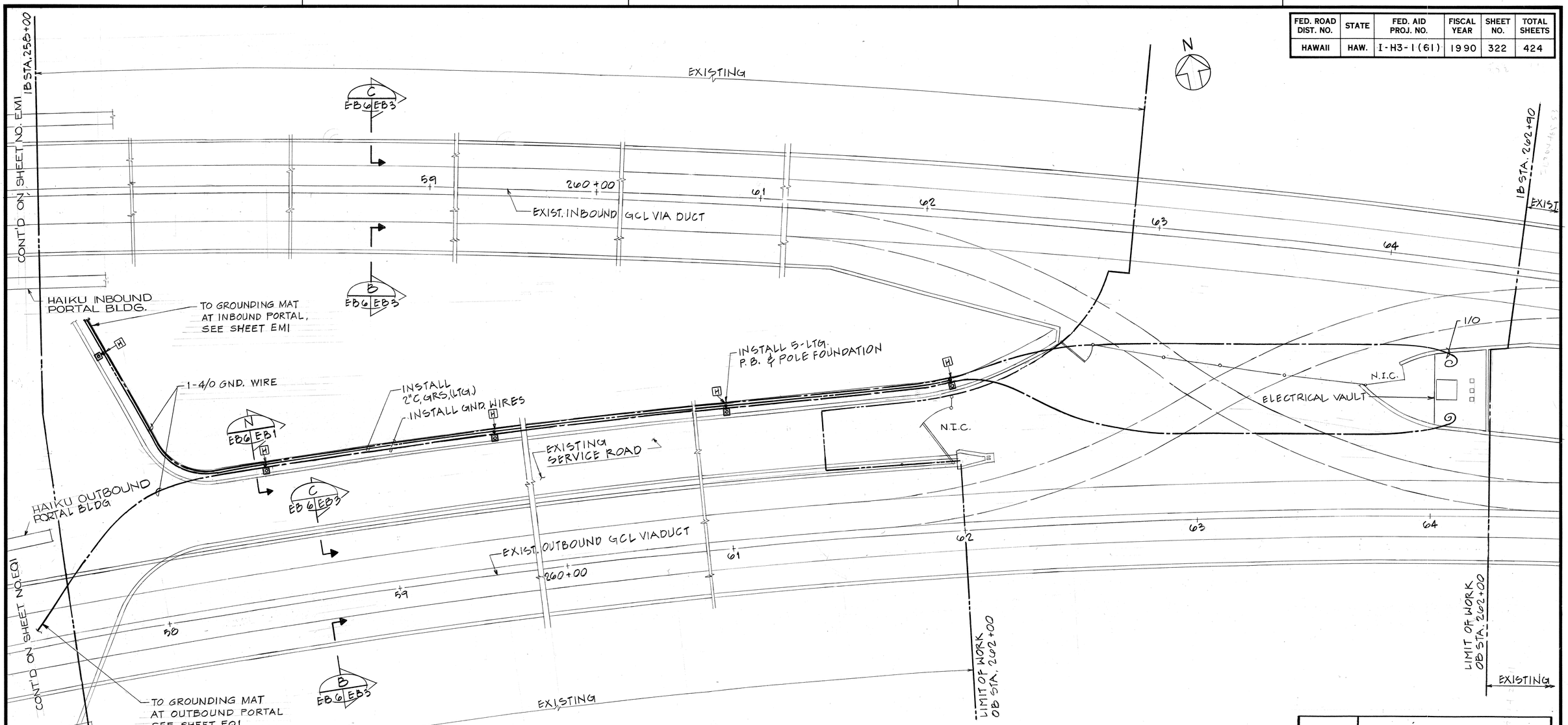
HAIKU APPROACH
INTERSTATE ROUTE H-3
F. A. I. PROJ. NO. I-H3-1(61)

SCALE: 1/4" = 1'-0" DATE: JAN. 1990

SHEET NO. EB5 OF 6 SHEETS

ADD. 321

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	322	424



NOTES:

1. GROUNDING CABLES SHALL BE INSTALLED 2'-0" BELOW GROUND SURFACE.
2. DO NOT CONNECT EXISTING FARADAY SHIELD TO TUNNEL SYSTEM OR EQUIPMENT GROUND WIRE.

20' 0' 20' 40'
1" = 20' GRAPHIC SCALE

ORIGINAL PLANS	SURVEY PLOTTED BY	DATE
	DRAWN BY G.OW-YANG	11-2-89
NOTE BOOK	TRACED BY	12-1-89
	DESIGNED BY G. LOHMAN	
NO.	QUANTITIES BY	11-25-89
	CHECKED BY J.J. SASSAN	

DATE	REVISION
4/26/90	DELETED GROUNDING CONNECTIONS TO GATES

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6460 E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GROUNDING

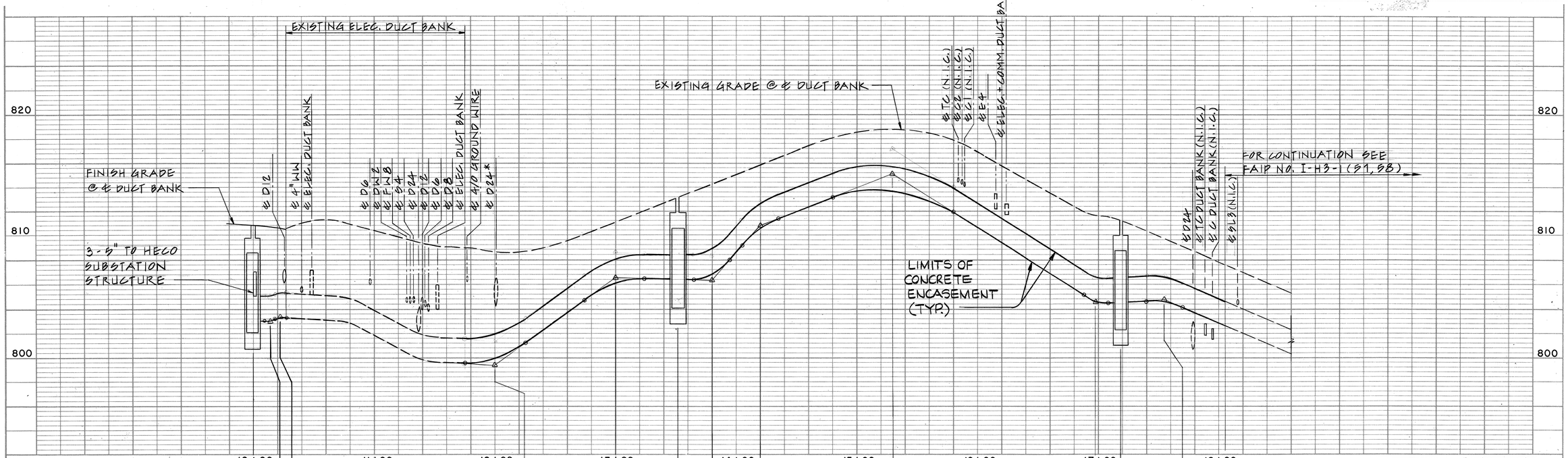
HAIKU APPROACH
INTERSTATE ROUTE H-3
F. A. I. PROJ. NO. I-H3-1(61)

SCALE: 1"=20' DATE: JAN. 1990

SHEET NO. EB6 OF 6 SHEETS

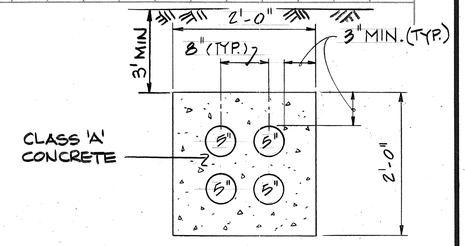
ADD. 322

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	322 S-1	424



46kV DUCT BANK

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



TYPICAL DUCT BANK SECTION

N. T. S.

	AS BUILT
10/26/92	SHEET ADDED PER DCN 61-032
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

46 kV DUCT BANK PROFILE

HAIKU APPROACH
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: AS NOTED DATE: OCT 1992

SHEET NO. EB6A OF 6 SHEETS

WILLIAM H HANSMIRE
REGISTERED PROFESSIONAL ENGINEER
No. 5720-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

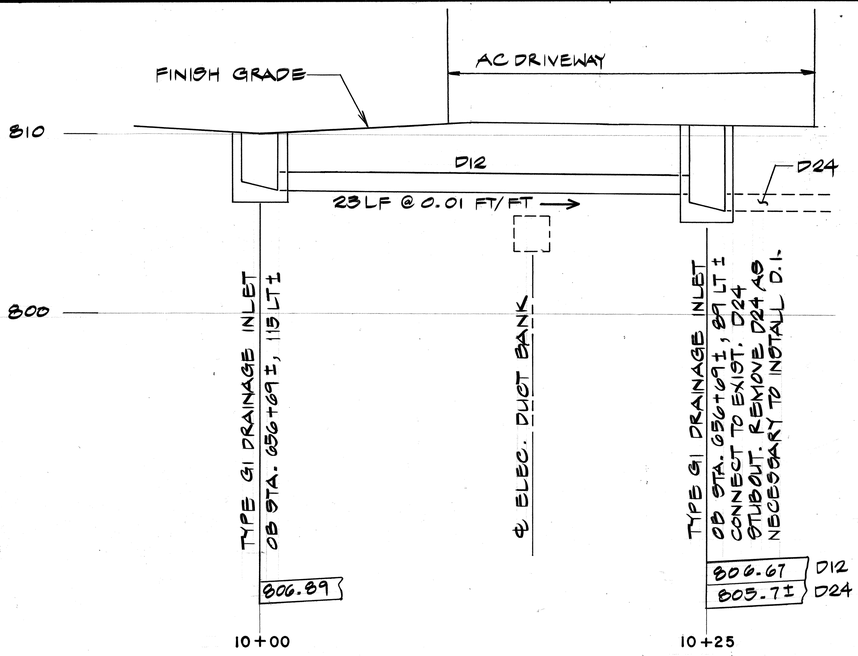
William H. Hansmire

ORIGINAL PLAN
NOTE BOOK
No.

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

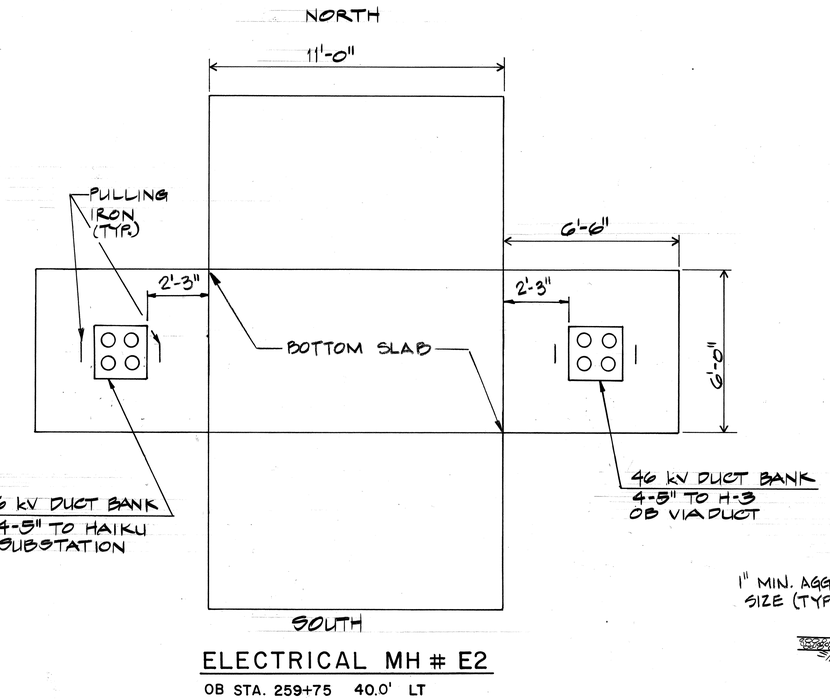
C.O. 322 S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	322 S-2	424



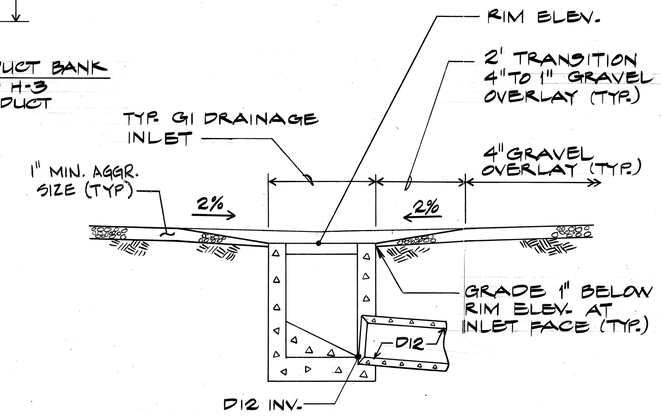
12" HAIKU SUBSTATION DRAIN

SCALE: 1" = 4'-0" HORIZON.
1" = 4'-0" VERT.



ELECTRICAL MH # E2

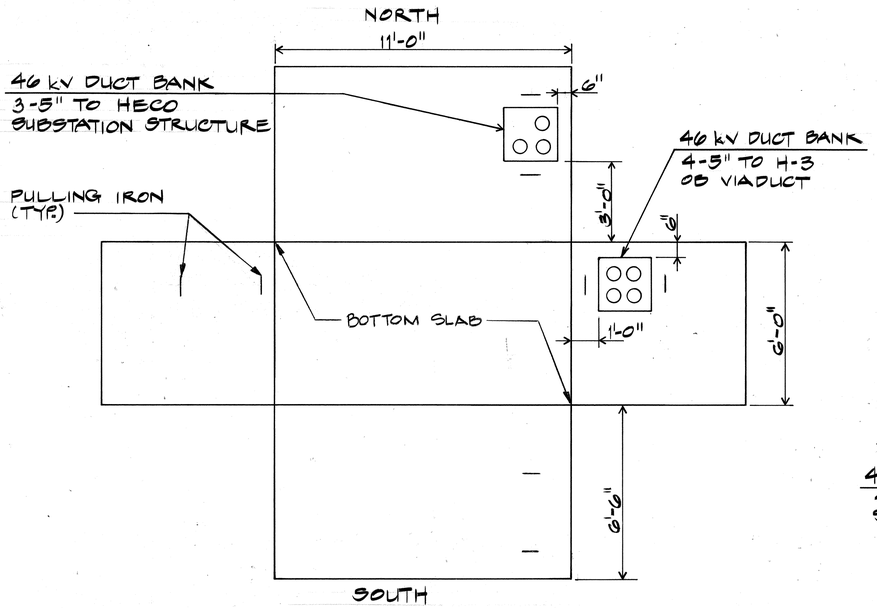
OB STA. 259+75 40.0' LT
SCALE: 3/8" = 1'-0"



TYPE GI DRAINAGE INLET SECTION

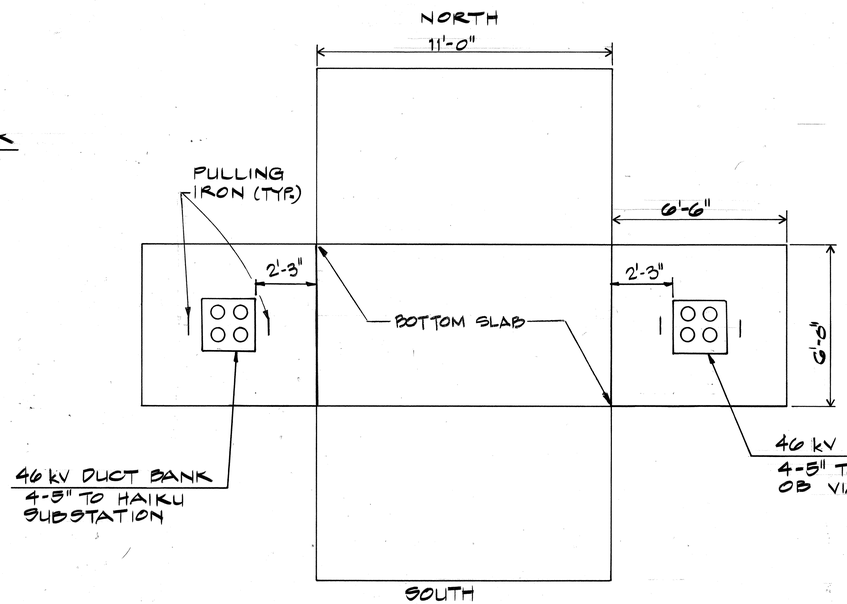
SCALE: 1/2" = 1'-0"

A CB7 EB6B



ELECTRICAL MH # E1

OB STA. 656+44 99' LT.
SCALE: 3/8" = 1'-0"



ELECTRICAL MH # E3

OB STA. 263+25 11.0' RT
SCALE: 3/8" = 1'-0"

	AS BUILT
10/26/92	SHEET ADDED PER DCN 61-032
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

46kV DUCT BANK

MISC. DETAILS

HAIKU APPROACH
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: AS NOTED DATE: OCT 1992

SHEET NO. EB6B OF 6 SHEETS

WILLIAM H. HANSMIRE REGISTERED PROFESSIONAL ENGINEER No. 5720-C HAWAII, U.S.A.

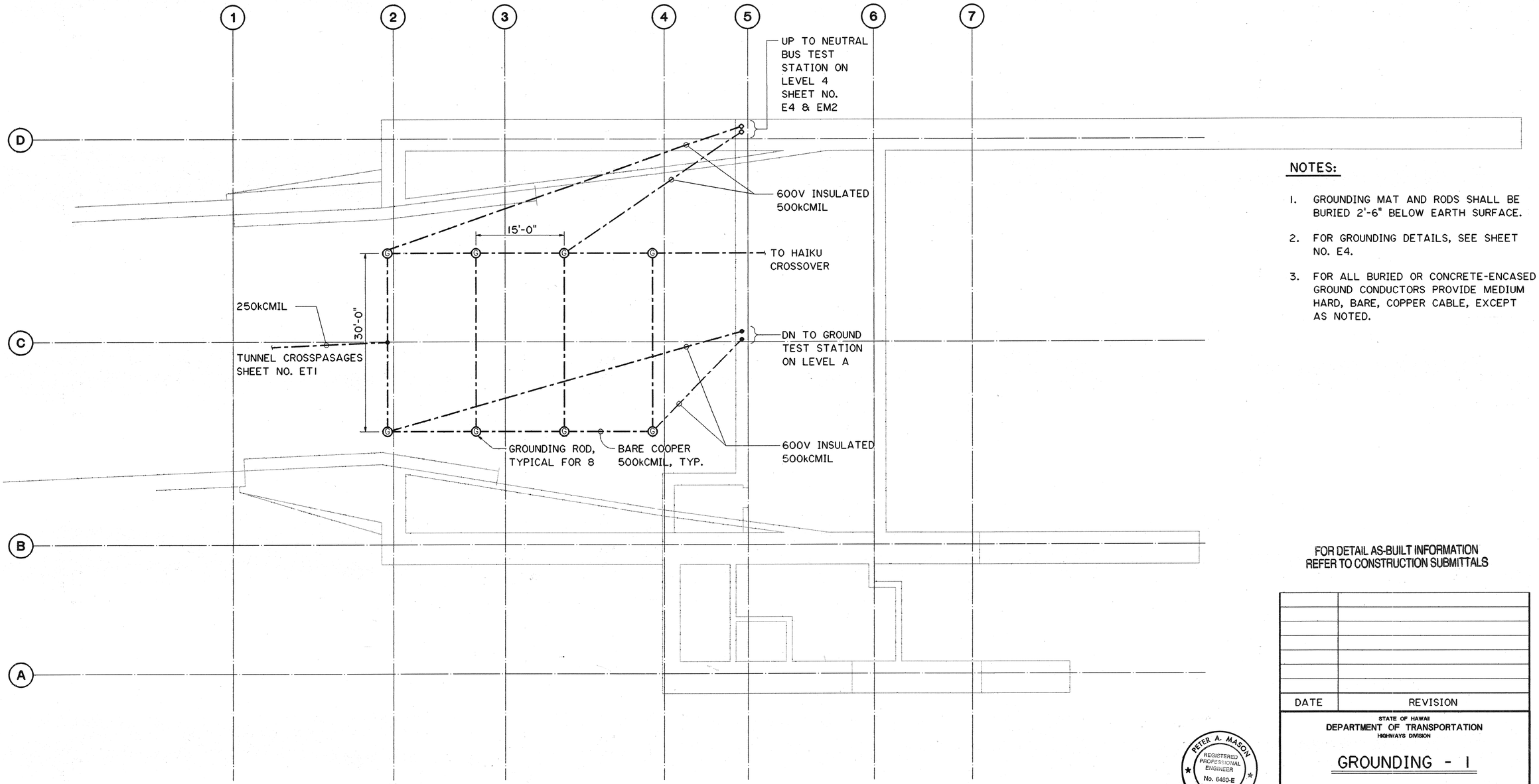
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

William H. Hansmire

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

C.O. 322 S-2

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	323	424



N

NOTES:

1. GROUNDING MAT AND RODS SHALL BE BURIED 2'-6" BELOW EARTH SURFACE.
2. FOR GROUNDING DETAILS, SEE SHEET NO. E4.
3. FOR ALL BURIED OR CONCRETE-ENCASED GROUND CONDUCTORS PROVIDE MEDIUM HARD, BARE, COPPER CABLE, EXCEPT AS NOTED.

FOR DETAIL AS-BUILT INFORMATION REFER TO CONSTRUCTION SUBMITTALS

GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GROUNDING - I

HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

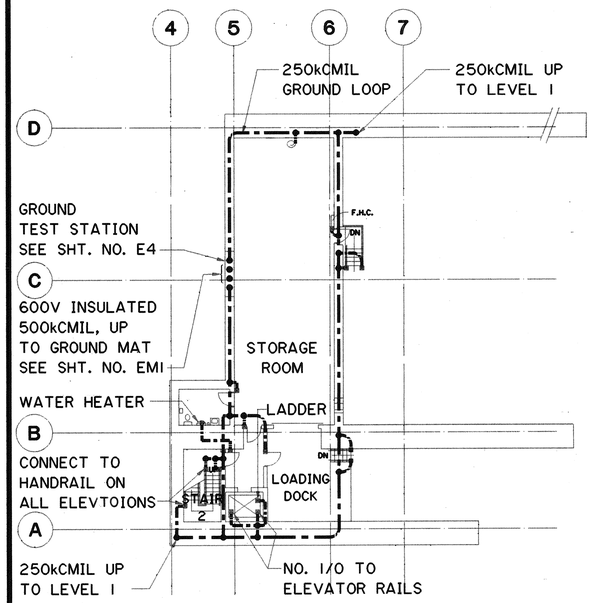
SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EMI OF 18 SHEETS

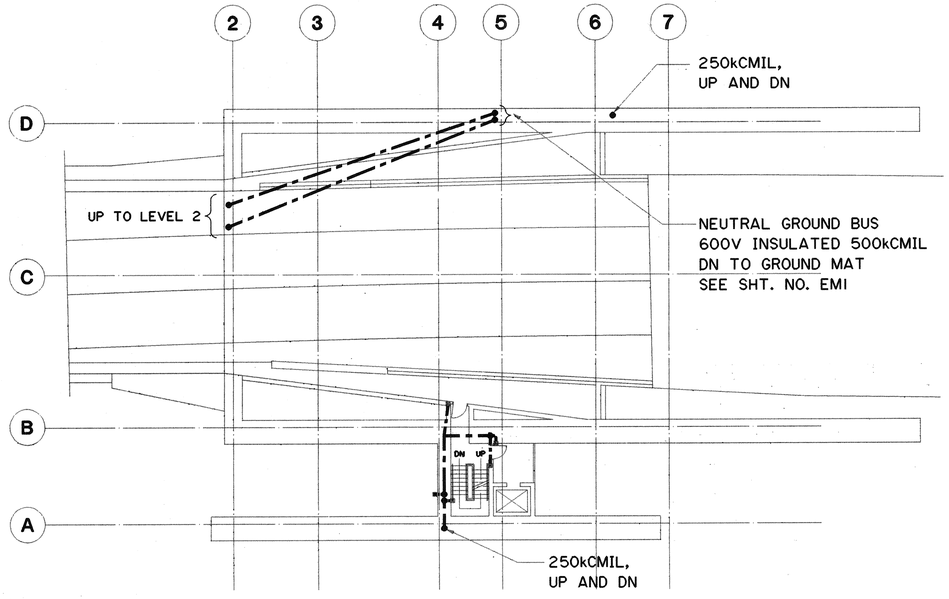
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	" 11/03/89
	TRACED BY	"
NOTE BOOK	DESIGNED BY F. JIMENEZ	" 10/17/89
	QUANTITIES BY	"
NO.	CHECKED BY J.J. SASSANI	" 11/24/89

2410V152 2410: V152 ES0060.FGB;1 20NOV89-09.48.30

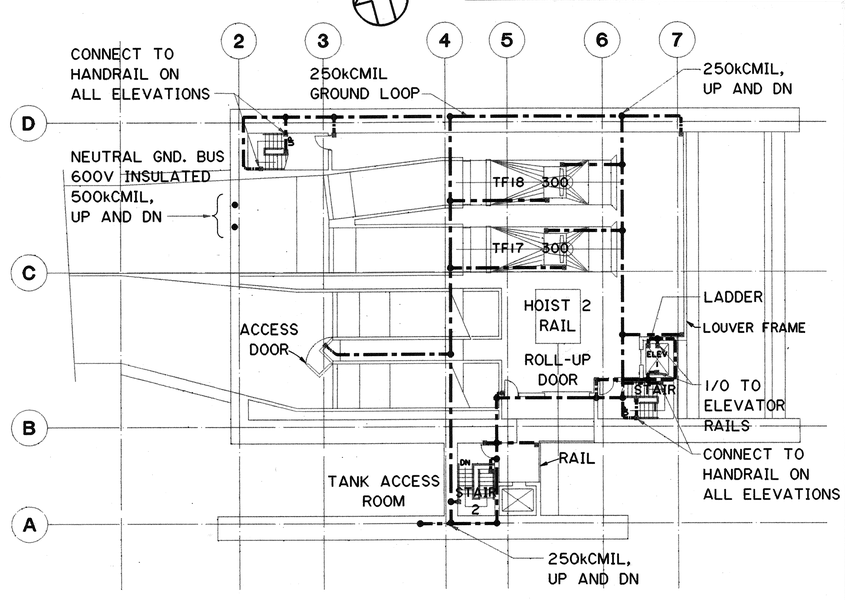
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	324	424



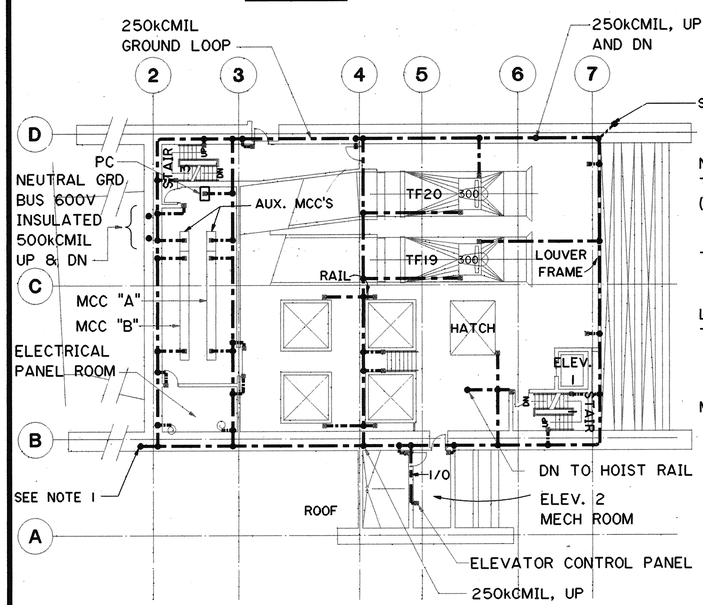
LEVEL A



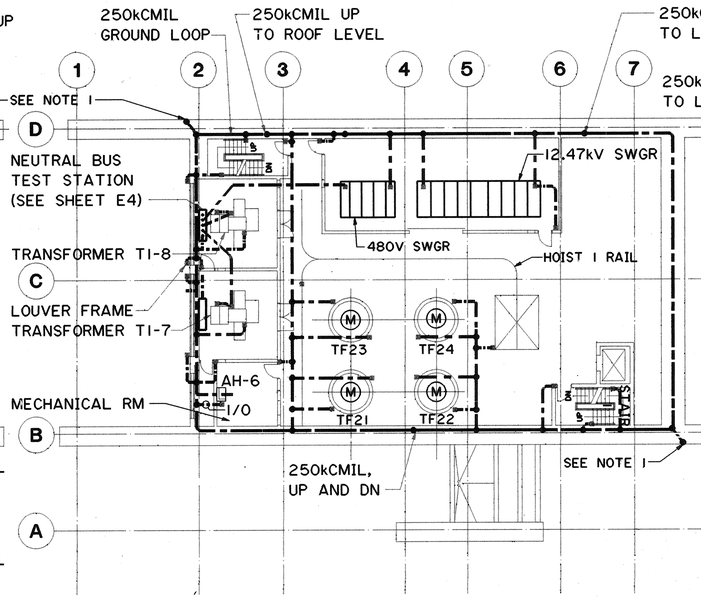
LEVEL 1



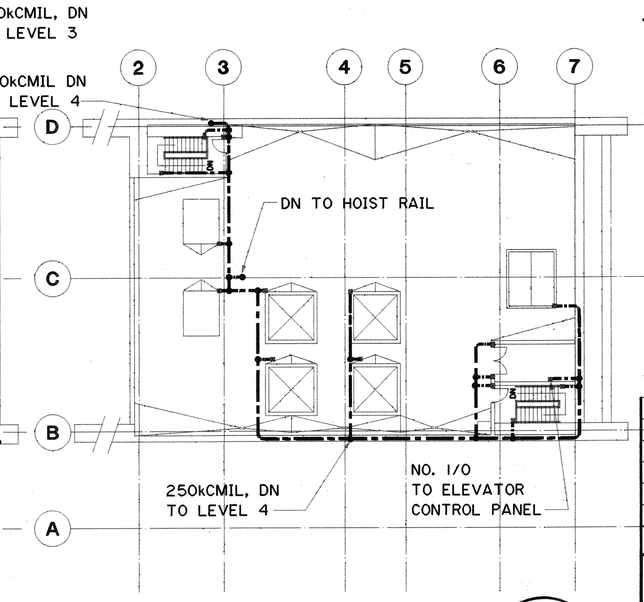
LEVEL 2



LEVEL 3



LEVEL 4



ROOF

NOTES:

1. CONNECT NEUTRAL BUS TEST STATION TO BUILDING MAIN REINFORCING STEEL WITH AN INSULATED 250kCMIL GROUND CABLE.
2. UNLESS OTHERWISE SHOWN, SIZE OF CABLE CONNECTIONS SHALL BE NO. 8 STRANDED FOR DOORS, ELECTRICAL WALL-MOUNTED PANELS, STAIRS, HATCHES, RAILS AND LOUVERS.
3. ABOUT 5 FEET OF CABLE, TAPED AND PROTECTED, SHALL BE LEFT FOR CONNECTIONS NOT IN THIS CONTRACT AT LOCATIONS SHOWN.
4. ALL GROUNDING WIRES RUN IN OUTSIDE WALLS SHALL BE INSULATED.

DATE	REVISION

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/18/93
NOTE BOOK	TRACED BY F. JIMENEZ	3/16/91
	DESIGNED BY	
NO.	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	11/25/89

GRAPHIC SCALE
16' 8' 0' 16' 32'
1/16"=1'-0"

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6460-E HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GROUNDING - 2

HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1/16" = 1'-0" DATE: JAN 1990

SHEET NO. EM2 OF 18 SHEETS

2410V154 2410: V154 ES0114.FGB>1 29NOV89-08.43.40

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	325	424

N

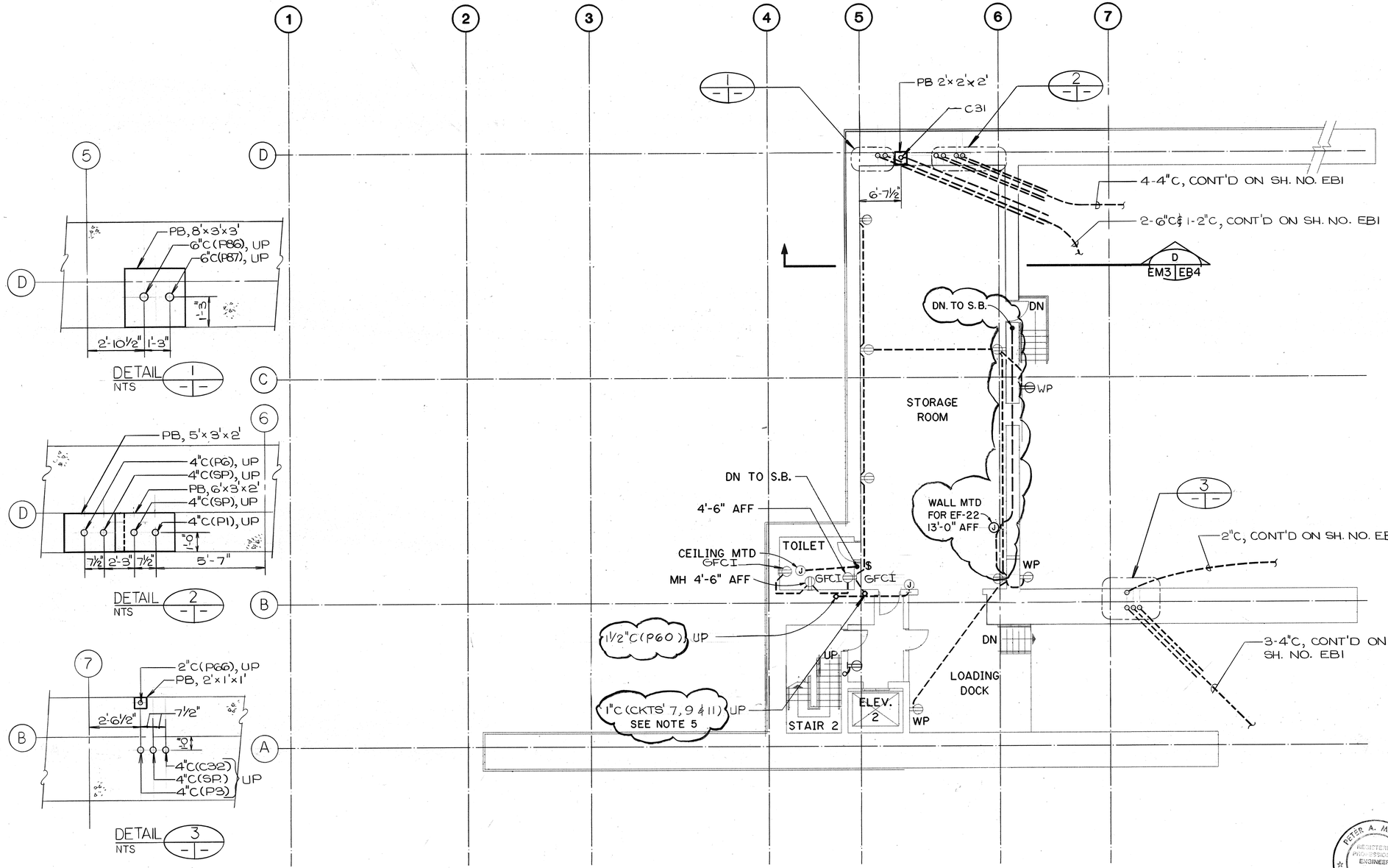
GENERAL NOTES:

1. FOR CONDUIT DETAILS SEE SHEET NO. E2.
2. BOXES FOR DEVICES AND EQUIPMENT SHALL BE SUPPLIED AND INSTALLED FOR CONDUIT RUN SHOWN. MOUNTING HEIGHT SHALL BE AS FOLLOWS:

   RECEPTACLE 18" AFF

   ROLL-UP DOOR 13'-0" AFF

   EQUIPMENT AS SHOWN
3. FOR UNDERGROUND CONDUIT LOCATIONS SEE SHEET EBI.
4. ALL ENDS OF CONDUITS WITHOUT BOXES SHALL BE TERMINATED WITH COUPLINGS AND PLUGS.
5. CKT NO'S ARE NIC AND ARE FOR REFERENCE ONLY.



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6400-E HAWAII, U.S.A.

FOR DETAIL AS-BUILT INFORMATION REFER TO CONSTRUCTION SUBMITTALS

DATE	REVISION
4/26/90	GENERAL REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT LEVEL A PLAN

HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛" = 1'-0" DATE: JAN 1990

SHEET NO. EM3 OF 18 SHEETS

ADD. 325

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY CADD	11-25-89
NO.	TRACED BY	11-26-89
	DESIGNED BY I. PARECKI	11-26-89
	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	11-28-89

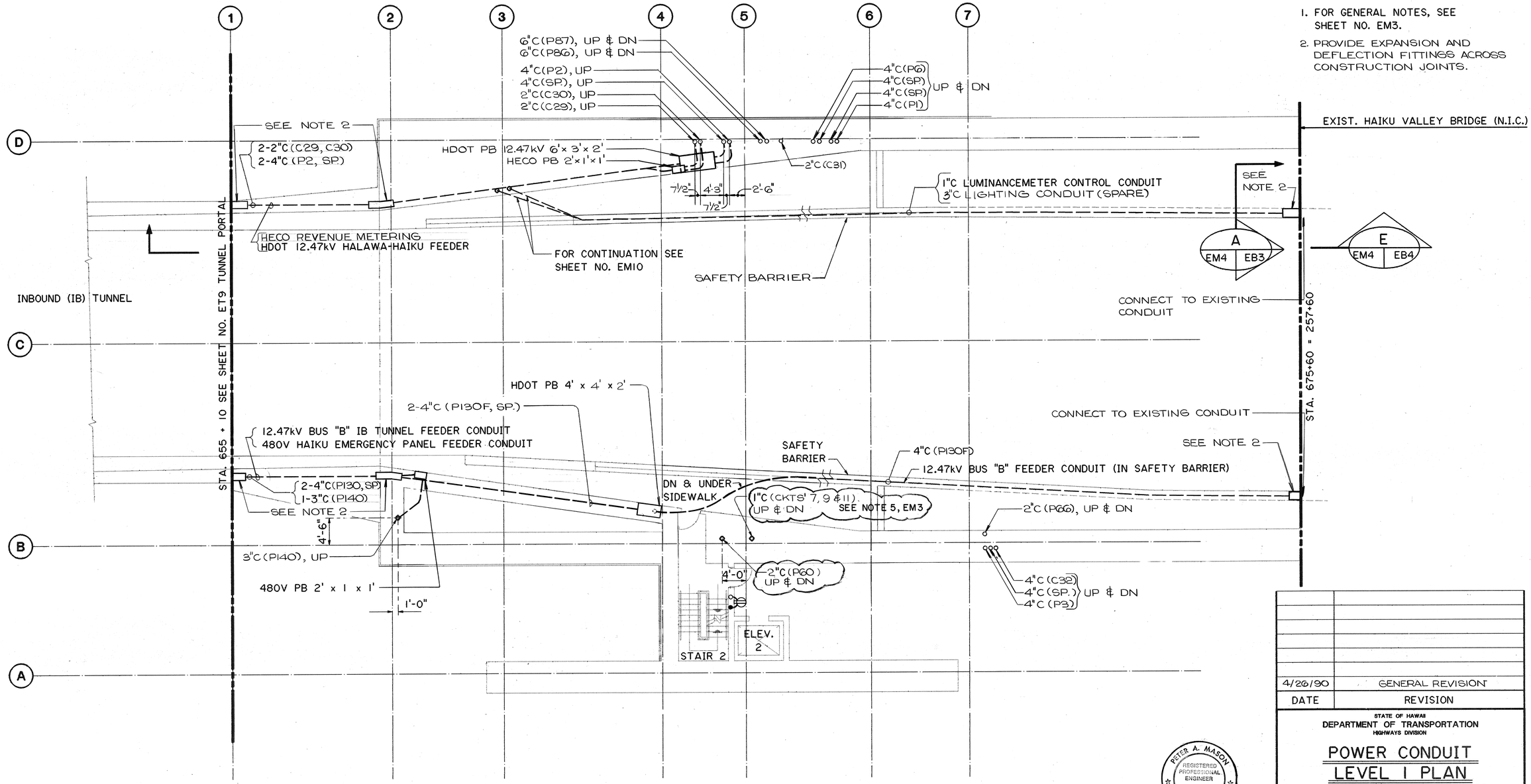
2410V153 2410: V153 ES0075.FGB:1 04DEC89-07.35.10

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	326	424

N

NOTES:

1. FOR GENERAL NOTES, SEE SHEET NO. EM3.
2. PROVIDE EXPANSION AND DEFLECTION FITTINGS ACROSS CONSTRUCTION JOINTS.



4/26/90	GENERAL REVISION
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT LEVEL I PLAN

HAIKU PORTAL BUILDING IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1/8" = 1'-0" DATE: JAN. 1990

SHEET NO. EM4 OF 18 SHEETS

GRAPHIC SCALE
8' 4' 0' 8' 16'
1/8" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	09/28/83
NOTE BOOK	TRACED BY " "	09/07/83
	DESIGNED BY I. PARECKI	
	QUANTITIES BY " "	11/28/83
NO.	CHECKED BY J. J. SASSANI	

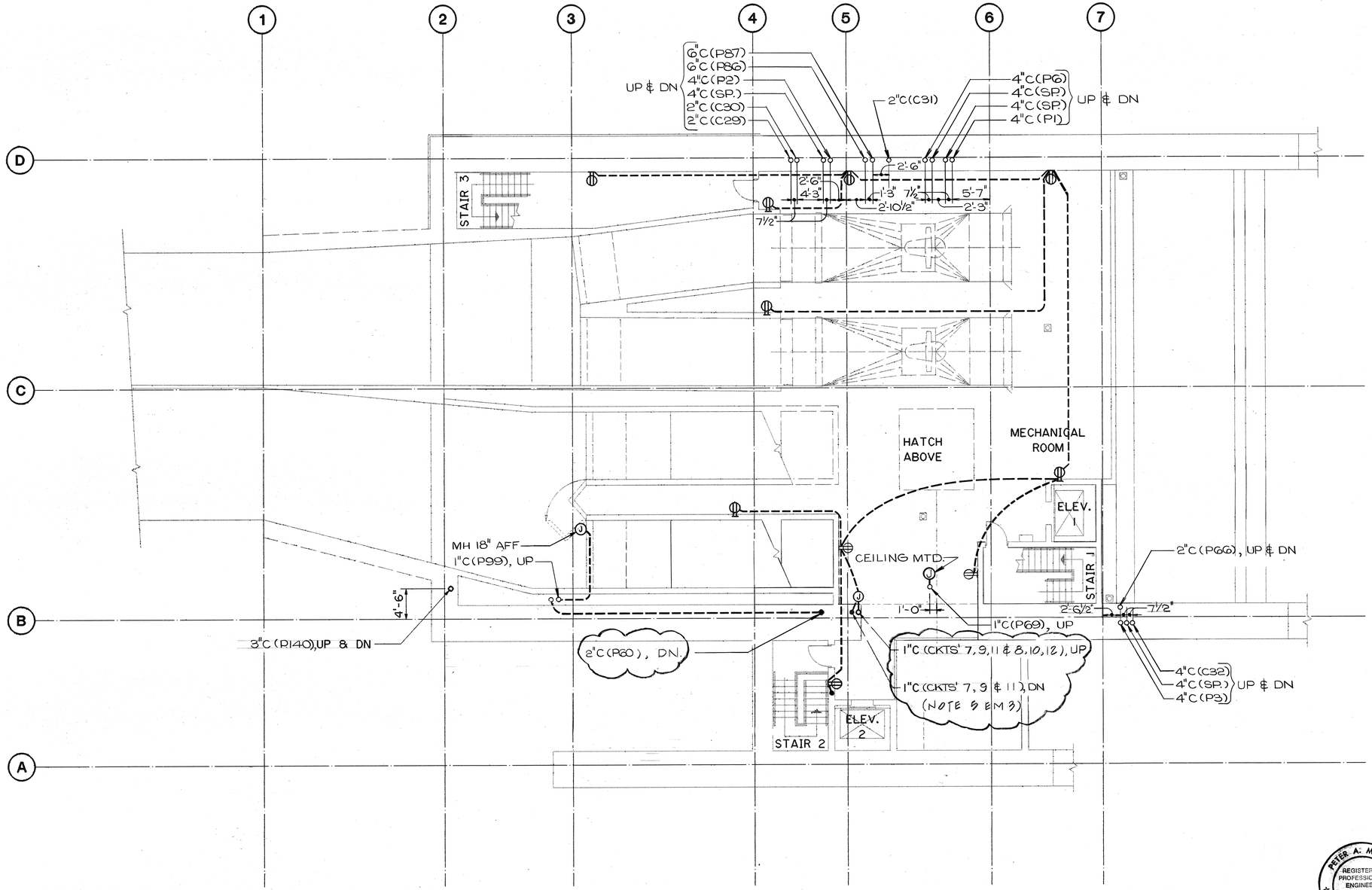
2410V153 2410: V153 ES0068.FGB;1 300CT89-08.59.50

ADD. 326

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	327	424

N

NOTE:
1. FOR GENERAL NOTES, SEE SHEET NO. EM 3.



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

ORIGINAL PLAN	
NOTE BOOK	
NO.	

