

2 LIGHT FIXTURE SCHEDULE																	
TYPE	LOCATION	MANUFACTURER AND CATALOG NUMBER (OR APPROVED EQUAL)	LUMINAIRE DESCRIPTION	MOUNTING		LAMPS	BALLAST/DRIVER	TOTAL INPUT WATTS	TYPE	LOCATION	MANUFACTURER AND CATALOG NUMBER (OR APPROVED EQUAL)	LUMINAIRE DESCRIPTION	MOUNTING		LAMPS	BALLAST/DRIVER	TOTAL INPUT WATTS
				TYPE	HEIGHT								TYPE	HEIGHT			
A1	EXTERIOR	AXIS #WBWLED-B3-MF-750-80-40-S-4-AP-120-D-1	51.5"Lx4"Wx3.375"D LINEAR LED, ALUMINUM HOUSING, FROSTED ACRYLIC LENS, ALUMINUM FINISH, WET LISTED, PROVIDE MANUFACTURER CLIP FOR VERTICAL INSTALLATION.	SURFACE	COLUMN	4000K LED 3000LM	120, 0-10V DIMMING DRIVER	33.2	G3	BATHROOM	PINNACLE #EV6A-30-2-SF-UNV-1C-W	2' LINEAR LED, STEEL HOUSING, ACRYLIC LENS, SPACKLE FLANGE, MATTE WHITE FINISH, DAMP LISTED	RECESS	CEILING	3000K LED 900LM	120-277V	10.3
A2	EXTERIOR	AXIS #WBWLED-B3-MF-500-80-40-S-4-AP-120-D-1	SAME AS TYPE 'A1' EXCEPT LOWER LUMEN PACKAGE.	SURFACE	COLUMN	4000K LED 2000LM	120, 0-10V DIMMING DRIVER	22	I1	BEDROOM/LIVING ROOM	AMERLUX #FINO-6-LED-3000-HW-120/277-16-CON	16' ASYMMETRIC INDIRECT, ALUMINUM HOUSING, WHITE FINISH, CONTINUOUS RUN.	WALL RECESSED	9'-0" AFF	3000K LED 8528LM	120-277V, 0-10V DIMMING	96
B1	CORRIDOR	PRUDENTIAL #BIO-STD-FLSH-LED4-SO-8-TMW-AWL-D1R-SC-UNV-X7BF-DM10	8' LINEAR LED, ALUMINUM HOUSING, ACRYLIC LENS, FLUSH SHIELDING, MATTE WHITE FINISH, HARD CEILING TRIMLESS MUD-OVER FLANGE, ASYMMETRIC TO ROOM DISTRIBUTION	RECESSED	CEILING	4000K LED 7200LM	120V, STEP DIMMING	80	I2	BEDROOM/LIVING ROOM	AMERLUX #FINO-6-LED-3000-HW-120/277-12-CON	SAME AS TYPE 'I1' EXCEPT 12'	WALL RECESSED	9'-0" AFF	3000K LED 6396LM	120-277V, 0-10V DIMMING	72
B2	CORRIDOR	PRUDENTIAL #BIO-STD-FLSH-LED4-SO-4-TMW-AWL-D1R-SC-UNV-X7BF-STEP	SAME AS TYPE 'B1' EXCEPT 4'	RECESSED	CEILING	4000K LED 3600LM	120V, STEP DIMMING	40	J	STAIRS, AS SHOWN	LTHONIA #WL4-20L-EZ1-LP840-N100-NESPD7-DIM50-EL14L	4' LONG LED STAIR FIXTURE, STEP-LEVEL DIMMING, DUAL TECHNOLOGY INTEGRAL OCCUPANCY CONTROL, DIMS TO APPROXIMATELY 50% WHEN UNOCCUPIED. PROVIDE WITH LED EMERGENCY BATTERY PACK.	WALL	7'-0"	4000K LED 2000LM	120-277V, 0-10V DIMMING	18.7
B3	CORRIDOR	PRUDENTIAL #BIO-STD-FLSH-LED4-SO-4-TMW-ABW-D1X-SC-UNV-X7BF-STEP	4' LINEAR LED, ALUMINUM HOUSING, ACRYLIC LENS, FLUSH SHIELDING, MATTE WHITE FINISH, HARD CEILING TRIMLESS MUD-OVER FLANGE, SYMMETRIC BATWING DISTRIBUTION	RECESSED	CEILING	4000K LED 3600LM	120V, STEP DIMMING	40	K	EXTERIOR	LTHONIA #OLW14	11.1"Wx9.63"Dx2"H LED WALL PACK WITH ALUMINUM HOUSING, CLEAR POLYCARBONATE LENS, BRONZE FINISH, INTEGRAL PHOTOCELL, RATED -40°F AND LISTED FOR WET LOCATION.	WALL	+8' AFF OR 2' BELOW CLG	4000K LED 1400LM	120-277V, -40°C	18
