

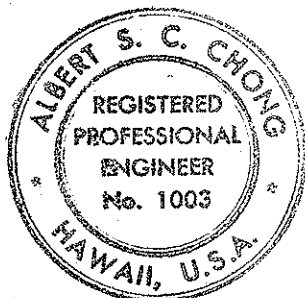
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				

ELECTRICAL SYMBOLS

- CEILING OUTLET, INCANDESCENT
- ◐ WALL OUTLET, INCANDESCENT
- CEILING OUTLET, INCANDESCENT, NITE LIGHT
- ◑ WALL OUTLET, INCANDESCENT, NITE LIGHT
- ◻ CEILING OUTLET, FLUORESCENT
- S SWITCH, 1P 20A, +4'
- S₂ SWITCH, 1P 20A, +4'
- S₂ SWITCH, 2P 20A, +4'
- Ⓛ DUPLEX CONVENIENCE OUTLET, 3W 15A GROUNDING TYPE, +12" UNLESS OTHERWISE NOTED.
- FLOOR OUTLET
- ⌞ FLOOD LIGHT
- Ⓞ GARBAGE DISPOSAL CONNECTION
- Ⓢ WATER HEATER CONNECTION
- Ⓚ KITCHEN UNIT CONNECTION
- Ⓢ CLOCK OUTLET
- Ⓢ JUNCTION BOX, WALL 4-1/2" SQUARE MIN.
- Ⓢ JUNCTION BOX, CEILING, 4-1/2" SQUARE MIN.
- PANEL BOARD
- Ⓢ TELEPHONE OUTLET, +12"
- Ⓢ TELEPHONE OUTLET, FLOOR
- Ⓢ TELEPHONE CABINET
- W.P. WEATHER PROOF
- EP EXPLOSION PROOF
- Ⓢ MOTOR OUTLET
- Ⓢ MOTOR CONTROLLER
- Ⓢ SAFETY SWITCH
- P FLOOR DUCT, POWER, 1 1/4" x 3/8" W/INSERTS
- T FLOOR DUCT, TELEPHONE, 1 1/4" x 3/8" W/INSERTS
- X EXPLOSION PROOF SEAL FITTING
- Ⓢ RECEPTACLE, 3W 20A, TWISTLOCK, SINGLE ARROW #7310-B
- WIRING IN RACEWAY CONCEALED IN WALL OR CEILING
- WIRING IN RACEWAY CONCEALED IN FLOOR OR BELOW GRADE
- WIRING IN EXPOSED RACEWAY
- Ⓢ RELAY
- Ⓢ SWITCH, 3 POSITION MOMENTARY CONTACT - VTA
- Ⓢ CONTACTOR CONTROL
- Ⓢ FLEXIBLE CONDUIT

NOTES: ANY CIRCUIT WITH NO FURTHER DESIGNATION INDICATES A TWO WIRE CIRCUIT. CIRCUITS WITH ADDITIONAL WIRES ARE INDICATED AS FOLLOWS:
 — 3 WIRES: — 4 WIRES, ETC.

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
OAHU DISTRICT BASEYARD FACILITIES	
SHAFTER FLATS INDUSTRIAL DEVELOPMENT AT MOANALUA, HONOLULU, OAHU, HAWAII	
ELECTRICAL PLOT PLAN, SYMBOLS AND DETAILS	
HERBERT Y. MATSUMURA 211 KAPOLANI BLVD.	ARCHITECT, AIA HONOLULU, HAWAII
SHEET No. E1 OF 42 SHEETS	



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

Albert S. C. Chong

PHILL BOX & STUB OUT DETAILS

50% 3/4" = 1'-0"

DUCT DETAILS

50% 3/4" = 1'-0"

ELECTRICAL PLOT PLAN

SCALE: 1" = 40'-0"

ORIGINAL PLAN	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	

1 POLE DOUBLE THROW, 3POS.
MOMENTARY CONTACT
SWITCH

LIGHTING CONTACTOR
3P50A, MECHANICALLY HELD
NEMA 1 ENC

PART. PNL A

CKT A-4

3P50A

4#6 THW

PANEL 'A'

4#6 THW

PART. DIST. PANEL

NO SCALE



SCALE: $\frac{1}{8}" = 1'-0"$



SCALE: $\frac{1}{8}'' = 1'-0''$



OAHU DISTRICT BASEYARD FACILITIES
SHAFTER FLATS INDUSTRIAL DEVELOPMENT
AT MOANALUA, HONOLULU, OAHU, HAWAII

ADMINISTRATION BLDG.
LIGHTING & ROOF ELECTRICAL PLANS.