SURVEY PLOTTED BY	
DRAWN BY	CADD
TRACED BY	
DESIGNED BY	L. PARECKI
QUANTITIES BY	
CHECKED BY	J.J. SASSANI
DATE	10/25/89 : 12/13/89 : 11/28/89

4/26/90	GENERAL REVISION
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT LEVEL 2 PLAN

HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛" = 1'-0" DATE: JAN 1990

SHEET NO. EM5 OF 18 SHEETS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6430-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

2410V153 2410: V153 ES0076.FGB#1 08DEC89-11.49.50

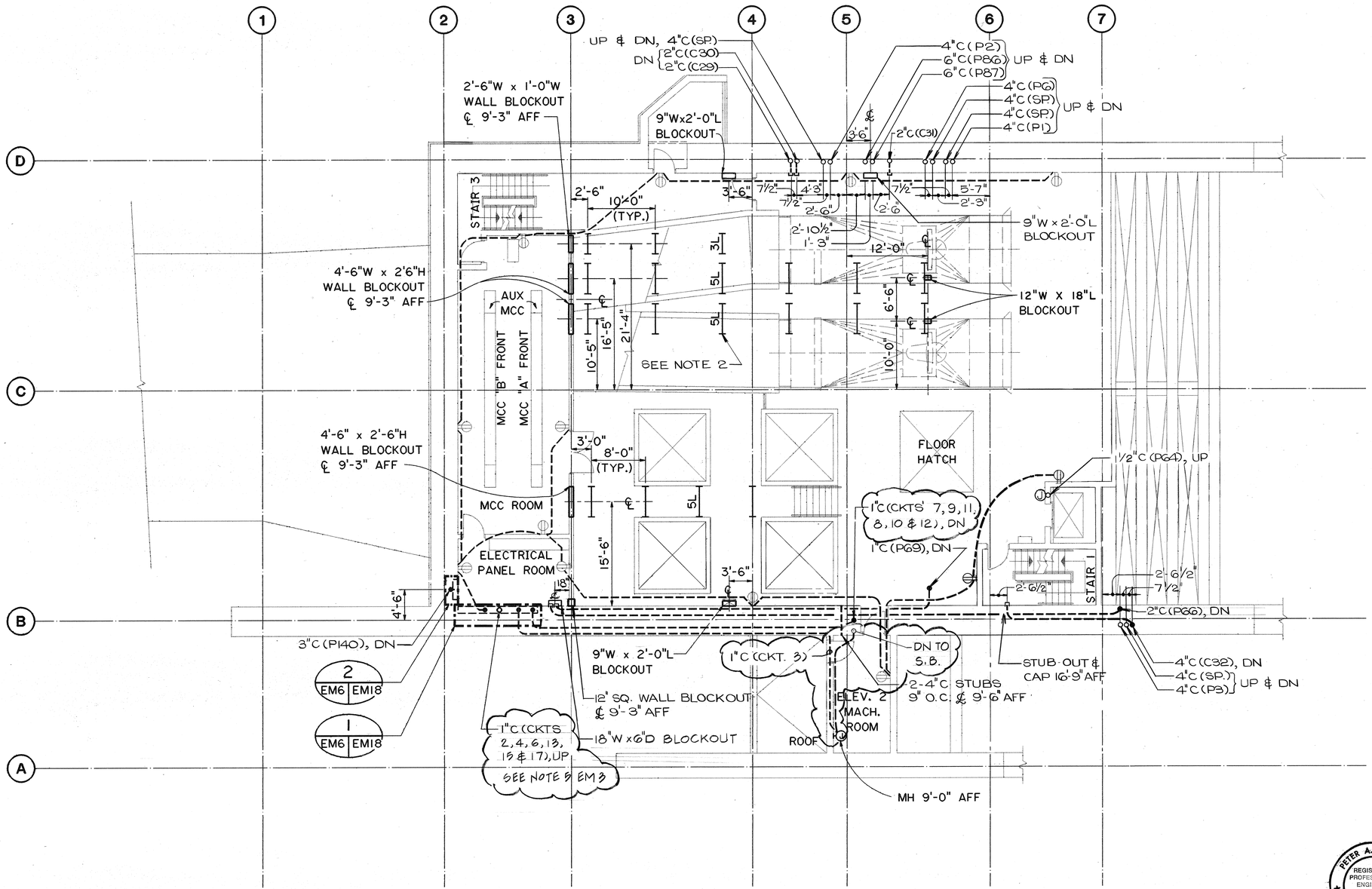
ADD. 327

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	328	424

N

NOTES:

1. FOR GENERAL NOTES, SEE SHEET NO. EM3
2. 3L, 5L - CONCRETE CHANNEL CEILING INSERTS. PREFIX REFERS TO LENGTH IN FEET. LOCATION AS SHOWN.



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

Peter A. Mason

4/26/90	GENERAL REVISION
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT LEVEL 3 PLAN

HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛" =1'-0" DATE: JAN 1990

SHEET NO. EM6 OF 18 SHEETS

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY CADD	10/25/89
NOTE BOOK	TRACED BY	10/03/89
	DESIGNED BY J. PARECKI	
NO.	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	11/28/89

2410V153 2410: V153 ES0059.FGB>1 15DEC89-13.58.00

ADD. 328

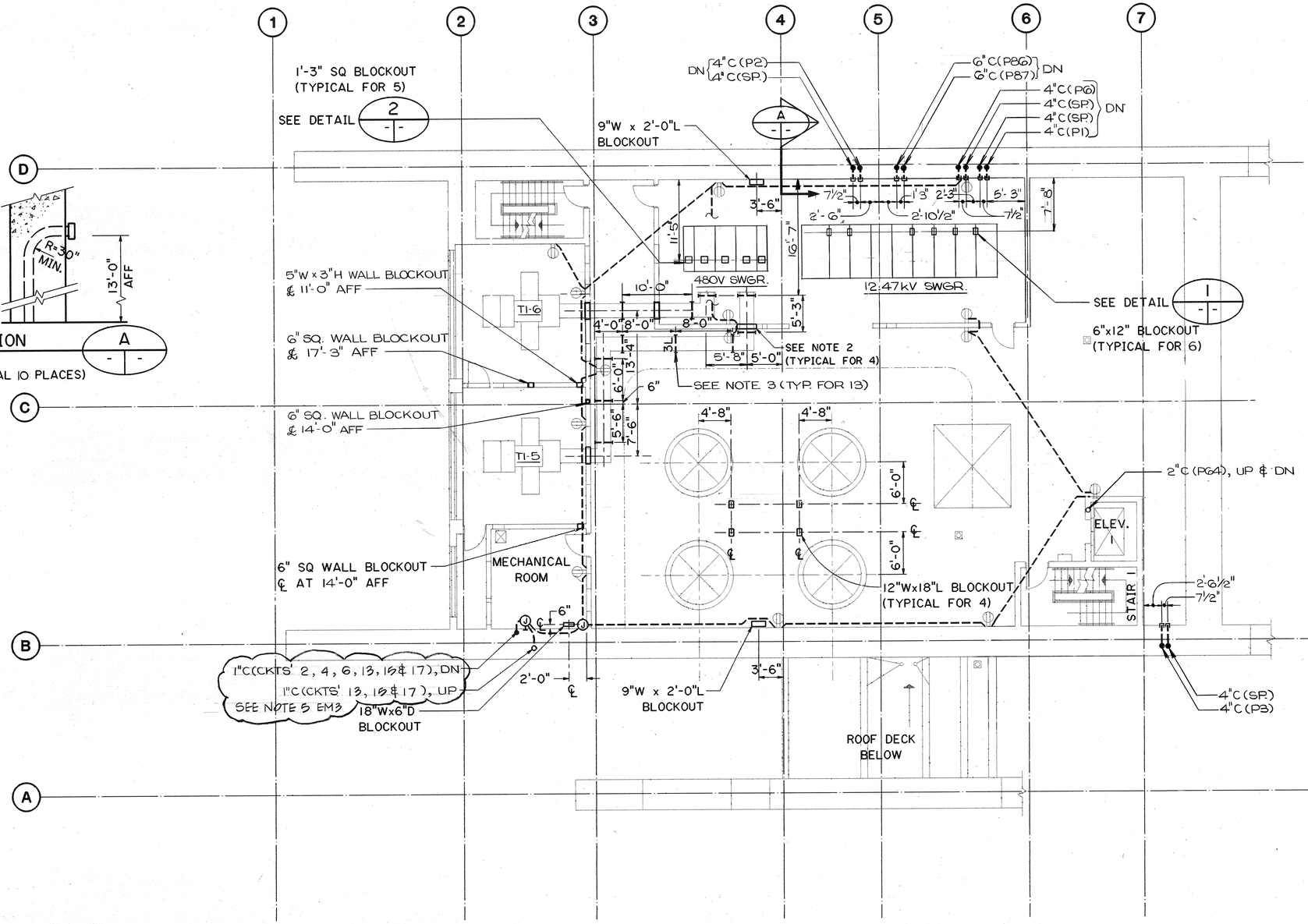
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	329	424

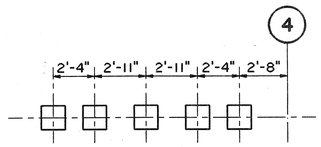
N

NOTES:

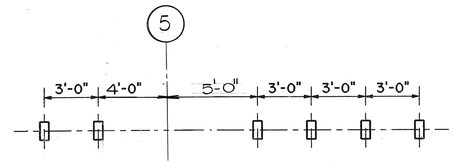
1. FOR GENERAL NOTES, SEE SHEET NO. EM1.
2. BUS DUCT WALL OPENING SHALL BE 2'-1"W x 1'-0"H, ℄ 13'-2" AFF.
3. 3L-CONCRETE CHANNEL CEILING INSERTS, PREFIX REFERS TO LENGTH IN FEET. LOCATIONS AS SHOWN.

SECTION A
N.T.S.
(TYPICAL 10 PLACES)





DETAIL 2
SCALE: ¼"=1'-0"



DETAIL 1
SCALE 1/4"=1'-0"

GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"
4' 2' 0' 4' 8'
¼" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6400-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

DATE	REVISION
4/26/90	GENERAL REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT LEVEL 4 PLAN

HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: AS NOTED DATE: JAN. 1 1990

SHEET NO. EM7 OF 18 SHEETS

ADD. 329

ORIGINAL PLAN
NOTE BOOK
NO.

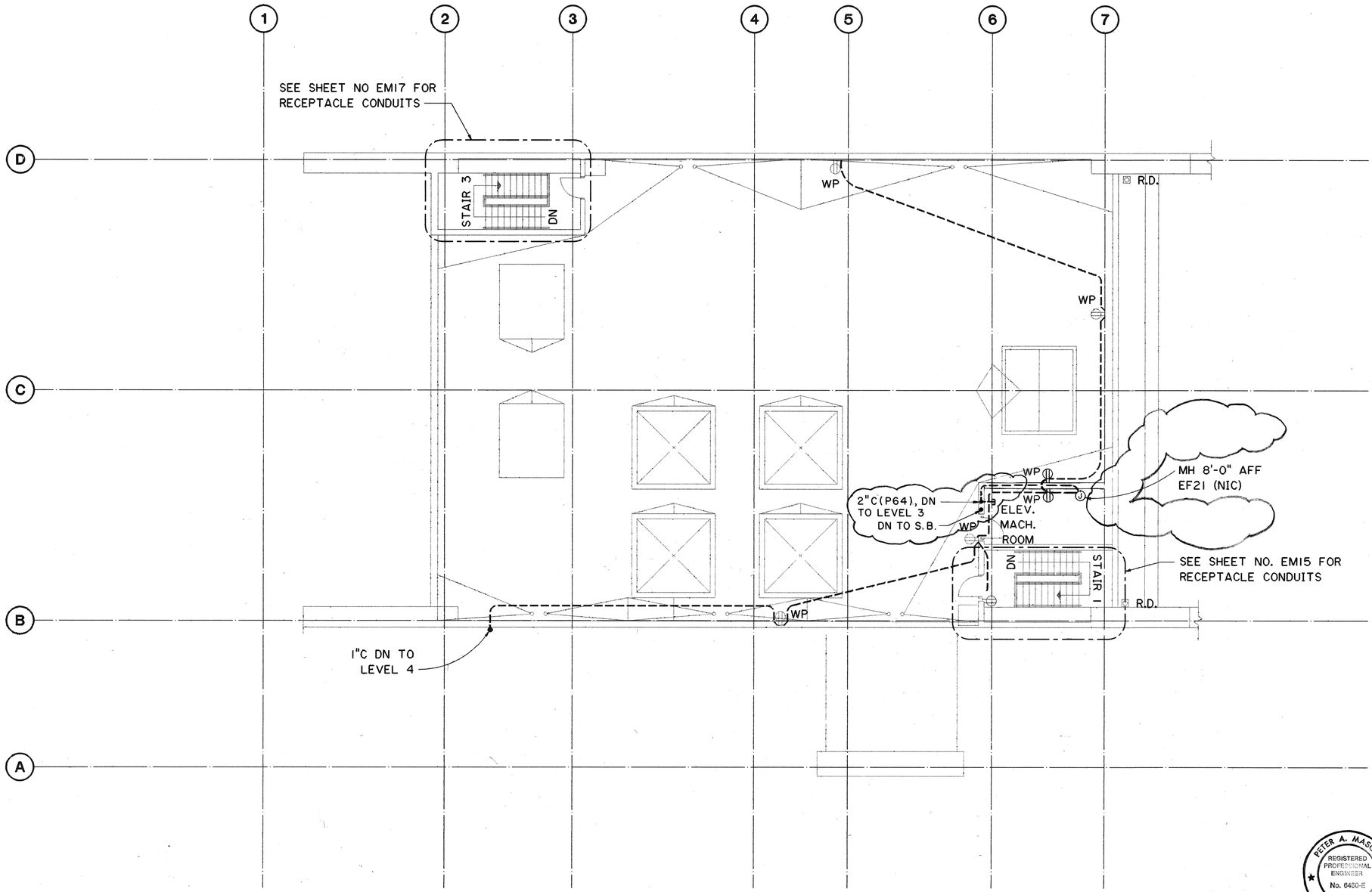
SURVEY PLOTTED BY
DRAWN BY CADD DATE 10/12/89
TRACED BY J. PARECKI 05/31/89
DESIGNED BY 05/31/89
QUANTITIES BY
CHECKED BY J.J. SASSANI 11/28/89

2410V153 2410: V153 ES0073.FGB11 15DEC89-14.41.00

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	330	424

N

NOTE:
1. FOR GENERAL NOTES, SEE SHEET NO. EM 3



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT
ROOF PLAN
HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛" = 1'-0" DATE:

SHEET NO. EM8 OF SHEETS

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY	CADD
	TRACED BY	
NOTE BOOK	DESIGNED BY	ROBERT F. JAMES
	QUANTITIES BY	
NO.	CHECKED BY	T.T. SASSEN

9/13/89
9/15/89
11/24/89

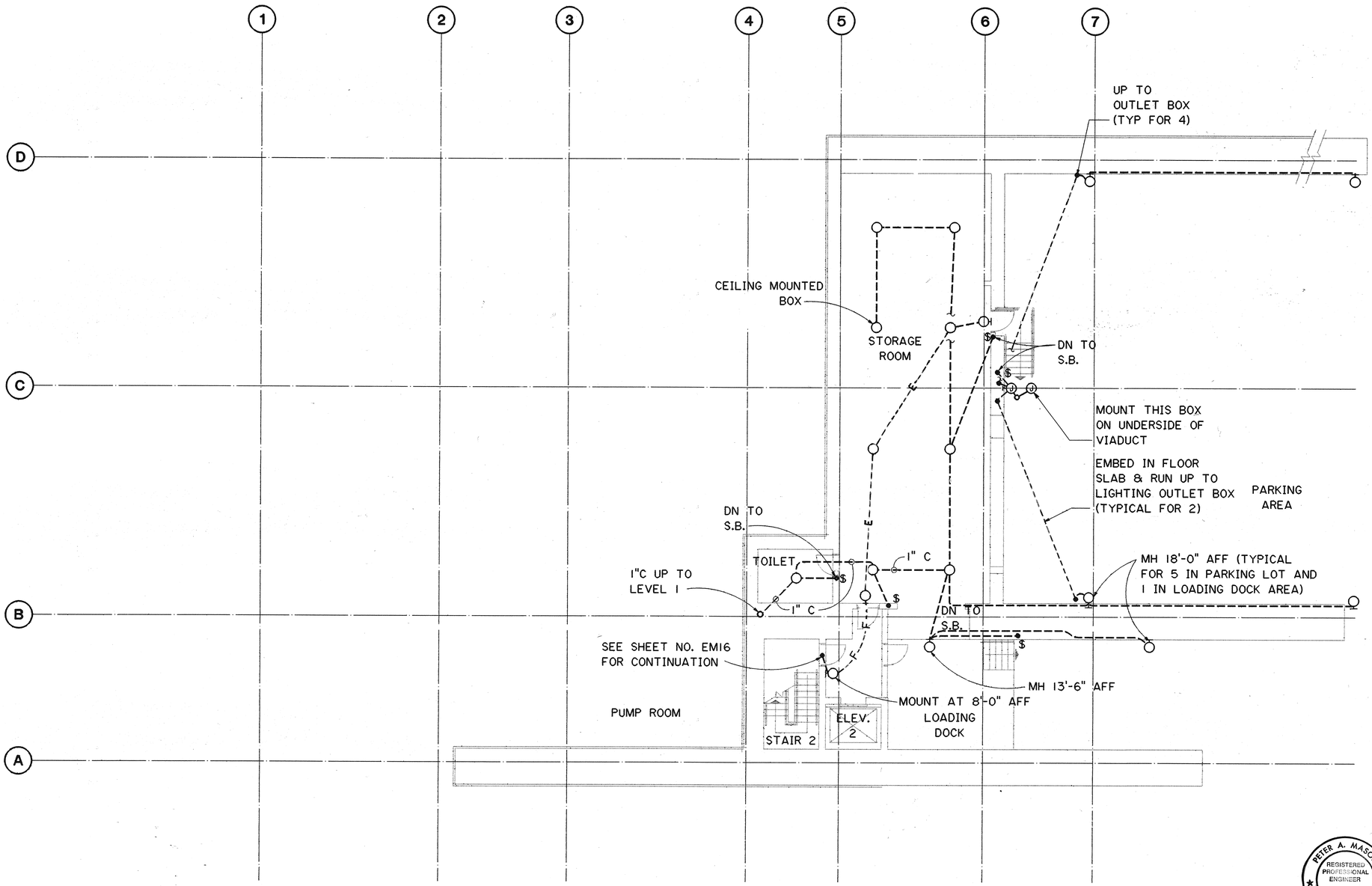
2410V153 2410: V153 ES0077.FGB;1 31OCT89-09.39.00

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	331	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS SHOWN ARE EMBEDDED IN THE CEILING OF LEVEL A UNLESS OTHERWISE NOTED.
3. $ INDICATES LOCATION OF SWITCH BOX (SB)



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

FOR DETAIL AS-BUILT INFORMATION REFER TO CONSTRUCTION SUBMITTALS

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT LEVEL A PLAN

HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EM9 OF 18 SHEETS

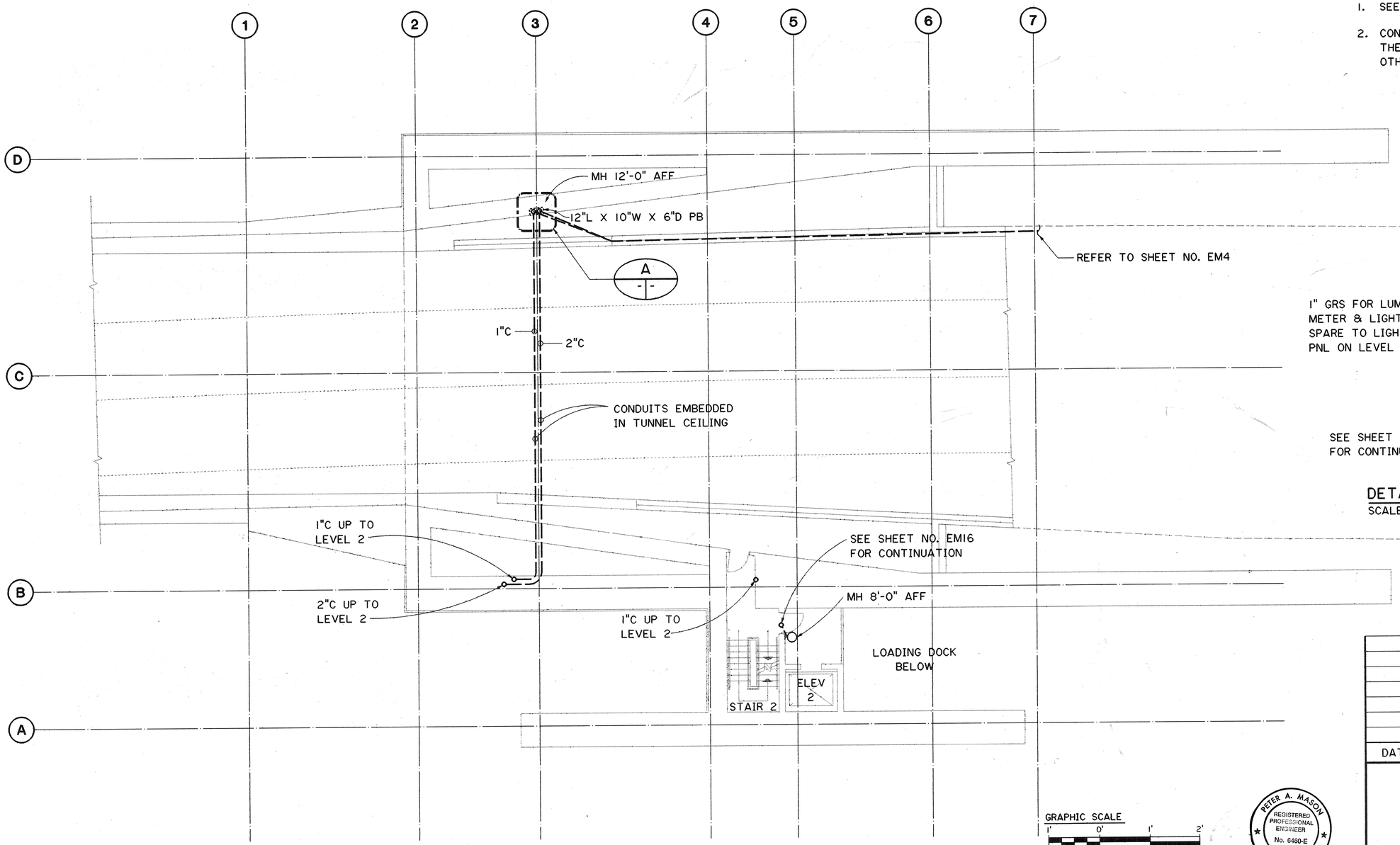
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	9/20/89
NOTE BOOK	TRACED BY	
	DESIGNED BY ROBERT F. JAMES	7/13/81
NO.	QUANTITIES BY	
	CHECKED BY J.W. SASSANI	11/24/89

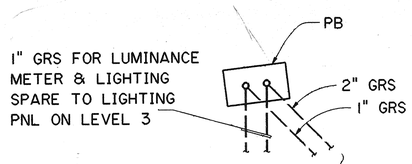
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	332	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS SHOWN ARE EMBEDDED IN THE CEILING OF LEVEL 1 UNLESS OTHERWISE NOTED.





DETAIL A
SCALE: 1"=1'-0"

GRAPHIC SCALE
1' 0' 1' 2'
1" = 1'-0"

GRAPHIC SCALE
8' 4' 0' 8' 16'
1/8" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
	AS BUILT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT LEVEL 1 PLAN
HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: AS NOTED DATE: JAN 1990

SHEET NO. EM10 OF 18 SHEETS

ORIGINAL PLAN	NOTE BOOK	NO.

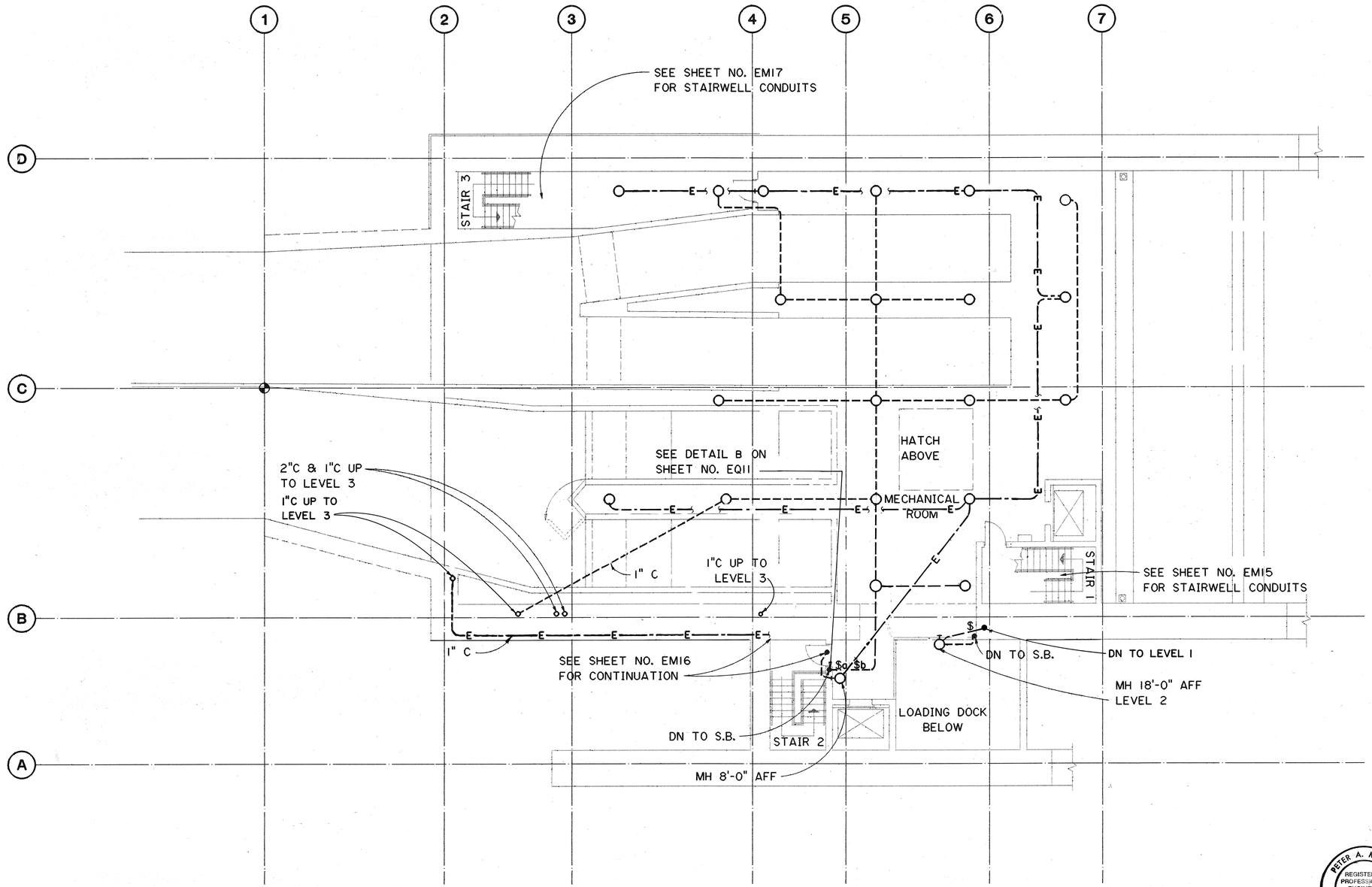
SURVEY PLOTTED BY — DATE 5/15/89
DRAWN BY CADD " 5/15/89
TRACED BY " 7/13/89
DESIGNED BY ROBERT F. JAMES " 7/13/89
QUANTITIES BY " 11/24/89
CHECKED BY Jack SASSANI

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	333	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS SHOWN ARE EMBEDDED IN THE CEILING OF LEVEL 2 UNLESS OTHERWISE NOTED.
3. $ INDICATES LOCATION OF SWITCH BOX (SB)



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

DATE	REVISION
MAR 19 1990 ADDENDUM 1	REVISED MECH RM NORMAL & EMERG LIGHTS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT LEVEL 2 PLAN

HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EMII OF 18 SHEETS

ADD. 333

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY CADD	3/15/89
NOTE BOOK	TRACED BY	
	DESIGNED BY ROBERT F. JAMES	7/10/89
	QUANTITIES BY	
NO.	CHECKED BY J.J. SASSANI	11/24/89

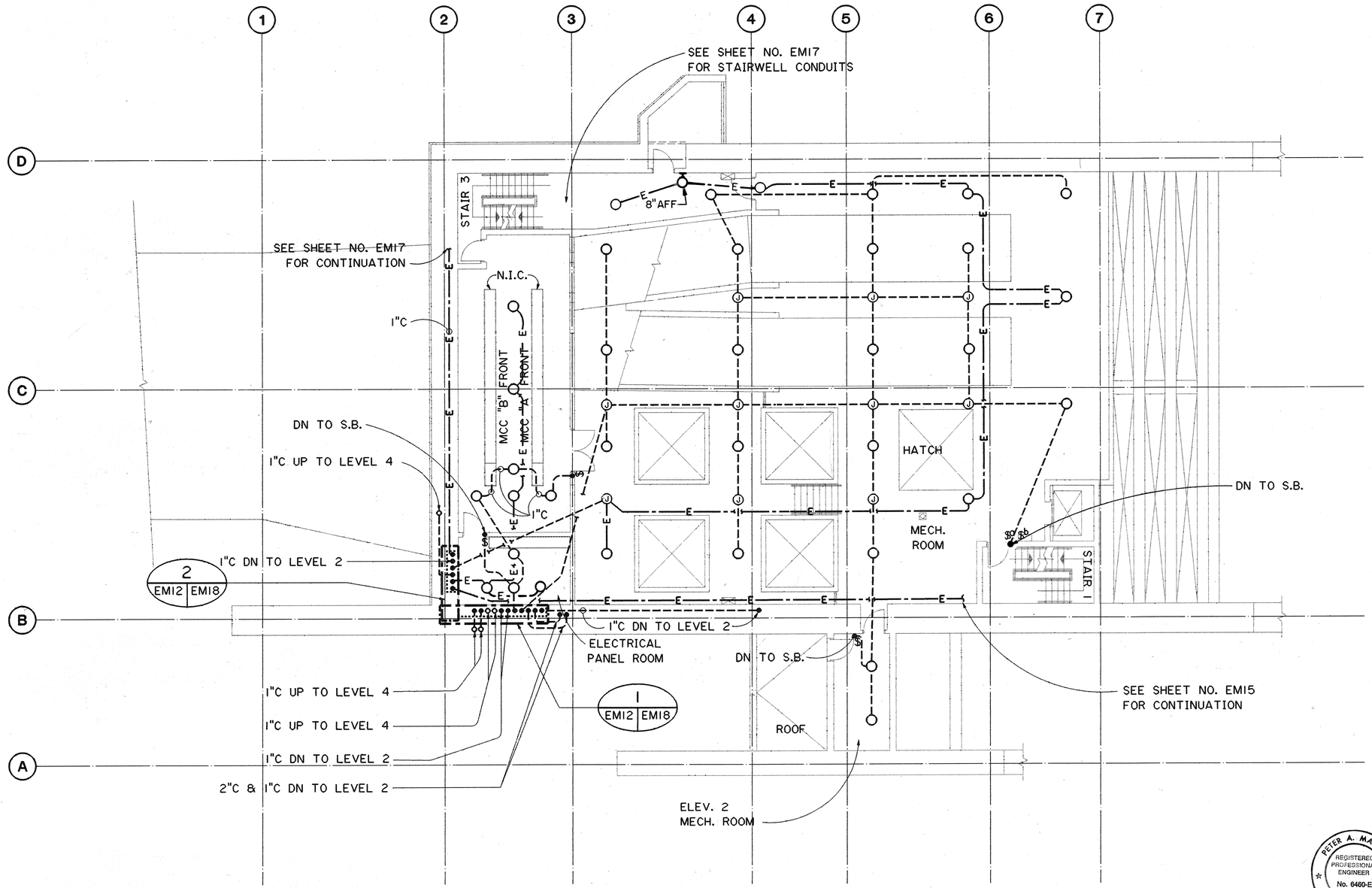
2410V152 2410: V152 ES0022.FGB>1 27NOV89-14.21.00

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	334	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS SHOWN ARE EMBEDDED IN THE CEILING OF LEVEL 3 UNLESS OTHERWISE NOTED.
3. $ INDICATES LOCATION OF SWITCH BOX (SB)



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT LEVEL 3 PLAN

HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EM12 OF 18 SHEETS

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY CADD	3/14/89
NOTE BOOK	TRACED BY	
	DESIGNED BY ROBERT F. JAMES	8/7/89
NO.	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	11/24/89

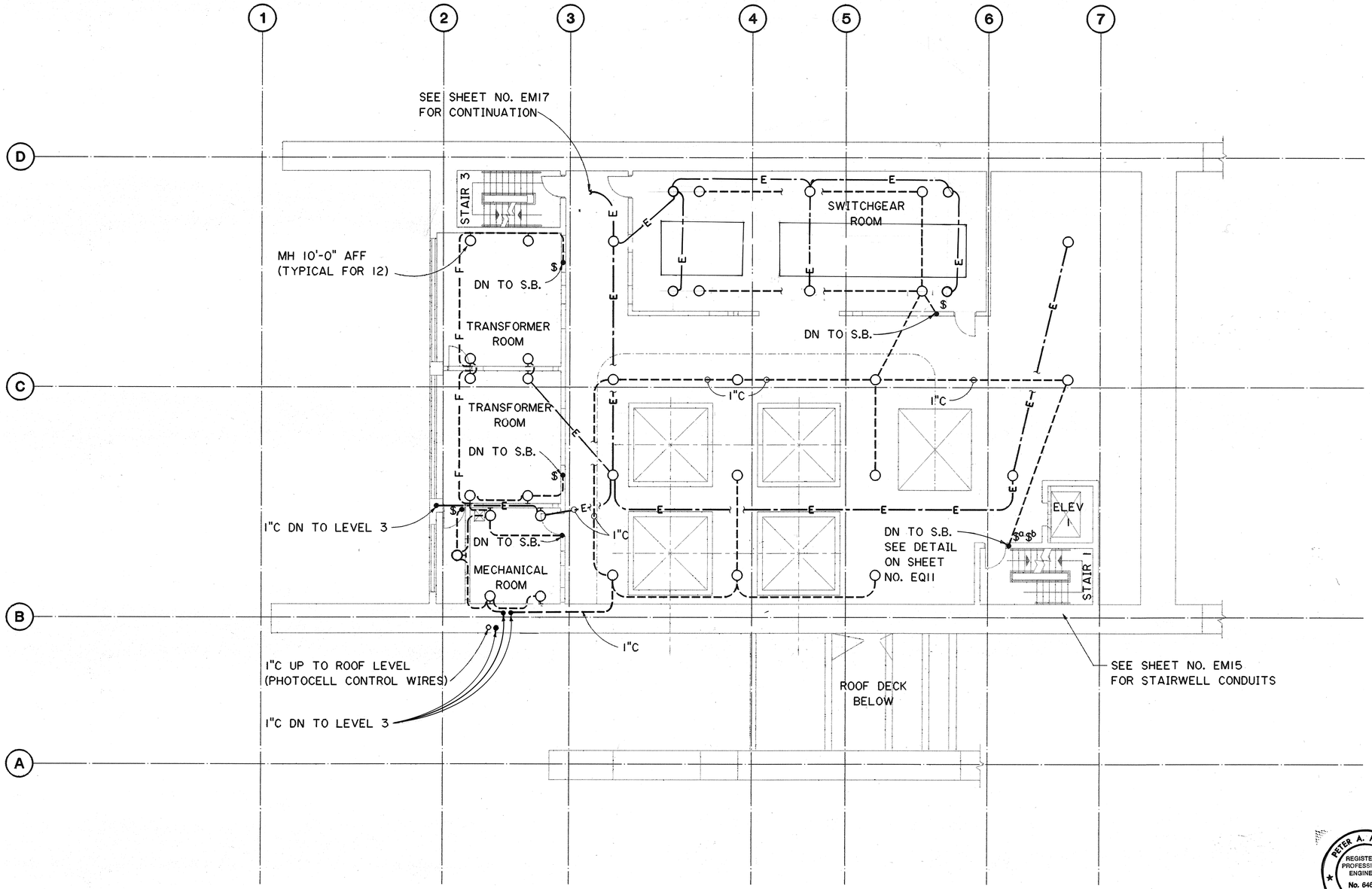
2410V152 2410: V152 ES0023.FGB;1 29NOV89-07.39.20

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	335	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS SHOWN ARE EMBEDDED IN THE CEILING OF LEVEL 4 UNLESS OTHERWISE NOTED.
3. $ INDICATES LOCATION OF SWITCH BOX



8' 4' 0' 8' 16'
1/8"=1'-0" GRAPHIC SCALE

MAR 19 1990 ADDENDUM 1	REVISED SWGR RM EMERG. LIGHT
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT LEVEL 4 PLAN

HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1/8"=1'-0" DATE: JAN 1990

SHEET NO. EM13 OF 18 SHEETS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

ORIGINAL PLAN

SURVEY PLOTTED BY	CADD
DRAWN BY	"
TRACED BY	ROBERT F. JAMES
DESIGNED BY	"
QUANTITIES BY	J.J. SASSANI
CHECKED BY	"
DATE	3/20/89 2/16/89 11/24/89
NOTE BOOK	
NO.	

2410V152 2410: V152 ES0024.FGB;1 27NOV89-09.46.40

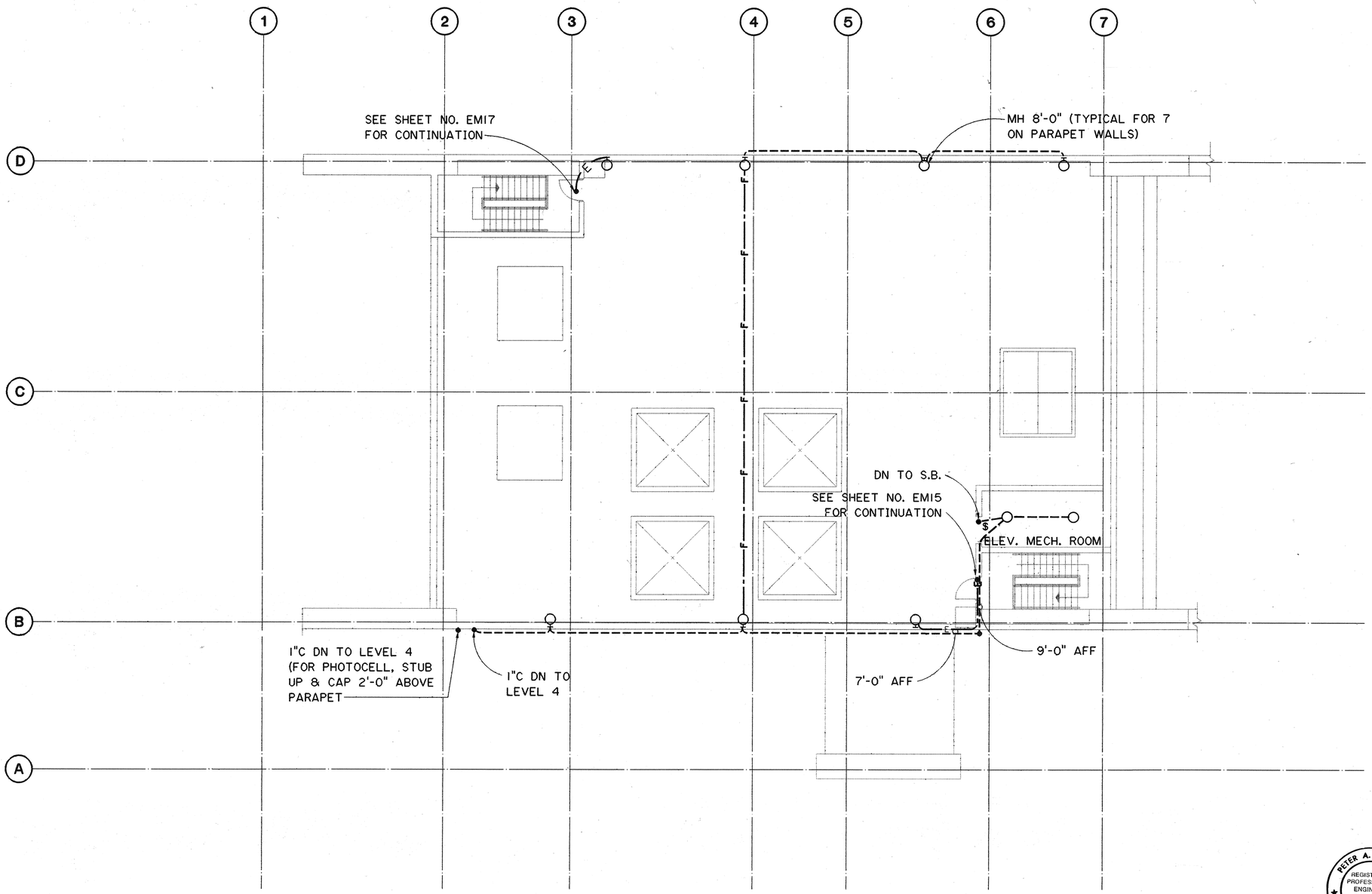
ADD. 335

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	336	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS ARE EMBEDDED IN PARAPET AND ROOF SLAB.
3. $ INDICATES LOCATION OF SWITCH BOX



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	CADD	DATE 10/21/83
	DRAWN BY	"	" 5/14/85
NOTE BOOK	TRACED BY	"	"
	DESIGNED BY	ROBERT F. JAMES	
NO.	QUANTITIES BY	"	"
	CHECKED BY	J.J. SASSANI	" 11/24/83

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT
ROOF PLAN
HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EM14 OF 18 SHEETS

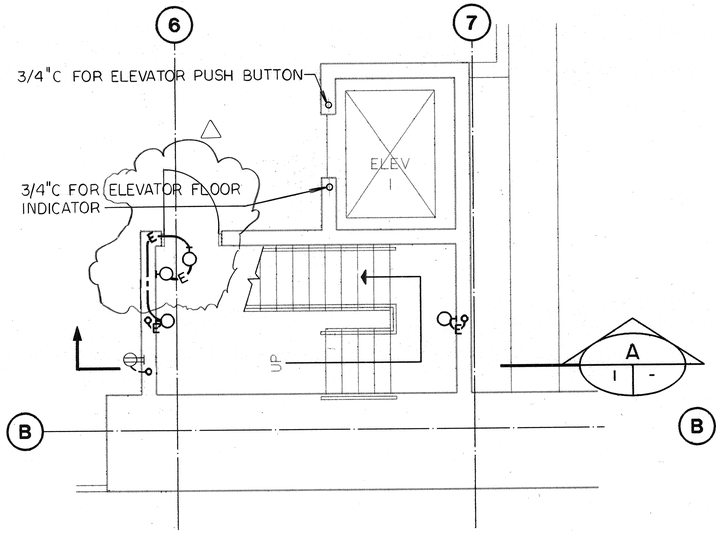
PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

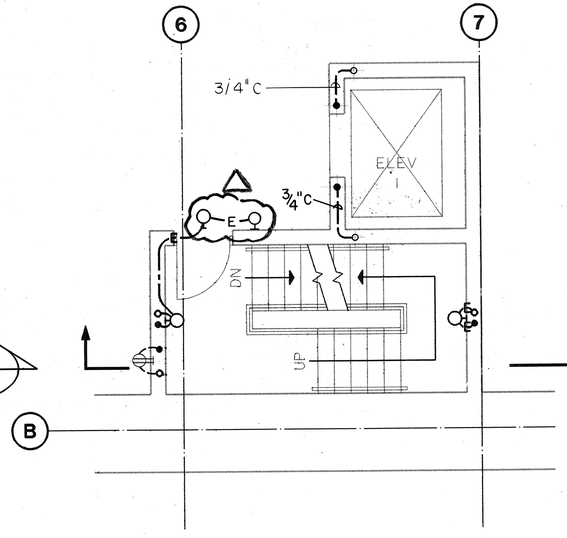
Peter A. Mason

2410V152 2410: V152 ES0025.FGB>1 29NOV89-12.15.20

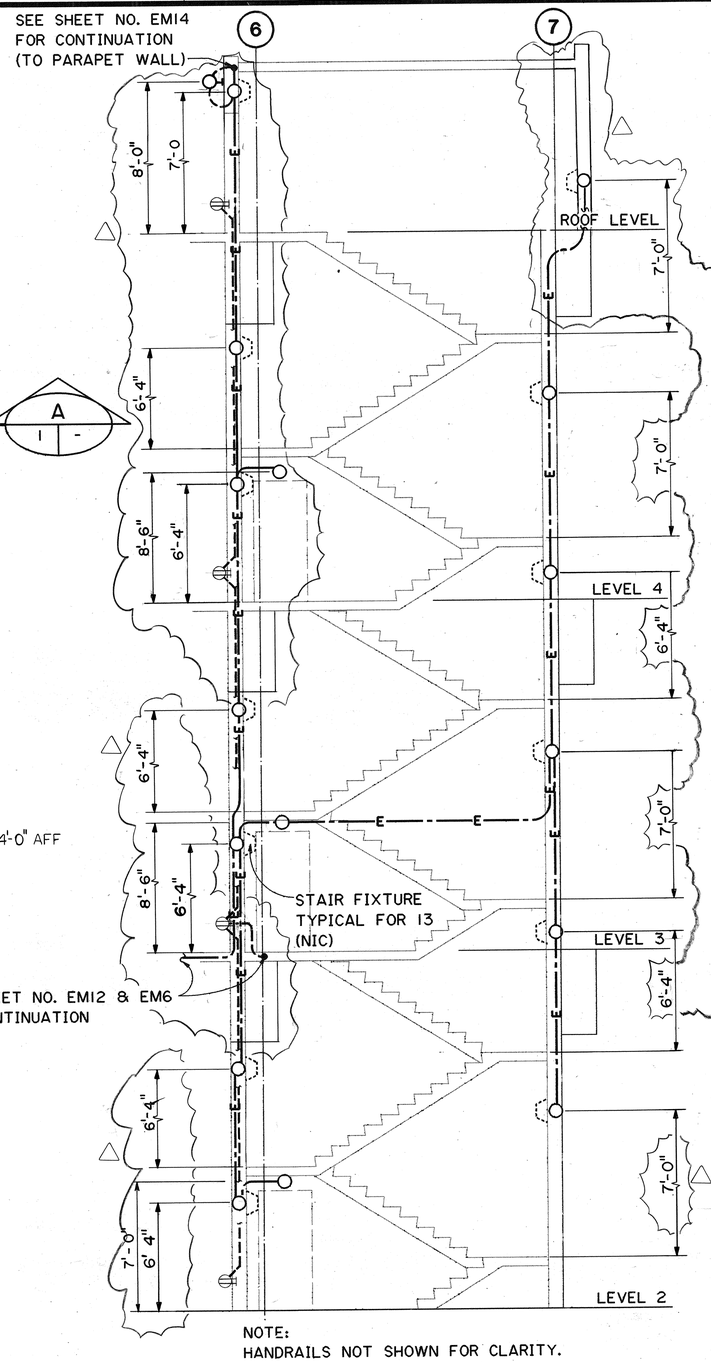
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	337	424



LEVEL 2 PLAN
SCALE: ¼"=1'-0"



LEVEL 4 PLAN
SCALE: ¼"=1'-0"

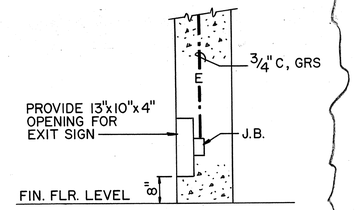


NOTE:
HANDRAILS NOT SHOWN FOR CLARITY.