B4	CORRIDOR	PRUDENTIAL #BIO-STD-FLSH-LED4-SO-2-TMW-ABW-D1X-SC-UNV-X7BF-STEP	SAME AS TYPE 'B3' EXCEPT 2'	RECESSED	CEILING	4000K LED 1800LM	120V, STEP DIMMING	20	L	ELEVATOR PIT	KENALL #FESS-48-1-45L40K-DCC-1-DV-2H-CP-WW	5.6"Dx5.57"Hx48.75" LED WALL-MOUNTED LUMINAIRE, PAITED STEEL HOUSING WITH CLEAR POLYCARBONATE LENS AND GASKET AND UL LISTED FOR WALL MOUNT WET LOCATIONS.	WALL	+9'-0" AFG	4000K LED 3938LM	120-277V	18
B5	CORRIDOR	PRUDENTIAL #BIO-STD-FLSH-LED4-SO-6-TMW-ABW-D1X-SC-UNV-X7BF-STEP	SAME AS TYPE 'B3' EXCEPT 6'	RECESSED	CEILING	4000K LED 5400LM	120V, STEP DIMMING	60	M	SEAT WALL	BEGA #22263-SLV	9.875"Wx9.875"Hx5.375"D STEP LIGHT, ALUMINUM HOUSING, WET LISTED, ASYMMETRICAL DISTRIBUTION, SILVER FINISH, PROVIDE WITH CONCRETE PROTECTION COVER OPTION 19524	WALL	15" AFG	4000K LED, 954LM	120-277V, 0-10V DIMMING, -20°C	18
D	TENANT'S BATHROOM	PRUDENTIAL #R1-LED3-SQ-2-WA-TMW-UNV-SUR-ND	2' LINEAR LED, STEEL HOUSING, STANDARD OUTPUT, WHITE ACRYLIC LENS, TEXTURED MATTE WHITE FINISH, DAMP LISTED	SURFACE	WALL ABOVE MIRROR	3000K LED 1700LM	120-277V	18	U	UNDER CABINET	ECOSENSE #L50-I-12"-06-30-80-MULT-LOL	1.64"Wx1.99"Hx12"L UNDERCABINET, ALUMINUM HOUSING, POLYCARBONATE LENS, HINGED LED, 80CRI, LINE OF LIGHT OPTICS, SILVER FINISH	SURFACE	UNDER CABINET	3000K LED, 277LM	120-277V LED DRIVER	8.5
E	CORRIDOR	GOTHAM #EVO-SQ-40/07-4AR-FL-LSS-MVOLT-EZ1	4" SQUARE DOWNLIGHT, STEEL HOUSING, CLEAR APERTURE, FLANGLESS TRIM, SEMI-SPECULAR FINISH	RECESS	CEILING	4000K LED 750LM	120-277V, 0-10V DIMMING DRIVER	10.3	X	CORRIDORS, AS SHOWN	LTHONIA #LHQM-LED-R-HO RO-SD	SINGLE FACE LED EXIT SIGN WITH STENCIL FACE HOUSING WITH EXTRA FACE PLATE, RED LETTERS, HIGH OUTPUT OPTION, LESS LAMP HEADS, SELF DIAGNOSTIC, GW, 9.V Ni-Cd BATTERY, CAPABLE OF REMOTE HEADS.	SURFACE	WALL	LED	120/277V	6
F	ELEC/MECH, STORAGE, AS SHOWN	LITHONIA #ZL2N-L46-2000LM-MDD-MVOLT-40K-80CRI-WH	46" LONG LENSED LED STRIPLIGHT, MEDIUM DIFFUSE, 80 CRI, WHITE FINISH.	SURFACE	CEILING	4000K LED 2048LM	120-277V	32	X1	AS SHOWN	LITHONIA #LHQM-LED-R-HO-SD	SAME AS TYPE 'X' EXCEPT WITH TWO HEADS.	SURFACE	WALL/CEILING	LED	120/277V	6
G1	KITCHEN	PINNACLE #EV6A-30HO-8-SF-UNV-1C-W	8' LINEAR LED, STEEL HOUSING, ACRYLIC LENS, HIGH OUTPUT, SPACKLE FLANGE, MATTE WHITE FINISH	RECESS	CEILING	3000K LED 6552LM	120-277V	80.8	X2	EMERGENCY EGRESS	LITHONIA #ELA-T-QWP-LO309-SD	REMOTE LED HEAD FOR USE WITH TYPE 'X' OR 'X1'.	SURFACE	WALL	LED	120/277V	3
G2	ENTRY/LAUNDRY	PINNACLE #EV6A-30HO-4-SF-UNV-1C-W	SAME AS TYPE 'G1' EXCEPT 4'	RECESS	CEILING	3000K LED 3276LM	120-277V	40.4	X3	AS SHOWN	LITHONIA #LQM-S-W-3-R-120/277-ELN-SD	EXIT SIGN WITH STENCIL FACE HOUSING WITH EXTRA FACE PLATE, RED LETTERS, NICKEL CADMIUM BATTERY, SELF DIAGNOSTIC	SURFACE	WALL	LED	120/277V	6