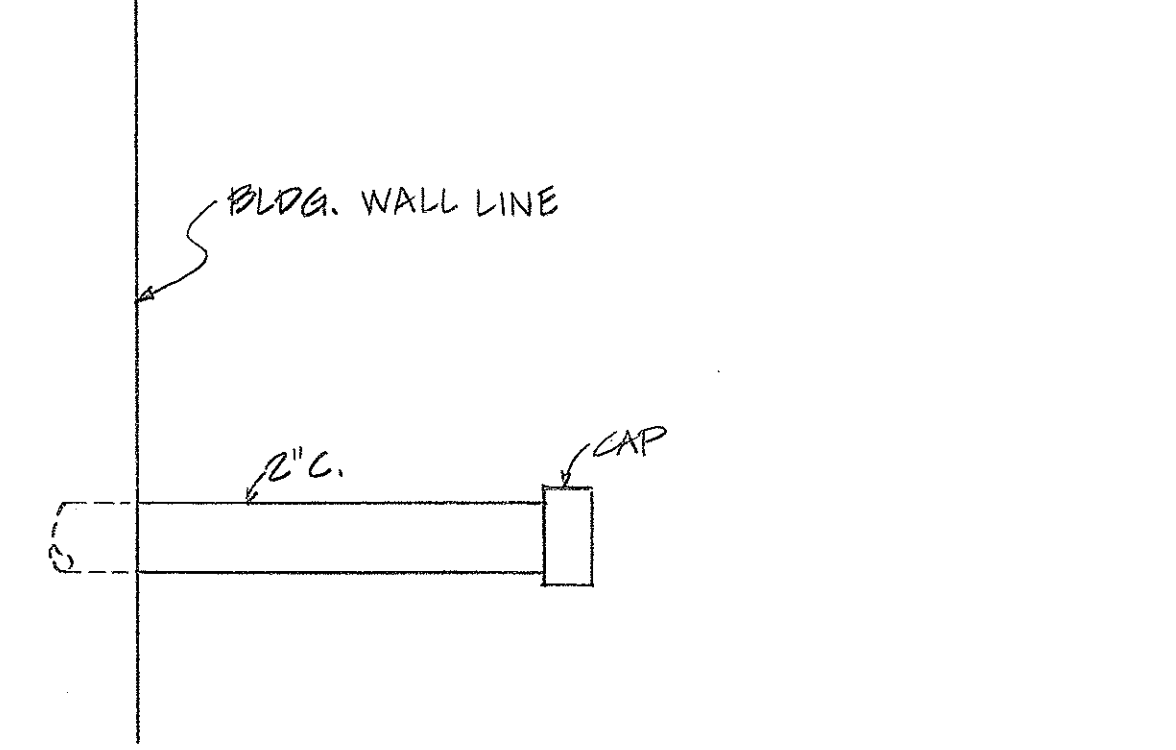
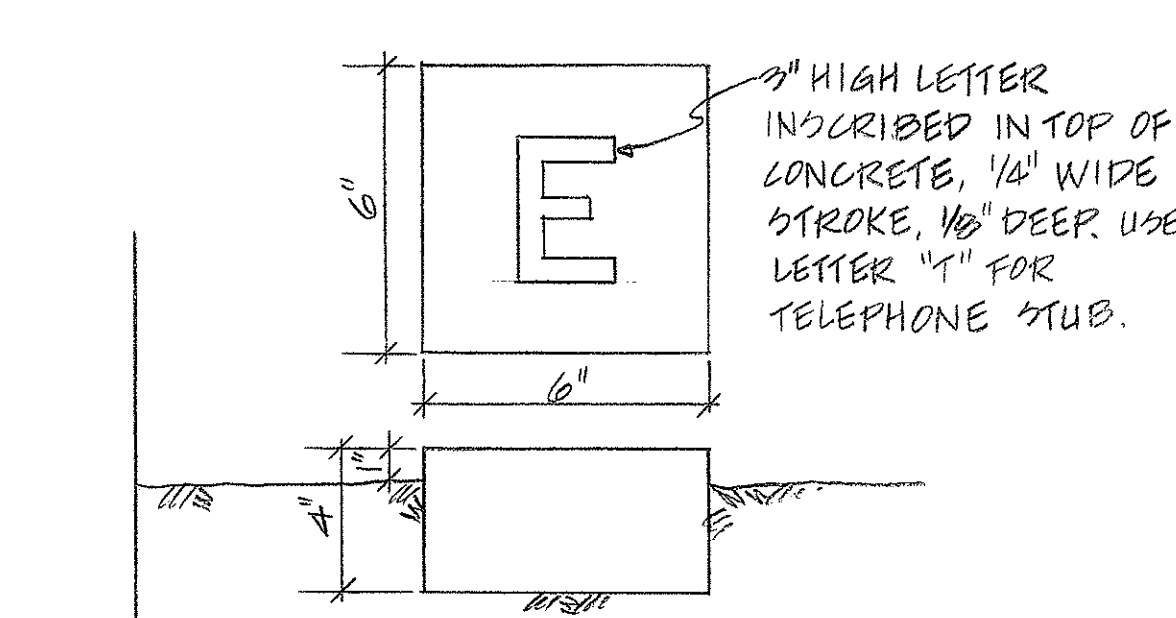
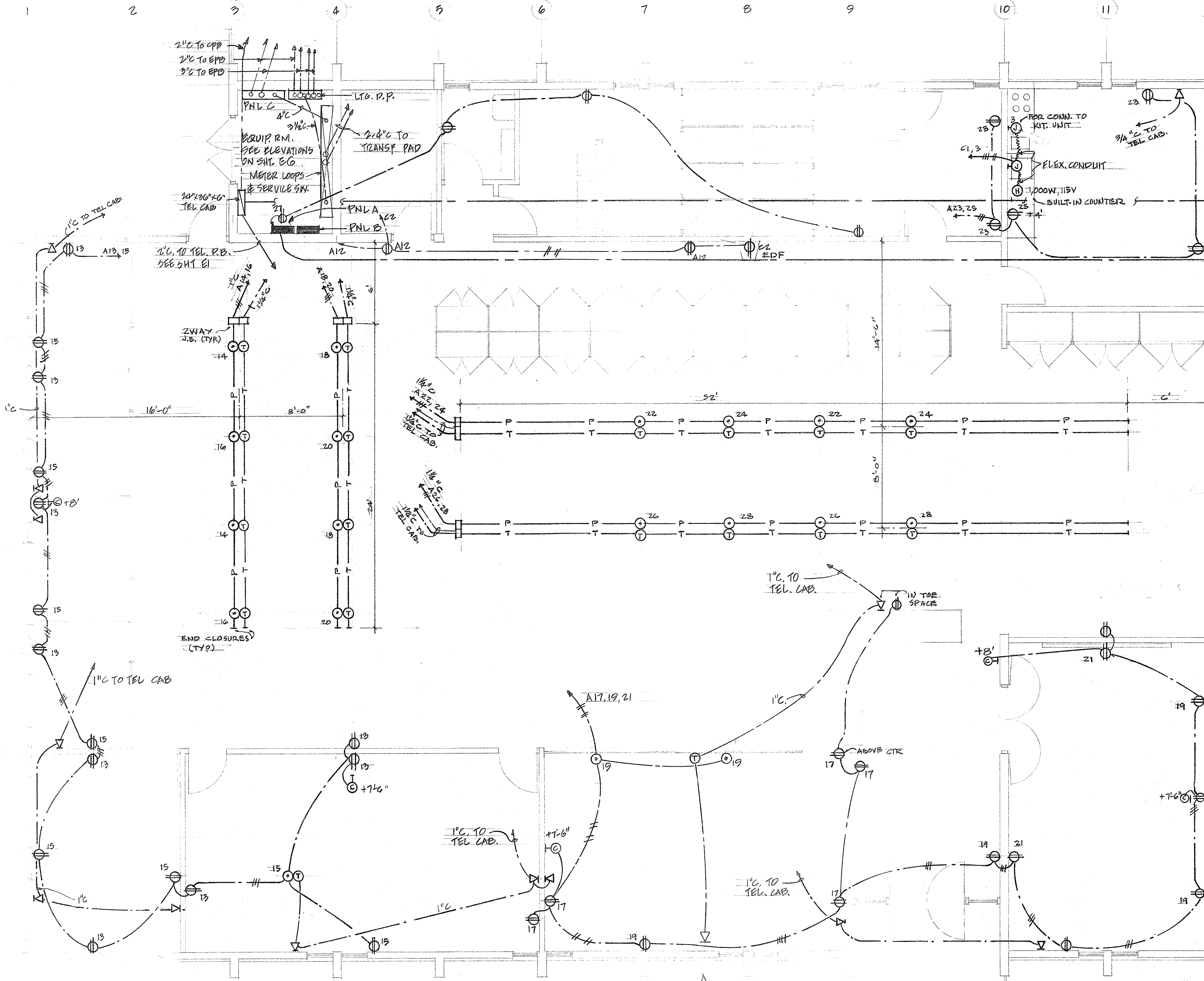
HERBERT Y. MATSUMURA ARCHITECT, AIA
871 KAPIOLANI BLVD. HONOLULU, HAWAII

SHEET No. 22 OF 42 SHEETS

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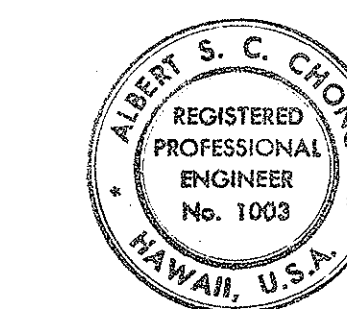
Albert R. Chon

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



DETAIL A
NTS E3

POWER & SIGNAL PLAN
SCALE: 1/4" = 1'-0"



ADMINISTRATION BLDG.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

OAHU DISTRICT BASEYARD FACILITIES
SHAFTER FLATS INDUSTRIAL DEVELOPMENT
AT MOANALUA, HONOLULU, OAHU, HAWAII.