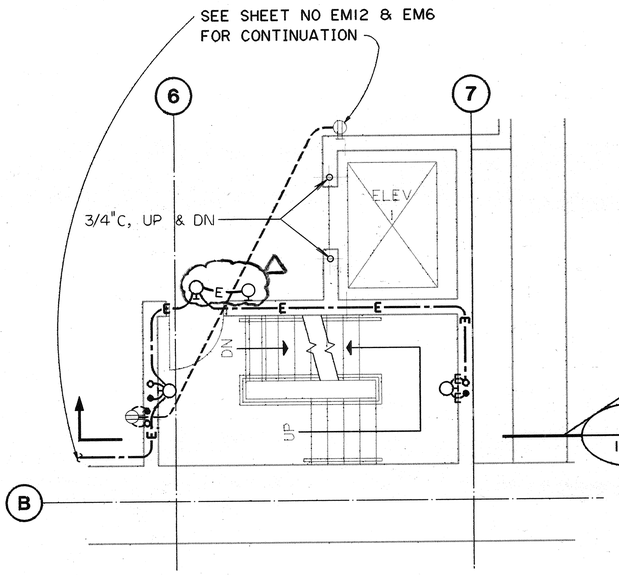
SECTION A

NOTE:

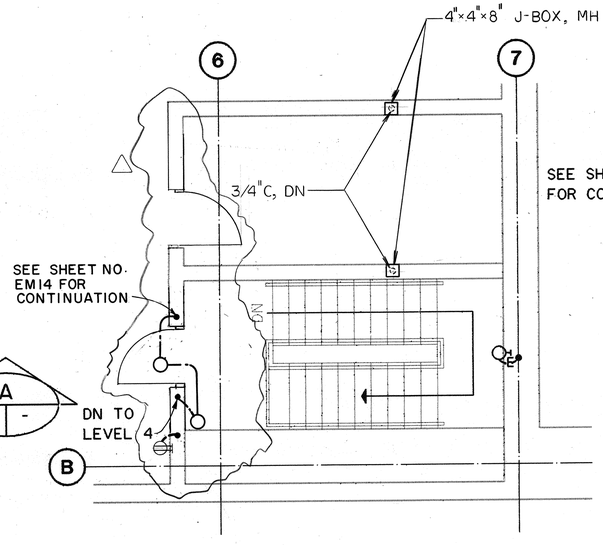
1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. FOR LOCATION OF ELEVATOR PUSHBUTTON STATION AND FLOOR INDICATOR SEE SHEET NO. AM23.
3. ALL DIMEMSIONS ON SECTION ARE AFF.
4. LOW LEVEL EXIT LIGHT OUTLET BOXES SHALL BE INSTALLED IN THE CENTER OF A 10" HIGH BY 13" LONG BY 4" DEEP RECESS LOCATED 8" FROM FLOOR TO BOTTOM EDGE OF RECESS AND 4" FROM DOOR OPENING TO EDGE OF RECESS. LOCATE COVER OF OUTLET BOX FLUSH WITH BACK OF RECESS. A LOW LEVEL EXIT SIGN WILL NOT BE REQUIRED AT FLOOR LEVEL ON ROOF. SEE DETAIL THIS PLAN.



TYPICAL DETAIL FOR FUTURE EXIT SIGN
NOT TO SCALE



LEVEL 3 PLAN
SCALE: ¼"=1'-0"



ROOF LEVEL PLAN
SCALE: ¼"=1'-0"

SEE SHEET NO. EM12 & EM6 FOR CONTINUATION

GRAPHIC SCALE
4' 2' 0' 4' 8'
¼" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

	AS BUILT
8/12/91	REVISED PER DCN 61-012
4/26/90	REVISED ALL RECEPTACLES LOCATIONS
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT
STAIR 1 PLANS
HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NOTED DATE: JAN 1990

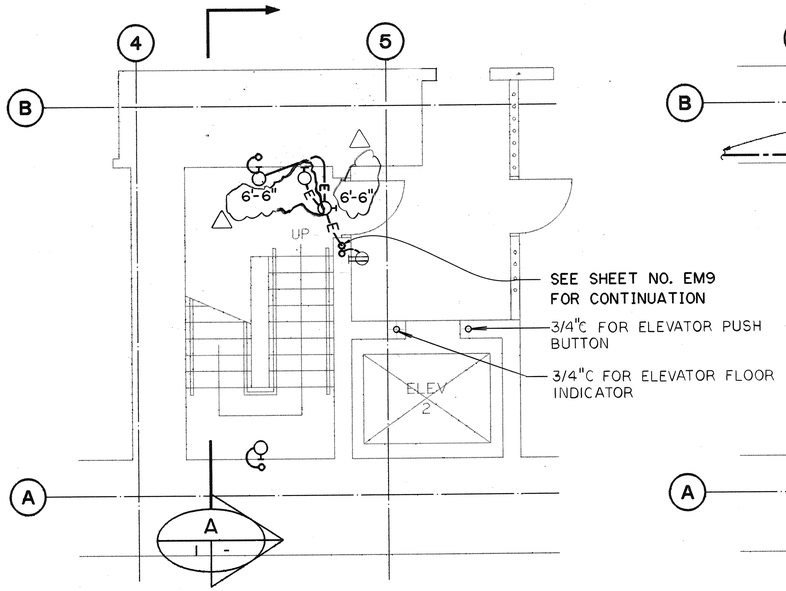
SHEET NO. EM15 OF 18 SHEETS

ADD. 337

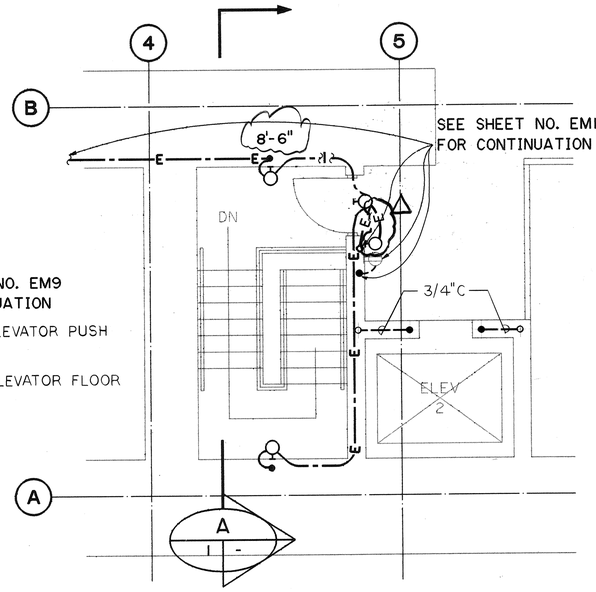
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/20/89
	TRACED BY	4/91/91
NOTE BOOK	DESIGNED BY ROBERT F. JAMES	
	QUANTITIES BY	
NO.	CHECKED BY J.J. SASSANI	11/24/89

2410V152 2410: V152 ES0095.FGB/1 29NOV89-10.39.30

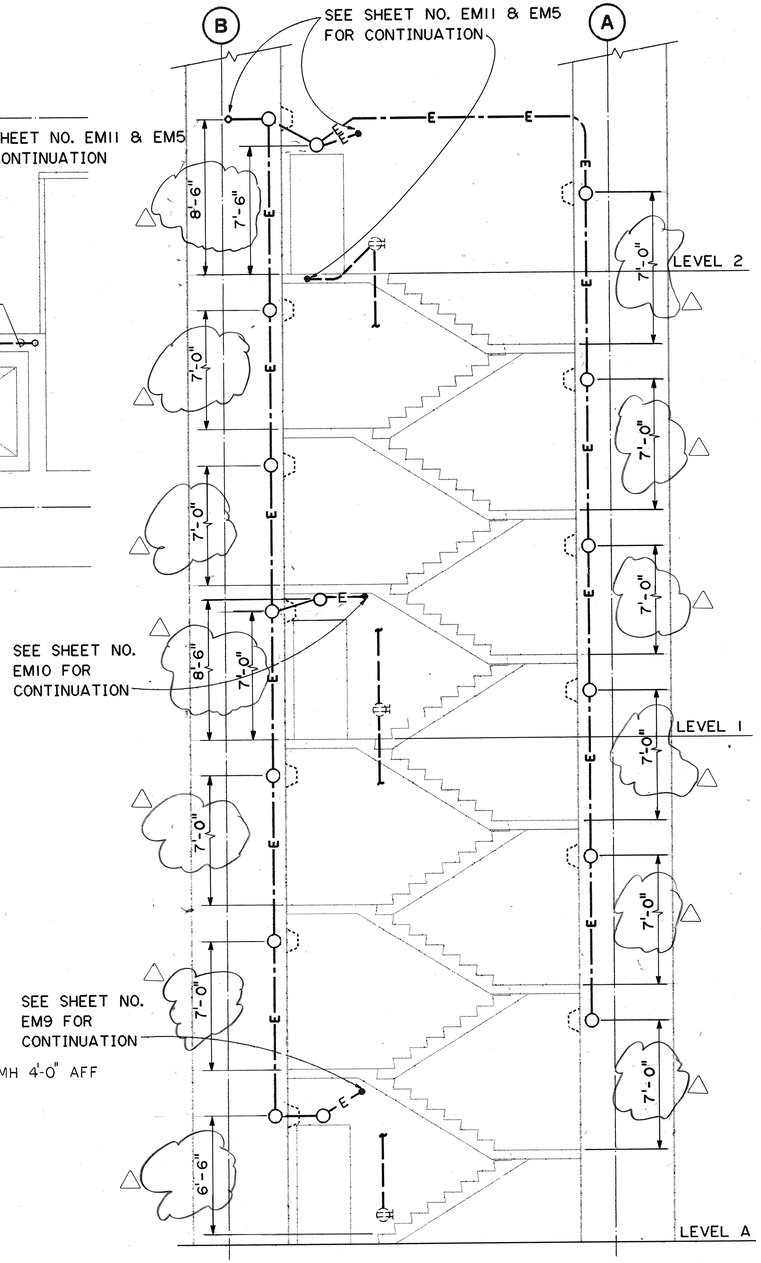
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	338	424



LEVEL A PLAN
SCALE: ¼"=1'-0"



LEVEL 2 PLAN
SCALE: ¼"=1'-0"

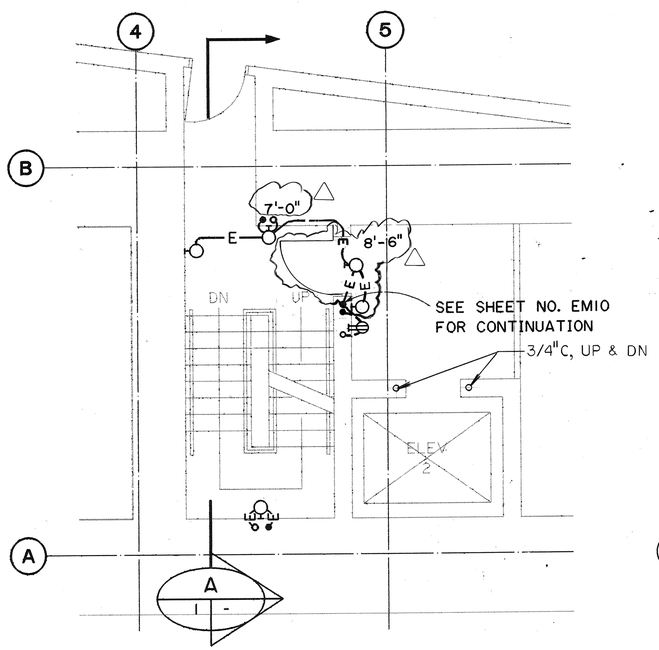


NOTE:
HANDRAILS NOT SHOWN FOR CLARITY.

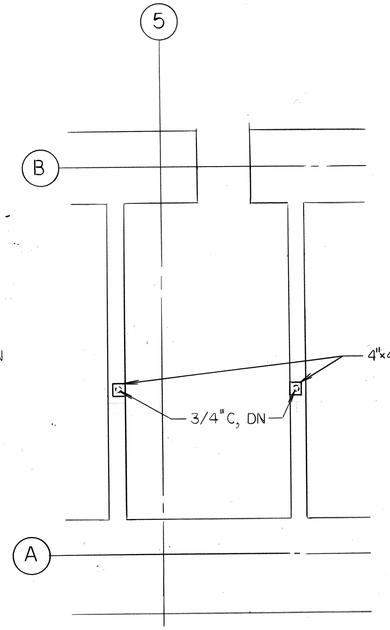
SECTION A

NOTE:

1. SEE SHEET NO E1 FOR GENERAL NOTES
2. FOR LOCATION OF ELEVATOR PUSH BUTTON STATION AND FLOOR INDICATOR SEE SHEET NO. AM17.
3. ALL DIMENSIONS ON SECTION A ARE AFF.
4. SEE SHEET NO. EMI5 FOR LOW LEVEL EXIT LIGHT DETAIL.



LEVEL 1 PLAN
SCALE: ¼"=1'-0"



LEVEL 3 PLAN
SCALE: 1/4"=1'-0"

GRAPHIC SCALE
4' 2' 0' 4' 8'
¼" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

DATE	REVISION
	AS BUILT
8/12/91	REVISED PER DCN 61-012
4/26/90	REVISED ALL RECEPTACLES LOCATIONS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT
STAIR 2 PLANS
HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NOTED DATE: JAN 1990

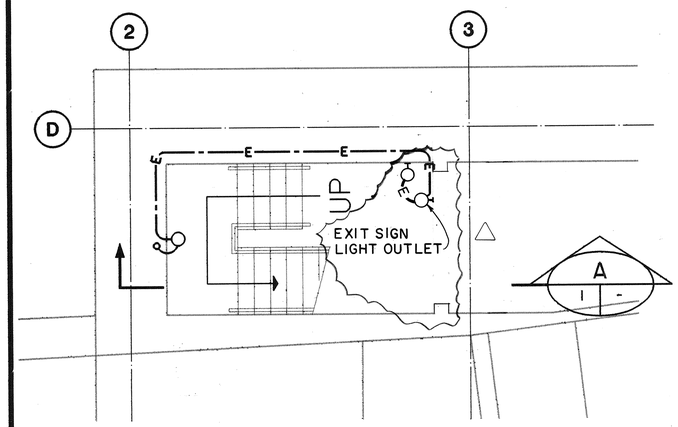
SHEET NO. EM16 OF 18 SHEETS

ADD. 338

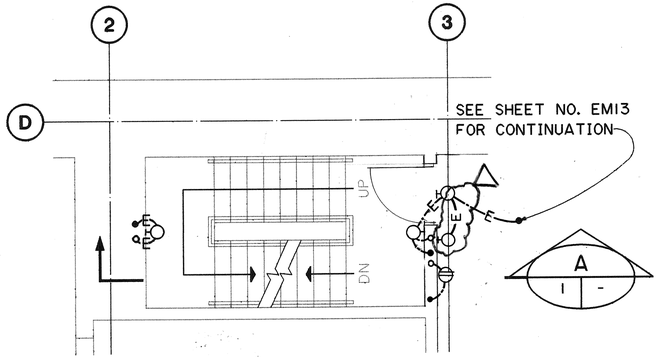
ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY CADD	10/19/89
	TRACED BY	
	DESIGNED BY ROBERT F. JAMES	9/7/89
NOTE BOOK	QUANTITIES BY	
	CHECKED BY J.M. SASSANI	11/29/89
NO.		

2410V152 2410: V152 ES0096.FGB:1 28NOV89-12.10.40

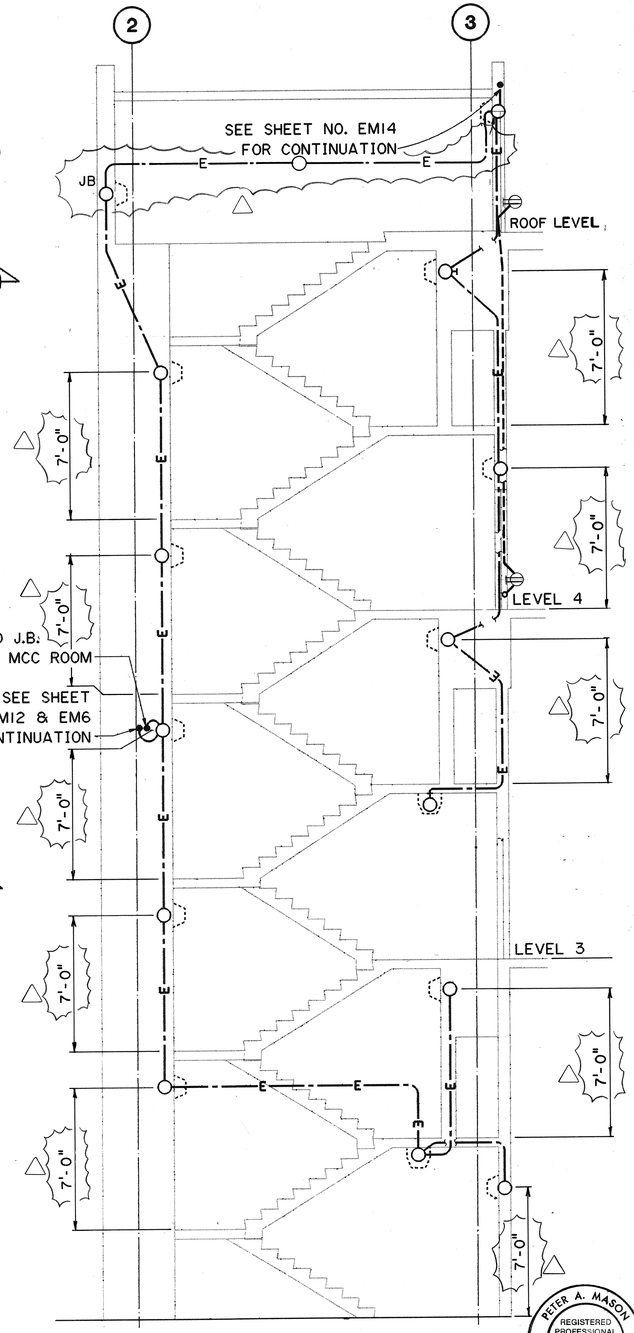
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	339	424



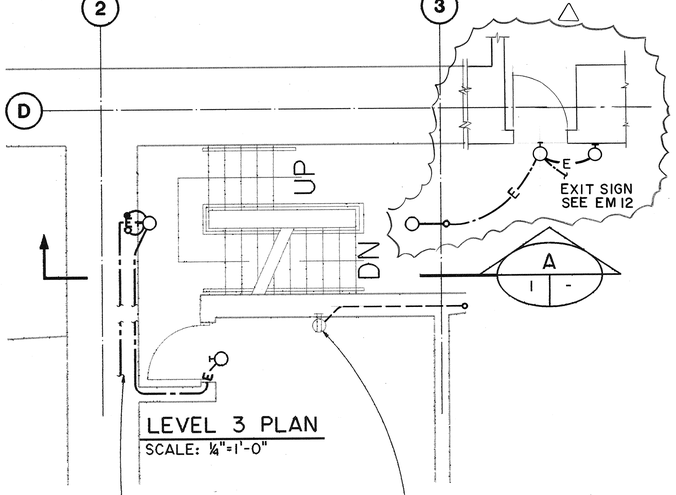
LEVEL 2 PLAN
SCALE: ¼"=1'-0"



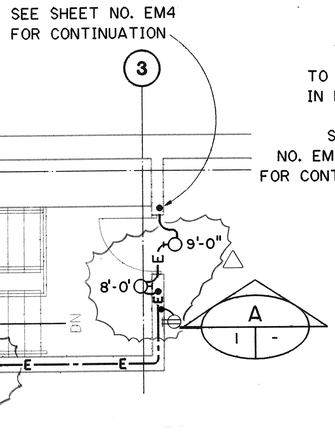
LEVEL 4 PLAN
SCALE: ¼"=1'-0"



SECTION A



LEVEL 3 PLAN
SCALE: ¼"=1'-0"



ROOF LEVEL PLAN
SCALE: ¼"=1'-0"

NOTE:

1. SEE SHEET NO E1 FOR GENERAL NOTES
2. SEE NOTES 3 & 4 ON SHEET NO EM15

GRAPHIC SCALE
4' 2' 0' 4' 8'
¼" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

	AS BUILT
8/12/91	REVISED PER DCN 01-012
4/26/90	REVISED ALL RECEPTACLES LOCATIONS
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT
STAIR 3 PLANS
HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NOTED DATE: JAN 1990

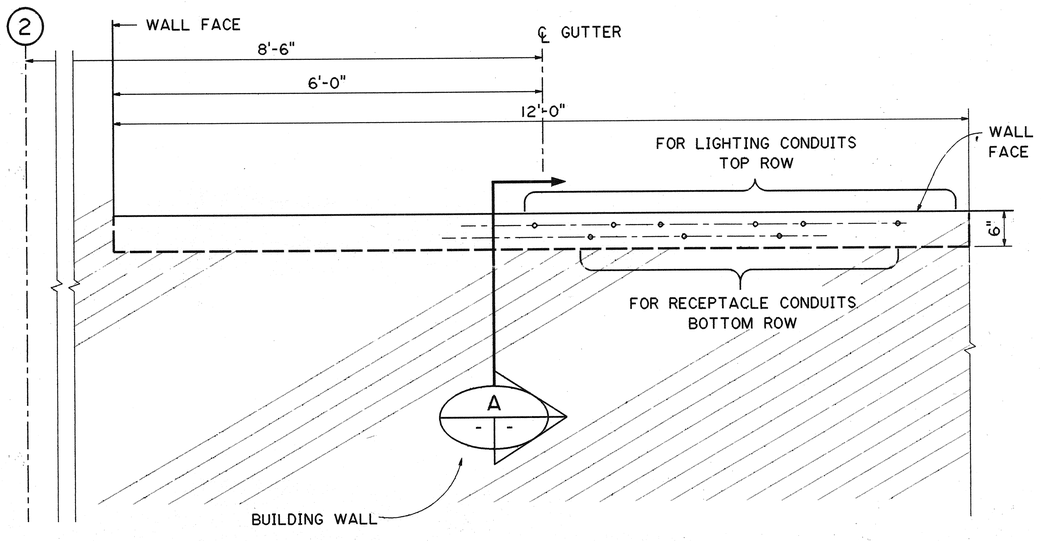
SHEET NO. EM17 OF 18 SHEETS

ADD. 339

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/19/89
NOTE BOOK	TRACED BY	9/13/91
	DESIGNED BY ROBERT F. JAMES	
NO.	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	11/24/89

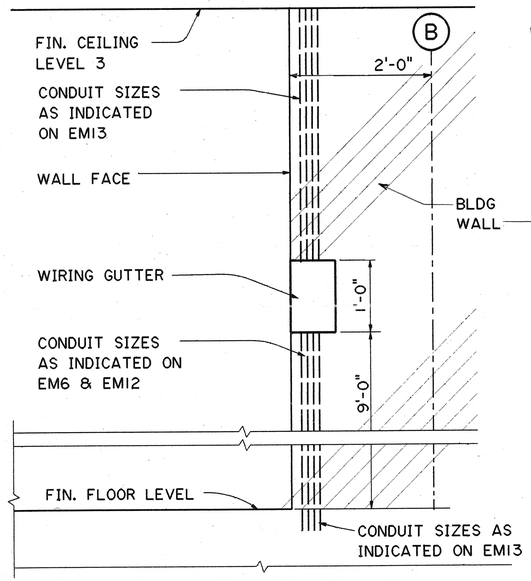
2410V152 7410: V152 ES0097.FGB;1 29NOV89-11.48.00

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	340	424

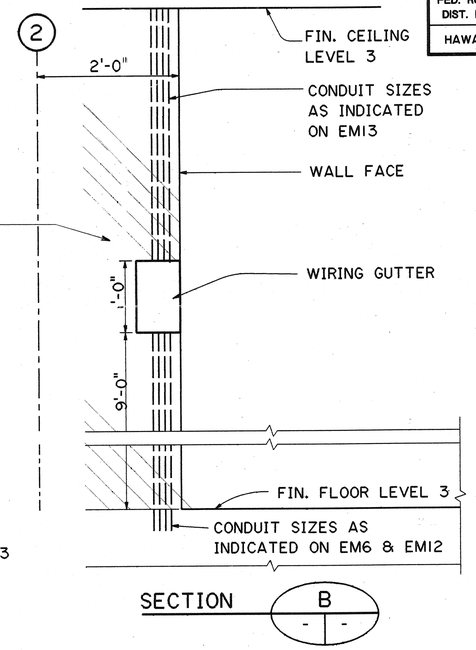


WIRING GUTTER PLAN (TOP)

DETAIL 1 (EM6, EMI2 | EMI8)



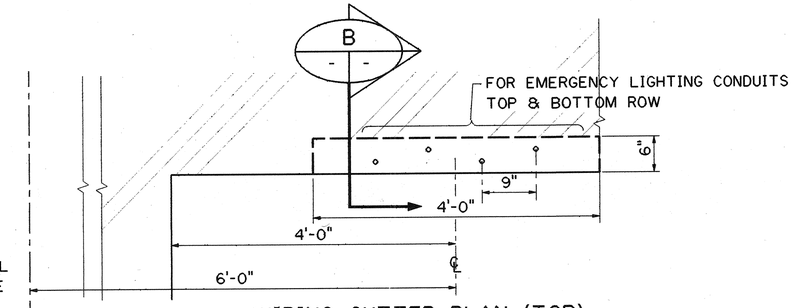
SECTION A



SECTION B

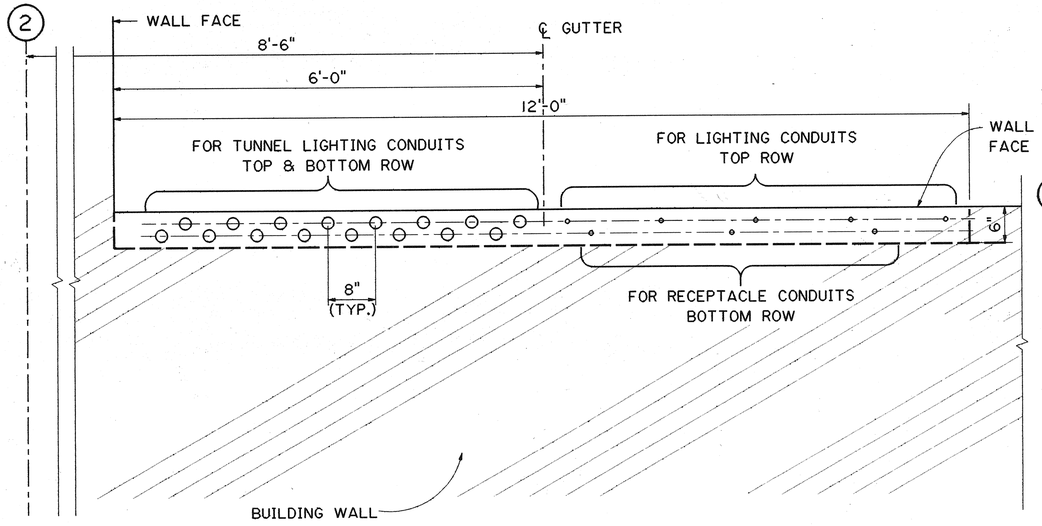
NOTES:

1. WIRING GUTTERS SHALL BE FABRICATED WITH CODE GAGE STEEL HOT DIP GALVANIZED AFTER FABRICATION. ENCLOSURE CLASSIFICATION SHALL BE NEMA 4.



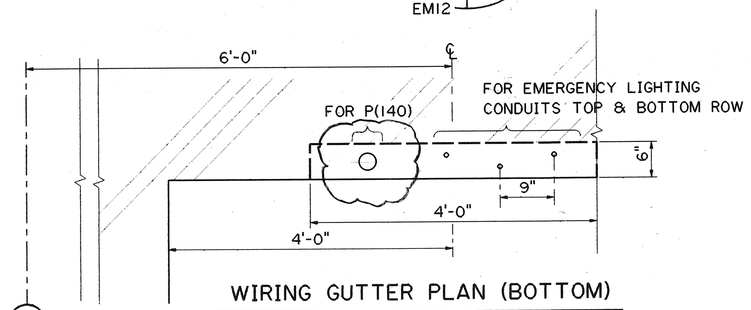
WIRING GUTTER PLAN (TOP)

DETAIL 2 (EM6, EMI2 | EMI8)



WIRING GUTTER PLAN (BOTTOM)

DETAIL 1 (EM6, EMI2 | EMI8)



WIRING GUTTER PLAN (BOTTOM)

DETAIL 2 (EM6, EMI2 | EMI8)

GRAPHIC SCALE
1' 0' 1' 2'
1" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6460-E HAWAII, U.S.A.

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT SECTIONS & DETAILS

HAIKU PORTAL BUILDING - IB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

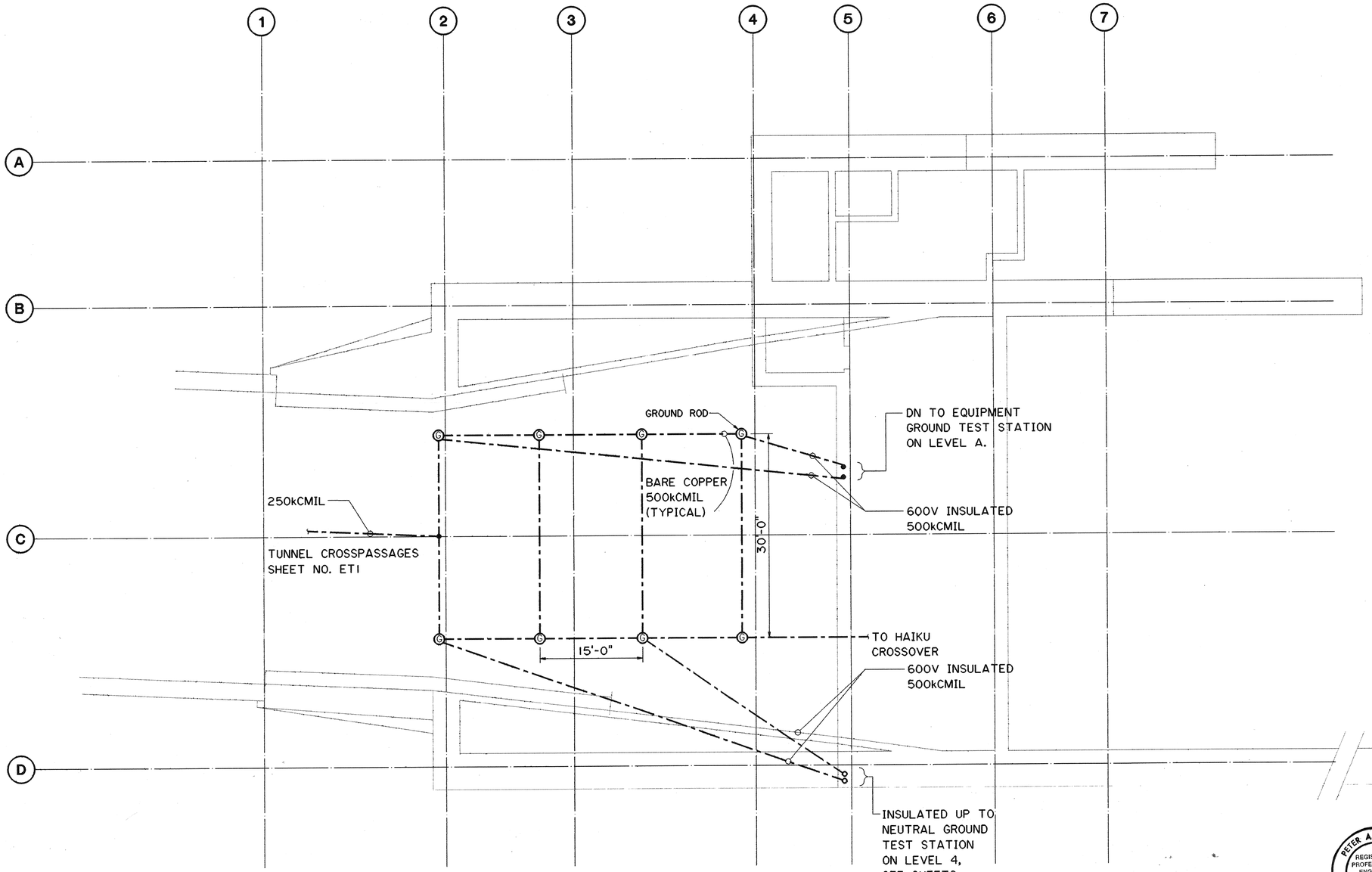
SCALE: 1" = 1'-0" DATE: JAN. 1990

SHEET NO. EMI8 OF 18 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	CADD	10/24/89
	DRAWN BY		
NOTE BOOK	TRACED BY	TYS/RFJ	10/19/89
	DESIGNED BY		
NO.	QUANTITIES BY		
	CHECKED BY	J J SASSANI	11/24/89

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	341	424

N



PLAN AT FOUNDATION LEVEL

NOTES:

1. GROUNDING MAT AND RODS SHALL BE BURIED 2'-6" BELOW EARTH SURFACE.
2. FOR GROUNDING DETAILS, SEE SHEET NO. E4.
3. FOR ALL BURIED OR CONCRETE-ENCASED GROUND CONDUCTORS PROVIDE MEDIUM HARD, BARE, COPPER CABLE, EXCEPT AS NOTED.

FOR DETAIL AS-BUILT INFORMATION REFER TO CONSTRUCTION SUBMITTALS

DATE	REVISION
	AS BUILT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GROUNDING - 1

HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1/8"=1'-0" DATE: JAN 1990

SHEET NO. EQ1 OF 18 SHEETS

GRAPHIC SCALE
8' 4' 0' 8' 16'
1/8" = 1'-0"

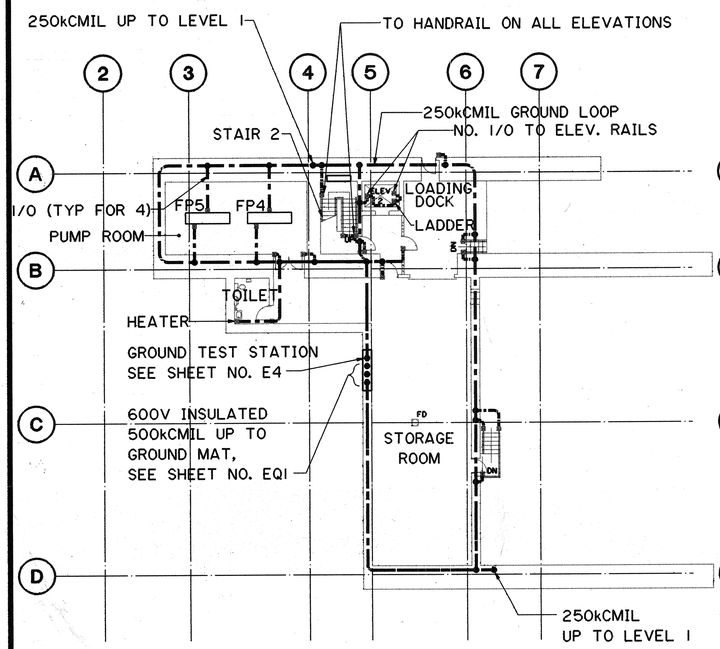
PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6400-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

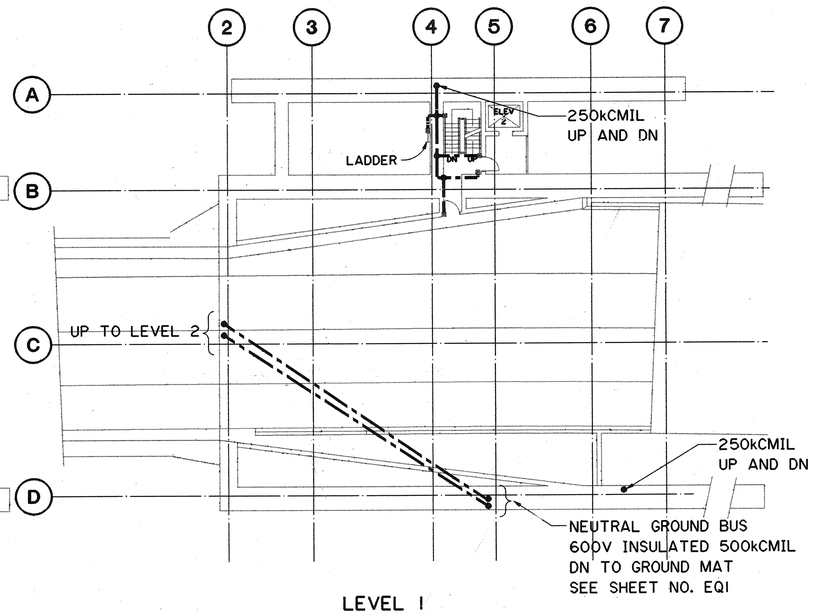
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	8/10/89
NOTE BOOK	TRACED BY	
	DESIGNED BY F. JIMENEZ	7/18/89
NO.	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	11/24/89

2410V152 2410: V152 ES0118.FGB:1 29NOV89-10.14.00

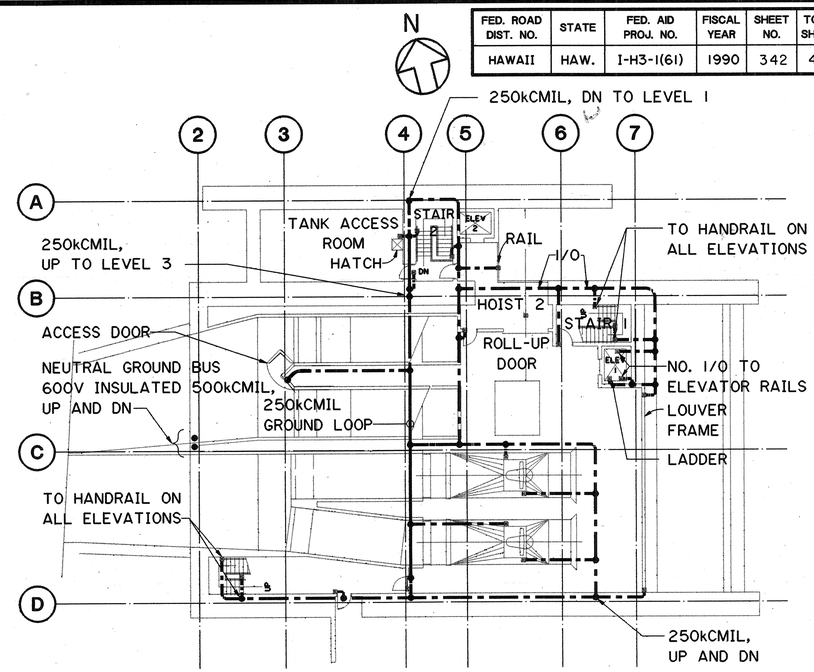
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	342	424



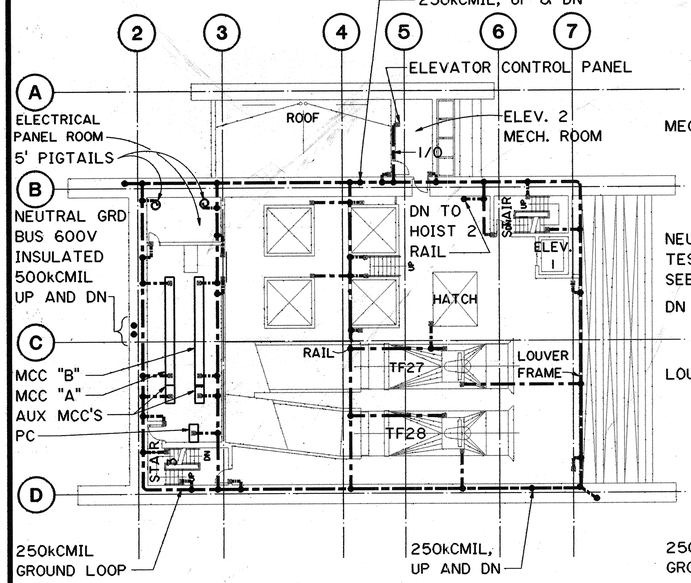
LEVEL A



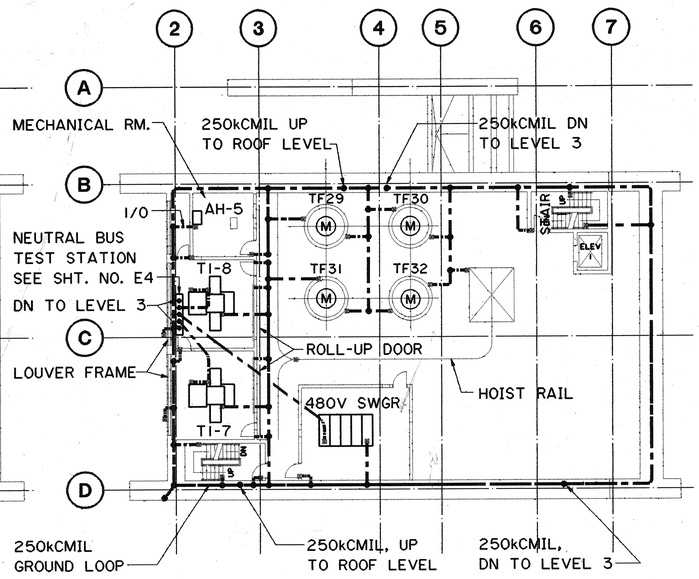
LEVEL 1



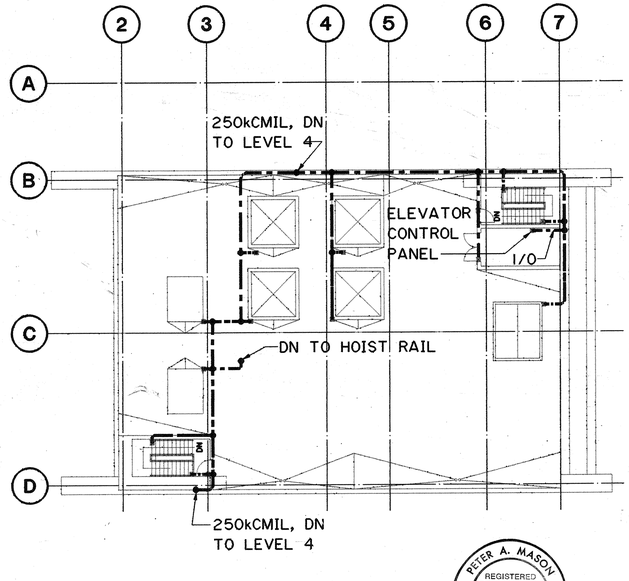
LEVEL 2



LEVEL 3



LEVEL 4



ROOF

GRAPHIC SCALE
16' 8' 0' 16' 32'
1/16"=1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6480-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

NOTES:

1. CONNECT NEUTRAL BUS TEST STATION TO BUILDING MAIN REINFORCING STEEL WITH AN INSULATED 250kCMIL GROUND CABLE.
2. UNLESS OTHERWISE SHOWN, SIZE OF CABLE CONNECTIONS SHALL BE NO. 8 STRANDED FOR DOORS, ELECTRICAL WALL-MOUNTED PANELS, STAIRS, HATCHES, RAILS AND LOUVERS.
3. ABOUT 5 FEET OF CABLE, TAPED AND PROTECTED, SHALL BE LEFT FOR CONNECTIONS NOT IN THIS CONTRACT AT LOCATIONS SHOWN.
4. ALL GROUNDING WIRES RUN IN OUTSIDE WALLS SHALL BE INSULATED.