SHEET NOTES:

- PROVIDE DRIVER RATED TO -20°F FOR EXTERIOR FIXTURES.
- ALL DIMMING DRIVERS IN LED LUMINAIRES SHALL BE COMPATIBLE WITH DIMMERS PROVIDED.
- PROVIDE EMERGENCY BATTERY BACK-UP AS REQUIRED TO PROVIDE MINIMUM 1100 LUMENS FROM FIXTURE FOR 90 MINUTES.
- PROVIDE EMERGENCY BATTERY OPTION 'EMH' WHERE NOTED ON PLANS.

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REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	OWNER COMMENTS	5/4/18

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	XPT
REVIEWED	XPT,TEH

SHEET NAME	ELECTRICAL FIXTURE SCHEDULE
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SHEET NO.	E0.01
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COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK



CIHA SPENARD MIXED USE BUILDING LOAD ANALYSIS			
PROJECT: SPENARD MIXED USE BUILDING		VOLTAGE: 208 PHASE: 3	
MIXED USE BUILDING FEEDER CALCULATION PER NEC 220 PART III			
1. MIXED USE HOUSE LOAD (SEE MIXED USE HOUSE LOAD ANALYSIS)			
COMPUTED MIXED USE HOUSE LOAD		146,994 VA	
2. MIXED USE 33-UNITS LOAD (SEE MIXED USE 33-UNITS LOAD ANALYSIS)			
COMPUTED MIXED USE 33-UNITS LOAD		397,965 VA	
3. MIXED USE RETAIL LOAD (SEE MIXED USE RETAIL LOAD ANALYSIS)			
COMPUTED TYPICAL RETAIL 103 LOAD		94,712 VA	
COMPUTED TYPICAL RETAIL 104 LOAD		94,399 VA	
COMPUTED TYPICAL RETAIL 102 LOAD		93,931 VA	
NET COMPUTED (3) RETAIL LOADS		283,041 VA	
TOTAL CALCULATED MIXED USE BUILDING DEMAND LOAD		828,001 VA	
MINIMUM FEEDER/SERVICE SIZE FOR 120/208 V, THREE-PHASE, FOUR-WIRE SERVICE:			
828,001 VA / (1.732*208) V =		2,298 A	
BASED ON THE ABOVE CALCULATION 2500A, 120/208V THREE-PHASE FOUR-WIRE SERVICE IS REQUIRED FOR THE FACILITY.			