ADMINISTRATION BLDG
POWER & SIGNAL PLAN

BERNARD Y. MATSUMURA ARCHITECT, AIA
811 KAPOLANI BLVD HONOLULU, HAWAII

SHEET No. E3 OF 42 SHEETS

SURVEY PLATTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

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Albert S. C. Chong

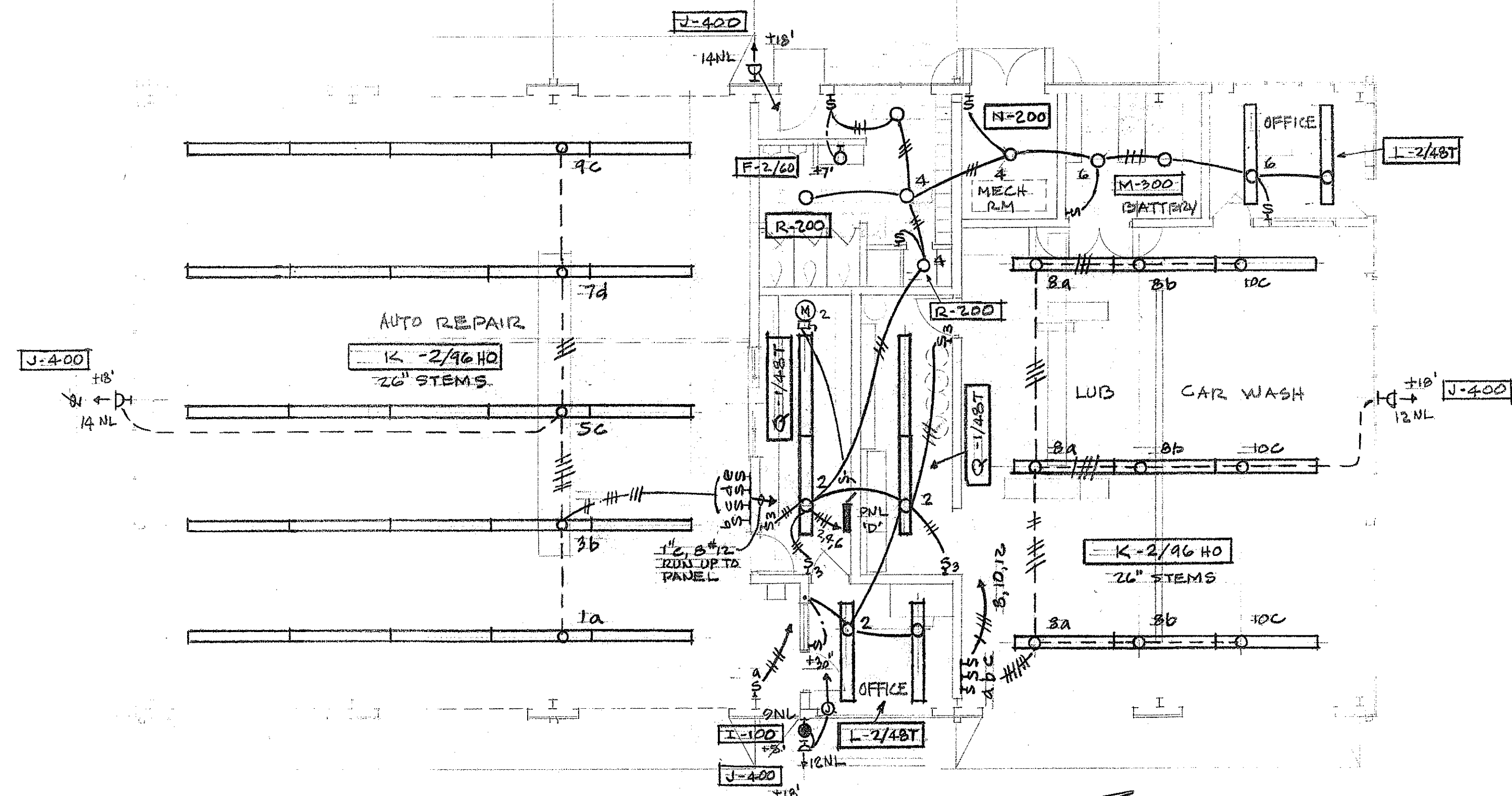
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				

LUMINAIRE SCHEDULE

TYPE	LAMP	DESCRIPTION	MANUFACTURER	TYPE	LAMP	DESCRIPTION	MANUFACTURER
J-400	400W COLOR CORRECTED MERCURY	WALL MOUNTED MERCURY FLOODLITE, CAST ALUMINUM HOUSING, W/ RELAMPING ACCESS DOOR & CAST ALUMINUM BALLAST/ WIRING COMPARTMENT HEAT DISSIPATING FINS, PARABOLIC REFLECTOR, ALL HARDWARE STAINLESS STEEL, WEATHER PROOFED WITH NEOPRENE GASKETS FINISHED IN BAKED ENAMEL, 150° WIDE BY 112° HIGH BEAM SPREAD, 70% EFFICIENCY	STIEBER 8015-120N W/4023 SYLVANIA	A-4/40	4-40W C.W.	LAY-IN TROFFER - 5" HIGH, 1/2" CLEAR PRISMATIC ACRYLIC LENS, EXTRUDED ALUMINUM FRAME & TRIM, 20 GAUGE STEEL BODY, 2' X 4', A SOUND RATED BALLAST	DAY-BRITE NOVI COLUMBIA FRFX-1B - 24-440-M37 GLOBE SUNBEAM
				B-2/40	2-40W C.W.	SAME AS TYPE A EXCEPT 2 LAMP	
				C-150	150W A-21	RECESSED, DOWNLIGHT, DIE CAST ALUMINUM HOUSING, HEAT DISSIPATING SOCKET ENCLOSURE, BLACK MILLIGROVE BAFFLE, DIE-CAST ALUM PLANGEE.	PRESCOLITE 1220 - 920 W/150 TR
				D-150		SAME AS TYPE C	
				E-2/40T	4-40W WARM WHITE	CEILING, FLUORESCENT, HOLOPHANE 7100 CONTROLERS HINGE FROM EITHER SIDE, 8 FEET LONG	HOLOPHANE 7100 SERIES GLOBE 3600 SERIES SUNBEAM LIGHTING PRODUCTS INC
				F-2/60	2-60W	WALL BRACKET, INCANDESCENT, OBLONG OPAL GLASS DIFFUSER WITH CAM-LOCK, WHITE FINISH	LIGHTOLIER 6349
				G		NOT USED	
				H-100	100W	CEILING, INCANDESCENT, ANODIZED MARCO 204VT DIE CAST ALUMINUM HOUSING, OPAL GLASS GLOBE	MARCO 204VT McPHILBEN 43-45 VT MOLDCAST 100A
				I-100	100W 130V.	WALL BRACKET INCANDESCENT, DIE CAST ALUMINUM HOUSING, PRESSED PRISMATIC ENDURAL REFRACTOR, ASYMETRIC REFLECTOR, METALLIC BRONZE FINISH.	HOLOPHANE 400
				J-400	400W C.W.	SUSPENDED FLUORESCENT, 10% - 15% UPWARD COMPONENT, SIMILAR TO TYPE K EXCEPT FOR LAMP SIZE & NO LOUVER, 8' LONG.	SYLVANIA DAY BRITE MILLER SMOOT HOLMAN
				K-2/96	2-96" 800 MA C.W.	INDUSTRIAL, PORCELAIN REFLECTORS, 15% UPWARD COMPONENT, DEEP V EMBOSSED & RIBBED, TURNED EDGES, 30" X 30" BAKED WHITE METAL LOUVERS, SWIVEL BALL ALIGNER, STEM MOUNTED	SYLVANIA PV-10 W/ P-250B DAYBRITE CFI-10 MILLER - CROWN SMOOT-HOLMAN
				L-2/40T	4-40W	CEILING, 35" X 48" METAL LOUVER W/ TOP REFLECTOR, 3' CHASSIS, BAKED WHITE FINISH	SYLVANIA TARTAN DAYBRITE LUXE MILLER LEXINGTON WESTINGHOUSE
				M-300	300W	RLM STANDARD DOME, OUTLET BOX MOUNTING, WHITE PORCELAIN FINISH.	BENJAMIN MILLER SMOOT HOLMAN
				N-200	200W	LAMP HOLDER, 660W, PORCELAIN, KEYLESS	BRYANT FAULDING CIRCLE F ARROW
				O-4/40T	4-40W C.W.	SAME AS TYPE L EXCEPT WITH 4 LAMPS, 8' LONG.	
				P-1/40	1-40W C.W.	FLUORESCENT STRIP WITH WIRE GUARD,	SMOOT-HOLMAN A-14RG PEERLESS
				Q-1/40T	2-40W C.W.	FLUORESCENT STRIP, WITH WIRE GUARD, 8 FT. LONG.	SMOOT HOLMAN A-14RG-2 PEERLESS
				R-200	200W	VAPORTIGHT, INCANDESCENT, ANODIZED CAST ALUMINUM BODY, OPAL GLASS DIFFUSER.	MARCO B 205VT McPHILBEN 43-55 MOLDCAST