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GROUNDING - 2

HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1/16" = 1'-0" DATE: JAN 1990

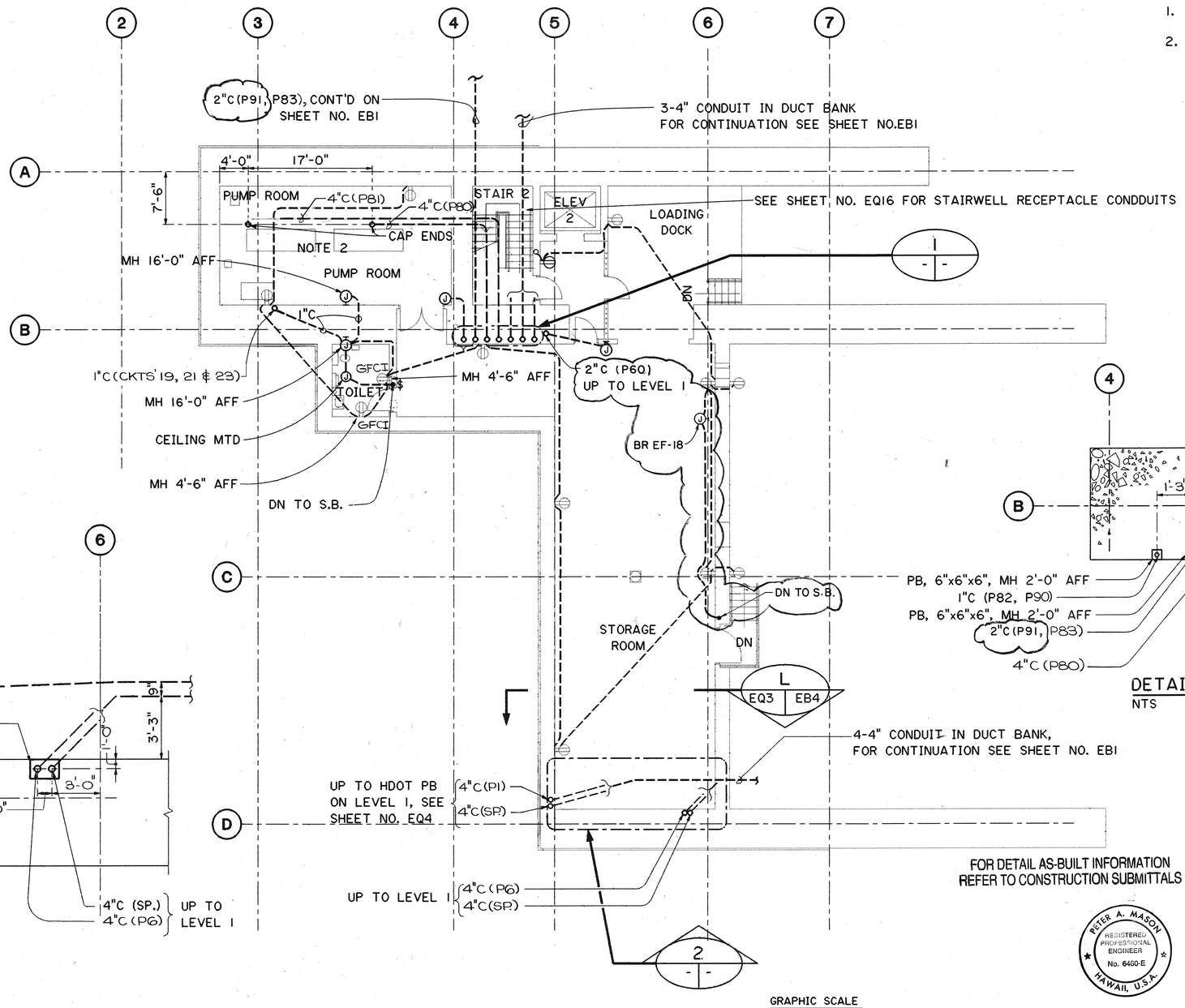
SHEET NO. EQ2 OF 18 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	7/21/89
NOTE BOOK	TRACED BY	6/6/89
	DESIGNED BY F. JIMENEZ	
NO.	QUANTITIES BY	11/25/89
	CHECKED BY J.J. SASSANI	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	343	424

NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. SEE MECHANICAL DWG. SHEET NO. SQ2 FOR THE EXACT LOCATION OF EQUIPMENT PADS IN PUMP ROOM.



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

FOR DETAIL AS-BUILT INFORMATION REFER TO CONSTRUCTION SUBMITTALS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
10/23/91	REVISED PER DCN 61-017
4/26/90	GENERAL REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT LEVEL A PLAN

HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛" = 1'-0" DATE: JAN 1990

SHEET NO. EQ3 OF 18 SHEETS

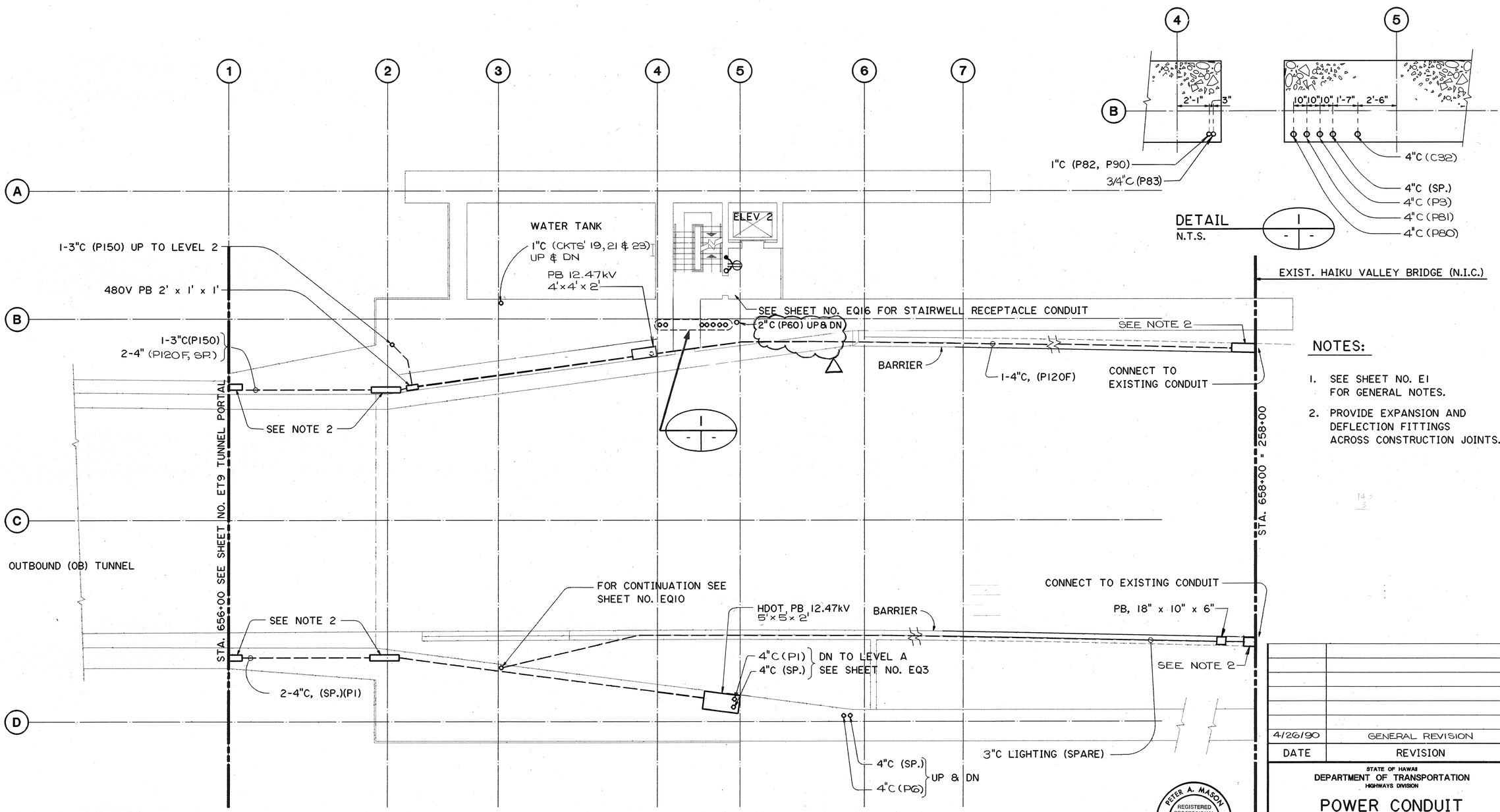
ADD. 343

ORIGINAL PLAN	SURVEY PLOTTED BY		DATE
	DRAWN BY	CADD	8/15/89
	TRACED BY	"	9/21/89
NOTE BOOK	DESIGNED BY	INGA HORTON	"
	QUANTITIES BY	"	"
NO.	CHECKED BY	J. J. SASSANI	11/24/89

2410V153 2410: V153 ES0078.FGB:1 17JLY89-11.07.10

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	344	424

N



DETAIL I
N.T.S.

NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. PROVIDE EXPANSION AND DEFLECTION FITTINGS ACROSS CONSTRUCTION JOINTS.

GRAPHIC SCALE
8' 4' 0' 8' 16'
1/8" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A Mason

4/26/90	GENERAL REVISION
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT LEVEL I PLAN

HAIKU PORTAL BUILDING OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1/8" = 1'-0" DATE: JAN 1990

SHEET NO. EQ4 OF 18 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/23/89
	TRACED BY	"
NOTE BOOK	DESIGNED BY INGA HORTON	9/23/89
	QUANTITIES BY	"
NO.	CHECKED BY J. J. SASSANI	11/24/89

2410V153 2410: V153 ES0079.FGB/1 15DEC89-15.09.20

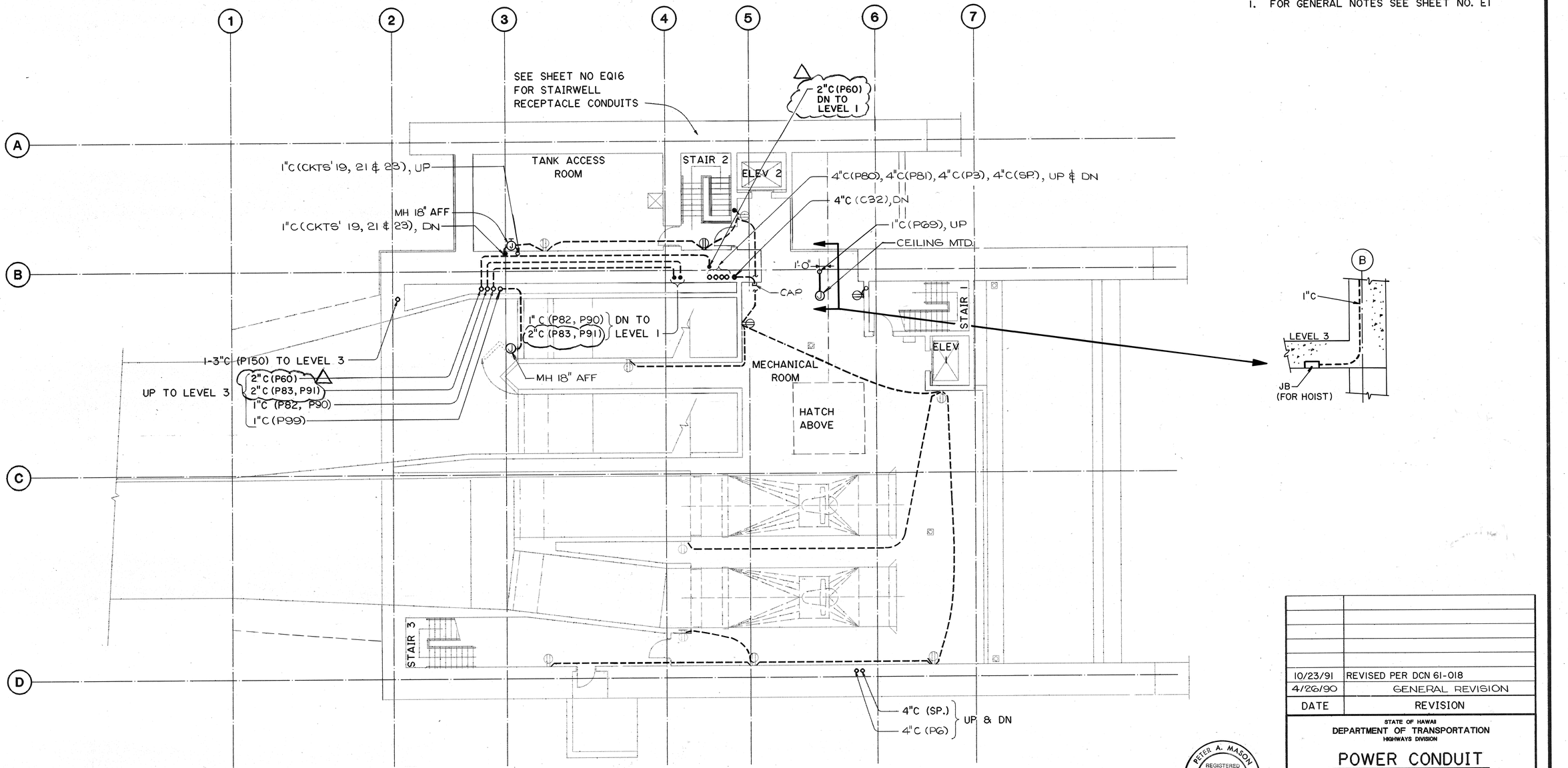
ADD. 344

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	345	424

N

NOTES:

1. FOR GENERAL NOTES SEE SHEET NO. E1



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6460-E HAWAII, U.S.A.

10/23/91	REVISED PER DCN 61-018
4/26/90	GENERAL REVISION
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT LEVEL 2 PLAN

HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛" = 1'-0" DATE: JAN 1990

SHEET NO. EQ5 OF 18 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	CADD
	DRAWN BY	" 11/8/89
	TRACED BY	" 10/15/89
NOTE BOOK	DESIGNED BY	INGA HORTON
	QUANTITIES BY	"
NO.	CHECKED BY	J. J. SASSANI " 11/24/89

2410V153 2410: V153 ES0080.FGB,1 18JUL89-11.54.30

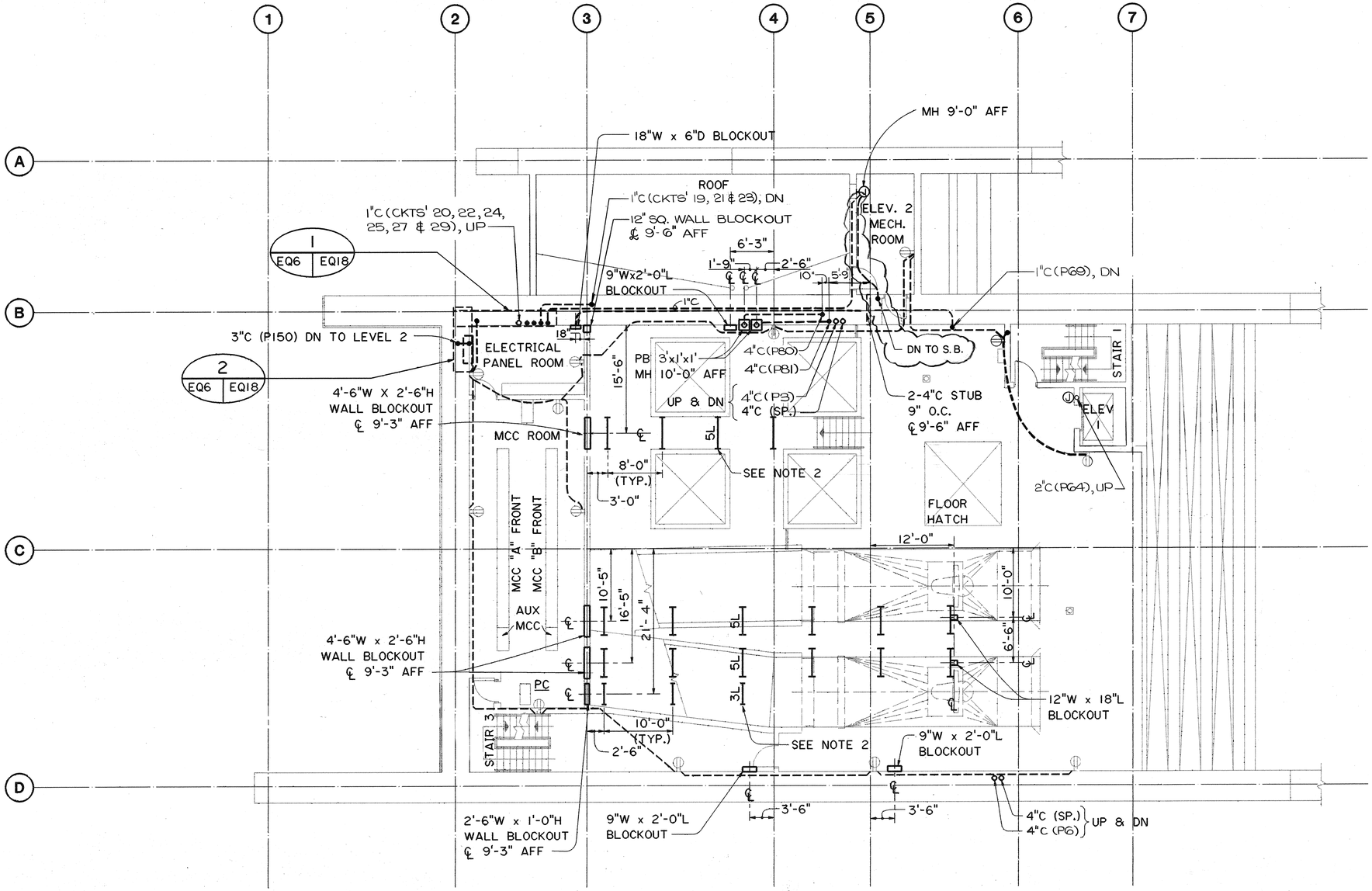
ADD. 345

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	346	424

N

NOTES:

1. FOR GENERAL NOTES SEE SHEET NO. E1
2. 3L, 5L - CONCRETE CHANNEL CEILING INSERTS. PREFIX REFERS TO LENGTH IN FEET. LOCATIONS AS SHOWN.



ORIGINAL PLAN	SURVEY PLOTTED BY	CADD	DATE 11/20/89
	DRAWN BY		
NOTE BOOK	TRACED BY		
	DESIGNED BY	INGA HORTON	10/13/89
NO.	QUANTITIES BY		
	CHECKED BY	J. J. SASSANI	11/24/89

GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
4/26/90	GENERAL REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT
LEVEL 3 PLAN-1
HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EQ6 OF 18 SHEETS

2410V153 2410: V153 ES0072.FGB;1 29JUN89-09.37.40

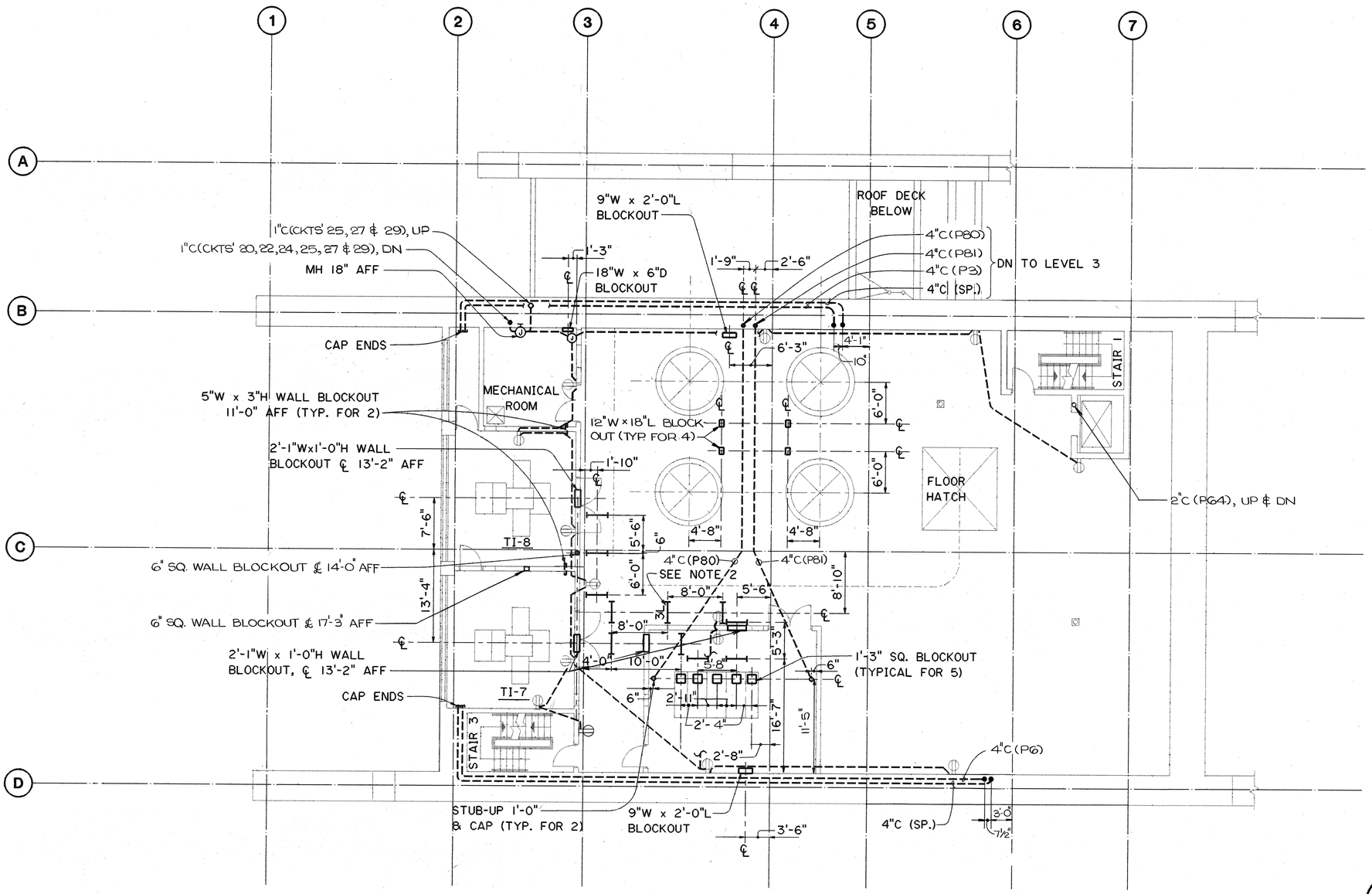
ADD. 346

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	347	424

N

NOTES:

1. FOR GENERAL NOTES SEE SHEET NO. E1
2. 3L- CONCRETE CHANNEL CEILING INSERTS, PREFIX REFERS TO LENGTH IN FEET. LOCATIONS AS SHOWN.



ORIGINAL PLAN	NOTE BOOK	NO.

SURVEY PLOTTED BY	
DRAWN BY	CADD
TRACED BY	
DESIGNED BY	INGA HORTON
QUANTITIES BY	J. SASSANI
CHECKED BY	
DATE	11/3/89 · 10/26/89 · 11/24/89

GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

4/26/90	GENERAL REVISION
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT LEVEL 4 PLAN

HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛" = 1'-0" DATE: JAN 1990

SHEET NO. EQ7 OF 18 SHEETS

2410V153 2410: V153 ES0074.FGB:1 20JUN89-13.08.10

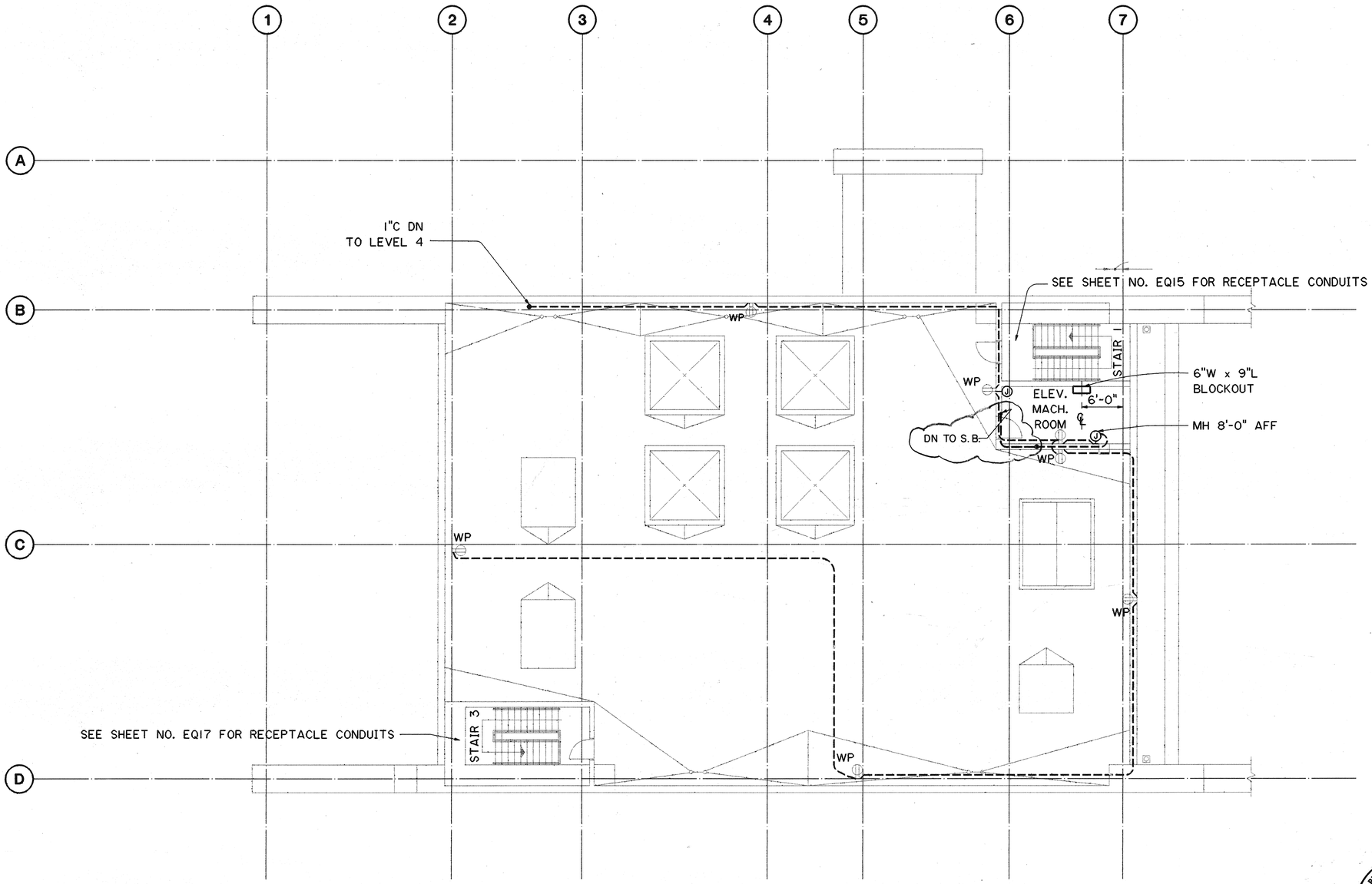
ADD. 347

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	348	424

N

NOTES:

1. FOR GENERAL NOTES SEE SHEET NO. E1



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT
ROOF PLAN
HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛" = 1'-0" DATE: JAN 1990

SHEET NO. EQ8 OF 18 SHEETS

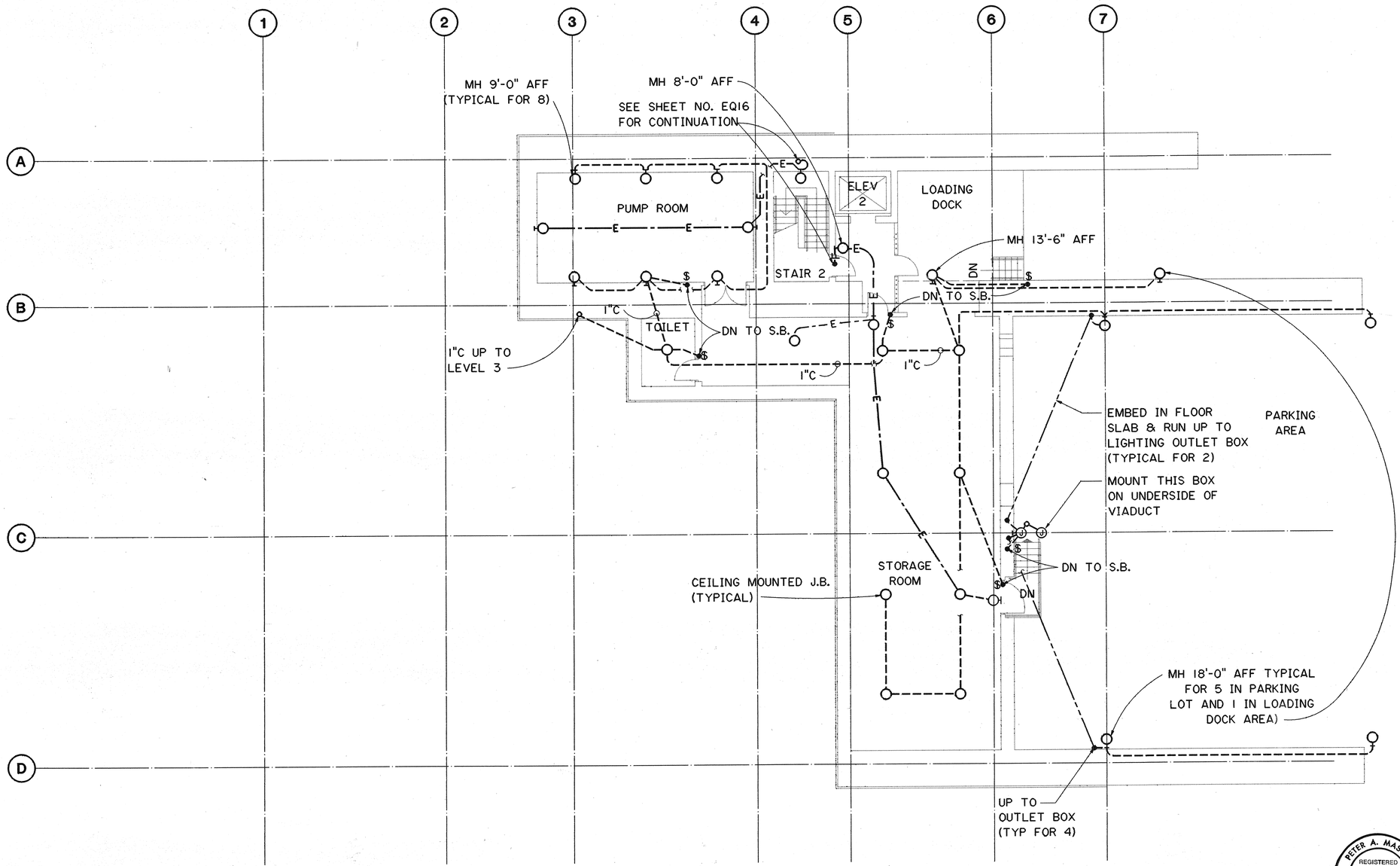
ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY CADD	11/20/89
	TRACED BY	
	DESIGNED BY INGA HORTON	11/91/89
NOTE BOOK	QUANTITIES BY	
NO.	CHECKED BY J. J. SASSANI	11/24/89

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	349	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS SHOWN ARE EMBEDDED IN THE CEILING OF LEVEL A UNLESS OTHERWISE NOTED.
3. $ INDICATES LOCATION OF SWITCH BOX (SB)



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6460-E HAWAII, U.S.A.

FOR DETAIL AS-BUILT INFORMATION REFER TO CONSTRUCTION SUBMITTALS

DATE	REVISION
	AS BUILT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT LEVEL A PLAN
HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EQ9 OF 18 SHEETS

ORIGINAL PLAN	NOTE BOOK	NO.

SURVEY PLOTTED BY
DRAWN BY CADD DATE 10/16/89
TRACED BY
DESIGNED BY ROBERT F. JAMES 9/13/89
QUANTITIES BY
CHECKED BY Joe SASSANI 11/24/89

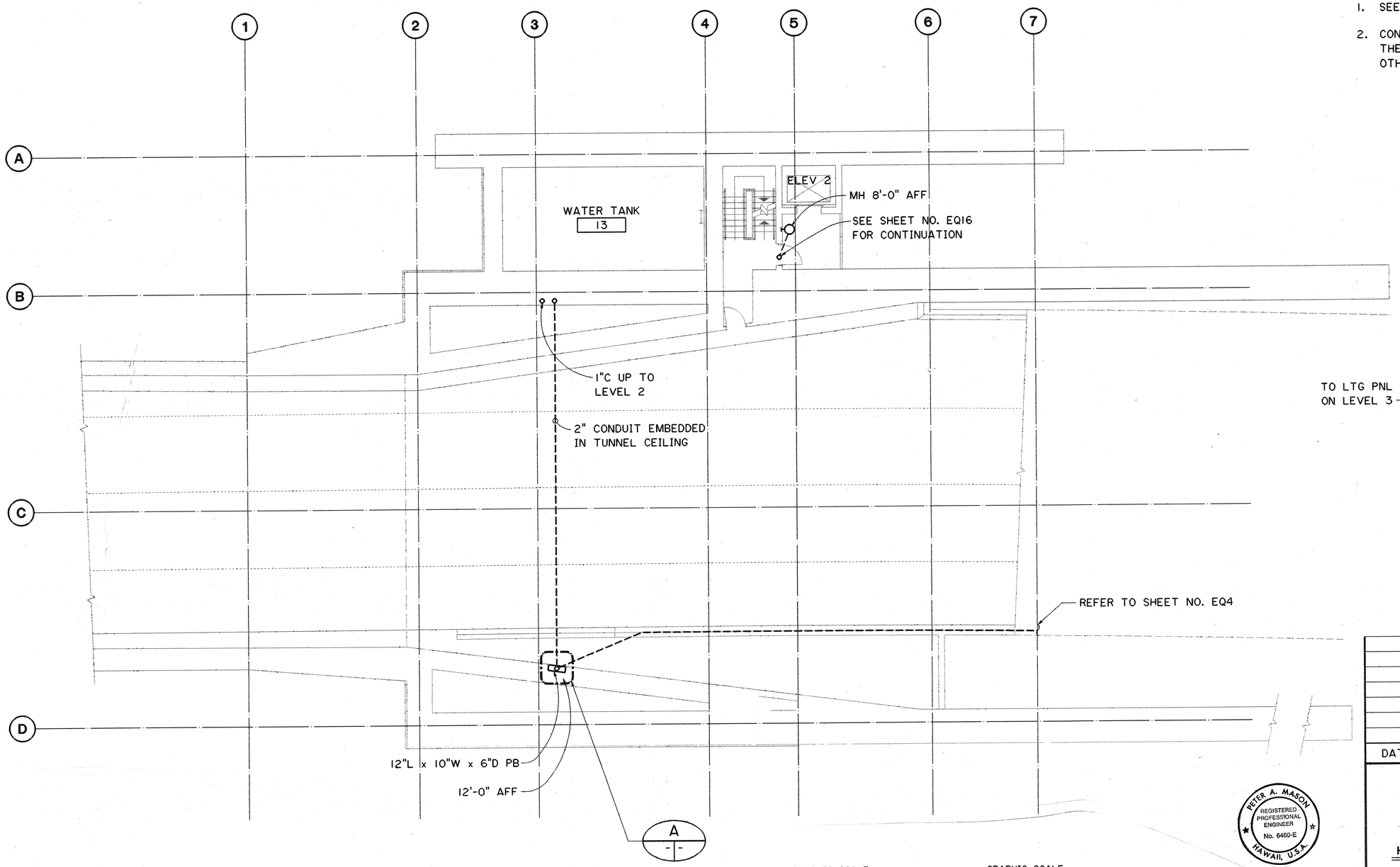
2410V156 2410: V156 ES0014.FGB>1 15DEC89-12.44.40

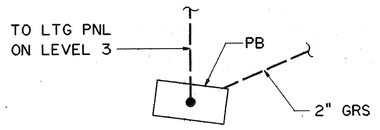
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	350	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS SHOWN ARE EMBEDDED IN THE CEILING OF LEVEL 1 UNLESS OTHERWISE NOTED.





DETAIL A
SCALE:1"=1'-0"

GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

GRAPHIC SCALE
1' 0' 1' 2'
1" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
	AS BUILT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT LEVEL 1 PLAN

HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EQ10 OF 18 SHEETS

ORIGINAL PLANS	NOTE BOOK	NO.
SURVEY PLOTTED BY	CADD	DATE 6/15/89
DRAWN BY	"	" 5/14/89
TRACED BY	ROBERT F. JAMES	" "
DESIGNED BY	"	" "
QUANTITIES BY	"	" "
CHECKED BY	J.J. SASSANI	" 11/24/89

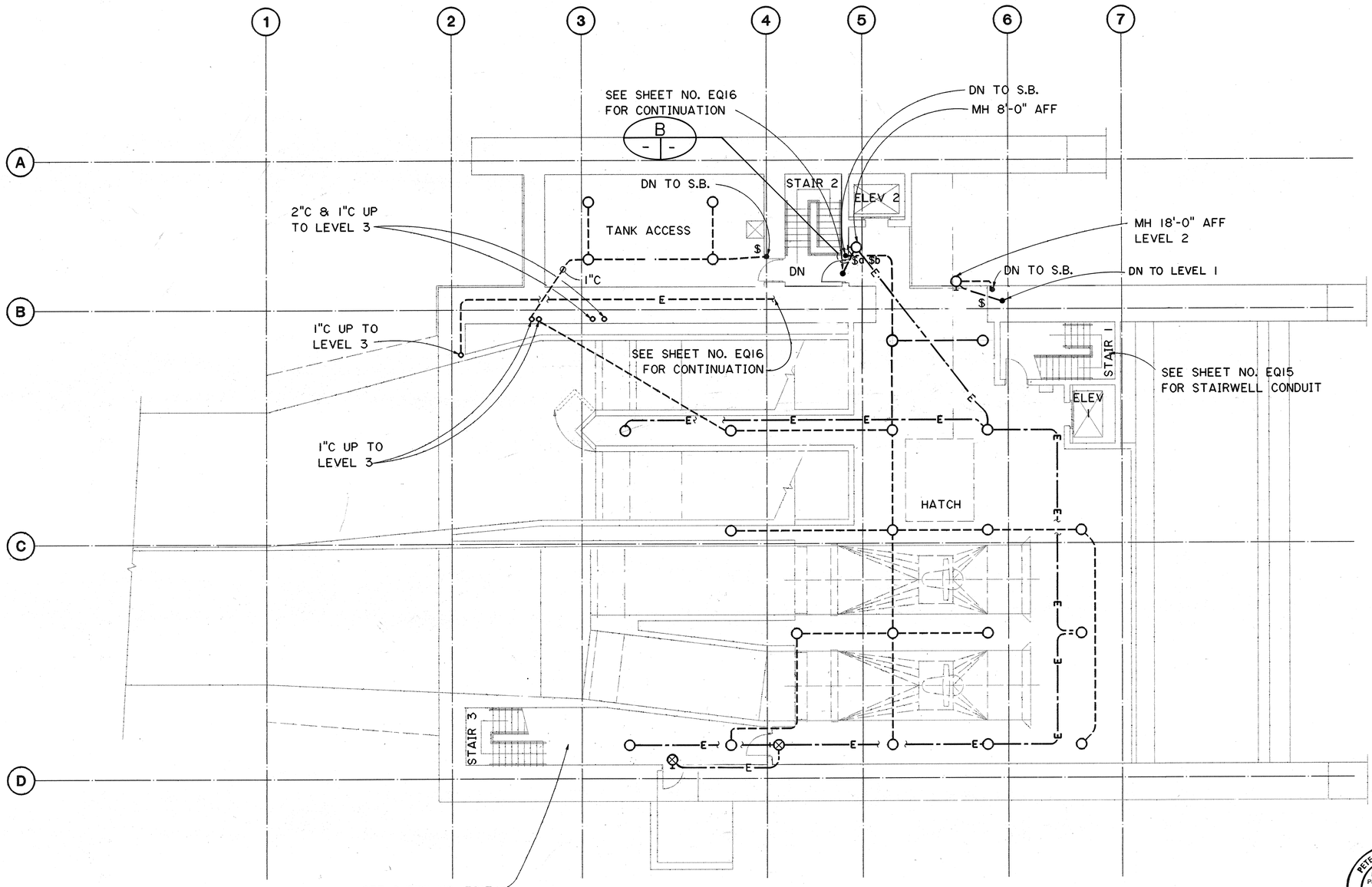
2410V156 2410: V156 ES0015.FGB;1 28NOV89-09.58.30

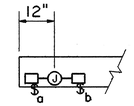
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	351	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS SHOWN ARE EMBEDDED IN THE CEILING OF LEVEL 2 UNLESS OTHERWISE NOTED.
3. $ INDICATES LOCATION OF SWITCH BOX (SB)





DETAIL B
NOT TO SCALE

GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

Peter A. Mason

DATE	REVISION
MAR 19 1990 ADDENDUM 1	REVISED MECH RM NORMAL & EMERG LIGHTS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT
LEVEL 2 PLAN
HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EQ11 OF 18 SHEETS

ADD. 351

ORIGINAL PLAN		DATE
NOTE BOOK	SURVEY PLOTTED BY	
	DRAWN BY CADD	6/15/89
	TRACED BY	"
	DESIGNED BY ROBERT F. JAMES	3/14/89
	QUANTITIES BY	"
NO.	CHECKED BY J.J. SASSANI	11/24/89

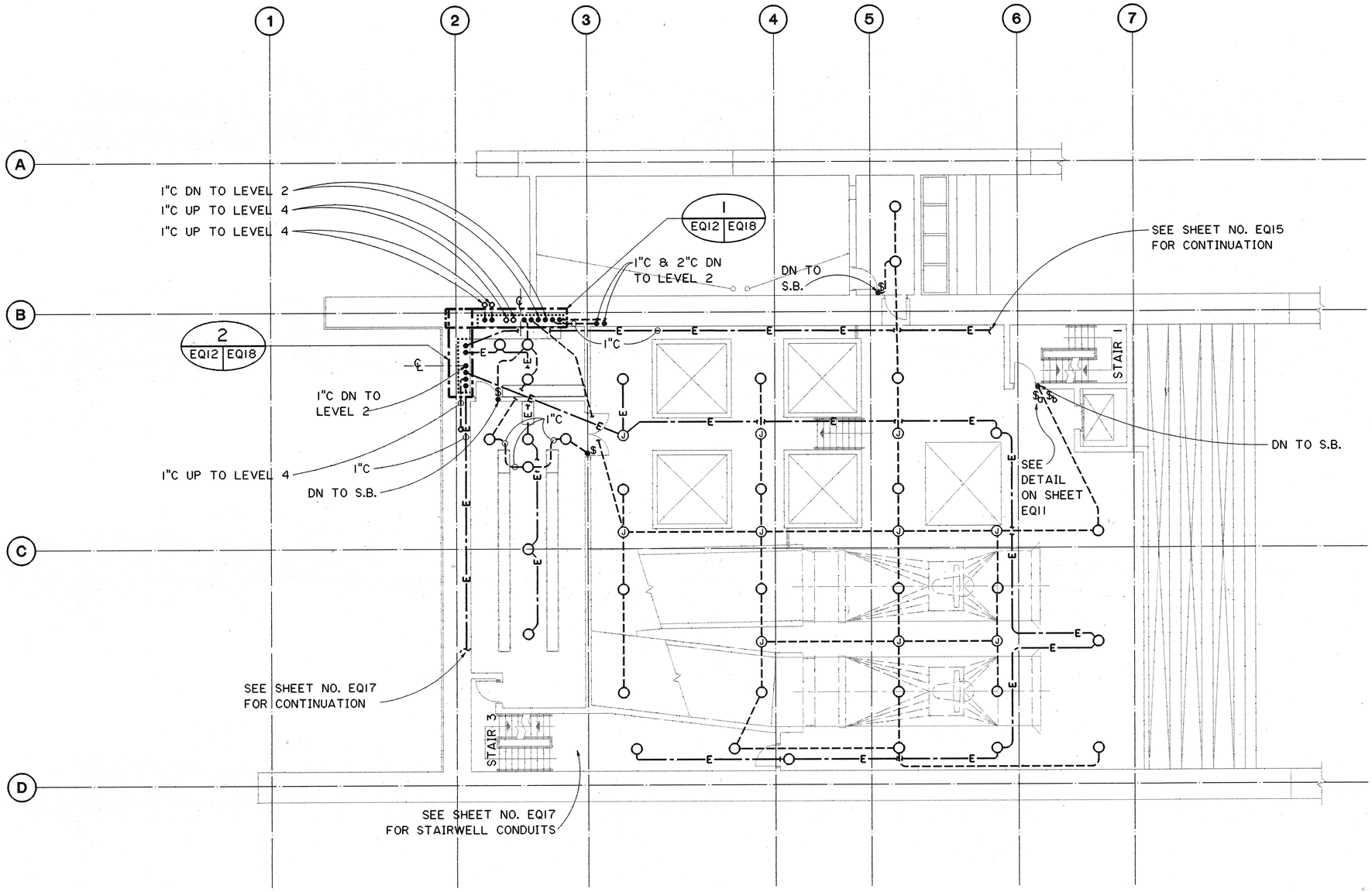
2410V156 2410: V156 ES0016.TGB;1 27NOV89-14.56.10