CIHA SPENARD MIXED USE BUILDING			
HOUSE LOAD ANALYSIS			
PROJECT: CIHA SPENARD MIXED USE BUILDING		VOLTAGE: 208 PHASE: 3	
MIXED USE HOUSE FEEDER CALCULATION PER NEC 220 PART III			
GENERAL LIGHTING LOAD, NEC TABLE 220.12			
ACTIVITY/MAINTENANCE: 3.5 VA/SF	910 SF	3,185 VA	
STAIR/LOBBY/CORRIDOR: 0.5 VA/SF	5,351 SF	2,676 VA	
STORAGE: 0.25 VA/SF	564 SF	141 VA	
MONUMENT SIGN 15A, 120V		1,800 VA	
EXTERIOR LIGHTING		458 VA	
SUBTOTAL		8,260 VA	
DEMAND PER NEC 215.2(A)(1): 125%			
25% OF CONTINUOUS LOAD		2,065 VA	
NET GENERAL LIGHTING LOAD		10,324 VA	10,324 VA
RECEPTACLE LOAD:		17,279 VA	
DEMAND PER NEC TABLE 220.44			
FIRST 10,000VA OR LESS @ 100% =		10,000 VA	
REMAINDER OVER 10,000VA @ 50% =		3,640 VA	
		13,640 VA	13,640 VA
MECHANICAL CONTINUOUS LOAD			
HRV-1 11.8 FLA, 208V, 3-PHASE		4,251 VA	
HRV-2,3,4,5 EACH AT 1/2HP, 120V		4,704 VA	
B-1,2 EACH AT 2.7A, 120V		648 VA	
BP-1,2 EACH AT 2.3A, 120V		552 VA	
CP-1,2 EACH AT 7.5HP, 208V, 3-PHASE		17,436 VA	
CP-3 3/4HP, 208V, 3-PHASE		1,333 VA	
CP-4 1/2HP, 208V, 3-PHASE		901 VA	
CP-5 1/2HP, 208V, 3-PHASE		901 VA	
CP-6 1.5HP, 208V, 3-PHASE		2,486 VA	
CP-7 312W, 120V		312 VA	
SUBTOTAL		33,524 VA	
DEMAND FACTOR PER NEC 210.20(A)			
25% OF CONTINUOUS LOAD		8,381 VA	
NET MECHANICAL CONTINUOUS LOAD		41,904 VA	41,904 VA
MECHANICAL NON-CONTINUOUS LOAD			
CUH-1,2,3, 4 AND 5 EACH AT 1/20HP, 120V		790 VA	
IAU-8,9,10,24 AND 38 EACH AT 2.65A, 208V, 1-PHASE		2,756 VA	
12-HRU-1 0.16A, 208V, 1PH		399 VA	
HWG-1,2 EACH AT 2A, 120V		480 VA	
WSHP-1A 28.4A, 208V, 3-PHASE		10,224 VA	
WSHP-1B 28A, 208V, 3-PHASE		10,080 VA	
WSHP-2A,2B AND 2C EACH AT 28.8A, 208V, 3-PHASE		30,672 VA	
SUBTOTAL		55,401 VA	55,401 VA
ELEVATOR LOAD - 43A, 208V, 3-PHASE		15,491 VA	
ELEVATOR CONTROL PANEL		1,000 VA	
SUMP PUMP - 1/2HP, 120V		1,176 VA	
25% OF LARGEST MOTOR LOAD		3,873 VA	
SUBTOTAL		21,540 VA	21,540 VA
MISCELLANEOUS LOADS:			
VIDEO INTERCOM SYSTEM		720 VA	
TTB & CATV SYSTEM		720 VA	
POWER LOGIC TENANT METERING SYSTEM		100 VA	
FIRE SMOKE DAMPER		300 VA	
FIRE ALARM SYSTEM		1,000 VA	
HEAT TRACE (INCLUDES 125% DEMAND)		125 VA	
DOOR ACCESS SYSTEM		500 VA	
IP CAMERA SYSTEM		720 VA	
SUBTOTAL		4,185 VA	4,185 VA
NET COMPUTED MIXED USE HOUSE LOAD:			146,994 VA
MINIMUM FEEDER/SERVICE SIZE 120/208V, THREE-PHASE, FOUR-WIRE IS:			
146,994 VA / (208*1.732) =			408 AMPS
BASE ON THE ABOVE CALCULATION 600A, 120/208V, 3-PHASE, 4-WIRE FEEDER IS REQUIRED			