LIGHTING PLAN - MOTOR POOL

SCALE: 1/8" = 1'-0"



NOTE: AREA FROM FLOOR TO 12" ABOVE FLOOR IS HAZARDOUS AREA CLASS 1 DIV. 2. ALL WIRING TO SUIT HAZARDOUS AREA PER NEC ART 501

CONNECT TO CABLE REEL FOR HOIST. PROVIDE SUPPORT FOR REEL

PRV. 1/4 HP

PRV. 1/4 HP

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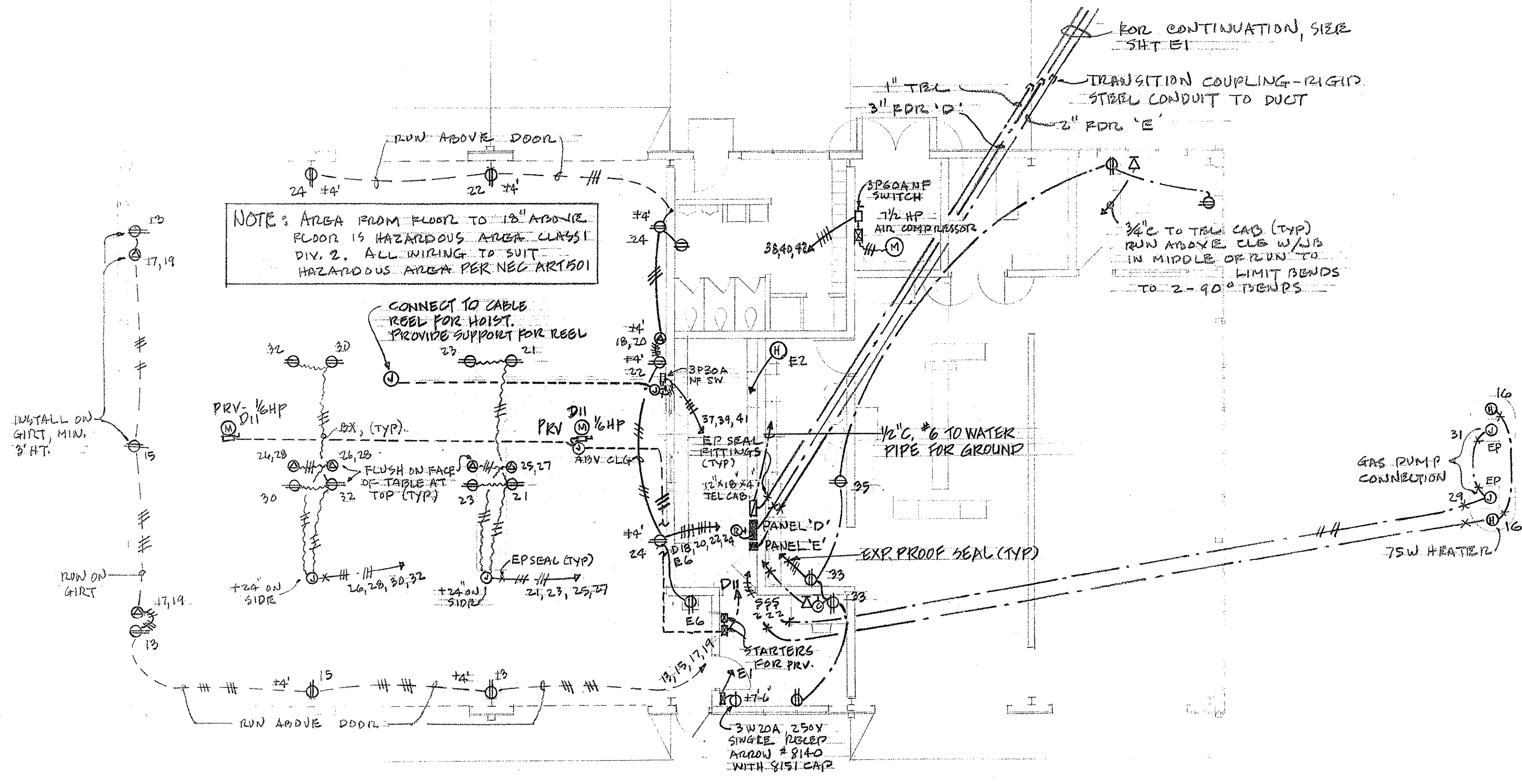
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24, 25, 30, 32

POWER & SIGNAL PLAN - MOTOR POOL

SCALE: 1/8" = 1'-0"



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HERBERT Y. MATSUMURA
AT KAPIOLANI BLDG.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

OAHU DISTRICT BASEYARD FACILITIES
SHAFTER FLATS INDUSTRIAL DEVELOPMENT
AT MOANALUA, HONOLULU, OAHU, HAWAII.

MOTOR POOL
LIGHTING, POWER & SIGNAL
PLANS - LUMINAIRE SCHEDULE

HERBERT Y. MATSUMURA ARCHITECT, AIA
AT KAPIOLANI BLDG. HONOLULU, HAWAII

SHEET No. E4 OF 42 SHEETS



Ckt NO	BREAKERS	LOAD	KVA			WIRE
			A	B	C	
1	1P20A	WATER HEATER	1.0			#12
2	1P20A	ELECTRIC WATER COOLER	0.5			#12
3	2P40A	RANGE UNIT		4.0	4.0	#8 THW
4	2P	SPACE		2.0	2.0	-
5	3P40A	REHEAT	3.3	3.3	3.3	3 #8 RHW
6	3P 50A	A/C UNIT #2	3.2	3.2	3.2	3 #8 RHW
7	3P 300A	A/C UNIT #1	18.0	18.0	18.0	3 #2 #10 3 #2 #12
8	3P250A	PFB (FUTURE A/C)	15.0	15.0	15.0	3 #2 #12
9	3P70A	PANEL 'B'	4.2	3.2		#2 RHW-1/2"
10	3P100	PFB	-			RHW-1/2"
11						
12						
	↓	↓				
		TOTALS	45.2	48.7	45.5	

[illegible]

PANEL #1 120/208 VOLTS 3Ø 4W/5N, 3P3ØA MAIN, BRK - 10,000 A. 1.C. @ 240 V. BR. BRK - 1.C. 3000 A @ 240 V. SERIALS, IT KING C&S, IND. SELECTED	1	2P20A	A/C UNIT	0.7	0.7	#12
	2	2P30A	WATER HEATER	2.5	2.5	#10
	3	2P	P F B	-		
	4	"	"	-		
	5	1P	"			
	6	1P20A	EW.C.	1.0		#12
		TOTALS		4.2	3.2	