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	352	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS SHOWN ARE EMBEDDED IN THE CEILING OF LEVEL 3 UNLESS OTHERWISE NOTED.
3. $ INDICATES LOCATION OF SWITCH BOX (SB)



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter O. Mason

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	11/15/89
NOTE BOOK	TRACED BY	12/4/89
	DESIGNED BY ROBERT F. JAMES	
NO.	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	11/24/89

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT LEVEL 3 PLAN

HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EQ12 OF 18 SHEETS

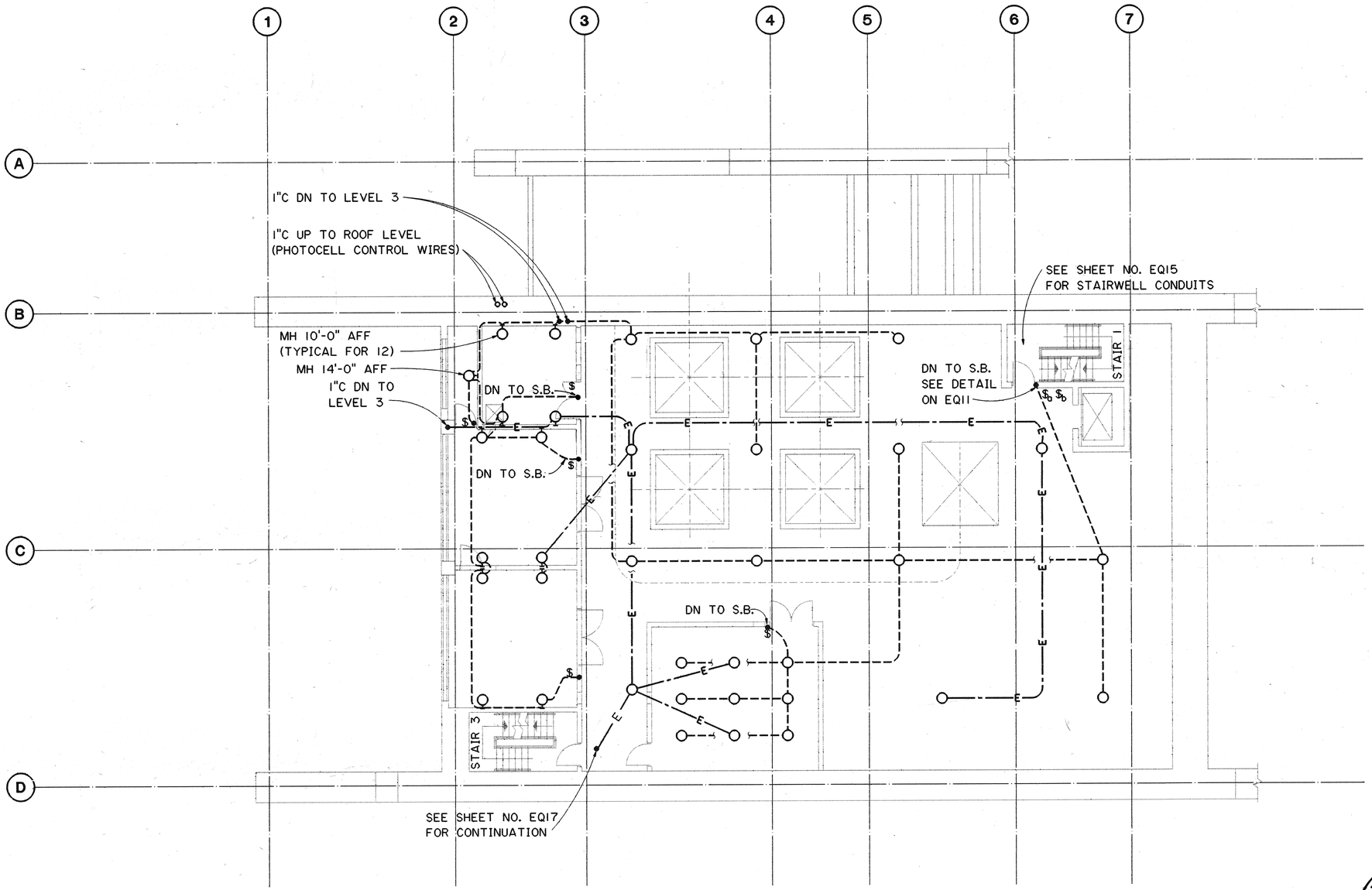
2410V156 2410: V156 ES0017.FGB>1 29NOV89-12.01.00

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	353	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS SHOWN ARE EMBEDDED IN THE CEILING OF LEVEL 4 UNLESS OTHERWISE NOTED.
3. $ INDICATES LOCATION OF SWITCH BOX



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT LEVEL 4 PLAN

HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EQ13 OF 18 SHEETS

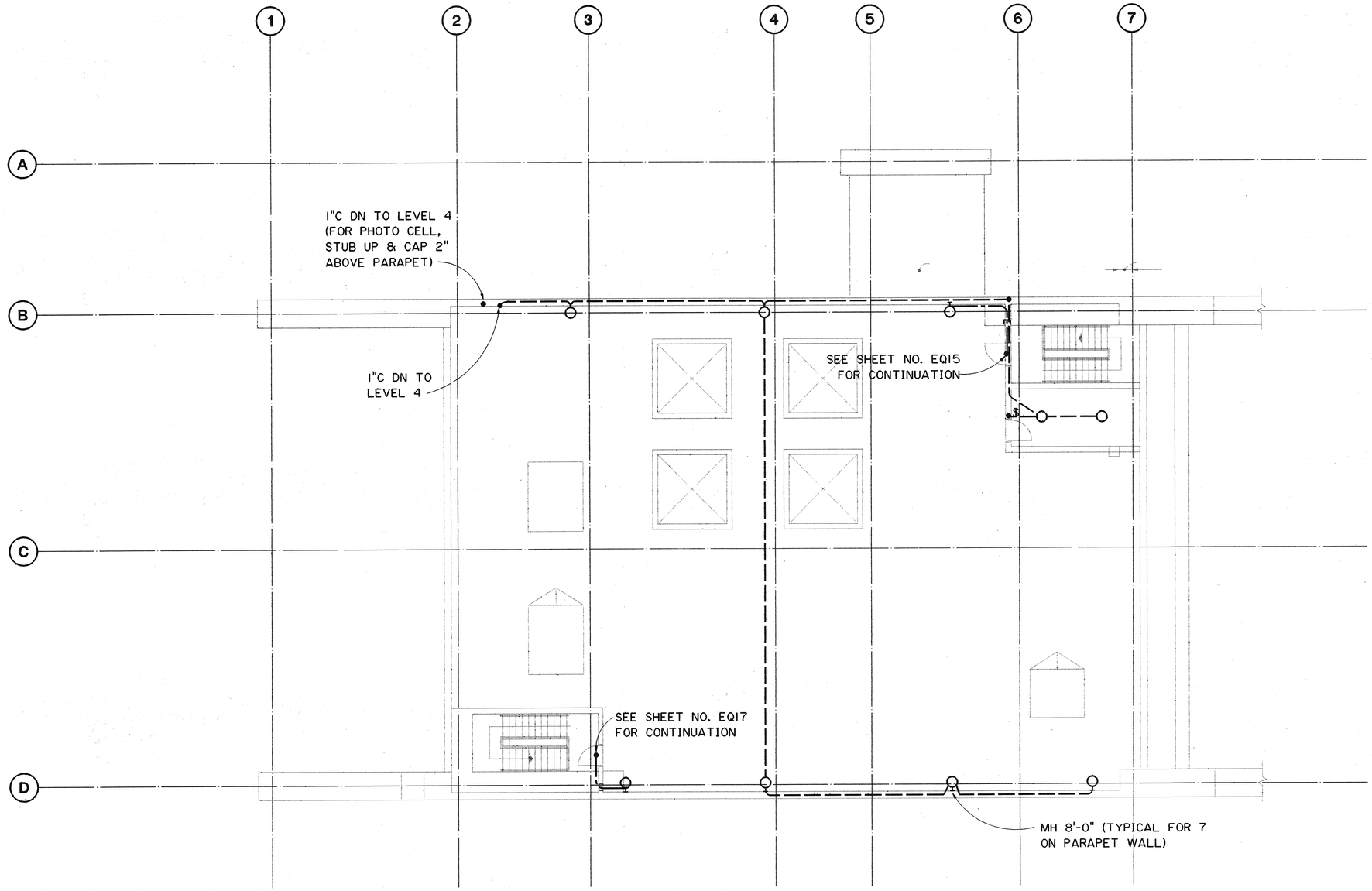
ORIGINAL PLAN		DATE
NOTE BOOK	SURVEY PLOTTED BY	
	DRAWN BY CADD	11/9/83
	TRACED BY	12/22/83
	DESIGNED BY ROBERT F. JAMES	
	QUANTITIES BY	
NO.	CHECKED BY J.J. SASSANI	1/24/84

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	354	424

N

GENERAL NOTES:

1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. CONDUITS ARE EMBEDDED IN PARAPET AND ROOF SLAB.
3. $ INDICATES LOCATION OF SWITCH BOX



GRAPHIC SCALE
8' 4' 0' 8' 16'
⅛" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

	AS BUILT
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT ROOF PLAN

HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

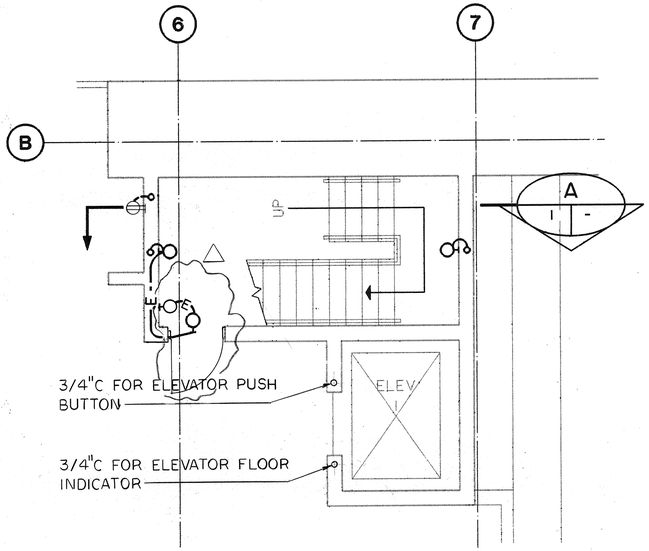
SCALE: ⅛"=1'-0" DATE: JAN 1990

SHEET NO. EQ14 OF 18 SHEETS

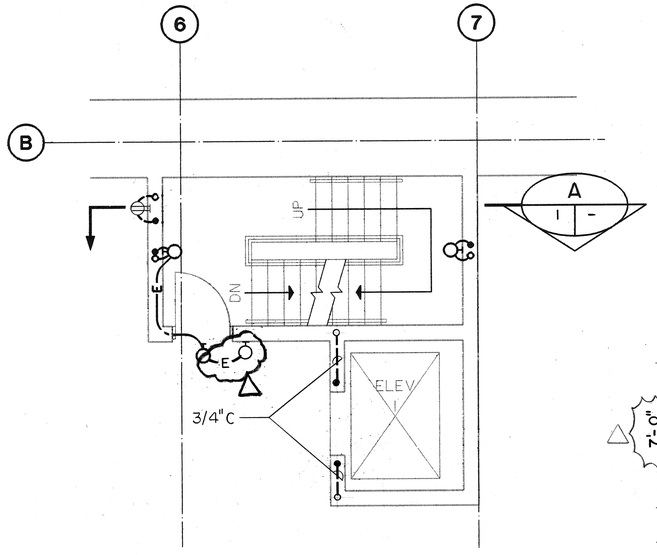
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 10/25/88
	DRAWN BY CADD	:
NOTE BOOK	TRACED BY	: 10/31/88
	DESIGNED BY ROBERT F. JAMES	:
	QUANTITIES BY	: 11/24/88
NO.	CHECKED BY J.J. SASSANI	:

2410V156 2410: V156 ES0019.FGB;1 29NOV89-12.28.40

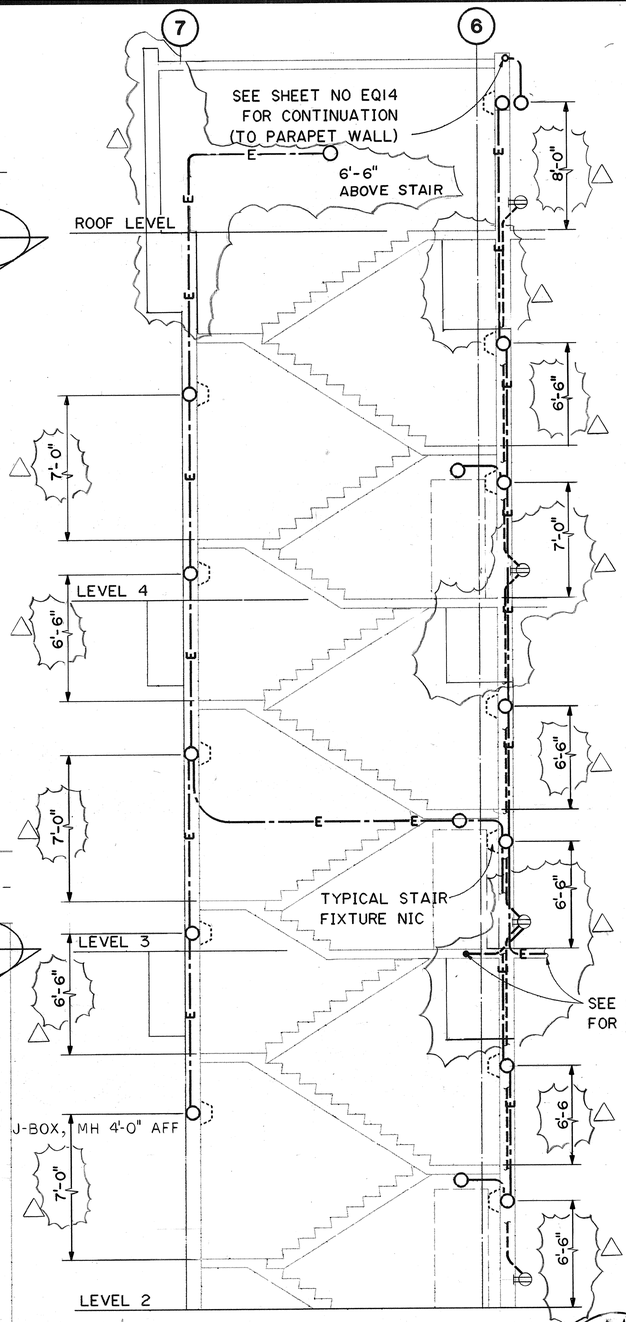
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	355	424



LEVEL 2 PLAN
SCALE: 1/4"=1'-0"



LEVEL 4 PLAN
SCALE: 1/4"=1'-0"

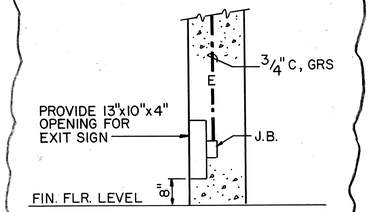


NOTE:
HANDRAILS NOT SHOWN FOR CLARITY.

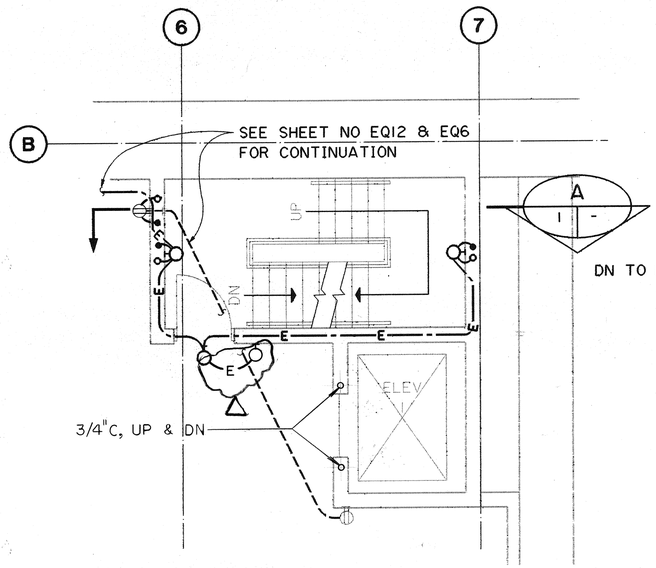
SECTION A

NOTE:

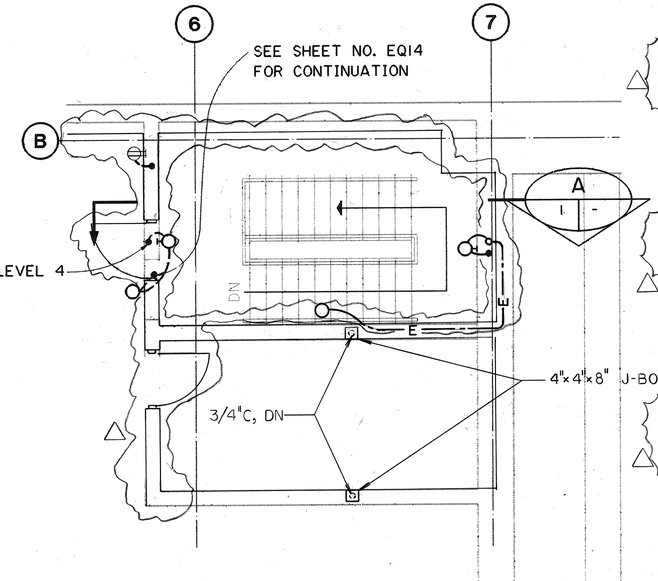
1. SEE SHEET NO. E1 FOR GENERAL NOTES.
2. FOR LOCATION OF ELEVATOR PUSH BUTTON STATION AND FLOOR INDICATOR SEE SHEET NO. AQ23.
3. ALL DIMENSIONS ON SECTION ARE AFF.
4. LOW LEVEL EXIT LIGHT OUTLET BOXES SHALL BE INSTALLED IN THE CENTER OF A 10" HIGH BY 13" LONG BY 4" DEEP RECESS LOCATED 8" FROM FLOOR TO BOTTOM EDGE OF RECESS AND 4" FROM DOOR OPENING TO EDGE OF RECESS. LOCATE COVER OF OUTLET BOX FLUSH WITH BACK OF RECESS. A LOW LEVEL EXIT SIGN WILL NOT BE REQUIRED AT FLOOR LEVEL ON ROOF. SEE DETAIL THIS PLAN.



TYPICAL DETAIL FOR FUTURE EXIT SIGN
NOT TO SCALE



LEVEL 3 PLAN
SCALE: 1/4"=1'-0"



ROOF LEVEL PLAN
SCALE: 1/4"=1'-0"

GRAPHIC SCALE
4' 2' 0' 4' 8'
1/4" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

8/12/91	REVISED PER DCN 01-012
4/26/90	REVISED ALL RECEPTACLES LOCATIONS
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT
STAIR 1 PLANS
HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NOTED DATE: JAN 1990

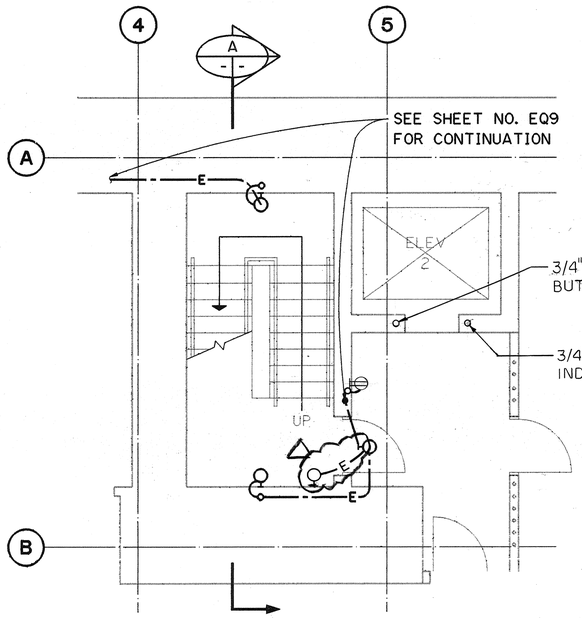
SHEET NO. EQ15 OF 18 SHEETS

ADD. 355

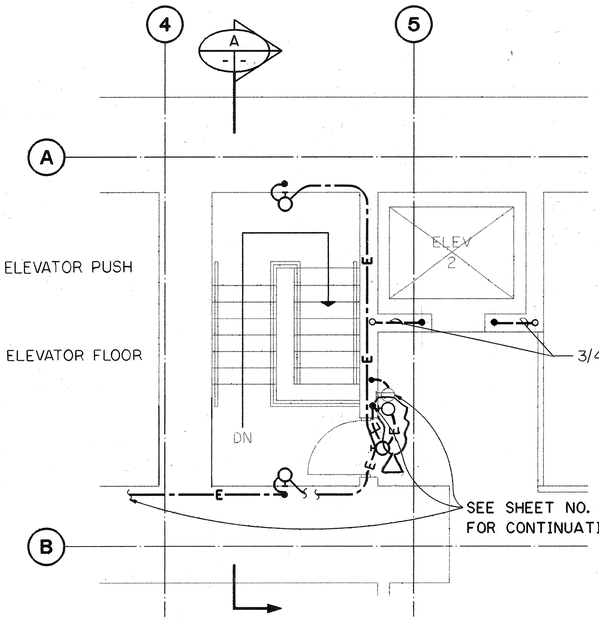
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	11/15/89
NOTE BOOK	TRACED BY	05/25/90
	DESIGNED BY ROBERT F. JAMES	
NO.	QUANTITIES BY	11/24/89
	CHECKED BY J.J. SASSANI	

2410V156 2410: V156 ES0092.FGB>1 29NOV89-11:26.50

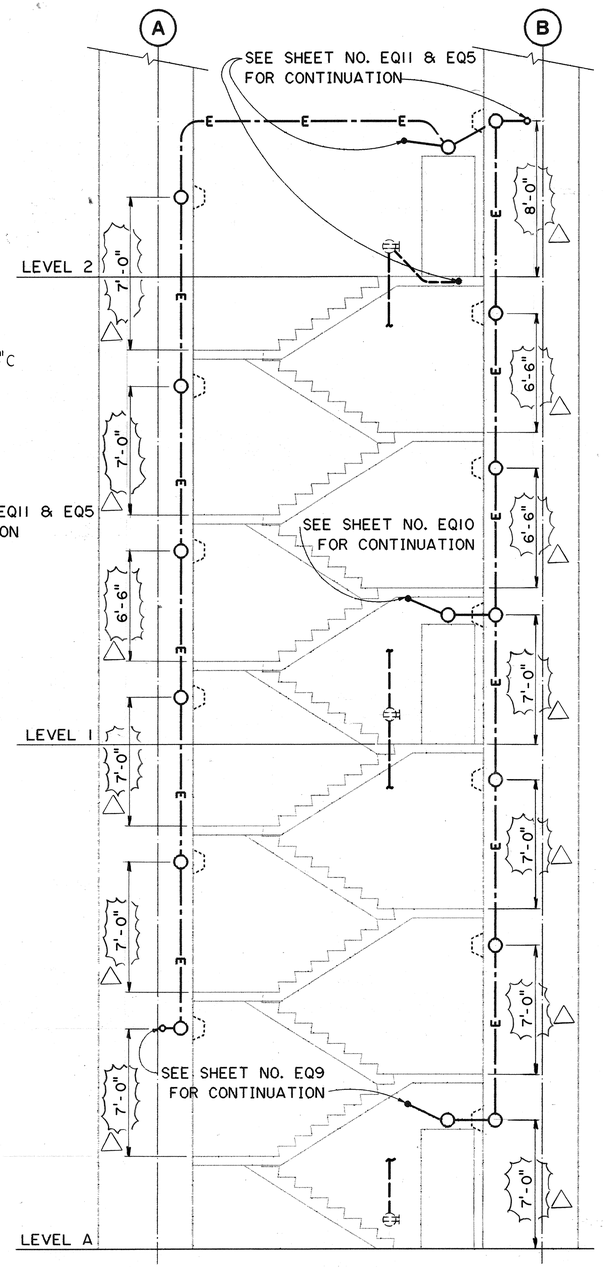
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	356	424



LEVEL A PLAN
SCALE: 1/4"=1'-0"



LEVEL 2 PLAN
SCALE: 1/4"=1'-0"

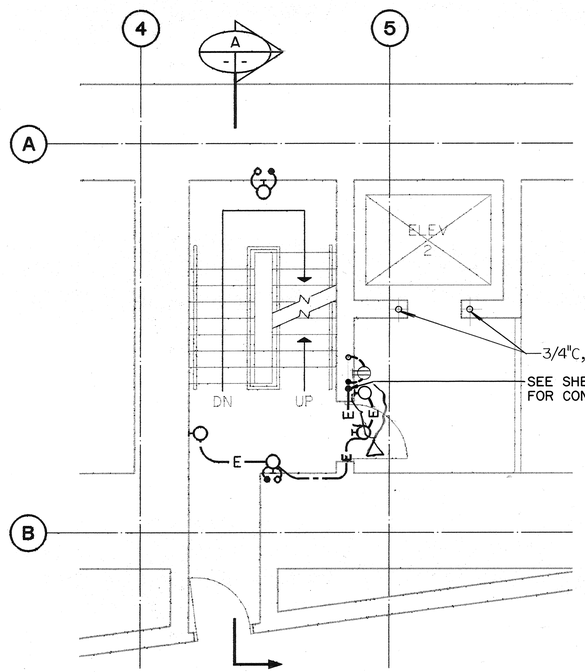


NOTE:
HANDRAILS NOT SHOWN FOR CLARITY.

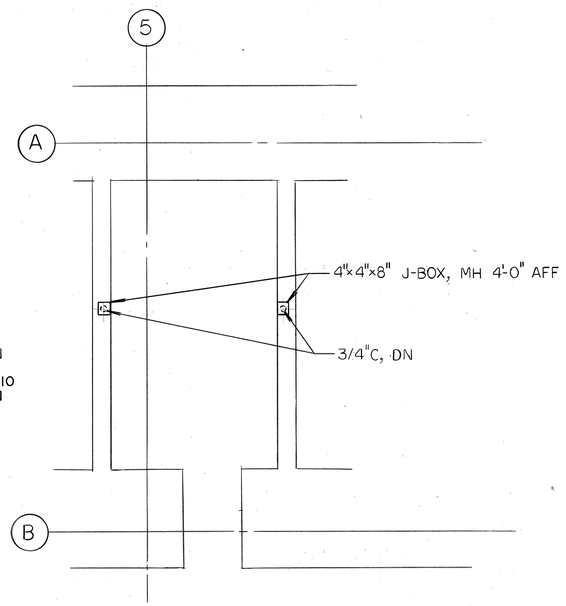
SECTION A

NOTE:

1. SEE SHEET NO E1 FOR GENERAL NOTES
2. FOR LOCATION OF ELEVATOR PUSH BUTTON STATION AND FLOOR INDICATOR SEE SHEET NO. AQ14.
3. SEE NOTES 3 & 4 ON SHEET NO. EQ15.



LEVEL 1 PLAN
SCALE: 1/4"=1'-0"



LEVEL 3 PLAN
SCALE: 1/4"=1'-0"

GRAPHIC SCALE
4' 2' 0' 4' 8'
1/4" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

DATE	REVISION
8/12/91	REVISED PER DCN 01-012
4/26/90	REVISED ALL RECEPTACLES LOCATIONS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT
STAIR 2 PLANS
HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NOTED DATE: JAN 1990

SHEET NO. EQ16 OF 18 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	11/19/83
NOTE BOOK	TRACED BY	
	DESIGNED BY ROBERT F. JAMES	12/23/83
NO.	QUANTITIES BY J.J. SASSANI	1/24/83
	CHECKED BY	

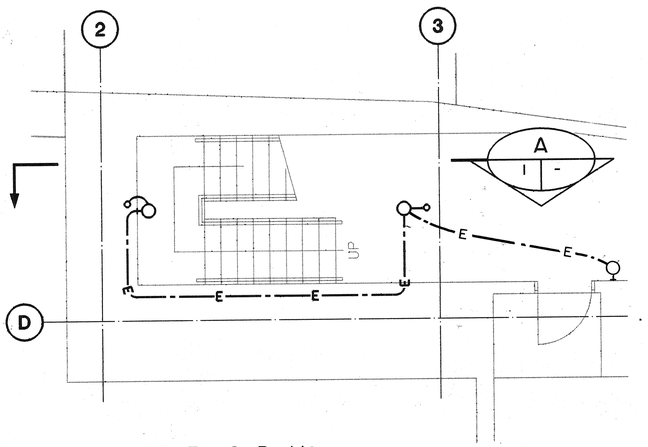
2410V156 2410: V156 ES0093.FGB>1 28NOV89-11.29.10

ADD. 356

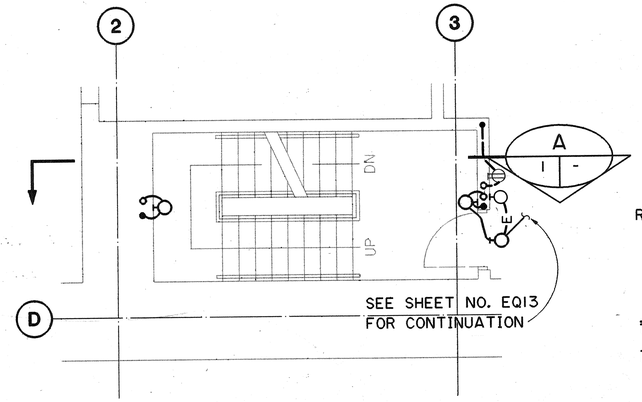
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	357	424

NOTE:

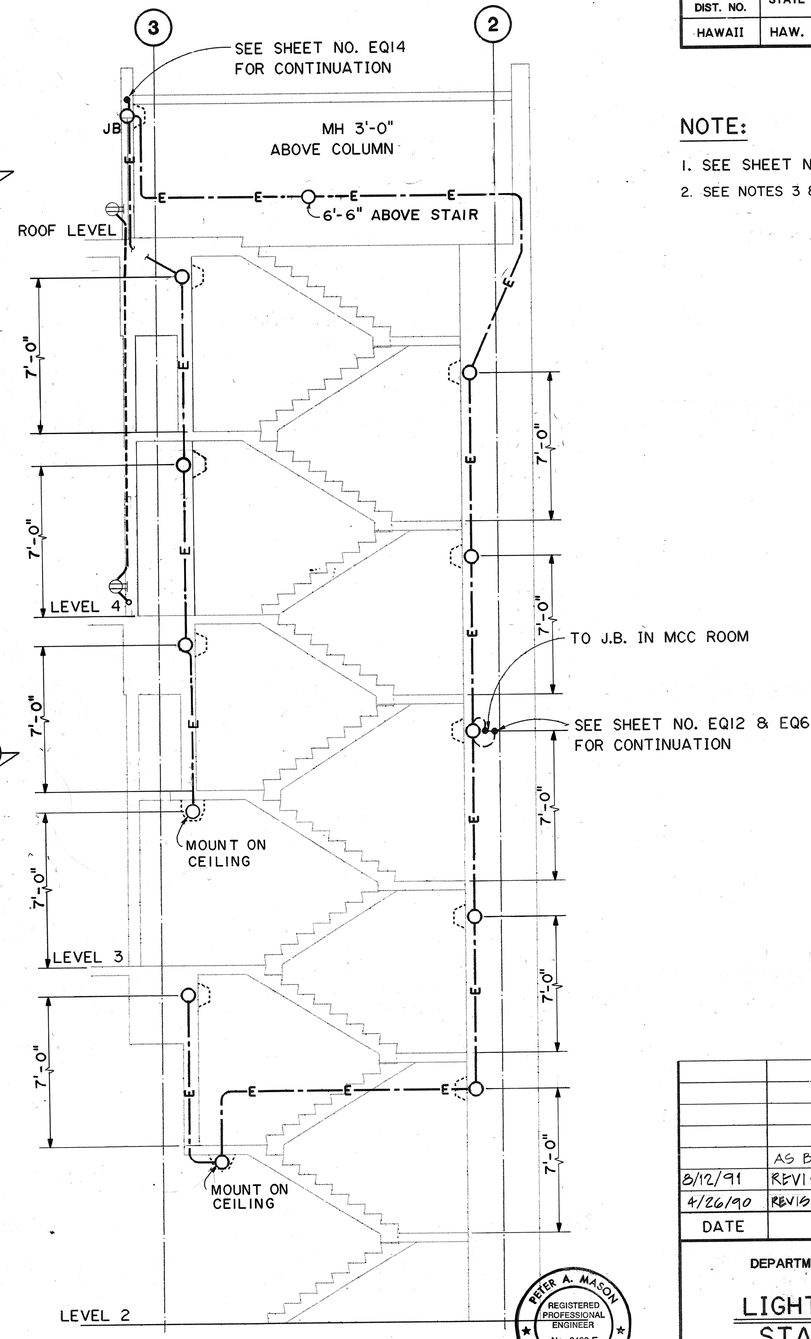
1. SEE SHEET NO E1 FOR GENERAL NOTES
2. SEE NOTES 3 & 4 ON SHEET NO. EQ15.



LEVEL 2 PLAN
SCALE: ¼"=1'-0"



LEVEL 4 PLAN
SCALE: ¼"=1'-0"



SECTION A

LEVEL 3 PLAN
SCALE: ¼"=1'-0"

ROOF LEVEL PLAN
SCALE: ¼"=1'-0"

GRAPHIC SCALE
4' 2' 0' 4' 8'
¼" = 1'-0"

THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION

Peter A. Mason

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

	AS BUILT
8/12/91	REVISED PER DCN 61-012
4/26/90	REVISED ALL RECEPTACLES LOCATIONS
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT
STAIR 3 PLANS
HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NOTED DATE: JAN 1990

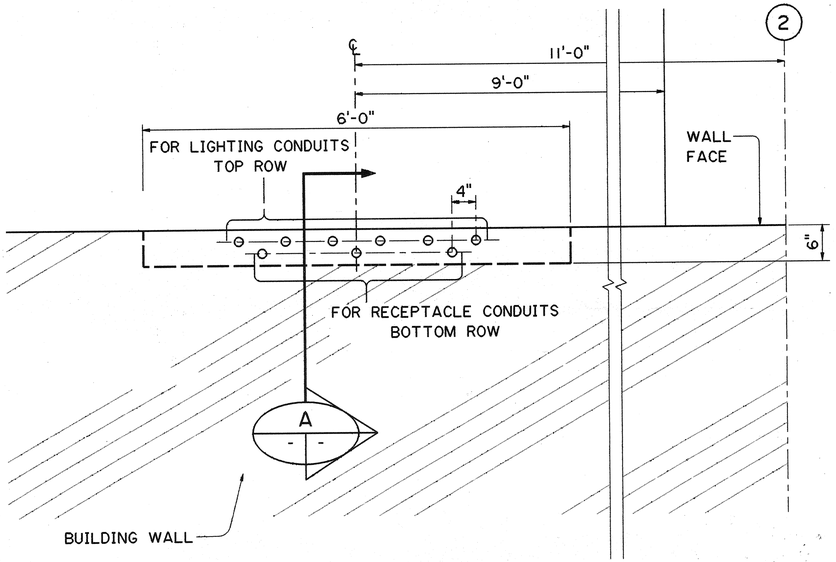
SHEET NO. EQ17 OF 18 SHEETS

ADD. 357

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	11/15/89
	TRACED BY	11/17/89
NOTE BOOK	DESIGNED BY ROBERT F. JAMES	
NO.	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	11/24/89

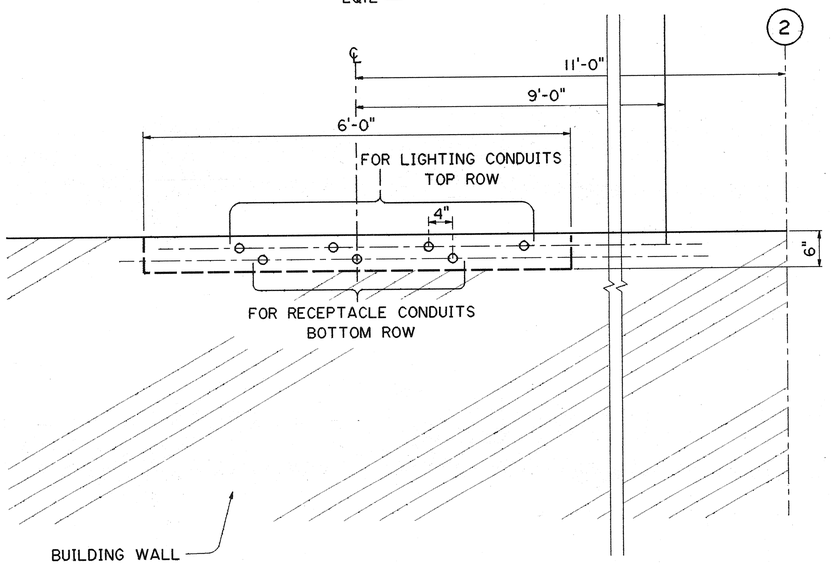
2410V152 2410: V156 ES0094.FGB>1 29NOV89-11.52.30

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	358	424



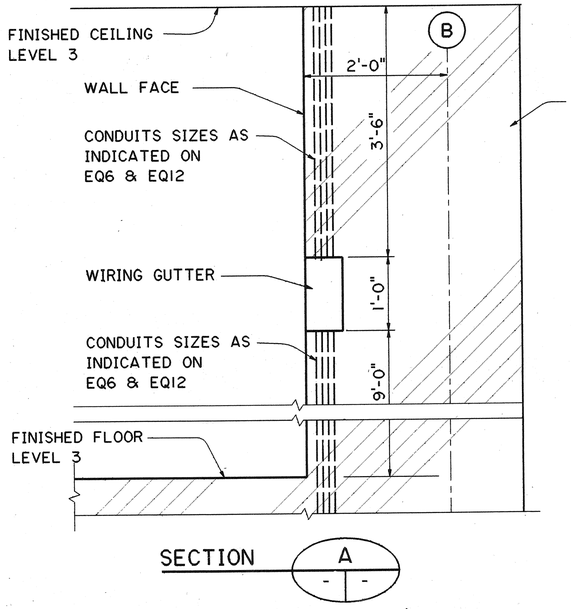
WIRING GUTTER PLAN (TOP)

DETAIL 1 (EQ6 | EQ18 / EQ12)

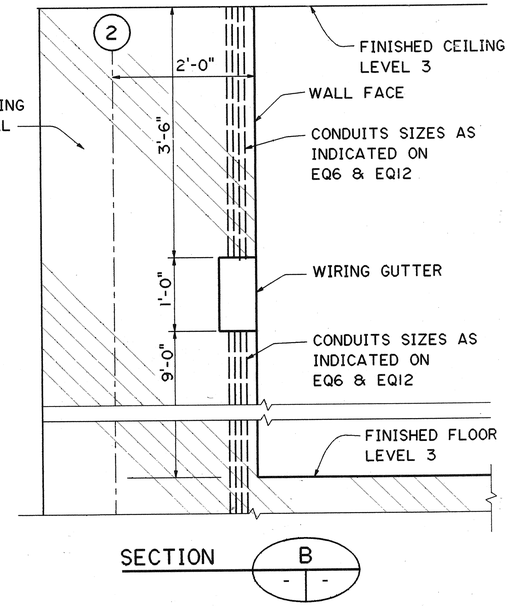


WIRING GUTTER PLAN (BOTTOM)

DETAIL 1 (EQ6 | EQ18 / EQ12)



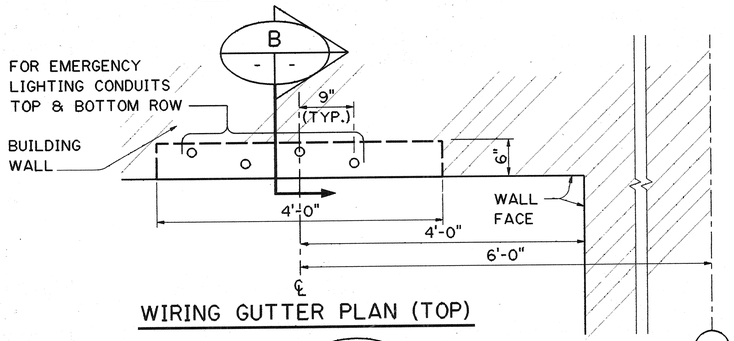
SECTION A



SECTION B

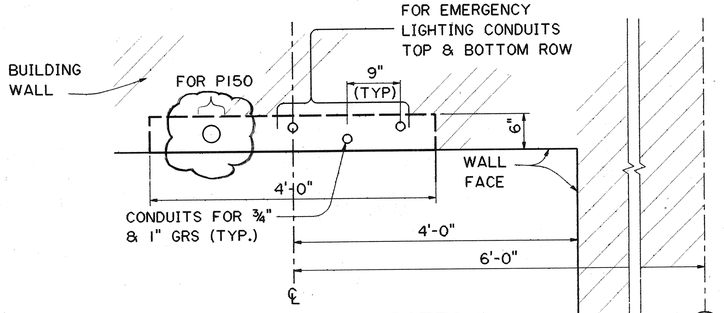
NOTES:

SEE SHEET NO. EM18 FOR GENERAL NOTES



WIRING GUTTER PLAN (TOP)

DETAIL 2 (EQ6 | EQ18 / EQ12)



WIRING GUTTER PLAN (BOTTOM)

DETAIL 2 (EQ6 | EQ18 / EQ12)

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT SECTIONS & DETAILS

HAIKU PORTAL BUILDING - OB
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NOT TO SCALE DATE: JAN 1989

SHEET NO. EQ18 OF 18 SHEETS

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6460-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

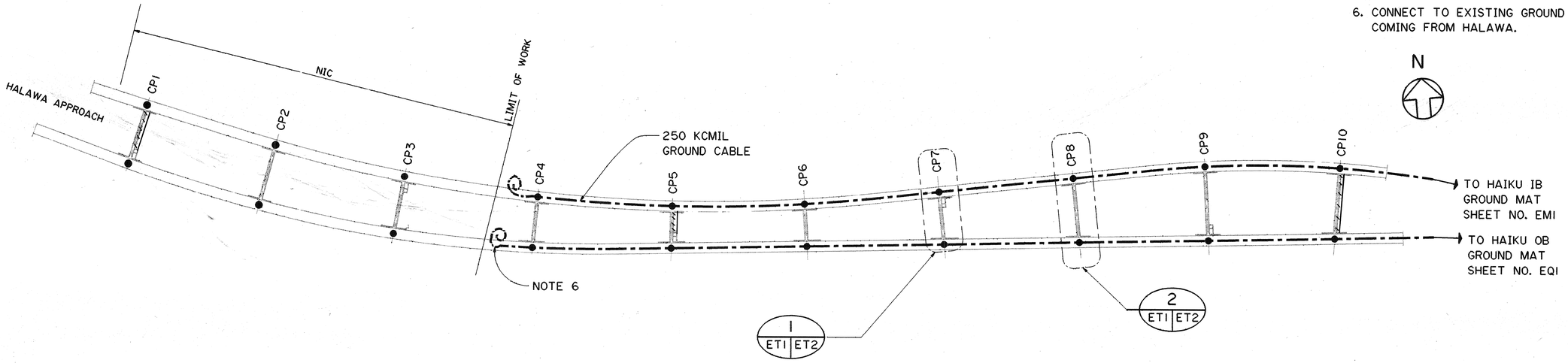
Peter A. Mason

ORIGINAL PLAN	NOTE BOOK	NO.	SURVEY PLOTTED BY	DRAWN BY	TRACED BY	DESIGNED BY	QUANTITIES BY	CHECKED BY	DATE
			CADD			TYS/REJ		J. J. SASSNI	11/15/89 1/11/91 11/24/89

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	359	424

GENERAL NOTES:

1. ALL GROUNDING CABLES SHALL BE MEDIUM HARD, STRANDED, BARE, 250KCMIL COPPER UNLESS OTHERWISE NOTED.
2. CONNECT NO. 1/0 GROUND CABLE TO TUNNEL MAIN REBAR.
3. ALL GROUND PIGTAIL CONNECTIONS SHALL BE 5'-0" MINIMUM AT FREE END.
4. GROUNDING CABLES INSIDE TUNNEL AREA SHALL BE BURIED 4 INCH MINIMUM BELOW TOP OF FINISHED CONCRETE ROADWAY. DO NOT PENETRATE WATERPROOF MEMBRANE.
5. FOR GROUNDING DETAILS, SEE SHEET NO. E4.
6. CONNECT TO EXISTING GROUND WIRES COMING FROM HALAWA.