CIHA SPENARD MIXED USE			
33 UNITS LOAD ANALYSIS			
PROJECT: SPENARD MIXED USE BUILDING		VOLTAGE: 208 PHASE: 3	
MIXED USE 33-UNIT FEEDER CALCULATION PER NEC 220 PART III			
1. (33) 1-BEDROOM UNITS LOAD (SEE TYPICAL TENANT UNIT)			
A. DEMAND GENERAL LIGHT, RECEPTACLE, SMALL APPLIANCE & LAUNDRY LOADS			
(33) GENERAL LIGHTING & RECEPTACLE LOAD		57,222 VA	
(33) SMALL APPLIANCE & LAUNDRY CIRCUIT		148,500 VA	
SUBTOTAL		205,722 VA	
ALLOWED DERATING FACTOR PER NEC TABLE 220.42 & 220.52			
UP TO 3,000 VA @ 100% =		3,000 VA	
3,001 UP TO 120,000 VA @ 35% =		40,950 VA	
REMAINDER 44,034 VA @ 25% =		21,431 VA	
NET GENERAL LIGHT, RECEPTACLES, SMALL APPLIANCE & LAUNDRY LOADS:		65,381 VA	65,381 VA
B. NUMBER OF HOUSEHOLD ELECTRIC RANGE: 33			
MAXIMUM NUMBER BETWEEN ANY TWO PHASE LEGS = 11			
2 *11 = 22			
TABLE 220.55, COLUMN C: DEMAND = 37,000 VA			
PER PHASE DEMAND = 37,000 VA / 2 = 18,500 VA			
EQUIVALENT THREE PHASE LOAD = 3*18,500 VA = 55,500 VA			
55,500 VA			
C. SMALL APPLIANCE LOAD			
33-DISHWASHERS EACH AT 1,200 VA		39,600 VA	
33-CLOTH WASHERS EACH AT 1,500 VA		49,500 VA	
SUBTOTAL		89,100 VA	
APPLY 75% DEMAND FACTOR PER NEC 220.53			
89,100 VA * 0.75 =		66,825 VA	66,825 VA
33-REFRIGERATOR EACH AT 1,200 VA		39,600 VA	
33-MICROWAVE EACH AT 1,500 VA		49,500 VA	
NET SMALL APPLIANCE LOAD:		155,925 VA	155,925 VA
D. LAUNDRY LOADS			
33-ELECTRIC CLOTHES DRYERS EACH AT 5,000 VA			
MAXIMUM NUMBER BETWEEN ANY TWO PHASE LEGS = 11			
2 * 11 = 22			
TABLE 220.54 DEMAND = $[(22*5000VA)*47\%] - [11*(1\%*5000 VA)] = 51,150 VA$			
PER PHASE DEMAND = 51,150 VA / 2 = 25,575 VA			
EQUIVALENT THREE PHASE LOAD = 3*25,575VA = 76,725 VA			
76,725 VA			
E. MOTOR LOADS			
33-RANGE HOOD FAN/LIGHT UNITS EACH AT 300VA		9,900 VA	9,900 VA
F. HEATING AND AIR CONDITIONING LOADS			
33-INDOOR AIR UNIT EACH UNIT AT 2.65A, 208V		18,190 VA	18,190 VA
NET COMPUTED MIXED USE 33 UNITS LOAD			381,620 VA
DEMAND PER NEC 215.2(A)(1)			
25% OF 65,381 VA CONTINUOUS LOAD			16,345 VA
GRAND TOTAL			397,965 VA
MINIMUM FEEDER/SERVICE SIZE FOR 120/208 V, THREE-PHASE, FOUR-WIRE SERVICE:			
397,965 VA / (208*1.732) =		1105 AMPS	
BASED ON THE ABOVE CALCULATION 1200A, 120/208V THREE-PHASE FOUR-WIRE SERVICE IS REQUIRED			