PANEL SCHEDULES

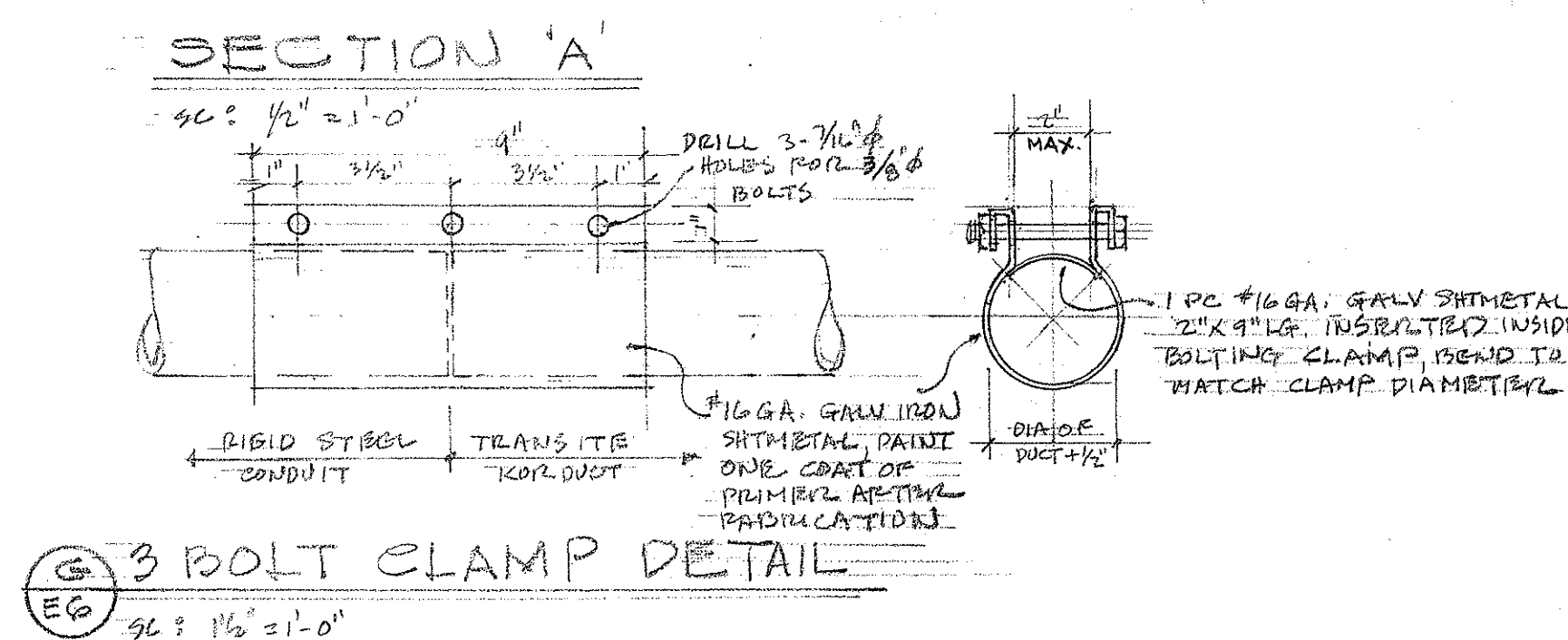
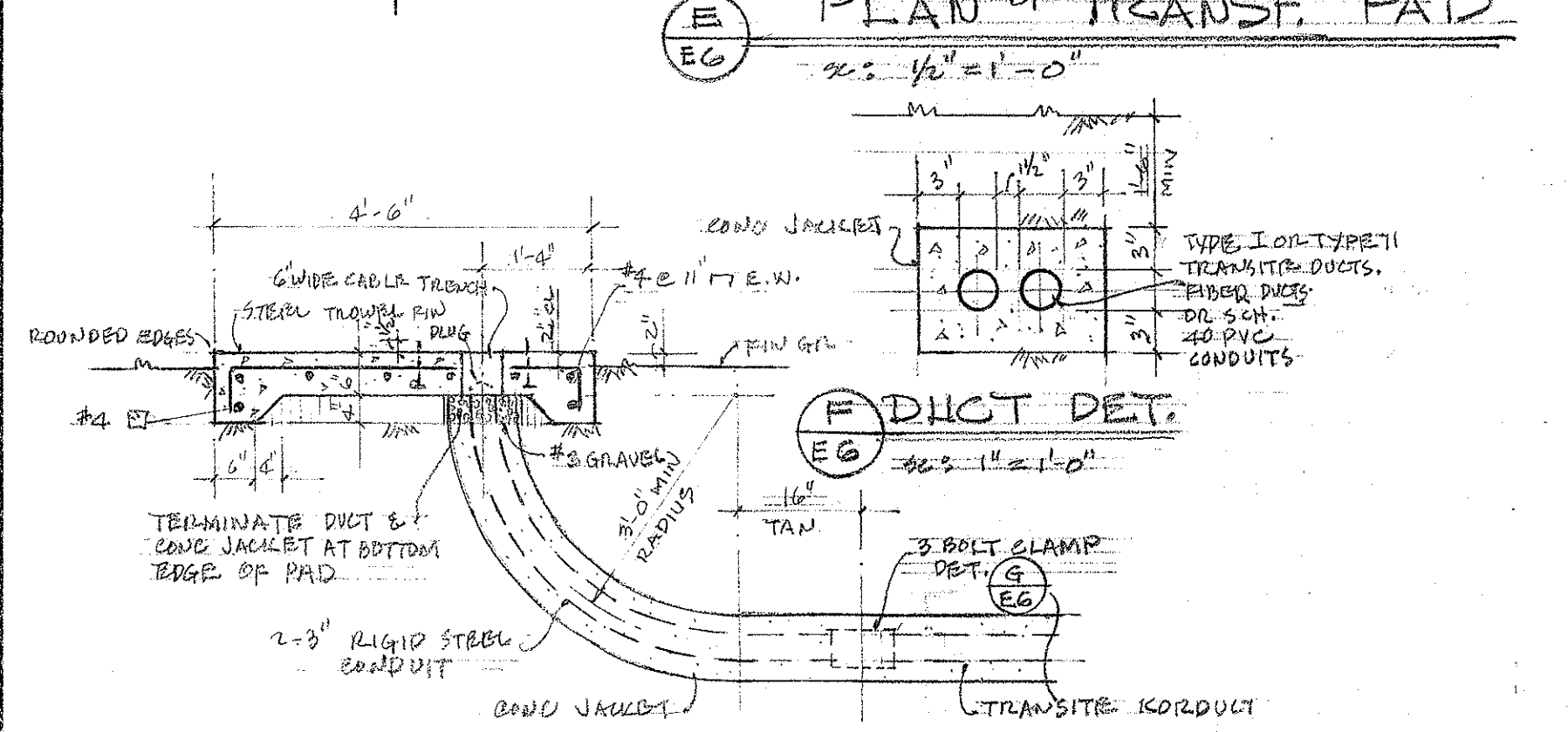
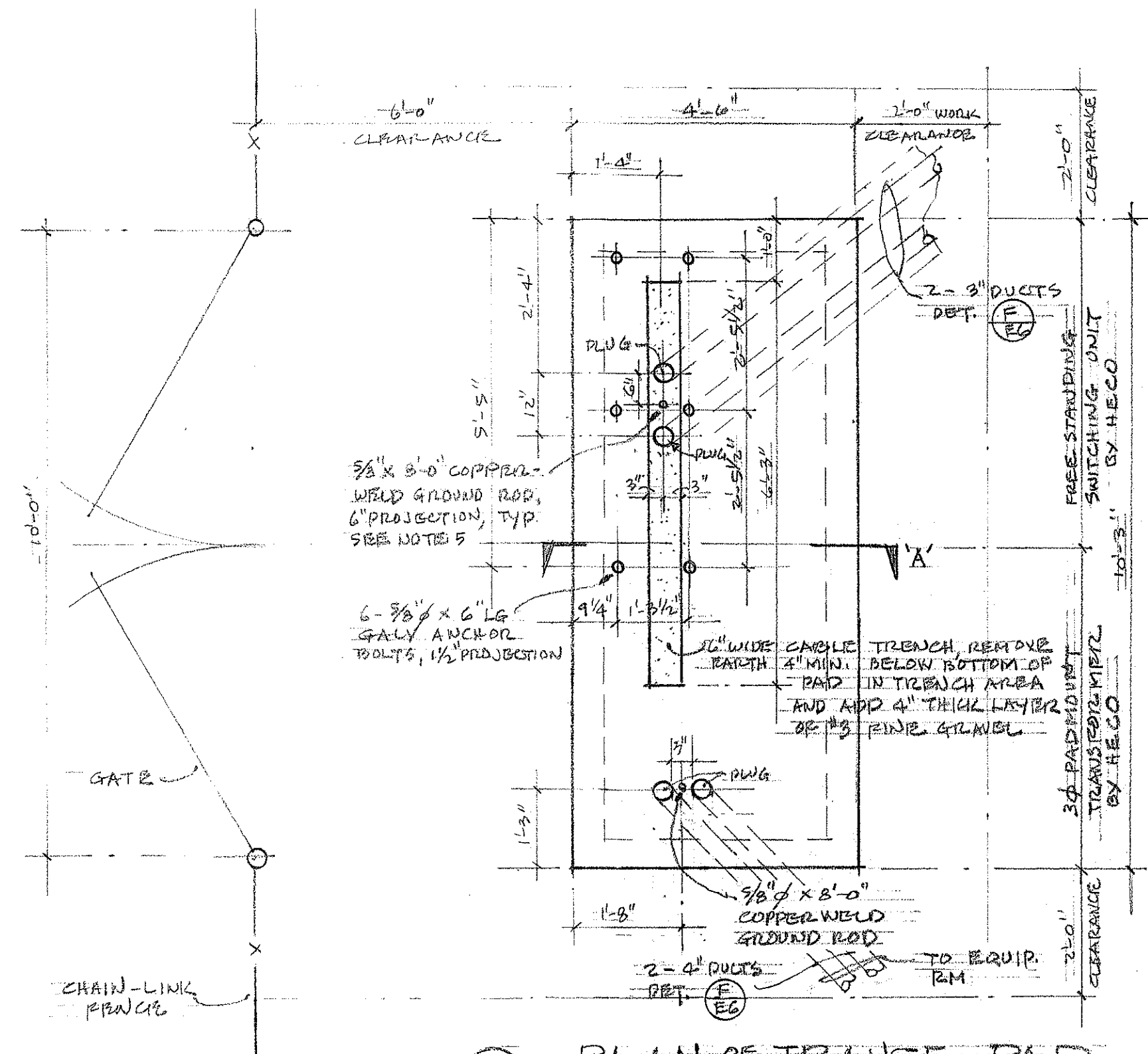
CKT. NO.	BREAKERS	LOAD	KVA			WIRE
			A	B	C	
1	1P20A	LIGHTS - CONSTRUCTION ENGR	0.8			#12
2		- CONFERENCE	1.6			
3		- DISTRICT ENGR		1.6		
4		- EXTERIOR		0.3		
5		- MAINTENANCE ENGR			1.6	
6		- NITE			1.4	
7		- EQUIP, JAN. & TOILETS	0.9			
8		FAN	0.5			
9		LIGHTS - REST RM. & LUNCH RM, BATH		1.0		#12
10		SPARE		1.0		
11		SPARE			1.0	
12		RECEPTACLES			1.0	#12
13			1.5			#12
14			1.0			
15				1.5		
16				1.0		
17					1.0	
18					1.0	
19			1.0			
20			1.0			
21				1.0		
22				1.0		
23					0.5	
24					1.0	
25			1.5			
26			1.0			
27				1.0		
28				1.0		
29		SPARE			1.0	
30		SPARE			1.0	
31	1P	P F B				
32						
33						
34						
35						
36						
37		3P100A FUTURE ADDITION - SPARE				
38		3P100A P F B				
TOTALS			10.8	10.4	10.5	