FOR DETAIL AS-BUILT INFORMATION
REFER TO CONSTRUCTION SUBMITTALS

DATE	REVISION
	AS BUILT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GROUNDING - 1

HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NONE DATE: JAN 1990

SHEET NO. ET1 OF 26 SHEETS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

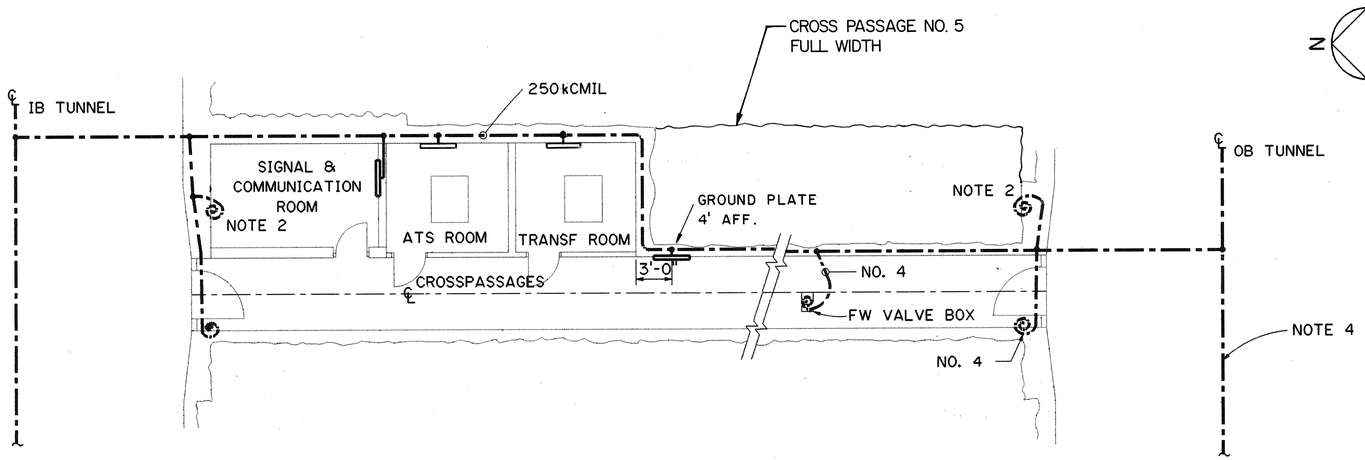
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/9/89
NOTE BOOK	TRACED BY "	8/14/89
	DESIGNED BY F. JIMENEZ	
NO.	QUANTITIES BY "	11/24/89
	CHECKED BY J.J. SASSANI	

2410V156 2410: V156 ES0047.FGB;1 29NOV89-13.12.50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	360	424

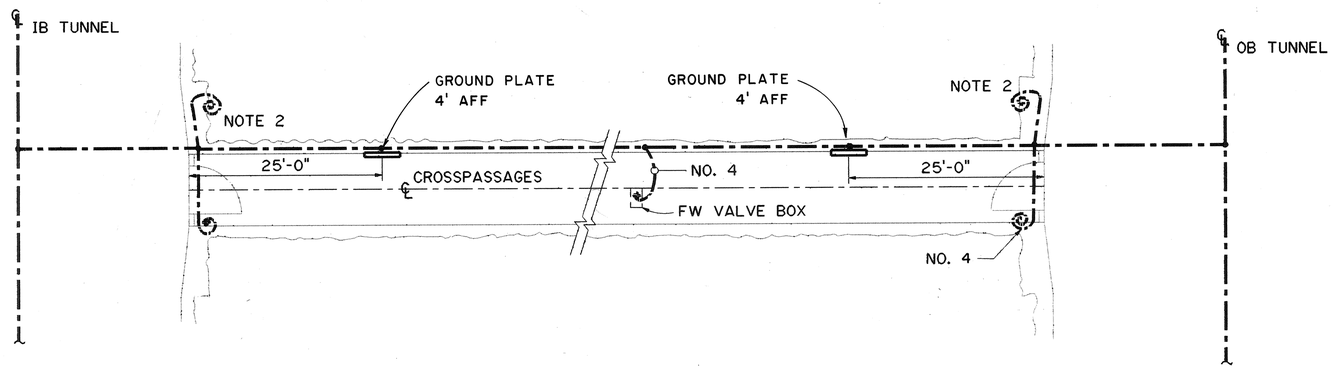


CROSSPASSAGE NO. 7 PLAN

CROSSPASSAGE NOS. 5 & 9 OPPOSITE HAND

DETAIL 1 (ET1 | ET2)

SCALE: NONE



CROSSPASSAGE NOS. 4, 6, 8 & 10 PLAN

DETAIL 2 (ET1 | ET2)

NOTE:

1. SEE SHEET NO ET1 FOR GENERAL NOTES

4/26/90	CONNECTED GROUND WIRES TO GTS
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GROUNDING - 2

HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NONE DATE: JAN 1990

SHEET NO. ET2 OF 26 SHEETS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 11/10/89
	DRAWN BY CADD	
NOTE BOOK	TRACED BY F. JIMENEZ	12/20/89
	DESIGNED BY	
NO.	QUANTITIES BY	
	CHECKED BY J.J. SASSANI	1/24/89

2410V156 2410:V156ES0151.FGB:1 29NOV89-14.21.50

ADD. 360

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	361	424

N

EXISTING CONDUITS

F.A.I. PROJ. No. I-H3-1 (61)

HECO REVENUE METERING CONDUIT (2-2") (C29, C30)

HDOT 12.47kV HALAWA-HAIKU TIE FEEDER CONDUIT, (2-4") (P2, SP)

STA. 622 + 20

HECO PB (SEE SH. NO. E3)

12.47kV BUS "B" IB TUNNEL FEEDER CONDUIT (2-4"C)(P130C, SP)

480V CROSSPASSAGE NO. 4 FEEDER CONDUIT (2-2"C) (P104, P105)

480V PB 2'-6" x 1'x 1' (SEE SH. NO. E3)

PB 12.47kV 5'x 3'x 2' (SEE SH. NO. E3 - TYP.)

A ET3 ET13 SIM.

HECO PB

INBOUND (IB) TUNNEL

HDOT PB

MATCH LINE STA. 627+10

12.47kV BUS "B" IB TUNNEL FEEDER CONDUIT (2-4"C)(P130C, SP)

E ET3 ET12

CONTRACT INTERFACE SEE SECTION A G9 G14

STA. 622+73 LIMIT OF WORK (SEE NOTE 3)

H ET3 ET12

12.47kV BUS "A" OB TUNNEL FEEDER CONDUIT (2-4"C)(P120C, SP)

℄ CROSSPASSAGE NO. 4

PB 12.47kV 5'x 3'x 2'

B ET3 ET13 SIM.

12.47kV BUS "A" OB TUNNEL FEEDER CONDUIT (2-4"C)(P120C, SP)

OUTBOUND (OB) TUNNEL

HDOT PB

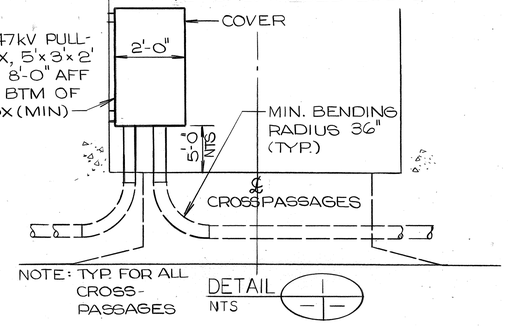
HDOT 12.47 HALAWA-HAIKU TIE FEEDER CONDUIT (2-4"C)(P1, SP)

SEE SHEET NO. ET4 - HAIKU TUNNELS

GENERAL NOTES:

1. FOR LOCATIONS AND SIZES OF HECO AND HDOT PULLBOXES NOTED, SEE STRUCTURAL SHEETS NO. ST8 & ST10.
2. ALL CONDUITS ARE GALVANIZED RIGID STEEL.
3. CONNECT ALL CONDUITS TO EXISTING CONDUITS AT LIMIT OF WORK.
4. TAG CONDUITS WITH IDENTIFICATION LABELS AT EACH END BETWEEN JUNCTION BOXES, PULLBOXES AND CONDUIT FITTINGS. IDENTIFICATION NUMBER IS INDICATED THUS: (P105) ETC.

BOLT 3"x1½" HOT DIP GALVANIZED STEEL CHANNEL TO CROSSPASSAGE WALL WITH 4-½" ANCHOR BOLTS & BOLT PULLBOX TO CHANNEL WITH 4-½" GALVANIZED BOLTS.



FOR DETAIL AS-BUILT INFORMATION REFER TO CONSTRUCTION SUBMITTALS

GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6460-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
MAR 19 1990 ADDENDUM 1	REVISED LOCATION & SIZE OF TUNNEL FEEDER PULLBOXES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT PLAN
STA. 622+20 TO 627+10
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1 (61)

SCALE: 1" = 20' DATE: JAN. 1990

SHEET NO. ET3 OF 26 SHEETS

ADD. 361

ORIGINAL PLAN

NOTE BOOK NO.

SURVEY PLOTTED BY CADD DATE 10/17/89
MAPS BY " " 5/12/89
TRACED BY G.E. LOHMAN " 11/24/89
DESIGNED BY " "
QUANTITIES BY " "
CHECKED BY J.J. SASSANI

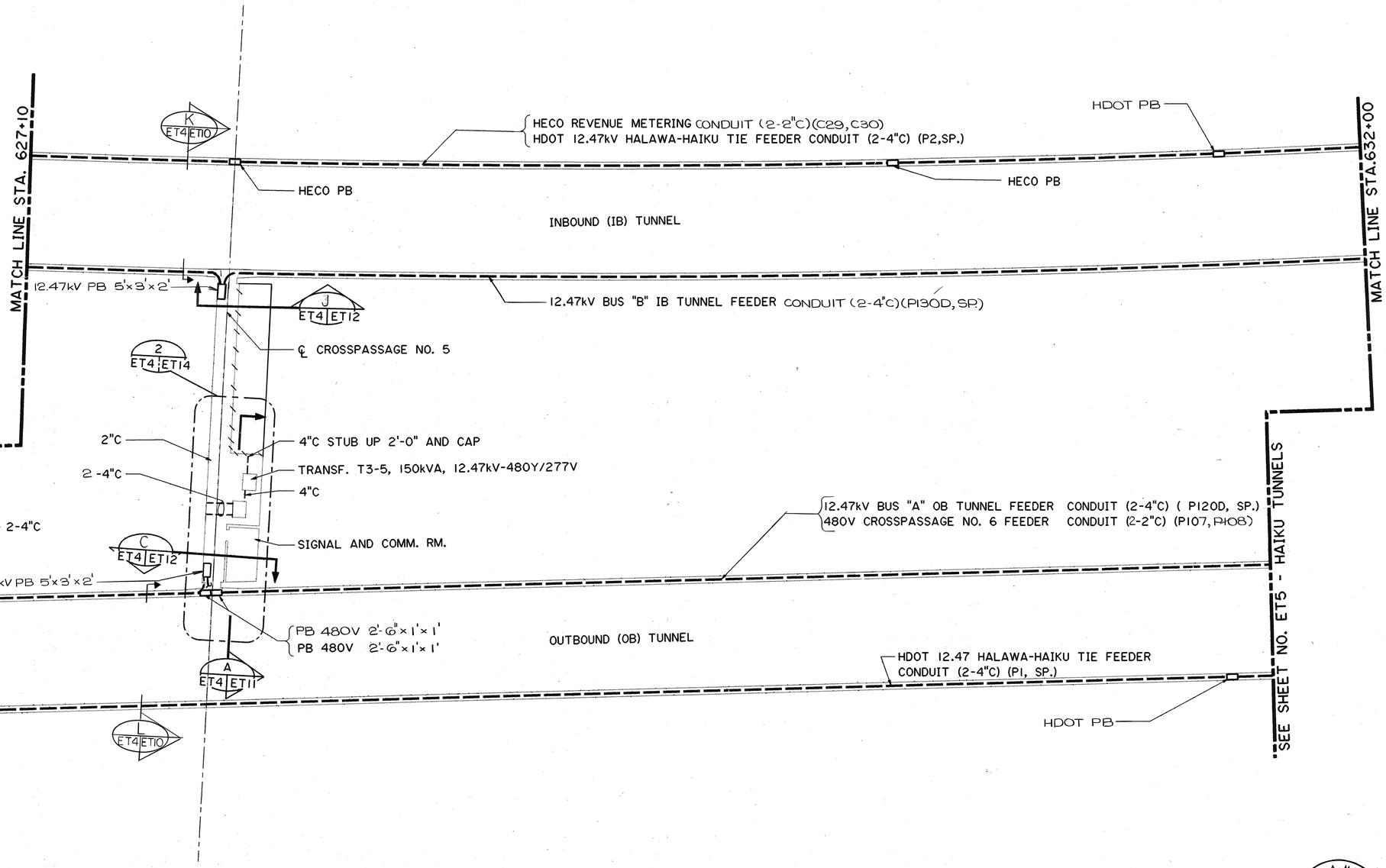
2410V153 2410: V153 ES0061.FGB:1 26MAY89-12.18.30

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	362	424

N

NOTE:

SEE SHEET NO. ET3
FOR GENERAL NOTES



GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

MAR 19 1990 ADDENDUM I	REVISED LOCATION & SIZE OF TUNNEL FEEDER PULLBOXES. REVISED CONDUIT ROUTING FOR CONTROL DAMPERS.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT PLAN
STA. 627+10 TO 632+00
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1" = 20' DATE: JAN. 1990

SHEET NO. ET4 OF 26 SHEETS

ADD. 362

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter O. Mason

ORIGINAL PLAN	
NOTE BOOK	
NO.	
SURVEY PLOTTED BY	
DRAWN BY	CADD
TRACED BY	
DESIGNED BY	G. LOHMAN
QUANTITIES BY	
CHECKED BY	J. J. SASSANI
DATE	2-1-89 / 6-1-89 / 11/25/89

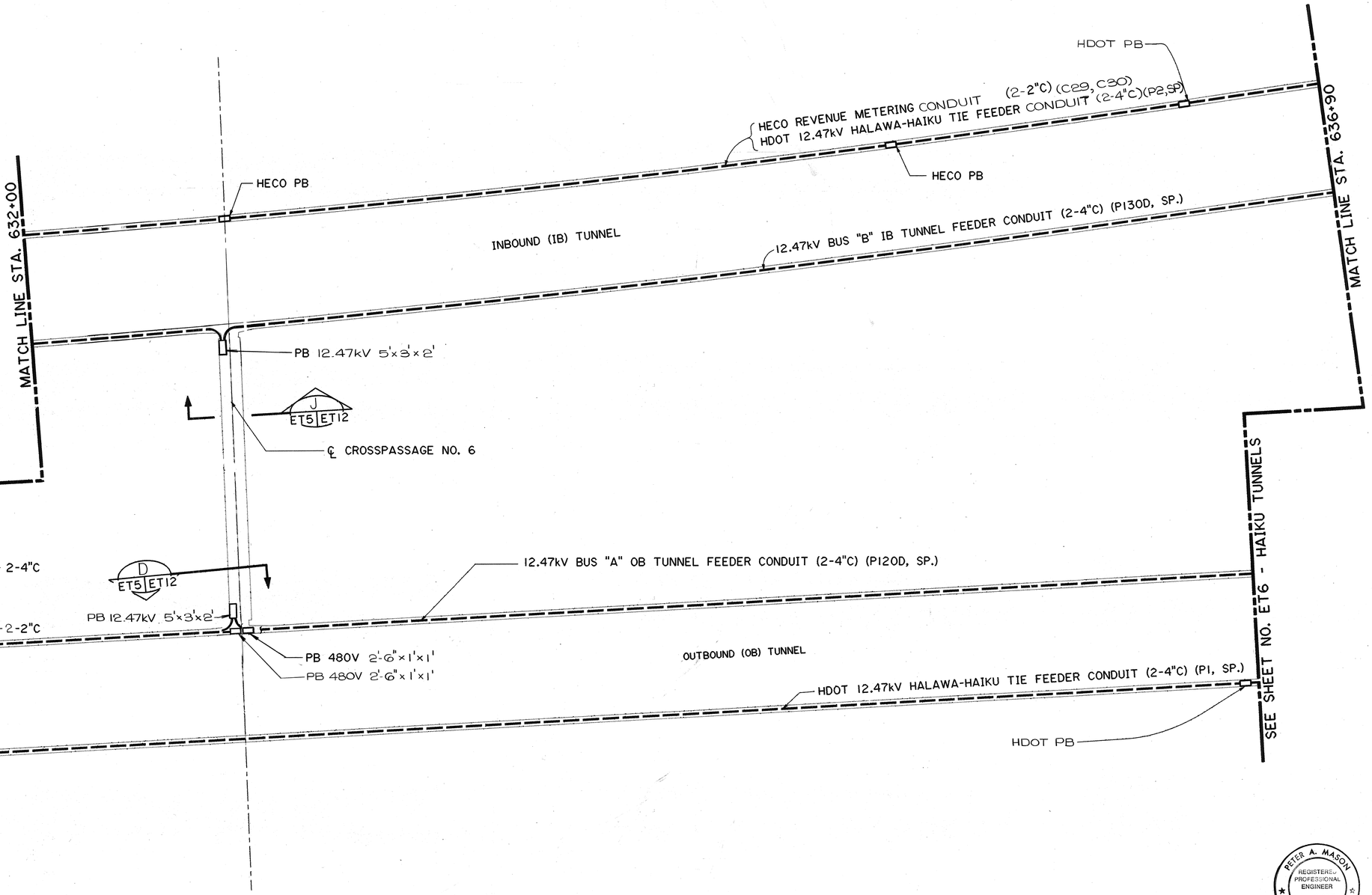
2410V153 2410: V153 ES0062.FGB;1 26MAY89-12:46.10

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	363	424

N

NOTE:

SEE SHEET NO. ET3
FOR GENERAL NOTES



ORIGINAL PLAN	SURVEY PLOTTED BY	CADD	DATE 2-1-89
	DRAWN BY		
NOTE BOOK	TRACED BY	G. LOHMAN	10-17-89
	DESIGNED BY		
NO.	QUANTITIES BY	J. J. SASSANI	11/25/89
	CHECKED BY		

GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

MAR 19 1990 ADDENDUM 1	REVISED LOCATION & SIZE OF TUNNEL FEEDER PULLBOXES. REVISED CONDUIT ROUTING FOR CONTROL DAMPERS.
DATE	REVISION

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT PLAN
STA. 632+00 TO 636+90
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1 (61)

SCALE: 1" = 20' DATE: JAN. 1990

SHEET NO. ET5 OF 26 SHEETS

ADD. 363

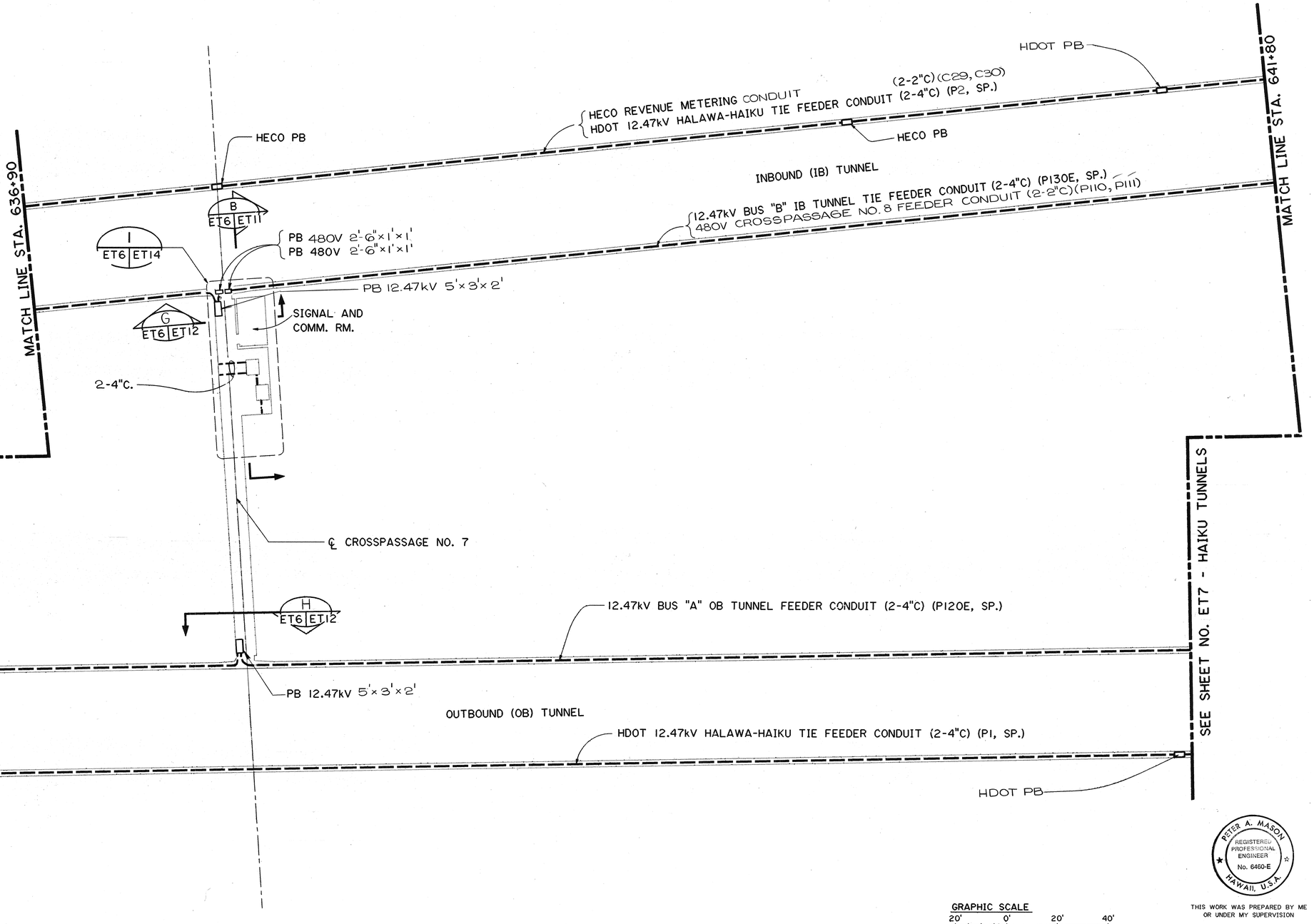
2410V153 2410: V153 ES0063.FGB>1 26MAY89-12.58.10

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	364	424

N

NOTE:

SEE SHEET NO. ET3
FOR GENERAL NOTES



GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
MAR 19 1990 ADDENDUM 1	REVISED LOCATION & SIZE OF TUNNEL FEEDER PULLBOXES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT PLAN
STA. 636+90 TO 641+80
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

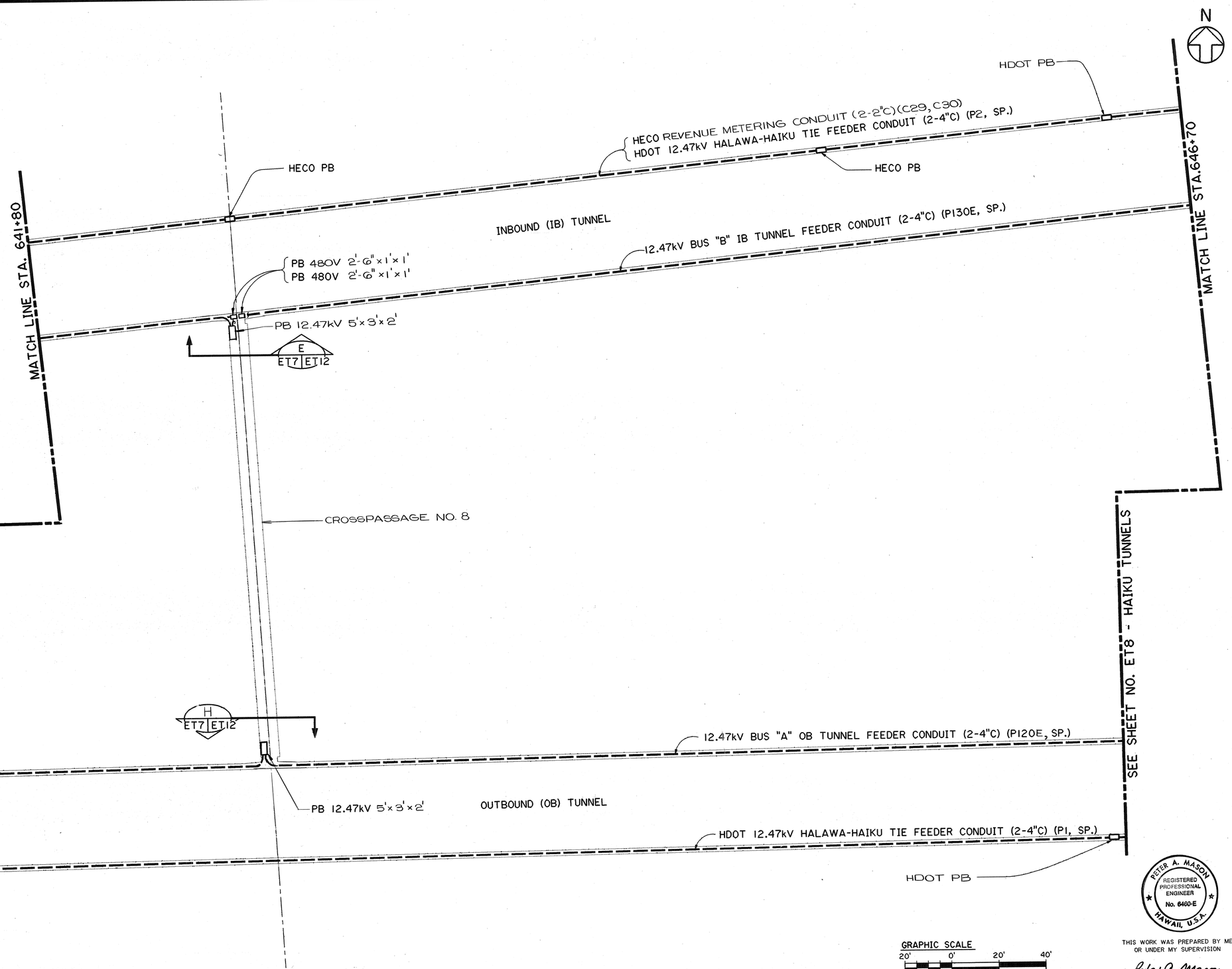
SCALE: 1" = 20' DATE: JAN. 1990

SHEET NO. ET6 OF 26 SHEETS

ADD. 364

ORIGINAL MYLAR	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY CADD	2-1-90
NO.	TRACED BY	
	DESIGNED BY G. LOHMAN	10-17-89
	QUANTITIES BY	
	CHECKED BY J. J. SASSANI	11/25/89

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	365	424



NOTE:

SEE SHEET NO. ET3
FOR GENERAL NOTES

GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
MAR 19 1990 ADDENDUM 1	REVISED LOCATION & SIZE OF TUNNEL FEEDER PULLBOXES.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT PLAN
STA. 641+80 TO 646+70
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1" = 20' DATE: JAN. 1990

SHEET NO. ET7 OF 26 SHEETS

ADD. 365

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	2-1-89
	TRACED BY	
NOTE BOOK	DESIGNED BY G. LOHMAN	10-1-89
	QUANTITIES BY	
NO.	CHECKED BY J. J. SASSANI	11/25/89

2410V153 2410: V153 ES0065.FGB;1 26MAY89-13.52.10

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	366	424

N

HDOT PB

HECO REVENUE METERING CONDUITS (2-2"C) (C29, C30)
HDOT 12.47kV HALAWA-HAIKU TIE FEEDER CONDUITS (2-4"C) (P2, SP.)

HECO PB

HECO PB

INBOUND (IB) TUNNEL

12.47kV BUS "B" IB TUNNEL FEEDER CONDUIT (2-4"C) (P130F, SP.)
480V CROSSPASSAGE NO. 10 FEEDER CONDUIT (1-2"C) (P113)
480V HAIKU IB PORTAL BUILDING EMERGENCY PANEL FEEDER CONDUIT (1-3"C) (P140)

PB 480V 2'-6"×1'×1'
PB 480V 2'-6"×1'×1'

PB 12.47kV 5'×3'×2'

MATCH LINE STA. 646+70

MATCH LINE STA.651+60

E
SIM. ET8 | ET12

℄ CROSSPASSAGE NO. 9

3"C

2-4"C

4"C

C
ET8 | ET12
SIM.

SIGNAL AND
COMM. RM.

SEE SHEET NO. ET7

SEE SHEET NO.ET9

12.47kV BUS "A" OB TUNNEL FEEDER CONDUIT (2-4"C) (P120F, SP.)
480V CROSSPASSAGE NO. 10 FEEDER CONDUIT (1-2"C) (P114)
480V HAIKU OB PORTAL BUILDING EMERGENCY PANEL FEEDER CONDUIT (1-3"C) (P150)

PB 12.47kV 5'×3'×2'

PB 480V 2'-6"×1'×1'
PB 480V 2'-6"×1'×1'

OUTBOUND (OB) TUNNEL

HDOT 12.47kV HALAWA-HAIKU TIE FEEDER CONDUIT (2-4"C) (P1, SP.)

HDOT PB

NOTE:

SEE SHEET NO ET3
FOR GENERAL NOTES

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	2-1-89
NOTE BOOK	TRACED BY	
	DESIGNED BY C. LOHMAN	12-17-90
	QUANTITIES BY	
NO.	CHECKED BY J. J. SASSANI	11/25/89

GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
MAR 19 1990 ADDENDUM 1	REVISED LOCATION & SIZE OF TUNNEL FEEDER PULLBOXES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT PLAN
STA. 646+70 TO 651+60
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1" = 20' DATE: JAN 1990

SHEET NO. ET8 OF 26 SHEETS

ADD. 366

2410V153 2410: V153 ES0066.FGB;1 27MAY89-10.14.00

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	367	424

N

SEE SHEET NO ET3
FOR GENERAL NOTES

HECO REVENUE METERING CONDUIT (2-2"C)(C29,C30)
HDOT 12.47kV HALAWA-HAIKU TIE FEEDER CONDUIT (2-4"C) (P2, SP.)

MATCH LINE STA.651+60

HECO PB

INBOUND (IB) TUNNEL

PB 480V 2'-6"×1'×1'
PB 480V 2'-6"×1'×1'

480V HAIKU IB PORTAL BUILDING EMERGENCY PANEL FEEDER CONDUIT (1-3"C) (P140)
12.47kV BUS "B" IB TUNNEL FEEDER CONDUIT (2-4"C) (P130F, SP.)

PB 12.47kV 5'×3'×2'

E
ET9 | ET12
SIM.

IB STA. 655+10 TUNNEL PORTAL

℄ CROSSPASSAGE NO. 10

OB STA. 656+00 TUNNEL PORTAL AND EM4 (INBOUND)

FOR CONTINUATION - SEE SHEET NOS. EQ4 (OUTBOUND)

SEE SHEET NO. ET8

480V HAIKU OB PORTAL BUILDING EMERGENCY PANEL FEEDER CONDUIT (1-3"C) (P150)
12.47kV BUS "A" OB TUNNEL FEEDER CONDUIT (2-4"C) (P120F, SP.)

D
ET9 | ET12
SIM.

PB 12.47kV 5'×3'×2'
PB 480V 2'-6"×1'×1'
PB 480V 2'-6"×1'×1'

OUTBOUND (OB) TUNNEL

HDOT 12.47kV HALAWA-HAIKU TIE FEEDER CONDUIT (2-4"C) (P1, SP.)

GRAPHIC SCALE
20' 0' 20' 40
1" = 20'

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY CADD	2-1-90
	TRACED BY	
	DESIGNED BY G. LOHMAN	10-17-89
NOTE BOOK	QUANTITIES BY	
	CHECKED BY J. J. SASSANI	11/25/89
NO.		

MAR 19 1990 ADDENDUM 1	REVISED LOCATION & SIZE OF TUNNEL FEEDER PULLBOXES
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT PLAN
STA 651+60 TO PORTAL
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1" = 20' DATE: JAN. 1990

SHEET NO. ET9 OF 26 SHEETS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

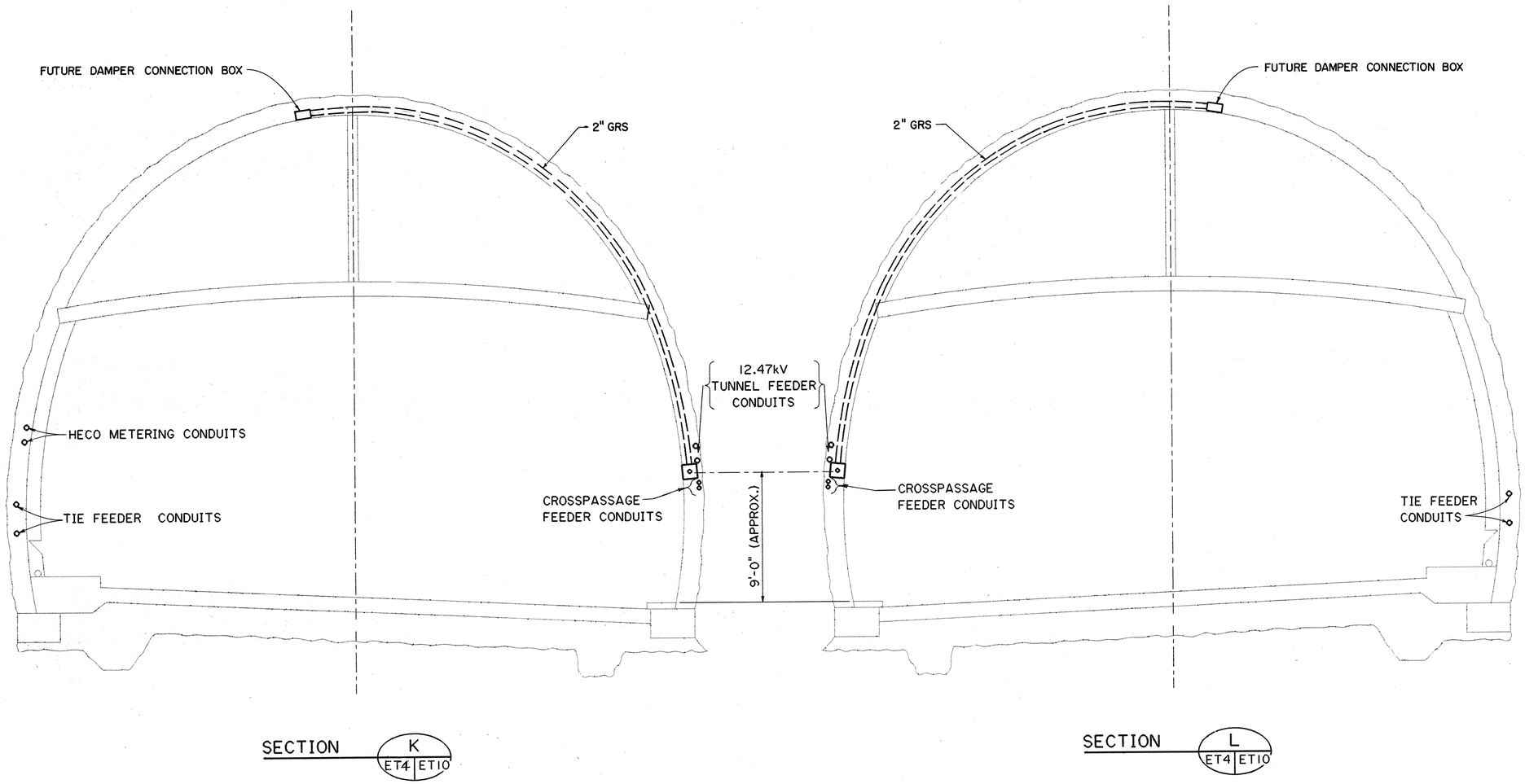
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

ADD. 367

2410V153 2410: V153 ES0067.FGB,1 27MAY89-10.39.50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	368	424



SECTION K ET4 | ET10

SECTION L ET4 | ET10

GRAPHIC SCALE

4' 2' 0' 4' 8'

¼" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
MAR 19 1990 ADDENDUM 1	REVISED DAMPER CONN. BOX LAYOUT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT SECTIONS - I

HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ, NO. I-H3-1(61)

SCALE: ¼"=1'-0" DATE: JAN 1990

SHEET NO. ET10 OF 26 SHEETS

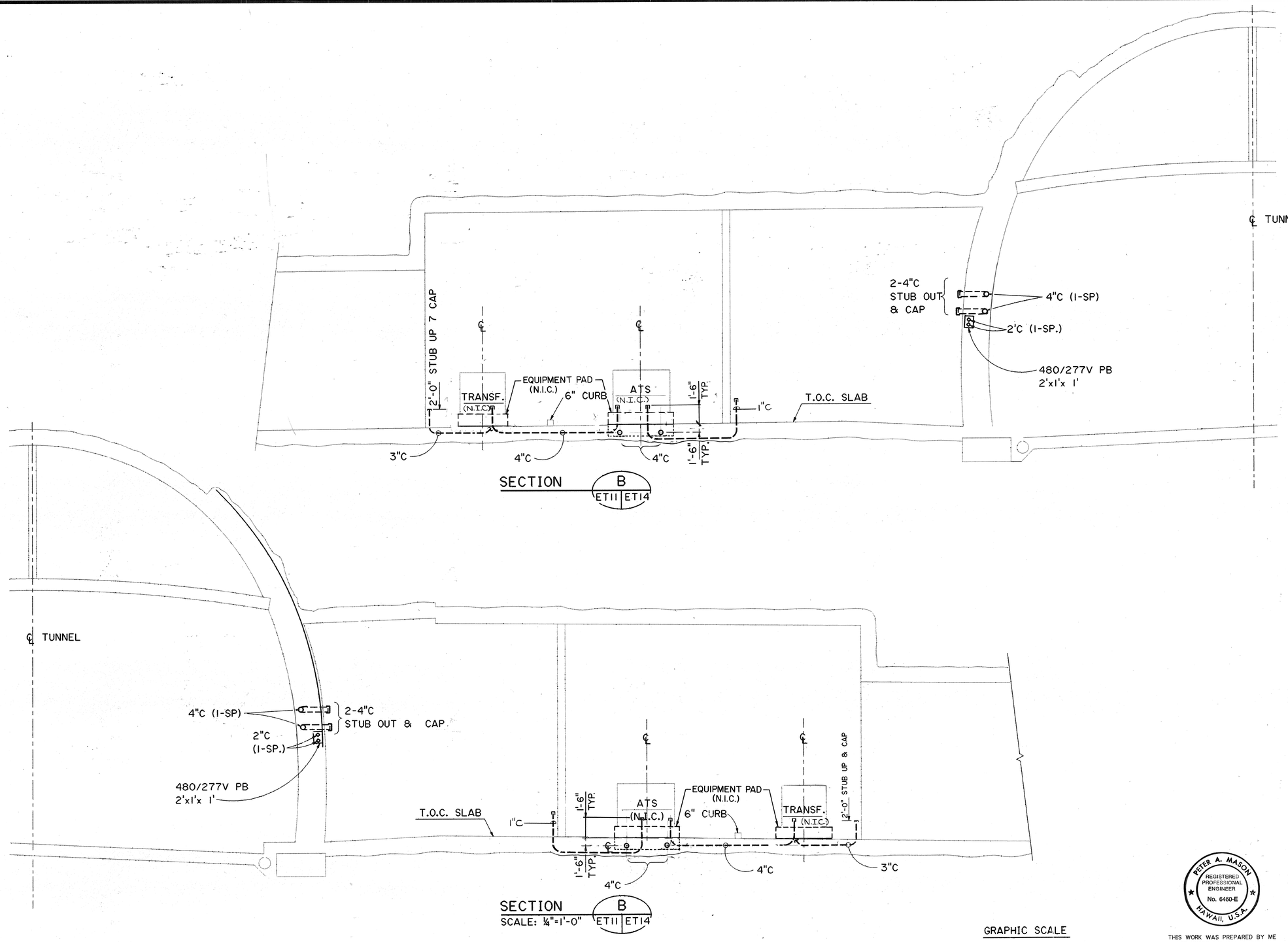
ADD. 368

ORIGINAL PLAN	NOTE BOOK	NO.

	SURVEY PLOTTED BY	DRAWN BY	TRACED BY	DESIGNED BY	QUANTITIES BY	CHECKED BY
	CADD	"	"	G. LOHMAN	"	J. J. SASSANI
DATE	11/13/89	11/89	12/89	"	"	11/25/89

2410V153 2410: V153 ES0117.FGB>1 14JUN89-09.41.50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	369	424



GRAPHIC SCALE

4' 2' 0' 4' 8'

1/4" = 1'-0"

DATE	REVISION
	AS BUILT
1-31-92	REVISED EQUIPMENT PADS & BLOCKOUTS
	PER DCN 61-024
4/26/90	GENERAL REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT SECTIONS - 2

HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1/4"=1'-0" DATE: JAN 1990

SHEET NO. ET11 OF 26 SHEETS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

ORIGINAL PLAN	NOTE BOOK	NO.	SURVEY PLOTTED BY	CADD	DATE	2-1-91
			DRAWN BY	"		10-17-91
			TRACED BY	"		"
			DESIGNED BY	G LOHMAN		"
			QUANTITIES BY	"		"
			CHECKED BY	J J SASSANI		1/25/89

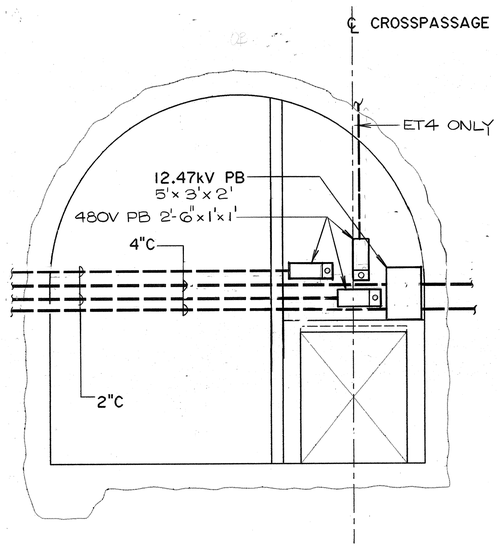
2410V153 2410: V153 ES0059.FGB>1 11MAY89-10.22.00

ADD. 369

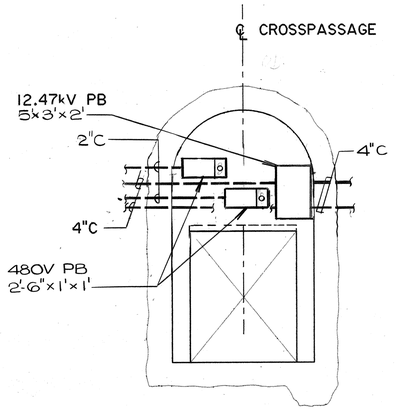
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	370	424

NOTES:

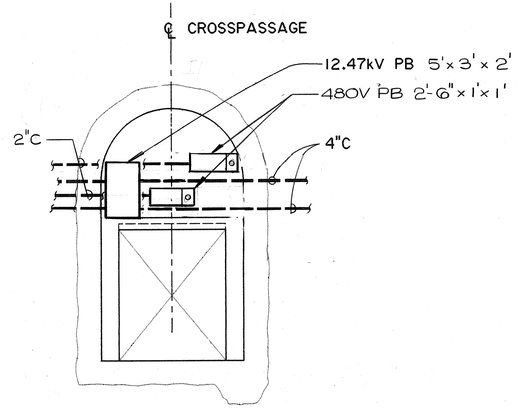
1. FOR CONDUIT DIMENSIONAL LOCATIONS SEE SHEET NO. ET13.
2. COORDINATE LOCATION OF PULLBOXES WITH LIGHTING & SYSTEMS PULLBOXES.