	IP20A	LIGHTS-GEN. OFFICE		#12
1			1.0	
2			0.6	
3				1.6
4				1.4
5				1.6
6				1.6
7			1.6	
8			0.9	
9				1.6
10		SPARE		-
11		II		
12		P T B		
13				
14				
15				
16				
TOTALS			4.1	4.6



ERT Y. MATSUMURA ARCHITECT, AIA
KAPOLANI BLVD HONOLULU, HAWAII

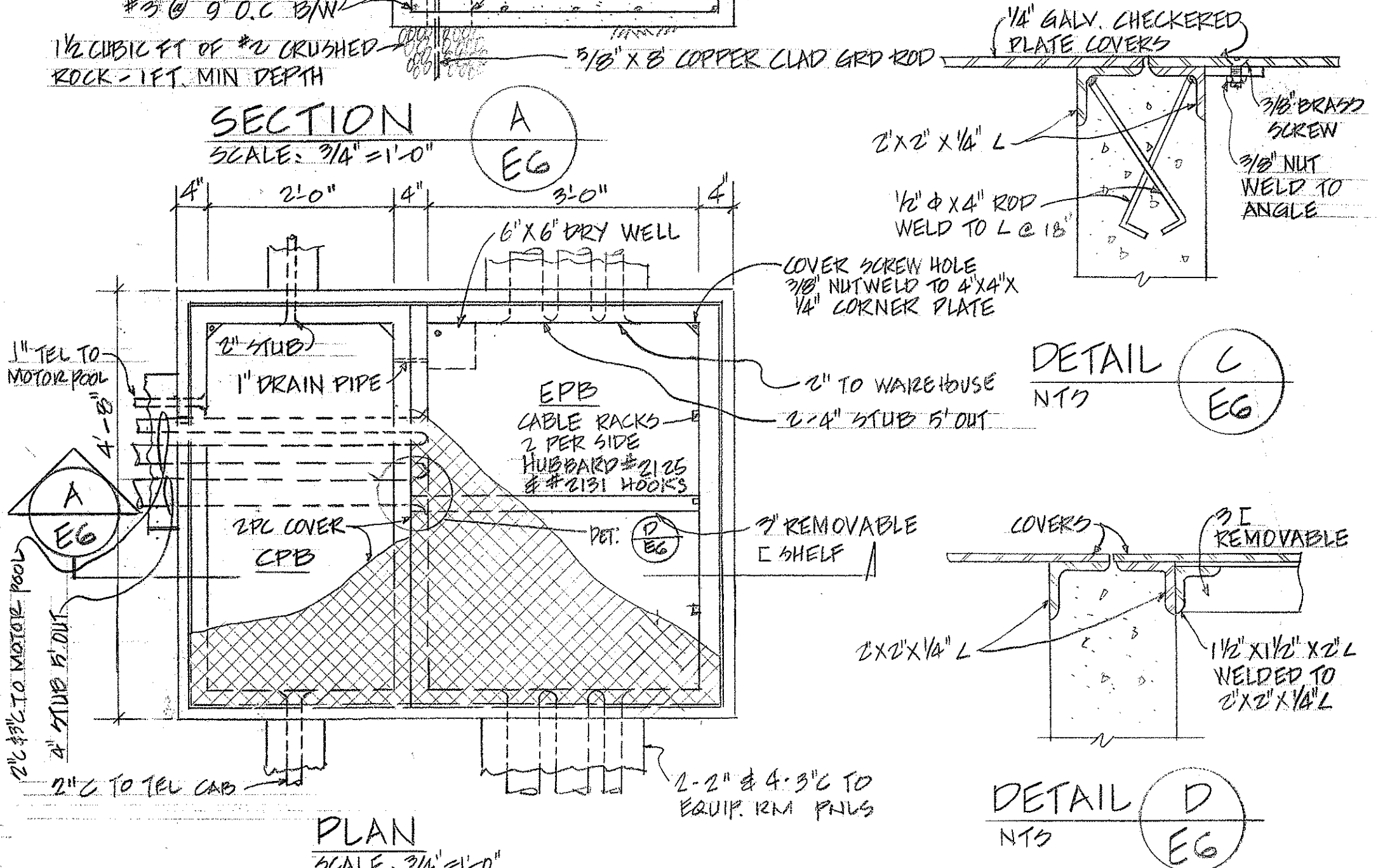
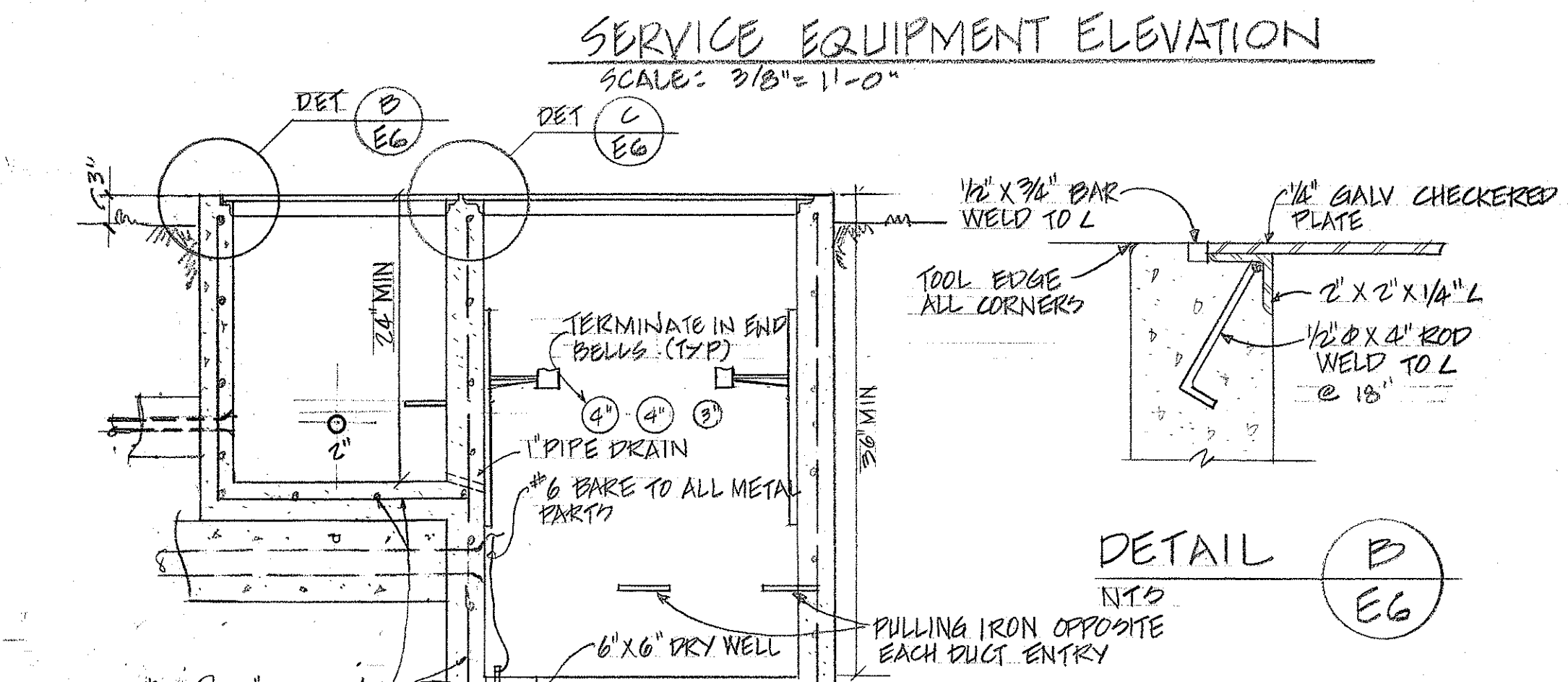
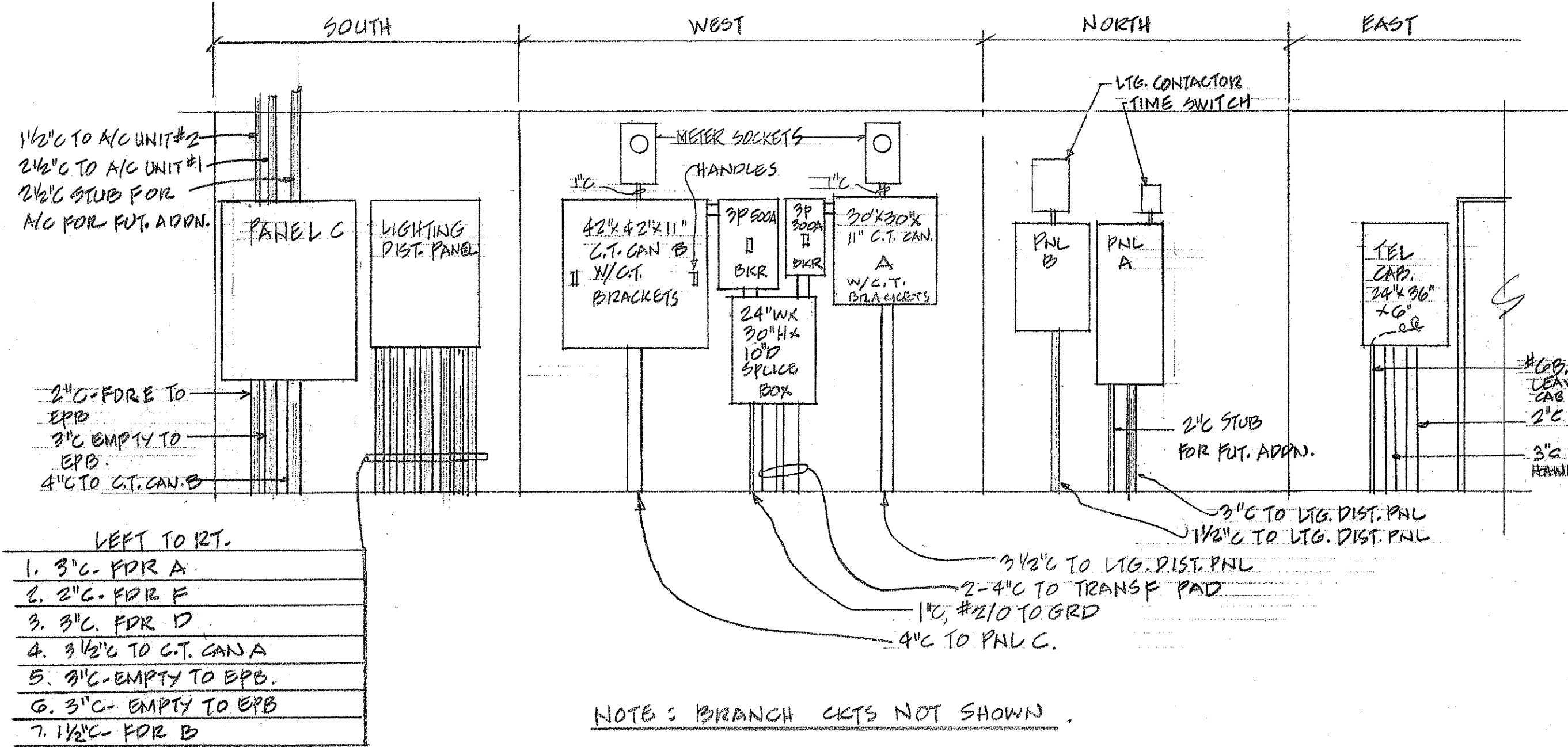
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HAWAII	HAW.				



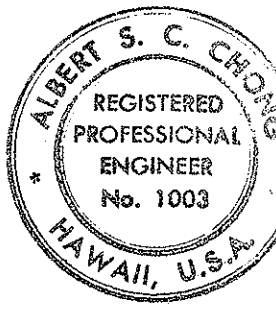
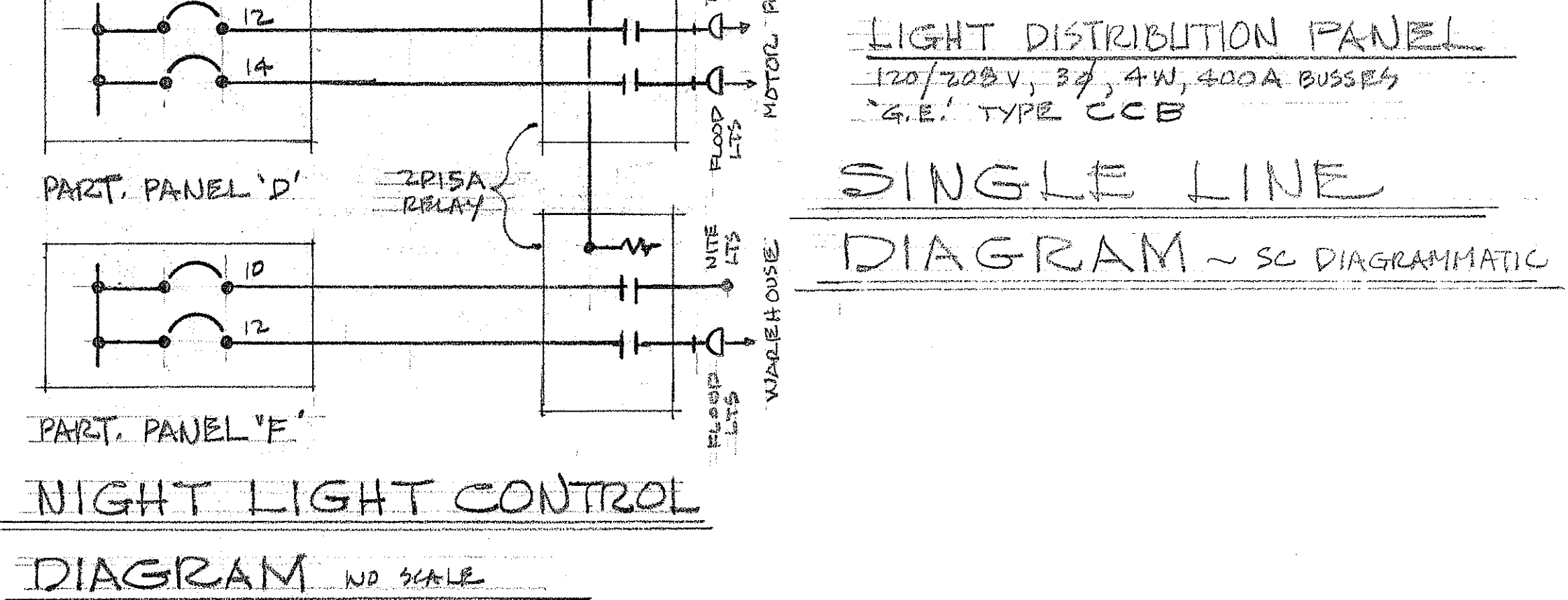
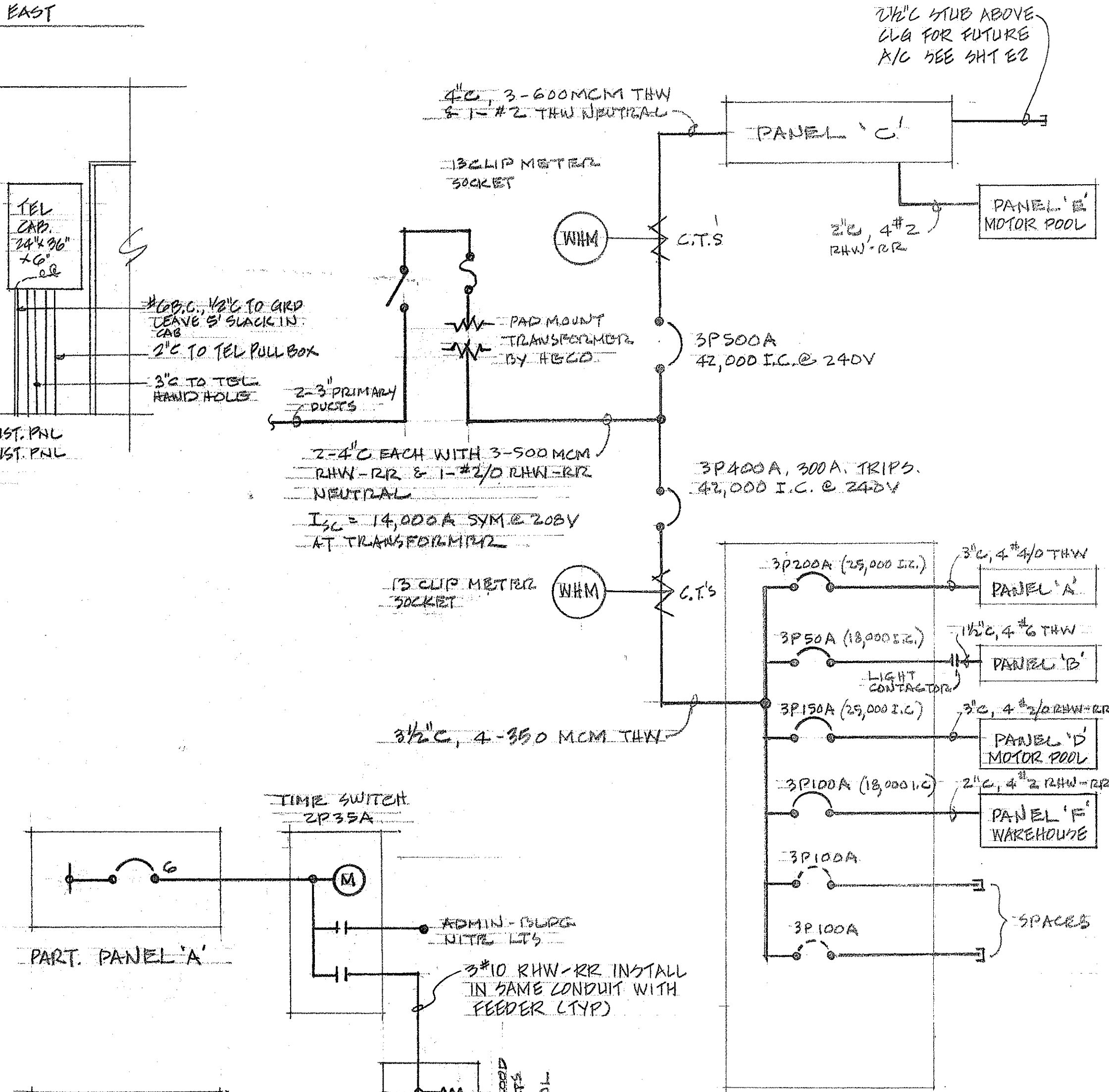
NOTES:

- BENDS INTO SWITCHING COMPT MAY BE 3" GALV. IRON CONDUIT, PVC, TRANSITE, OR FIBER CONDUIT WITH A 3'-0" MIN. RADIUS.
- INSTALL SECONDARY CABLES, LEAVE MIN OF 1'-0" SLACK AT END OF DUCT AT TRANSF. PAD.
- BENDS DUE TO CHANGES OF GRADE TO HAVE A MIN. RADIUS OF 20'-0". DUCT TO RUN IN A STRAIGHT LINE POLE TO PAD.
- CONC. STRENGTH 3,000 PSI. IN 28 DAYS. POUR CONC. ON ORIGINAL UNDISTURBED SOIL, CURING KEEP CONC. MOIST FOR 7 DAYS.
- PICK UP TWO COPPERWELD GROUND RODS, 5/8" x 5'-0" AT HECO. WARN AVENUE SUPPLY ROOM. RODS TO EXTEND 8" ABOVE FINISHED PAD. TIE ROD TO A WATER PIPE WITH #1/8 COPPER WIRE.
- AREA WITHIN REQUIRED CLEARANCE AS SHOWN SHALL BE LEFT FREE OF OBSTRUCTION.

TRANSFORMER PAD DETAIL



PULL BOX DETAILS



STATE OF HAWAII
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SHAFTER FLATS INDUSTRIAL DEVELOPMENT
AT MOANALUA, HONOLULU, OAHU, HAWAII
DIAGRAMS & DETAILS
SHEET No. E6 OF 42 SHEETS

THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

HERBERT Y. MATSUMURA
BY: KAPOLANI RUD
ARCHITECT, AIA
HONOLULU, HAWAII

Reprints: Chong

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