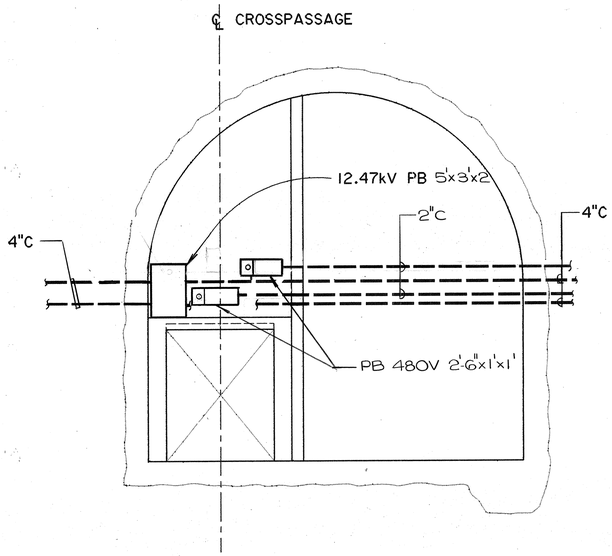
SECTION C
ET4 | ET12
ET8



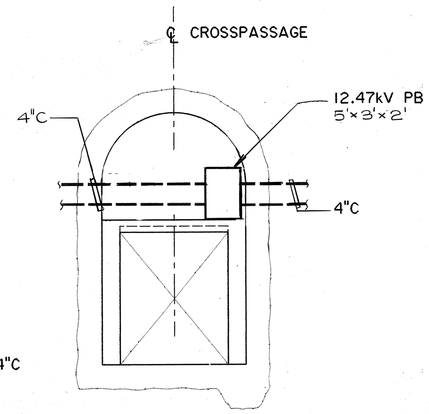
SECTION D
ET5 | ET12
ET9



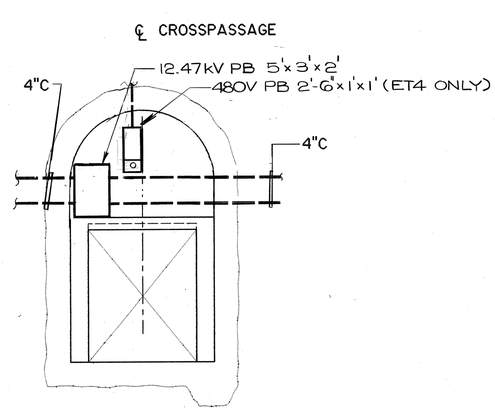
SECTION E
ET3 | ET12
ET7
ET8
ET9



SECTION G
ET6 | ET12



SECTION H
ET3 | ET12
ET6
ET7



SECTION J
ET4 | ET12
ET5
ET6

GRAPHIC SCALE
4' 2' 0' 4' 8'
¼" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6480-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
MAR 19 1990 ADDENDUM 1	REVISED SECTIONS TO REFLECT NEW LOCATION OF 12.47kV PULLBOXES & REVISED NOTES.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT
SECTIONS - 3
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. IOH3-1(61)

SCALE: ¼" = 1'-0" DATE: JAN 1990

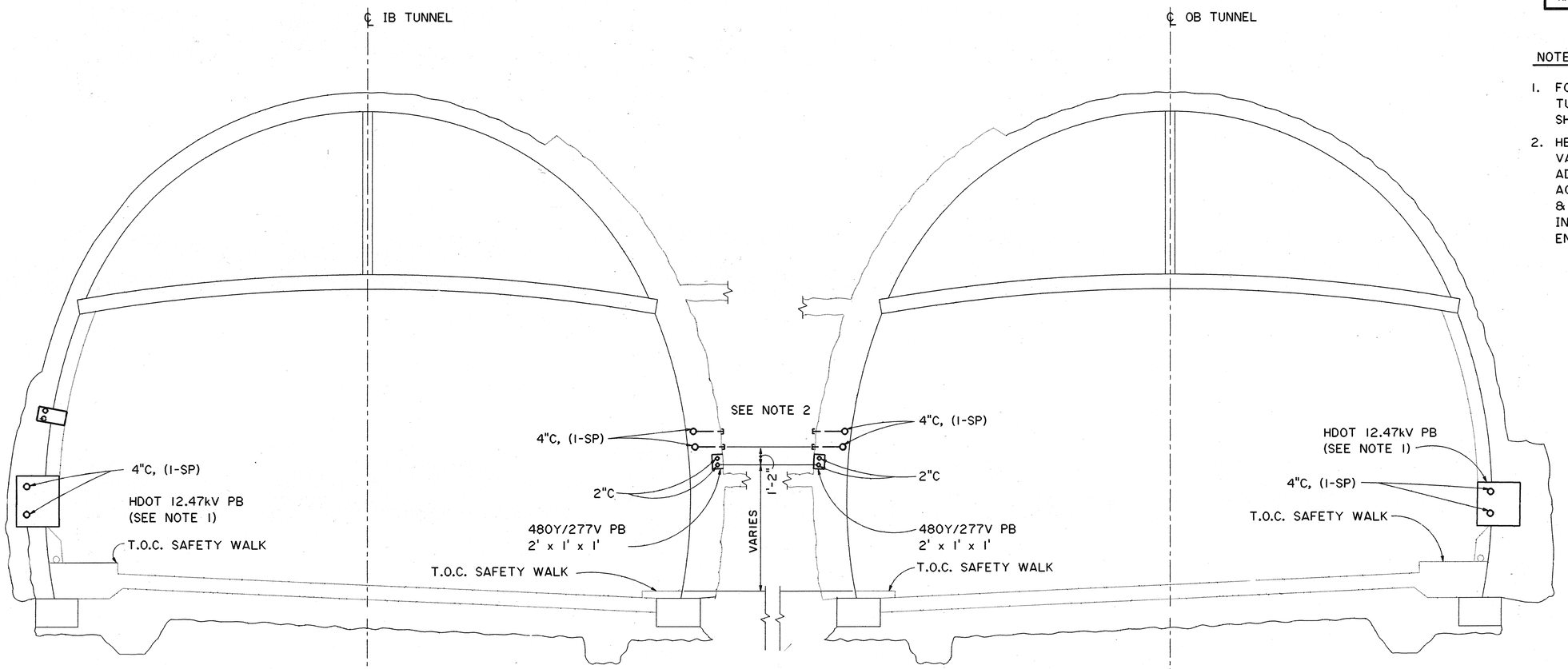
SHEET NO. ET12 OF 26 SHEETS

ADD. 370

ORIGINAL PLAN	NOTE BOOK	NO.	SURVEY PLOTTED BY	CADD	DATE	5-3-89
			DRAWN BY			
			REVISED			10-17-89
			DESIGNED BY	G. LOHMAN		
			QUANTITIES BY			
			CHECKED BY	J. J. SASSANI		11/25/89

24109153 2410: V153 ES0058.FGB:1 15DEC89-09.42.20

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	371	424



SECTION B ET4 | ET13

SECTION A ET4 | ET13

NOTES:

1. FOR LOCATION OF PULLBOXES ALONG TUNNELS, SEE STRUCTURAL SHEET NO. ST10.
2. HEIGHT OF CONDUITS & PULLBOXES VARIES. SEE SHEET NO. ET12. ADJUST HEIGHT & LOCATION TO ACCOMMODATE ALL ELECTRICAL & SYSTEMS PULLBOXES INSTALLED IN NICHES ABOVE CROSSPASSAGE ENTRANCES.

GRAPHIC SCALE

4' 2' 0' 4' 8'

¼" = 1'-0"

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

	AS BUILT
4/26/90	DELETED 12.47 kV PULLBOXES
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT
SECTIONS - 4
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: ¼"=1'-0" DATE: JAN 1990

SHEET NO. ET13 OF 26 SHEETS

ADD. 371

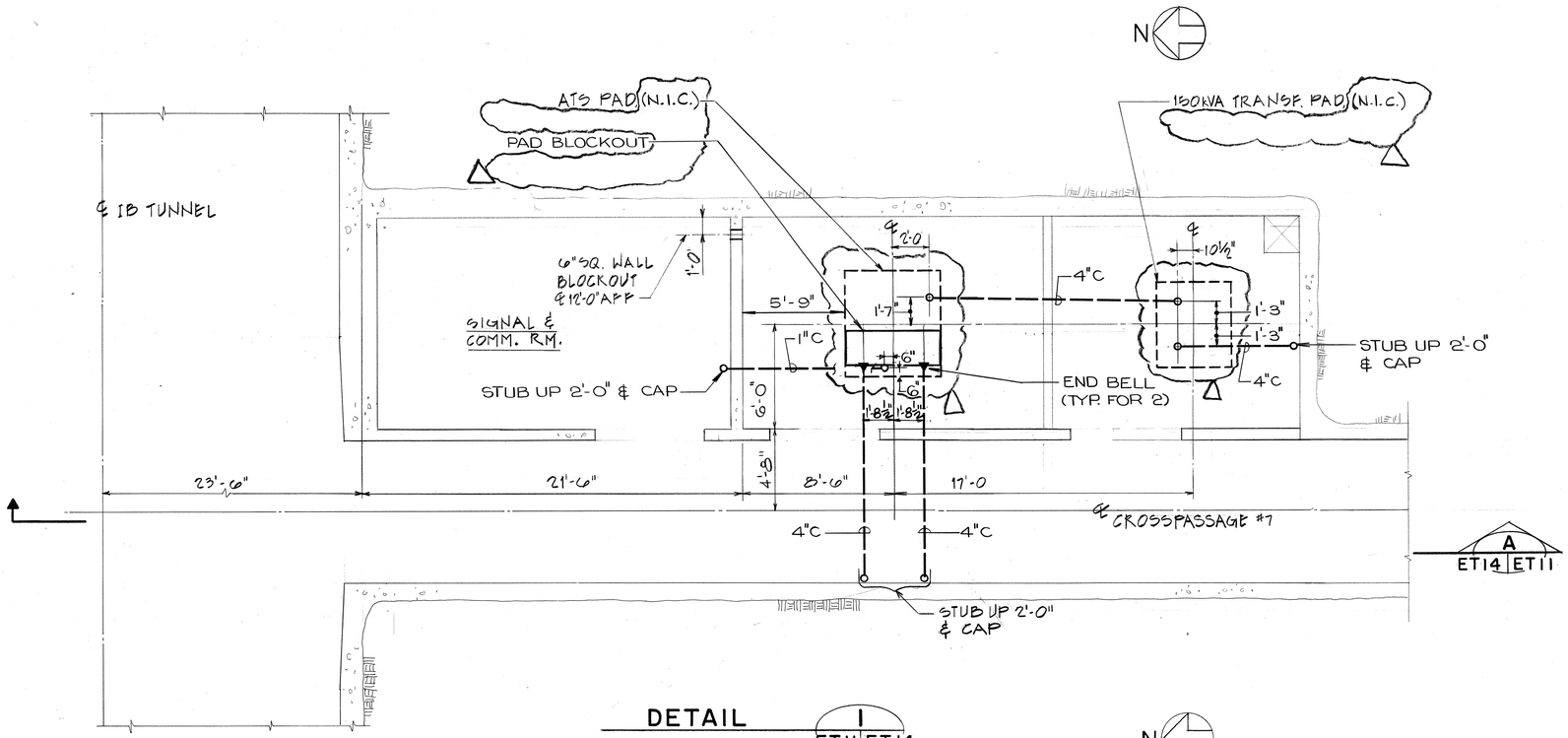
ORIGINAL PLAN	
NOTE BOOK	
NO.	
SURVEY PLOTTED BY	
DRAWN BY	CADD
TRACED BY	
DESIGNED BY	G. LOHMAN
QUANTITIES BY	
CHECKED BY	J. J. SASSANI
DATE	11/16/89
	12/1/89
	11/25/89

2410V153 2410: V153 ES0057.FGB:1 27MAY89-11.29.20

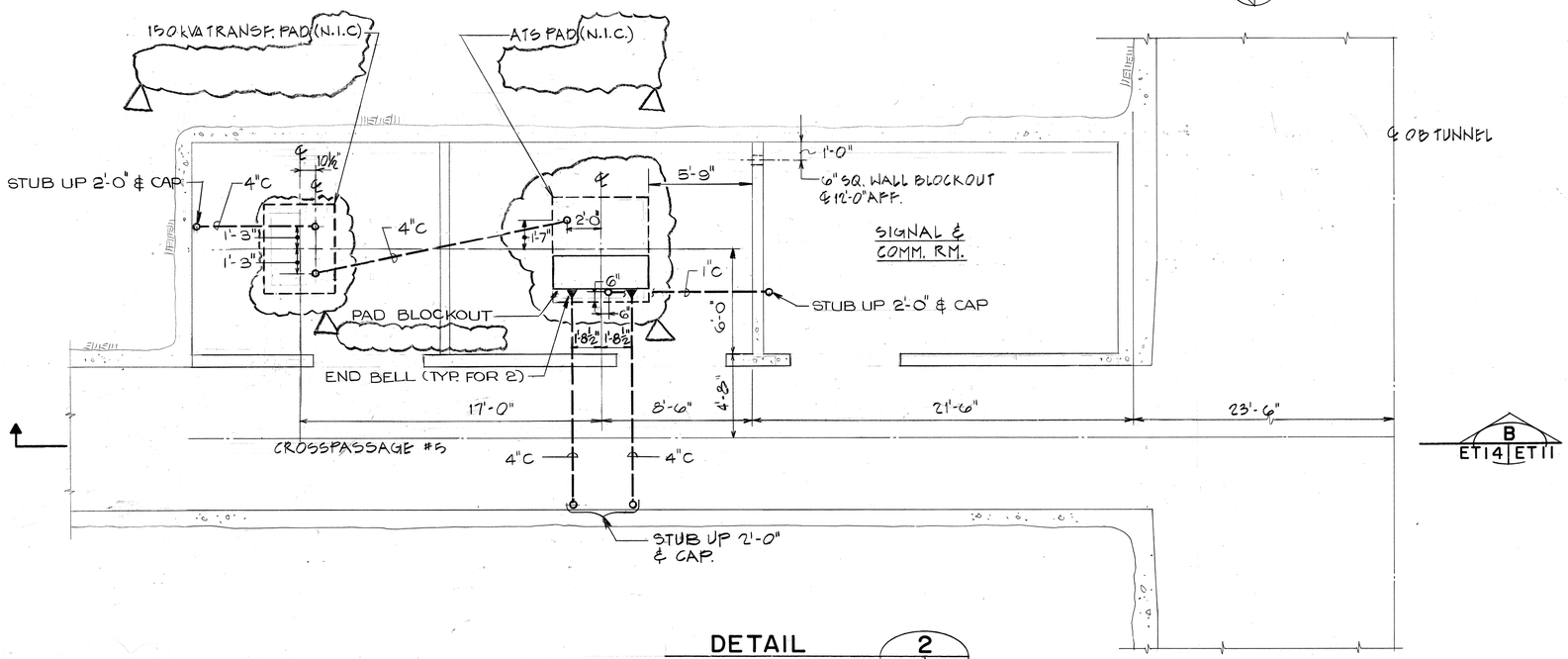
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	372	424

NOTE:

1. ALL STUB-UPS' IN EQUIPMENT PADS SHALL BE 1'-0" HIGH.



DETAIL 1 ET11 ET14



DETAIL 2 ET11 ET14

4' 2' 0' 4' 8'
1/4" = 1'-0"

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	11-5-89
	DRAWN BY G. OW-YANG	"
NOTE BOOK	TRACED BY	10-17-89
	DESIGNED BY G. LOHMAN	"
	QUANTITIES BY	"
No.	CHECKED BY J.J. SASSANI	11-25-89

1-31-92	REVISED EQUIPMENT PADS & BLOCKOUTS
	PER DCN 61-024
4/26/90	REVISED CONDUIT LAYOUT
DATE	REVISION

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

POWER CONDUIT DETAILS

HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

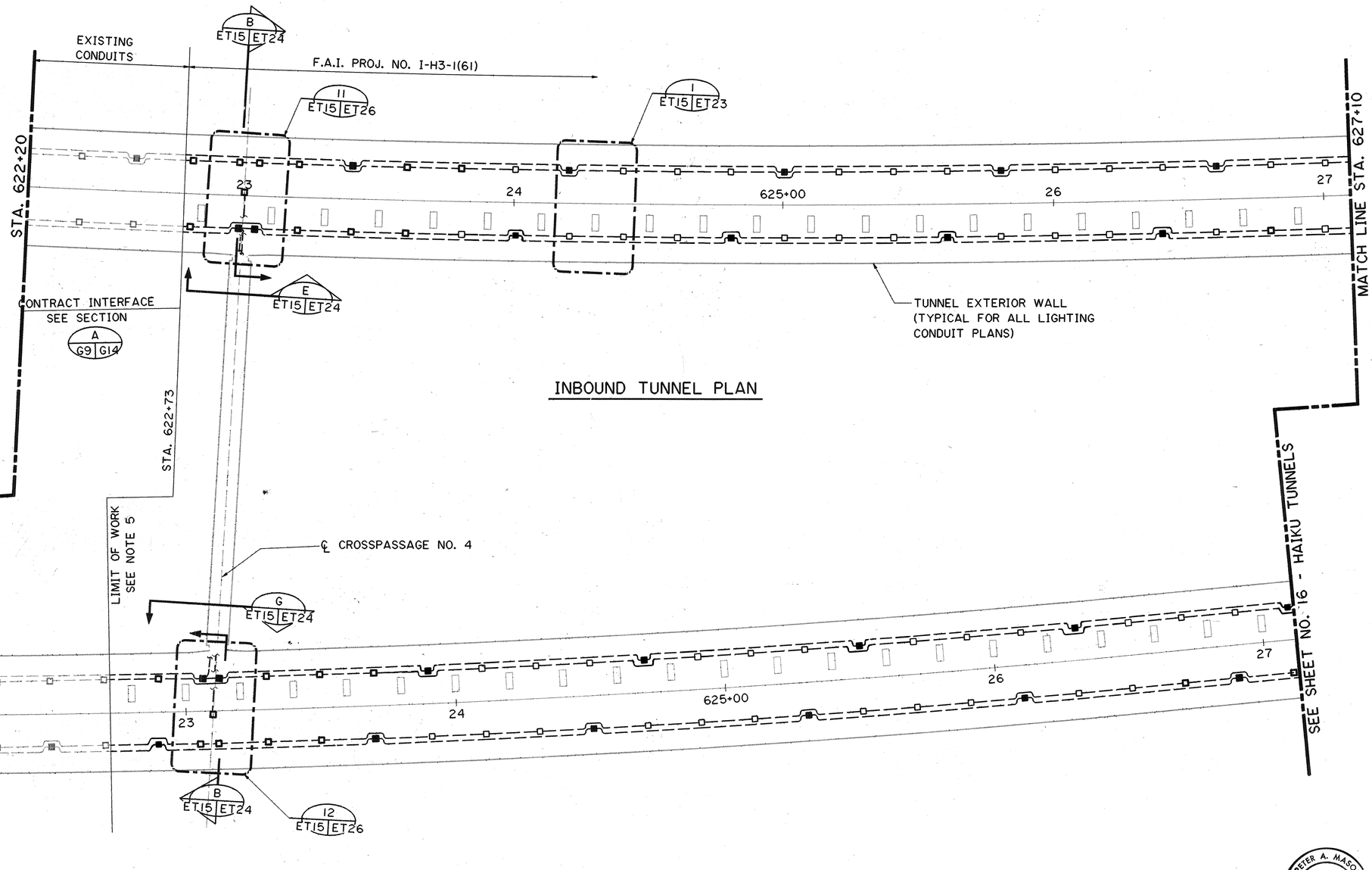
SCALE: 1/4"=1'-0" DATE: JAN. 1990

SHEET NO. ET14 OF 26 SHEETS

ADD. 372

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	373	424

N



TUNNEL LIGHTING GENERAL NOTES:

1. ALL LIGHTING CONDUIT SHALL BE 2" GRS, UNLESS OTHERWISE NOTED.

3. SPACE LIGHTING FIXTURE CONNECTION BOXES EQUALLY BETWEEN CROSSPASSAGE CENTER LINES. NOMINAL LONGITUDINAL SPACING IS 20 FEET.

4. CONDUITS AND LIGHTING FIXTURE CONNECTION BOXES ARE NOT TO SCALE AND ARE SHOWN DIAGRAMATICALLY. FOR ACTUAL INSTALLATION DETAILS SEE SHT. NO. ET23.

5. CONNECT ALL CONDUITS TO EXISTING CONDUITS AT THE LIMIT OF WORK.

FOR DETAIL AS-BUILT INFORMATION REFER TO CONSTRUCTION SUBMITTALS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	" 10/12/89
NOTE BOOK	TRACED BY	" 9/28/89
	DESIGNED BY T. SANCHEZ	"
	QUANTITIES BY	"
NO.	CHECKED BY J.J. SASSANI	" 11/24/89

DATE	REVISION
	AS BUILT
10/29/92	REVISED EMERGENCY LIGHT LOCATIONS
	PER DCN 61-033
4/26/90	DELETED GENERAL NOTE 2

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT PLAN
STA. 622+20 TO 627+10
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6460-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

SCALE: 1" = 20' DATE: JAN 1990

SHEET NO. ET15 OF 26 SHEETS

ADD. 373

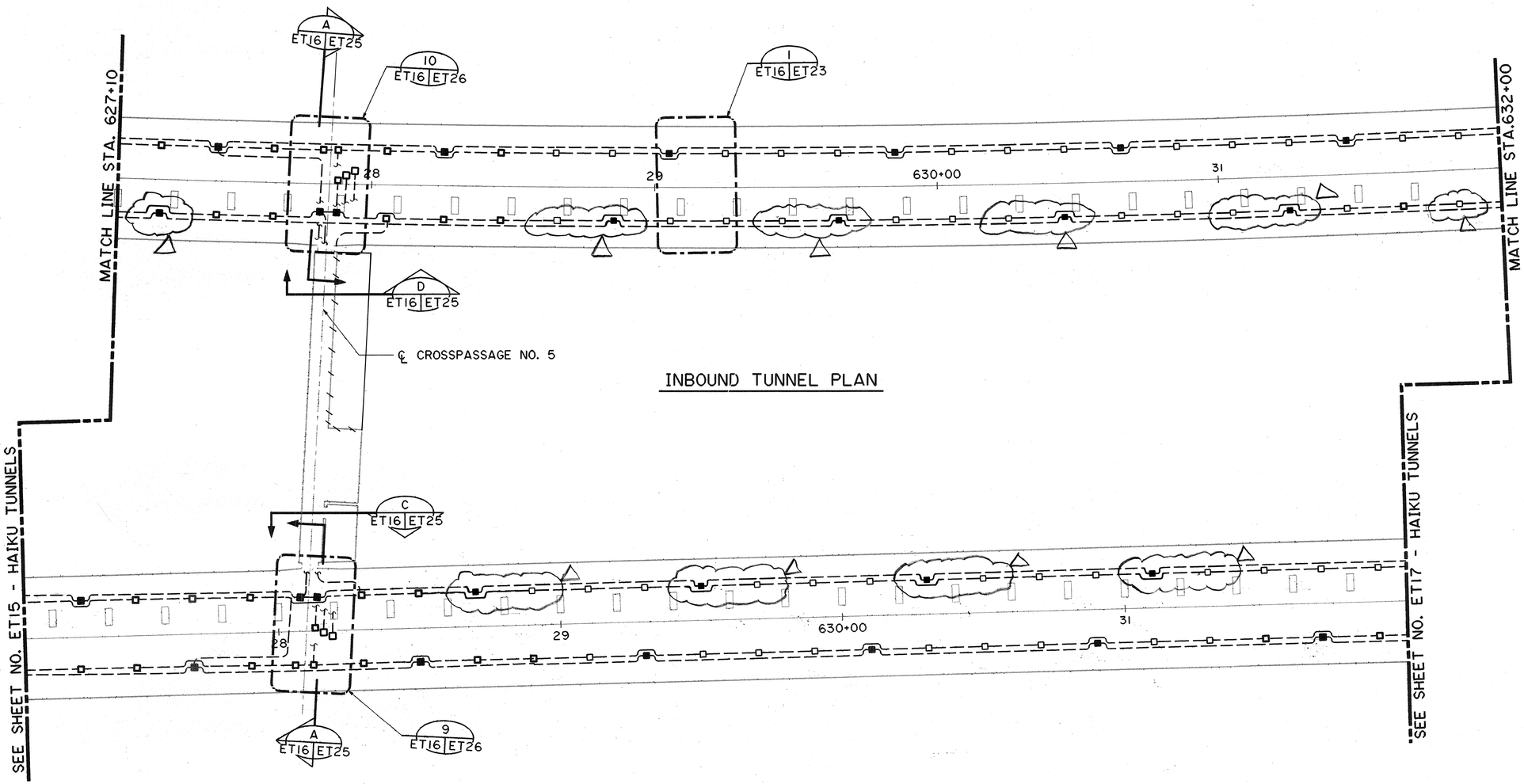
2410V156 2410: V156 ES0084.FGB;1 16DEC89-09.05.00

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	374	424

N

NOTE:

FOR TUNNEL LIGHTING GENERAL NOTES, SEE SHEET NO. ET15.



INBOUND TUNNEL PLAN

OUTBOUND TUNNEL PLAN

SURVEY PLOTTED BY	DATE
DRAWN BY	CADD : 10/9/89
TRACED BY	:
DESIGNED BY	L. LEE : 9/6/89
QUANTITIES BY	JJL SASSANT : 11/24/89
CHECKED BY	

ORIGINAL PLAN	
NOTE BOOK	
NO.	

GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
10/29/92	REVISED EMERGENCY LIGHT LOCATIONS
	PER DCN 61-033

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT PLAN
STA. 627+10 TO 632+00
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1" = 20' DATE: JAN 1990

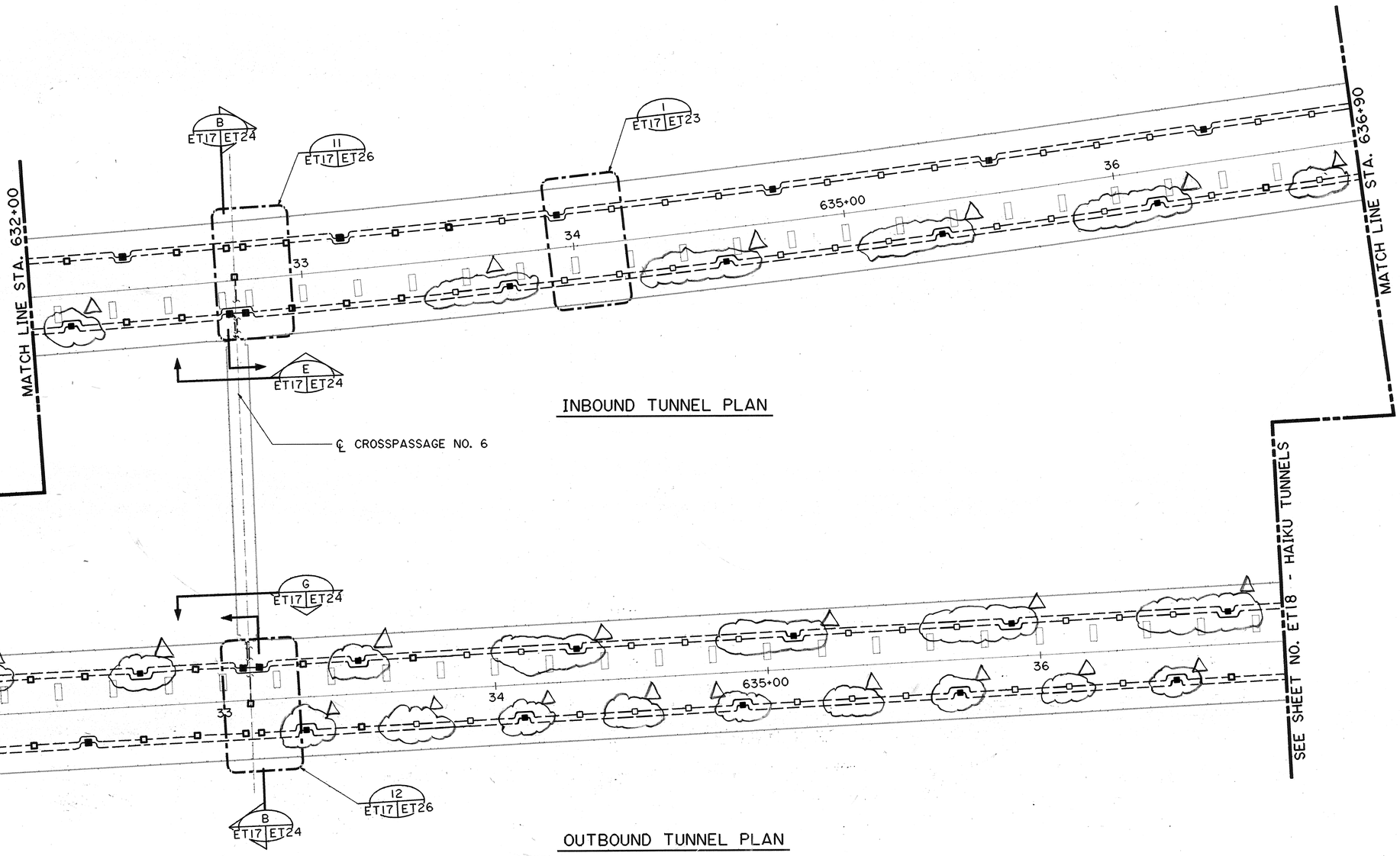
SHEET NO. ET16 OF 26 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	375	424

N

NOTE:

FOR TUNNEL LIGHTING GENERAL NOTES, SEE SHEET NO. ET15.



INBOUND TUNNEL PLAN

OUTBOUND TUNNEL PLAN

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/29/92
	TRACED BY	
NOTE BOOK	DESIGNED BY L. LEE	9/6/83
	QUANTITIES BY	
NO.	CHECKED BY J.J. SASSANI	11/24/89

GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
10/29/92	REVISED EMERGENCY LIGHT LOCATIONS
	PER DCN 61-033

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT PLAN
STA 632+20 TO 636+90
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1" = 20' DATE: JAN 1990

SHEET NO. ET17 OF 26 SHEETS

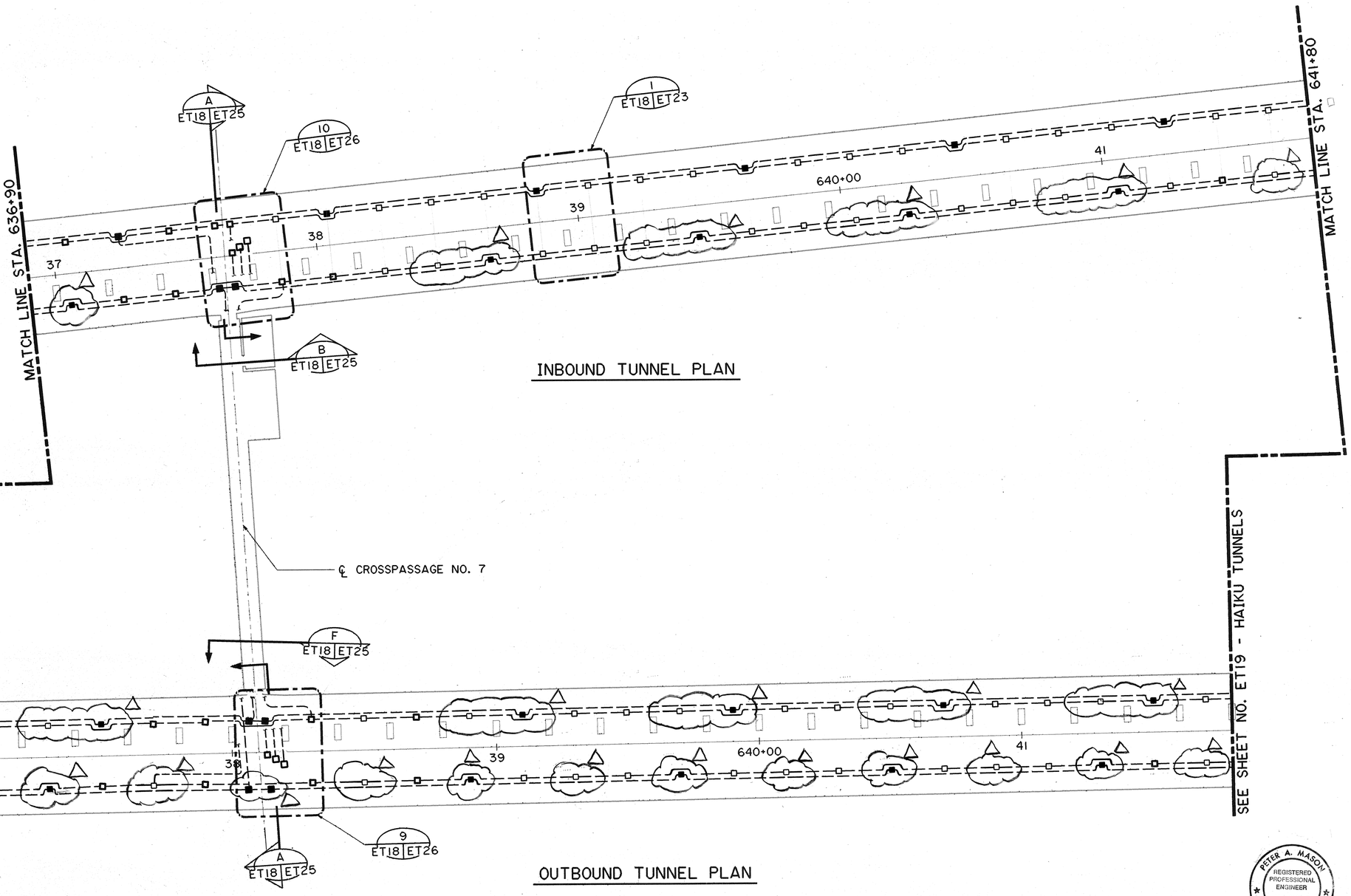
2410V156 2410: V156 ES0086.FGB;1 16DEC89-09.30.30

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	375	424

N

NOTE:

FOR TUNNEL LIGHTING GENERAL NOTES, SEE SHEET NO. ET15.



GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

10/29/92	REVISED EMERGENCY LIGHT LOCATIONS
	PER DCN 61-033
4/26/90	REVISED FIXTURE LOCATIONS ON 1Ø TUNNEL
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT PLAN
STA. 636+90 TO 641+80
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1" = 20' DATE: JAN 1990

SHEET NO. ET18 OF 26 SHEETS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

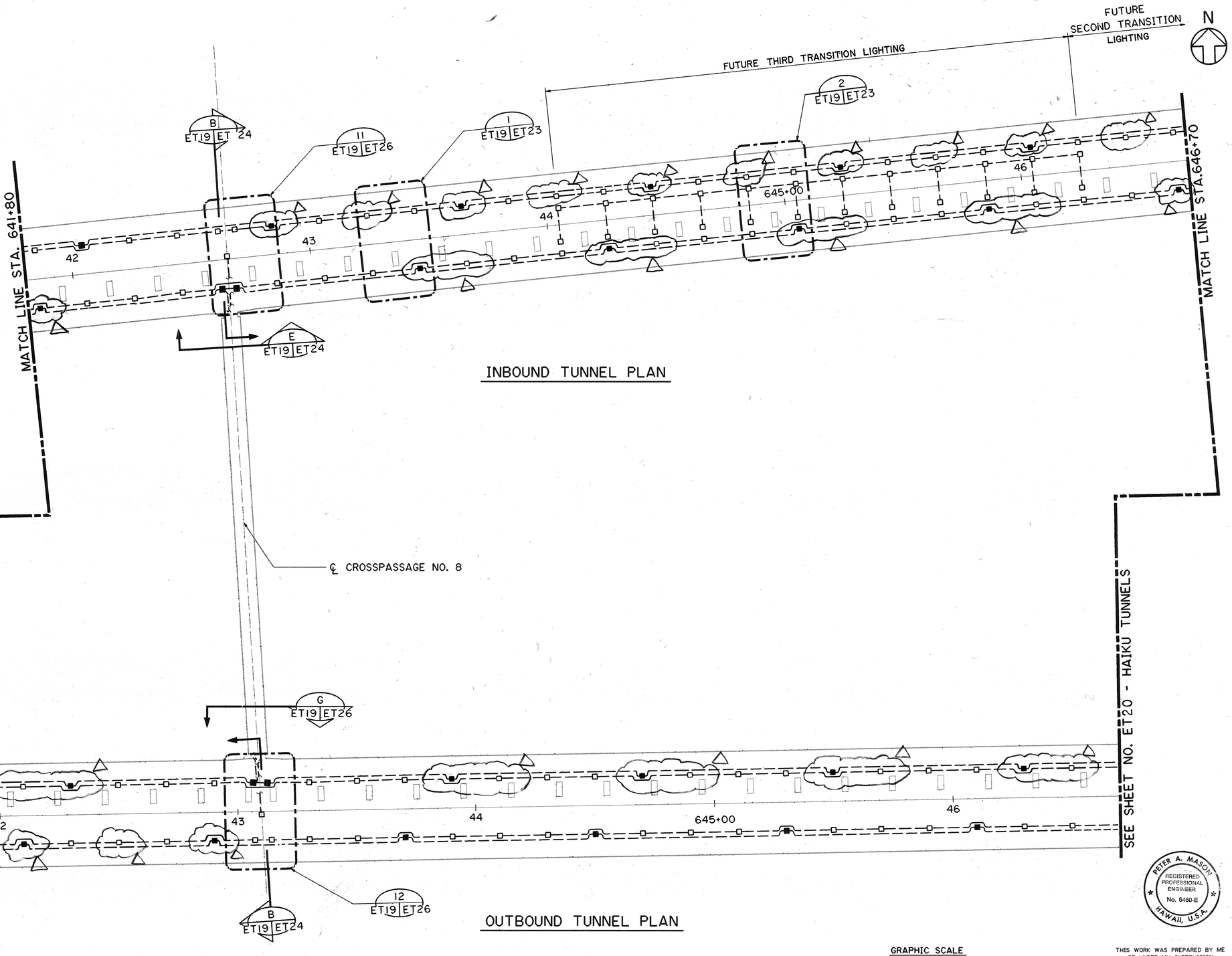
Peter A. Mason

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/9/89
NOTE BOOK	DESIGNED BY L. LEE	2/6/89
	QUANTITIES BY	1/23/89
NO.	CHECKED BY J.J. SASSANI	

2410V156 2410: V156 ES0087.FGB:1 16DEC89-09.39.50

ADD. 376

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	377	424



NOTES:

1. FOR TUNNEL LIGHTING GENERAL NOTES, SEE SHEET NO. ET15.
2. PROVIDE CONCRETE INSERTS IN INBOUND TUNNEL IN FUTURE SECOND TRANSITION.

GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Peter A. Mason

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

10/29/92	REVISED EMERGENCY LIGHT LOCATIONS PER DCN 61-033
4/26/90	REVISED NOTE 2
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT PLAN
STA. 641+80 TO 646+70
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1" = 20' DATE: JAN 1990

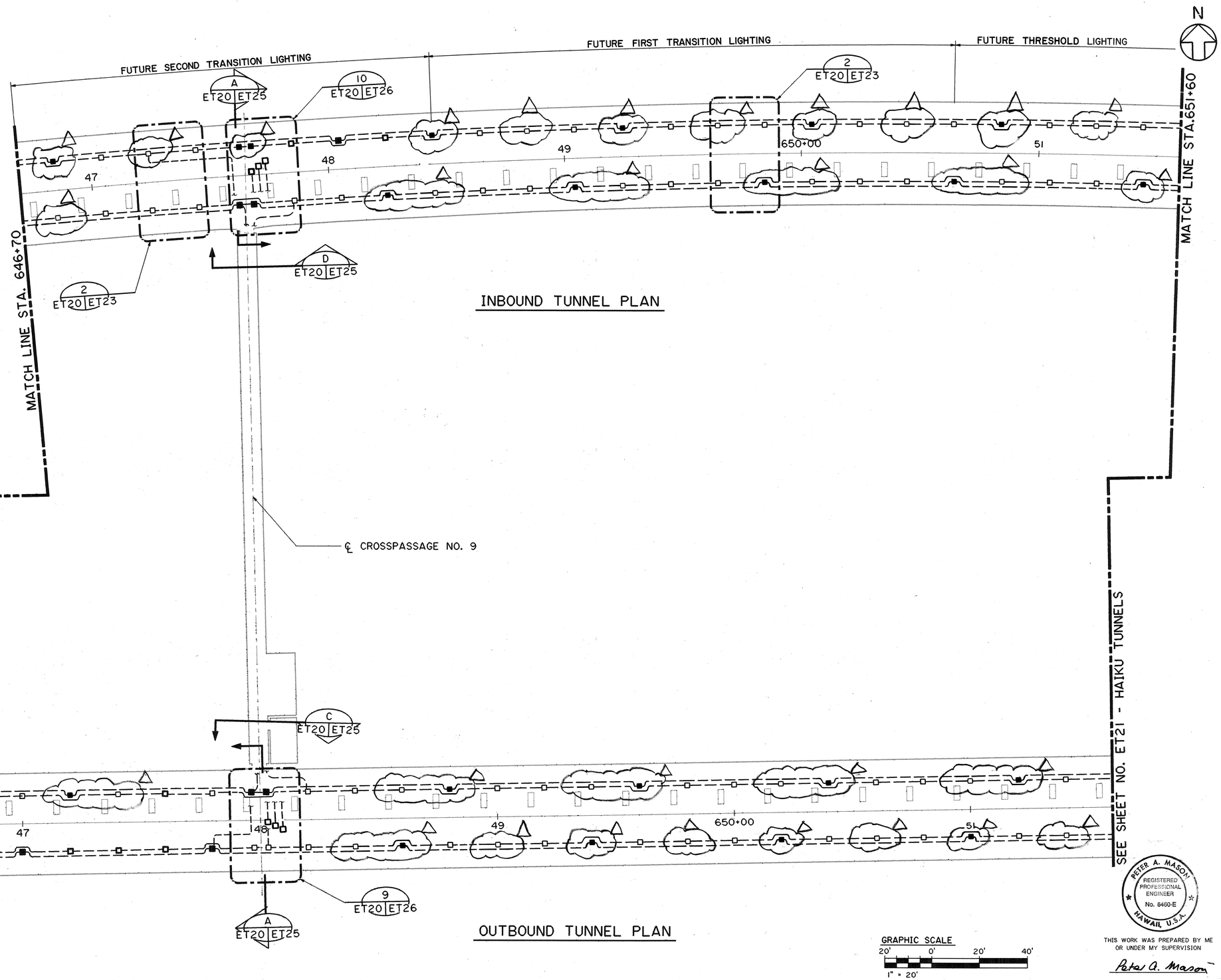
SHEET NO. ET19 OF 26 SHEETS

ADD. 377

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/12/89
	TRACED BY	9/8/82
NOTE BOOK	DESIGNED BY L. LEE	
NO.	QUANTITIES BY	11/24/82
	CHECKED BY J.J. SASSANI	

2410V156 2410: V156 ES0088.FGB:1 16DEC89-09.52.50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	378	424



GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

NOTES:

1. FOR TUNNEL LGHTING GENERAL NOTES, SEE SHEET NO. ET15.
2. PROVIDE CONCRETE INSERTS IN INBOUND TUNNEL, SEE DETAIL 2, SHEET NO. ET23.

10/29/92	REVISED EMERGENCY LIGHT LOCATIONS
	PER DCN 61-033
4/26/90	REVISED NOTE 2
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT PLAN
STA. 646+70 TO 651+60
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: 1" = 20' DATE: JAN 1990

SHEET NO. ET20 OF 26 SHEETS

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

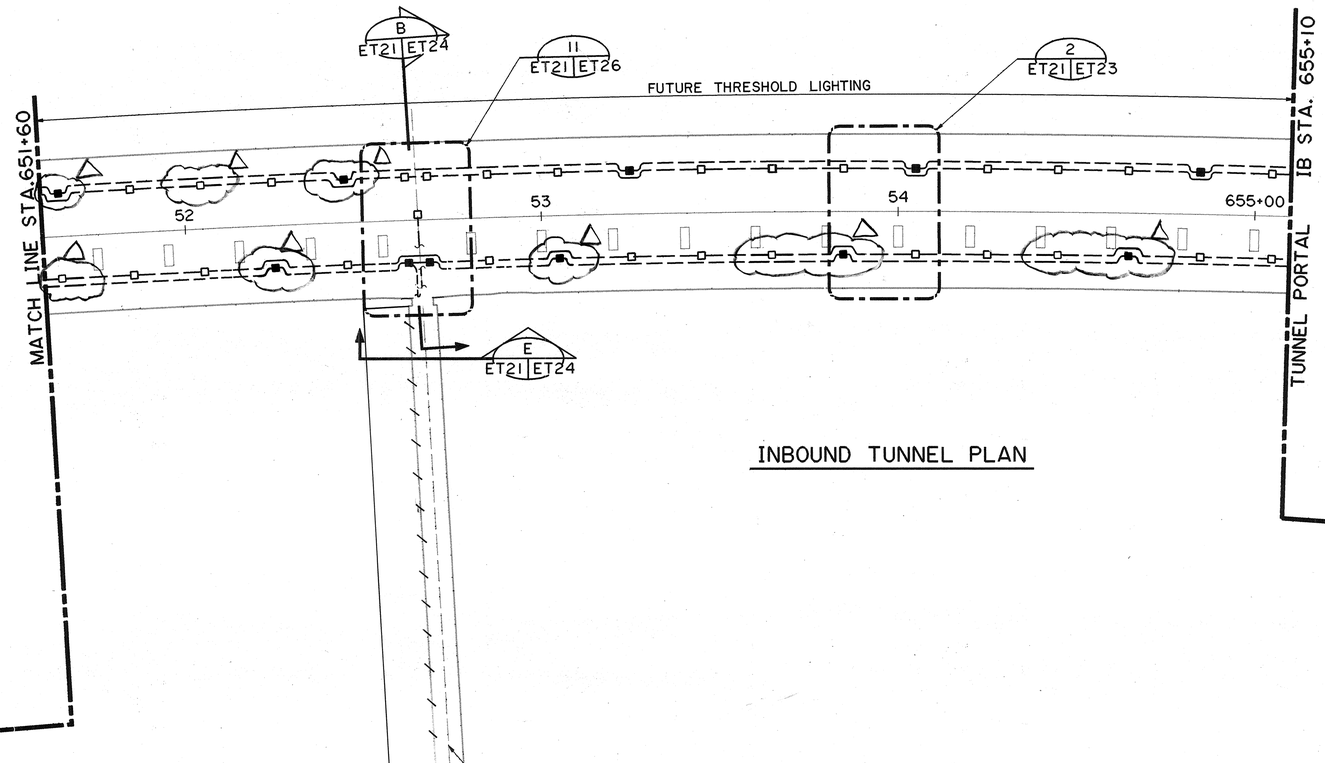
Peter A. Mason

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	" 10/20/89
	TRACED BY	"
NOTE BOOK	DESIGNED BY L. LEE	" 3/5/89
	QUANTITIES BY	"
NO.	CHECKED BY J.J. SASSANI	" 1/24/89

2410V156 2410: V156 ES0089.FGB;1 16DEC89-10.07.00

ADD. 378

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	379	424



INBOUND TUNNEL PLAN

OUTBOUND TUNNEL PLAN

N

NOTES:

1. FOR TUNNEL LIGHTING GENERAL NOTES, SEE SHEET NO. ET15.
2. PROVIDE CONCRETE INSERTS IN INBOUND TUNNEL, SEE DETAIL 2, SHEET NO. ET23.

GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
10/29/92	REVISED EMERGENCY LIGHT LOCATIONS PER DCN 61-033
4/26/90	REVISED NOTE 2

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT PLAN
STA. 651+60 TO PORTAL
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

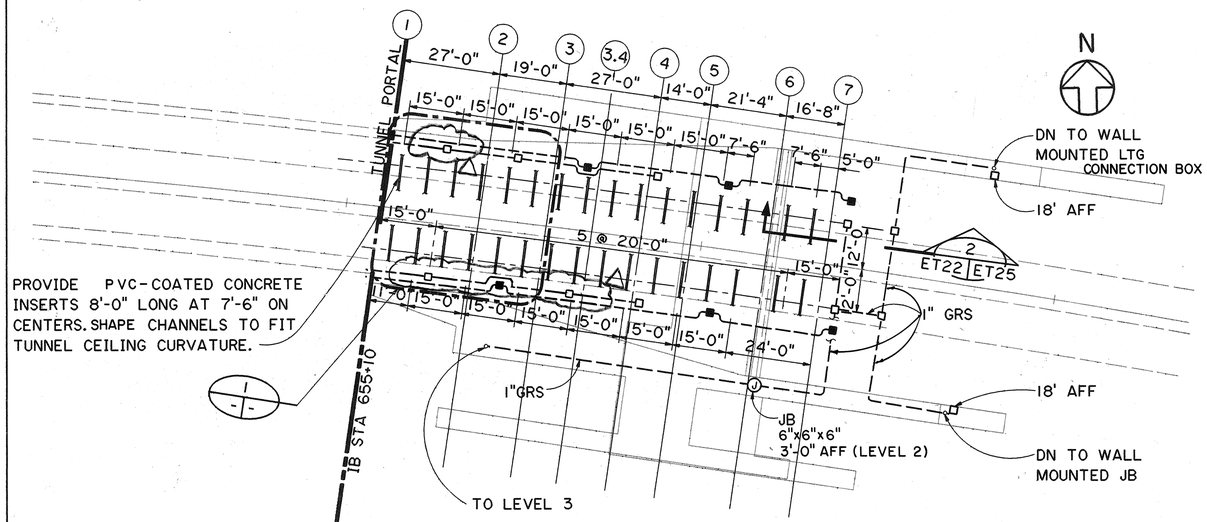
SCALE: 1" = 20' DATE: JAN 1990

SHEET NO. ET21 OF 26 SHEETS

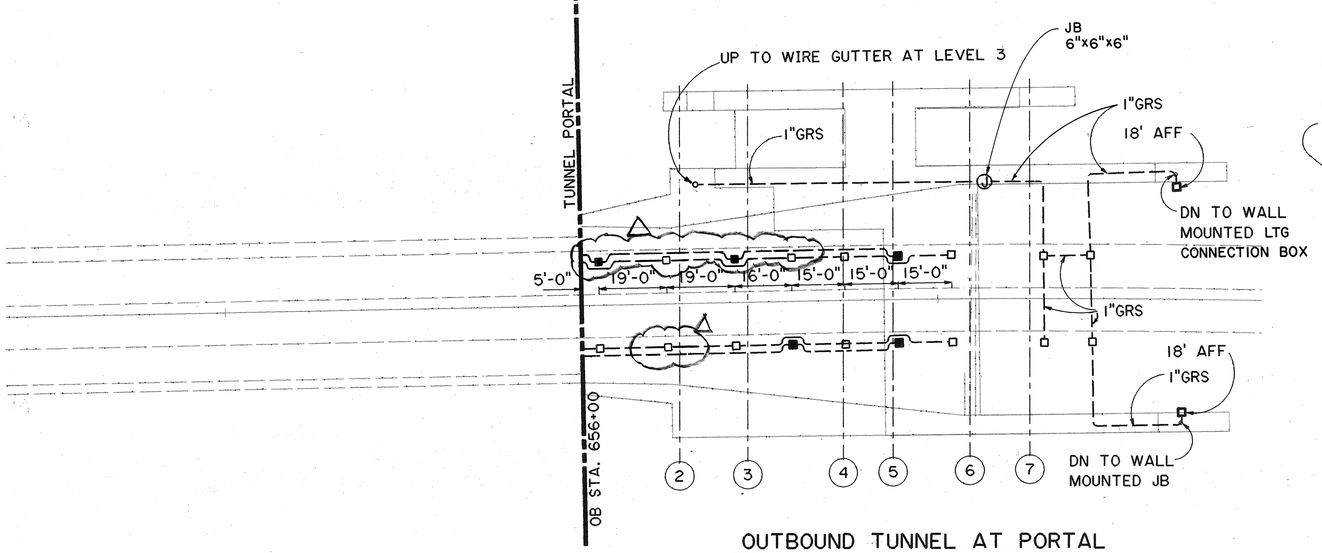
ADD. 379

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/11/89
NOTE BOOK	TRACED BY L. LEE	9/28/92
	DESIGNED BY	
	QUANTITIES BY J.J. SASSANI	11/24/89
NO.	CHECKED BY	

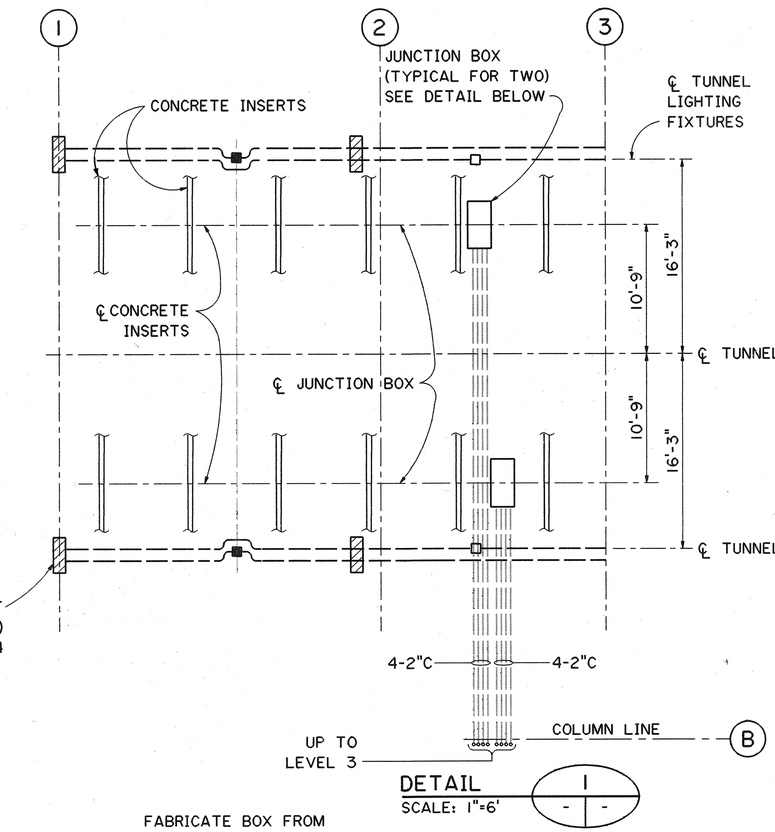
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	380	424



INBOUND TUNNEL AT PORTAL



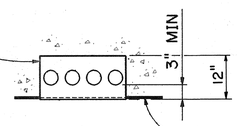
OUTBOUND TUNNEL AT PORTAL



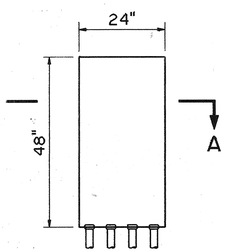
DETAIL 1

SCALE: 1"=6'

FABRICATE BOX FROM 14 GAGE SS(317), PROVIDE WITH 8 SCREWS/SIDE ON COVER AND GASKET



SECTION A



VIEW FROM BELOW CEILING

(COVER REMOVED)

NOTES:

1. FOR TUNNEL LIGHTING GENERAL NOTES, SEE SHEET NO. ET15.
2. FOR FUTURE TUNNEL LIGHTING FIXTURE LAYOUT IN HAIKU IB PORTAL BUILDING, SEE SHEET NO. AMI8.
3. FOR FUTURE TUNNEL LIGHTING FIXTURE LAYOUT IN HAIKU OB PORTAL BUILDING, SEE SHEET NO. AQI8.
4. PROVIDE DEFLECTION FITTINGS FOR ALL CONDUITS CROSSING CONSTRUCTION JOINTS AT GRID LINES (1) AND (2)

GRAPHIC SCALE
20' 0' 20' 40'
1" = 20'

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6460-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
10/29/92	REVISED EMERGENCY LIGHT LOCATIONS
	PER DCN 61-033
4/26/90	REVISED PORTAL PLANS & SECTION A

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT PLAN
PORTAL
HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

NOT TO SCALE DATE: JAN 1990

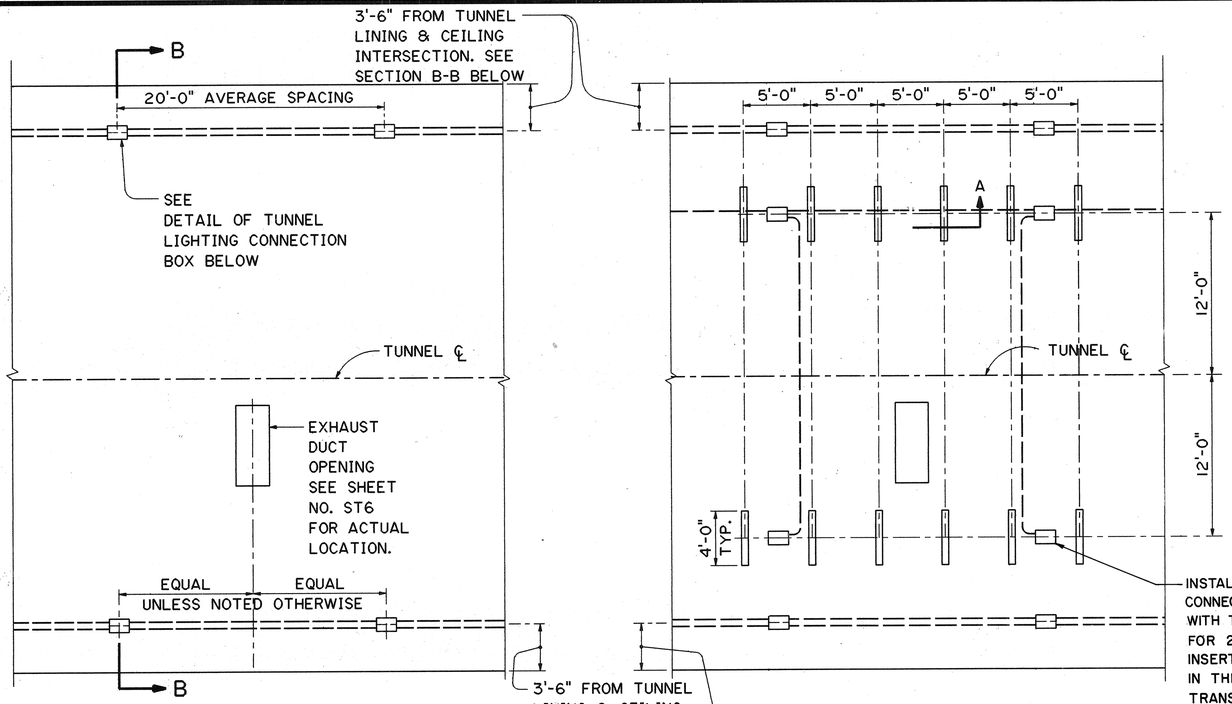
SHEET NO. ET22 OF 26 SHEETS

ADD. 380

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/8/92
NOTE BOOK	TRACED BY	9/12/89
	DESIGNED BY T. SANCHEZ	
NO.	QUANTITIES BY	11/24/89
	CHECKED BY W.J. SASSANI	

2410V156 2410: V156 ES0115.FGB#1 150EC89-11.19.50 MULTIPLOT ES0115 HALF SIZE ES0115HA

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	381	424

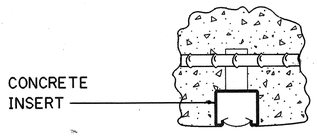


DETAIL PLAN FOR TUNNEL INTERIOR LIGHTING CONDUITS

1
ET15 | ET23
ET18 ET16
ET19 ET17

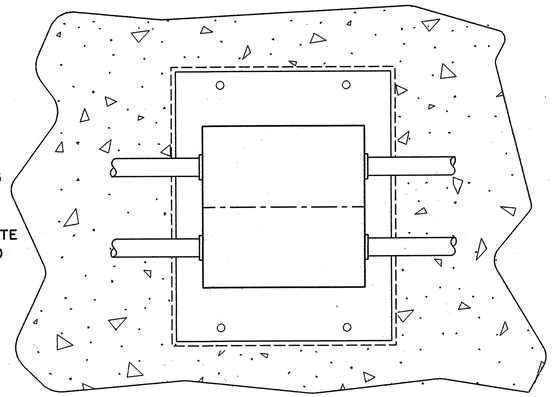
DETAIL PLAN FOR TUNNEL ENTRANCE LIGHTING CONDUITS

2
ET19 | ET23
ET20
ET21

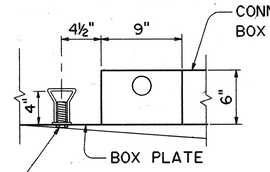


DETAIL A

BEND CHANNELS TO FIT TUNNEL CEILING CURVATURE



TOP VIEW (INSTALLED) TUNNEL LIGHTING CONNECTION BOX

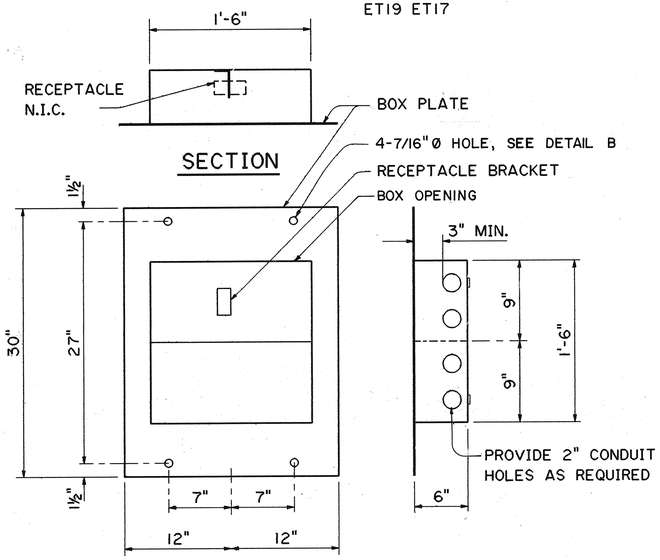


DETAIL B

NOTE: CONCRETE INSERT AND BOLTS SHALL BE FASTENED TO THE BOX PLATE DURING CONCRETE CASTING. PROVIDE HOLE ON WOODEN FORM TO ACCOMODATE BOLT HEAD. FOUR INSERTS PER BOX.

NOTES:

1. FOR TUNNEL LIGHTING GENERAL NOTES SEE SHEET NO. ET15.
2. TUNNEL LIGHTING CONNECTION BOX FABRICATION REQUIREMENTS
   a) FABRICATE BOX FROM #12 CODE GAGE STEEL HOT DIP GALVANIZED AFTER FABRICATION.
   b) PROVIDE STEEL BARRIER AS SHOWN TO SEPARATE EMERGENCY LIGHTING COMPARTMENT FROM NORMAL LIGHTING COMPARTMENT.
   c) WELD ALL SEAMS TO SECURE A WATERTIGHT CONSTRUCTION.
   d) EXTERIOR SURFACES SHALL BE EPOXY COATED.
   e) PROVIDE BRACKET (IN ONE COMPARTMENT ONLY) FOR MOUNTING A 20A, 480V, 2 POLE, 3 WIRE GROUNDING DEVICE (HUBBEL 2320 OR EQUAL).

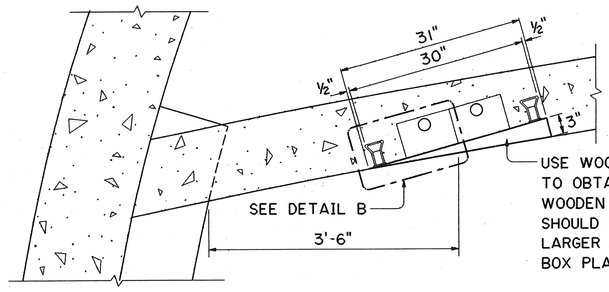


SECTION

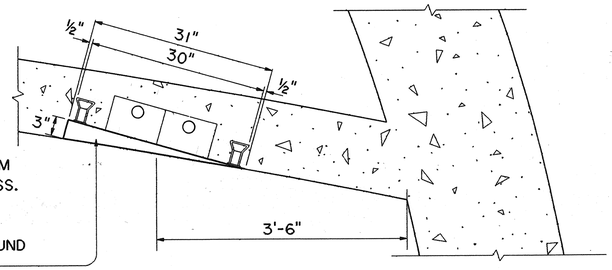
BOTTOM VIEW

SIDE VIEW

TUNNEL LIGHTING CONNECTION BOX



SECTION B-B



PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
4/26/90	REVISED DETAILS A AND B

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT SECTIONS & DETAILS - 1

HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: NONE DATE: JAN 1990

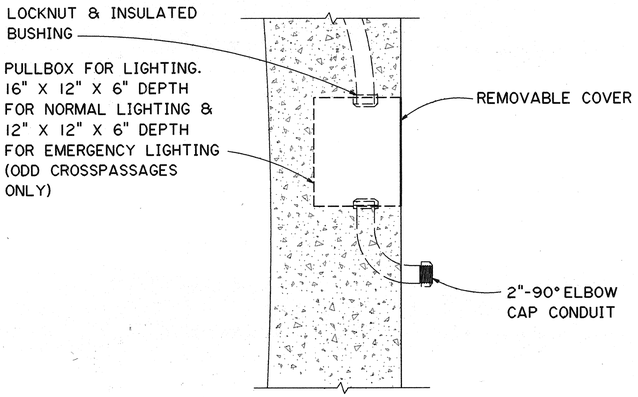
SHEET NO. ET23 OF 26 SHEETS

ADD. 381

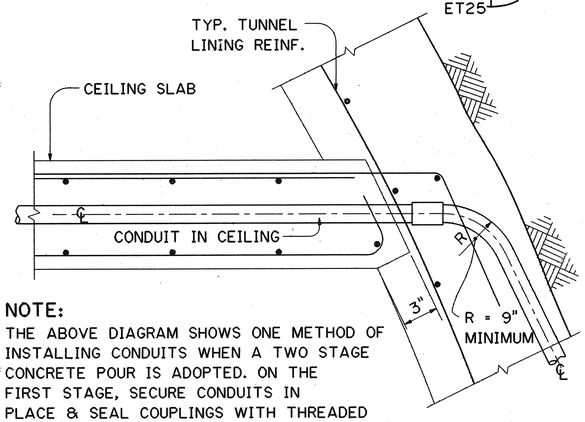
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY CADD	10/8/89
	TRACED BY	
NOTE BOOK	DESIGNED BY T. SANCHEZ	5/14/89
	QUANTITIES BY	
NO.	CHECKED BY J. J. SASSANI	11/30/89

2410V156 2410: V156 ESD113.FGB:1 15DEC89-12.31.50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	382	424



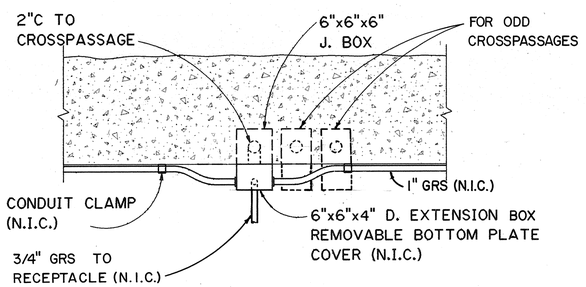
DETAIL 7
N.T.S.
ET24 | ET24
ET25



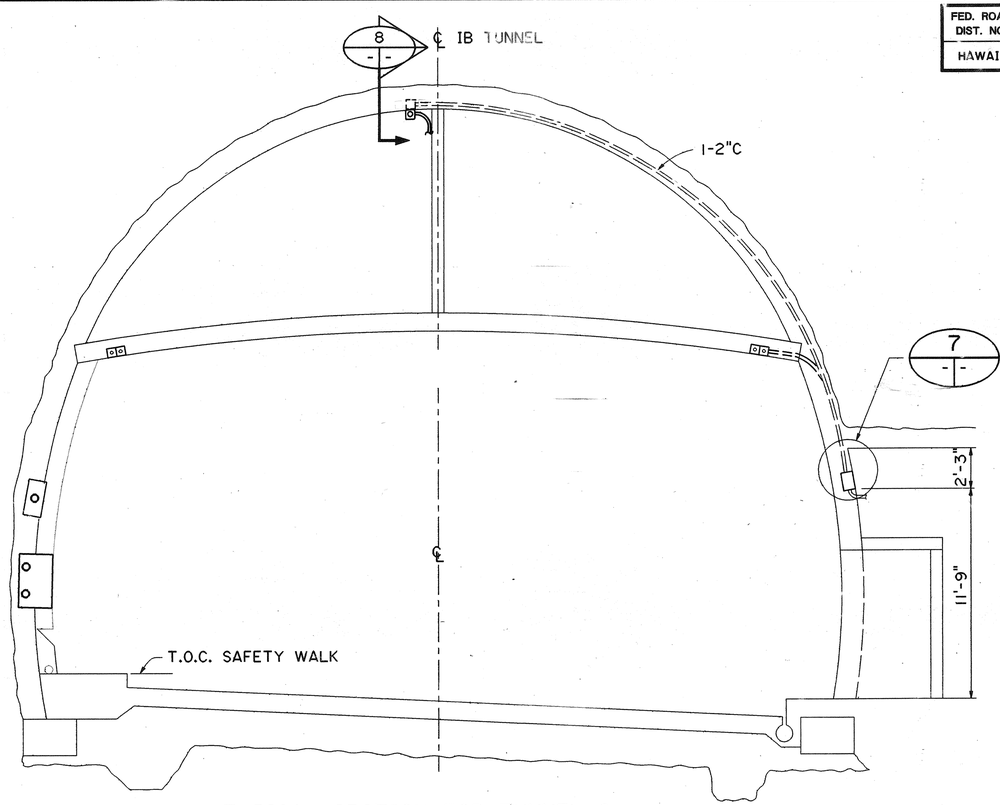
NOTE:
THE ABOVE DIAGRAM SHOWS ONE METHOD OF INSTALLING CONDUITS WHEN A TWO STAGE CONCRETE POUR IS ADOPTED. ON THE FIRST STAGE, SECURE CONDUITS IN PLACE & SEAL COUPLINGS WITH THREADED PLUGS. AFTER TUNNEL LINING FORMS ARE REMOVED, CLEAR AWAY EXCESS CONCRETE TO EXPOSE COUPLINGS. ON SECOND POUR, CEILING SLAB, EXTEND CONDUITS TO THE LIGHTING CONNECTION BOXES AS SHOWN.

DETAIL 9
N.T.S.
ET25 | ET24

ALSO DETAIL 3 ON SHEET ST9



DETAIL 8
SCALE: 1"=1'-0"
ET24 | ET24
ET25

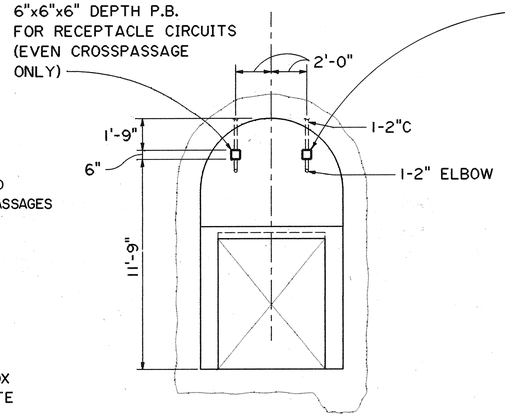


TYPICAL SECTION FOR TUNNEL & PLENUM LIGHTING CIRCUIT FOR CROSSPASSAGE NO. 4,6,8 & 10

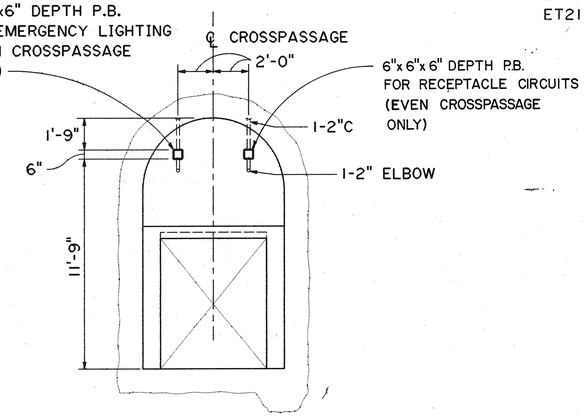
B
ET15 | ET24
ET17
ET19
ET21

NOTES:

1. FOR TUNNEL LIGHTING GENERAL NOTES SEE SHEET NO. ET15.
2. DIMENSIONS SHOWN ARE NOMINAL. ACTUAL DIMENSIONS WILL VARY ALONG TUNNELS.
3. REFER TO POWER CONDUIT & SYSTEM CONDUIT DRAWINGS FOR OTHER PULLBOXES IN THIS SPACE.



SECTION G
SCALE: ¼"=1'-0"
ET15 | ET24
ET17
ET19
ET21
ET26
SEE NOTES 2 & 3



SECTION E
SCALE: ¼"=1'-0"
ET15 | ET24
ET17
ET19
ET21
ET26
SEE NOTES 2 & 3

GRAPHIC SCALE
4' 2' 0' 4' 8'
¼" = 1'-0"

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6460-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

DATE	REVISION
	AS BUILT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT SECTIONS & DETAILS-2

HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

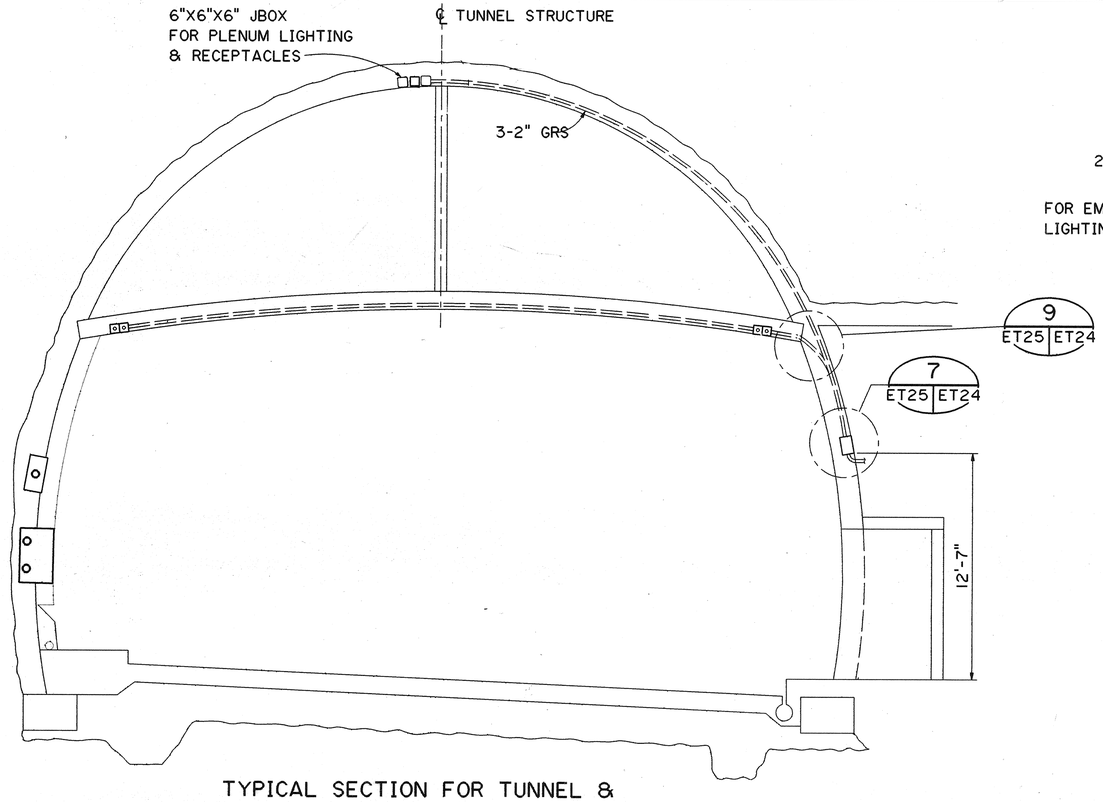
SCALE: AS NOTED DATE: JAN 1990

SHEET NO. ET24 OF 26 SHEETS

ORIGINAL PLAN	NOTE BOOK	NO.
SURVEY PLOTTED BY	CADD	10/20/83
DRAWN BY		
TRACED BY	T. SANCHEZ	2/8/89
DESIGN BY		
QUANTITIES BY	J. J. SASSANI	1/30/89
CHECKED BY		

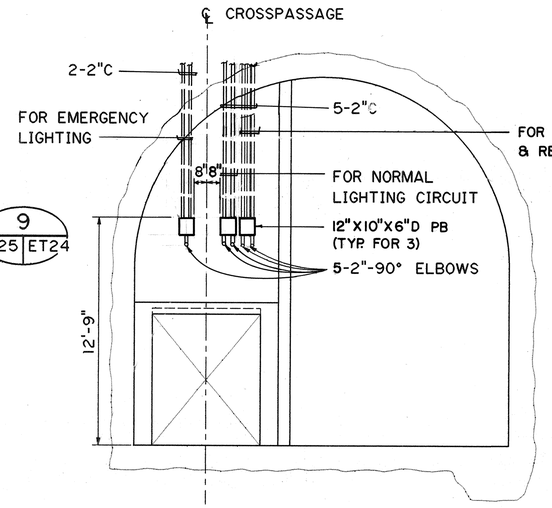
2410V156 2410: V156 ES0112.FGB;1 15DEC89-09.14.50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	383	424



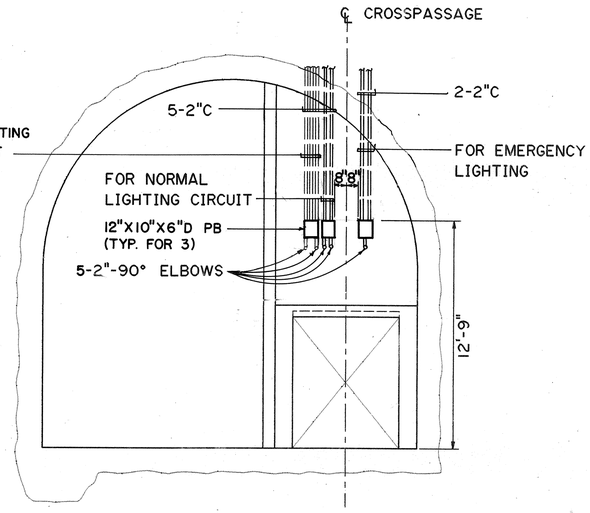
TYPICAL SECTION FOR TUNNEL & PLENUM LIGHTING CIRCUIT FOR CROSSPASSAGE NO. 3,5,7 & 9

A
ET16 ET25
ET18
ET20



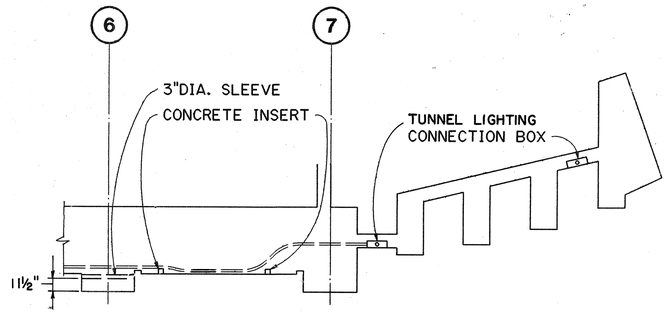
SECTION B
SCALE: ¼"=1'-0"
ET18 ET25

SEE NOTES 2 & 3
SHEET NO. ET24

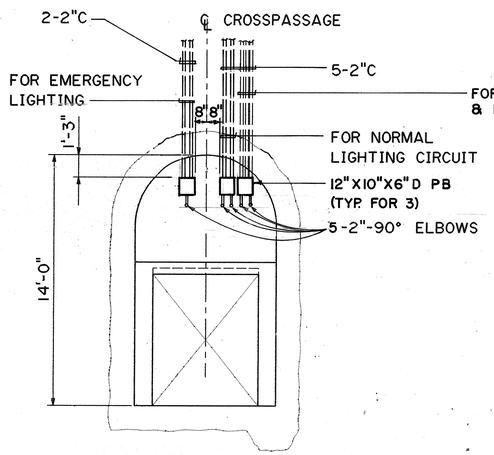


SECTION C
SCALE: ¼"=1'-0"
ET16 ET25
ET20

SEE NOTES 2 & 3
SHEET NO. ET24

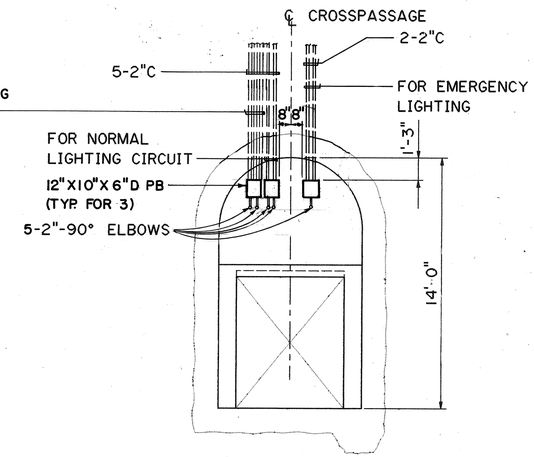


FOR TUNNEL LIGHTING
GENERAL NOTES
SEE SHEET NO. ET15



SECTION D
SCALE: ¼"=1'-0"
ET16 ET25
ET20

SEE NOTES 2 & 3
SHEET NO. ET24



SECTION F
SCALE: ¼"=1'-0"
ET18 ET25

SEE NOTES 2 & 3
SHEET NO. ET24

SECTION 2
NTS
ET22 ET25

GRAPHIC SCALE
4' 2' 0' 4' 8'
¼" = 1'-0"

SURVEY PLOTTED BY		DATE
DRAWN BY	CADD	10-29-90
TRACED BY		
DESIGNED BY	T. SANCHEZ	9/19/89
QUANTITIES BY	J. SASSANI	11/30/88
CHECKED BY		

ORIGINAL PLAN
NOTE BOOK
NO.

DATE	REVISION
MAR 19 1990 ADDENDUM 1	REVISED PULL BOX & ELBOWS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT SECTIONS & DETAILS-3

HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE: AS NOTED DATE: JAN 1990

SHEET NO. ET25 OF 26 SHEETS

ADD. 383

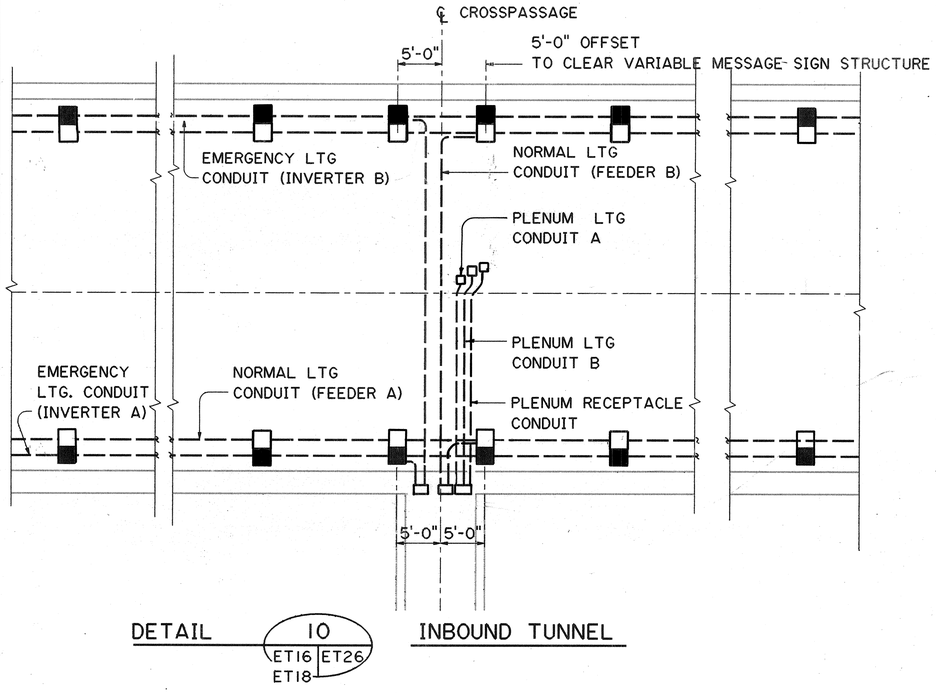
PETER A. MASON
REGISTERED PROFESSIONAL ENGINEER
No. 6460-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

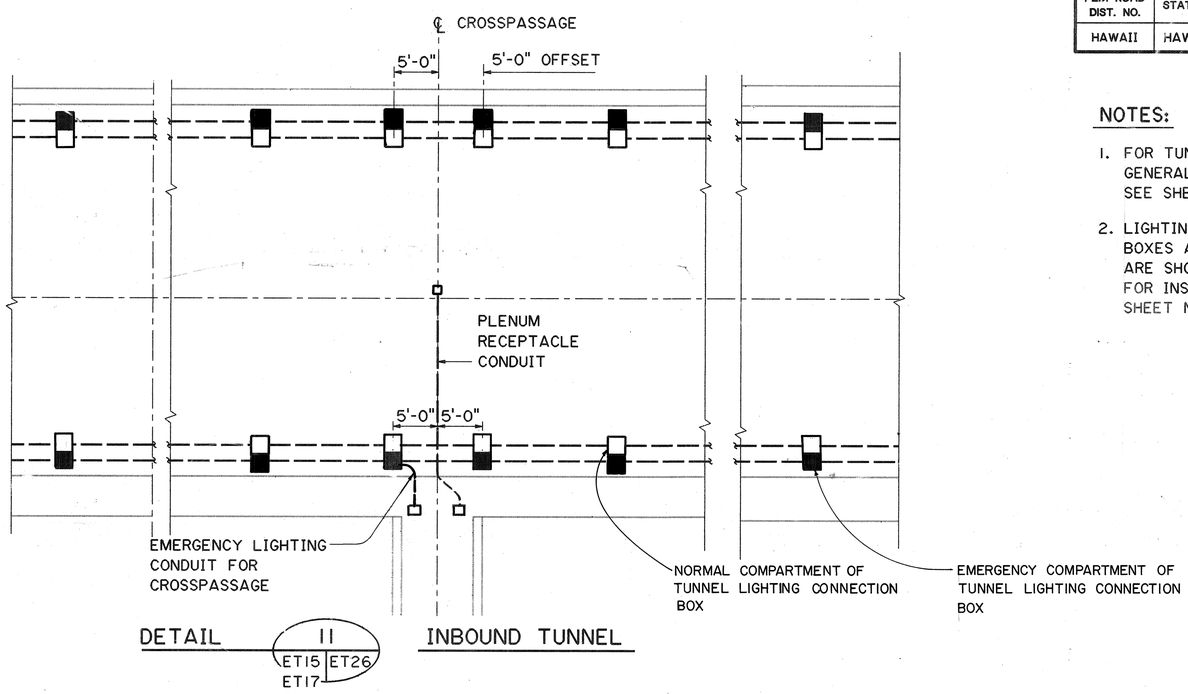
Peter A. Mason

2410V156 2410: V156 ES0111.FGB#1 15DEC89-07.55.40

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(61)	1990	384	424



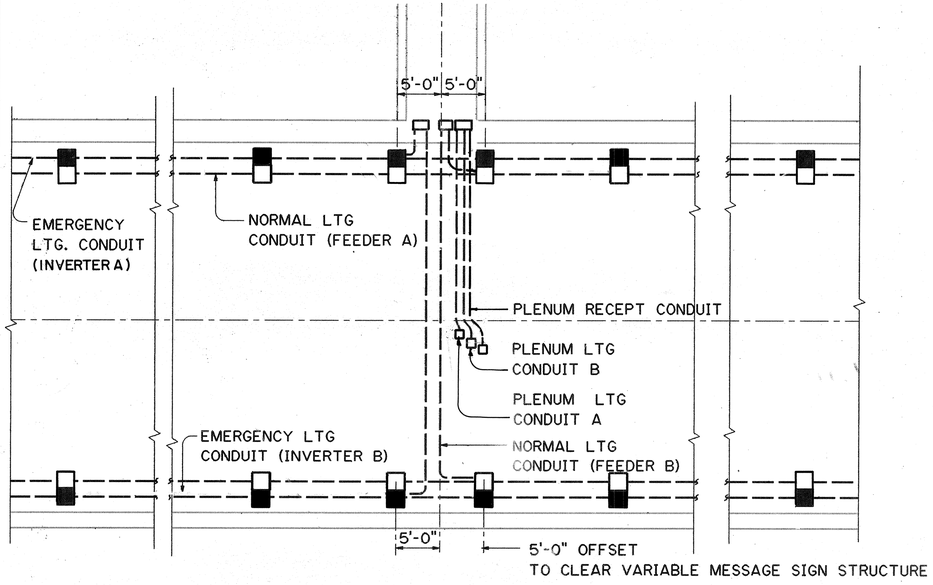
DETAIL 10 (ET16 | ET26; ET18) INBOUND TUNNEL



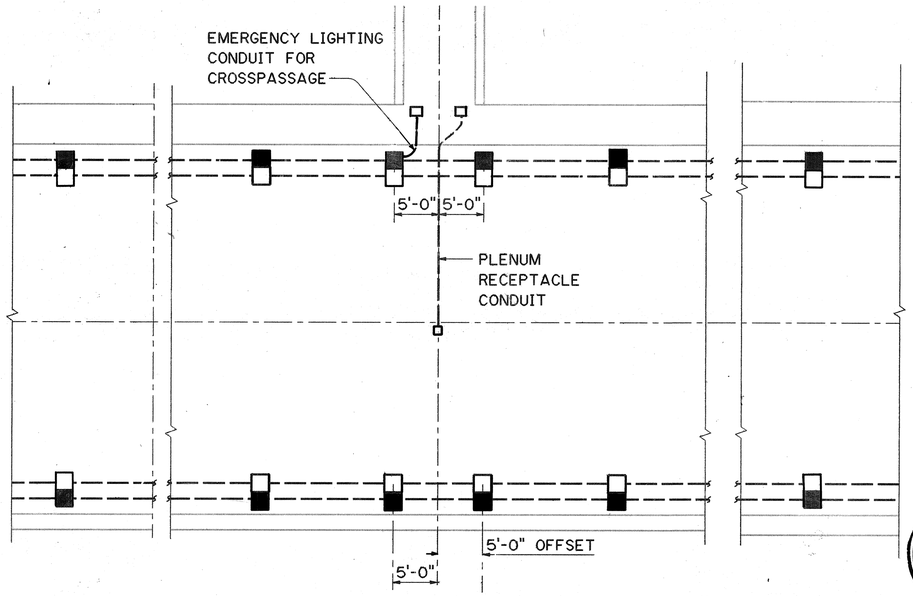
DETAIL 11 (ET15 | ET26; ET17; ET19) INBOUND TUNNEL

NOTES:

1. FOR TUNNEL LIGHTING GENERAL NOTES SEE SHEET NO. ET15.
2. LIGHTING FIXTURE CONNECTION BOXES AND LIGHTING CONDUITS ARE SHOWN DIAGRAMMATICALLY. FOR INSTALLATION SEE SHEET NO. ET23.



DETAIL 9 (ET16 | ET26; ET18) OUTBOUND TUNNEL



DETAIL 12 (ET15 | ET26; ET17; ET19) OUTBOUND TUNNEL

DATE	REVISION
MAR 19 1990 ADDENDUM 1	REVISED LIGHT CONNECTION BOX SYMBOL

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING CONDUIT SECTIONS & DETAILS - 4

HAIKU TUNNELS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(61)

SCALE : NONE DATE: JAN 1990

SHEET NO. ET26 OF 26 SHEETS

PETER A. MASON REGISTERED PROFESSIONAL ENGINEER No. 6660-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Peter A. Mason

ORIGINAL PLAN	NOTE BOOK	NO.

SURVEY PLOTTED BY
DRAWN BY CADD DATE 10/3/89
TRACED BY
DESIGNED BY T. SANCHEZ 2/22/89
QUANTITIES BY
CHECKED BY J. J. SASSANI 11/30/89

2410V156 2410: V136 ES0110.FGB;1 15DEC89-13.19.50

ADD. 384