ELEVATOR REGENERATIVE POWER ANALYSIS	
LIST OF REGENERATIVE DRIVE ELEVATORS:	
ELEVATOR #1 (PASSENGER ELEVATOR)	
IEEE 1547 COMPLIANCE:	
ALL NEW ELEVATORS ARE COMPLIANT WITH IEEE 1547, PER ELEVATOR MANUFACTURER	
REGENERATIVE POWER FED BACK INTO SYSTEM:	
ELEVATOR #1:	8 kW
LIST OF ELEVATORS ON STANDBY POWER GENERATOR:	
NONE	
MEANS OF ABSORBING REGENERATED POWER DURING NORMAL OPERATION:	
THE BUILDING CALCULATED DEMAND LOAD IS 741.9KW. THE REGENERATIVE POWER IS LESS THAN 2% OF THIS LOAD. AS A RESULT, THERE IS AMPLE BUILDING LOAD TO ABSORB THE REGENERATIVE POWER FROM THE ELEVATOR.	
MEANS OF ABSORBING REGENERATED POWER DURING GENERATOR OPERATION:	
NOT APPLICABLE	
ELEVATOR AND PANEL EDP BREAKERS:	
THERMAL-MAGNETIC, LISTED FOR REGENERATIVE POWER TRANSMISSION.	

CIHA SPENARD MIXED USE				
TYPICAL RETAIL LOAD ANALYSIS				
PROJECT: SPENARD MIXED USE BUILDING			VOLTAGE: 208	
			PHASE: 3	
RETAIL FEEDER CALCULATION PER NEC 220 PART III				
GENERAL LIGHTING LOAD				
RETAIL NEC TABLE 220.12 - 3 VA/SF	936 SF		3,276 VA	
SIGNAGE, NEC 220.14(F) - 1500 VA/CKT	3 CKTS		4,500 VA	
SHOW WINDOW, NEC 220.14(G) - 200VA/LF	32 LF		6,400 VA	
SUBTOTAL			14,176 VA	
APPLY DEMAND PER NEC 215.2(A)(1)				
25% OF CONTINUOUS LOAD			3,544 VA	
NET GENERAL LIGHTING LOAD			17,720 VA	17,720 VA
RECEPTACLE LOAD: ASSUMED 25 RECEPTACLES EACH @ 180VA				
25 *180 VA =			4,500 VA	
APPLY DEMAND FACTOR PER NEC TABLE 220.44				
FIRST 10,000VA OR LESS @ 100% =			4,500 VA	
REMAINDER OVER 10,000VA @ 50% =			0 VA	
			4,500 VA	4,500 VA
MECHANICAL CONTINUOUS LOAD				
HRV-4 1/2HP, 120V			1,176 VA	
IAU-47 3.5A, 208V, SINGLE PHASE			728 VA	
APPLY DEMAND FACTOR PER NEC 210.20(A)				
25% OF CONTINUOUS LOAD			294 VA	
25% OF LARGEST MOTOR LOAD			294 VA	
SUBTOTAL			2,492 VA	2,492 VA
RETAIL FRESH FOOD EQUIPMENT (ASSUMED)				60,000 VA
RETAIL MISCELLANEOUS EQUIPMENT (ASSUMED)				10,000 VA
NET COMPUTED MIXED USE TYPICAL RETAIL LOAD:				94,712 VA
MINIMUM FEEDER/SERVICE SIZE 120/208V, THREE-PHASE, FOUR-WIRE IS:				
94,712 VA/(208*1.732) =			263 AMPS	
BASED ON THE ABOVE CALCULATION, 400A, 120/208V, THREE-PHASE, FOUR-WIRE SERVICE IS REQUIRED FOR TYPICAL RETAIL SPACE				

NOTE: THE EQUIPMENT TO BE USED IN THE RETAIL SPACE ARE NOT AVAILABLE AT THIS TIME. THE SIZE OF THE SERVICE IS BASED ON THE ASSUMPTION OF FRESH FOOD EQUIPMENT AND MISSCELLANEOUS EQUIPMENT.

CIHA SPENARD MIXED USE TYPICAL TENANT UNIT LOAD ANALYSIS			
PROJECT: SPENARD MIXED USE BUILDING		VOLTAGE: 208 PHASE: 1	
1-BR UNIT FEEDER CALCULATION PER NEC 220.82 FOR DWELLING UNITS			
TYPICAL 1-BEDRROM UNIT - TOTAL AREA:		578 SF	
1. GENERAL LIGHTING AND RECEPTACLE LOADS			
LOAD AT 3 VA/SF		1,734 VA	
2. SMALL APPLIANCES AND LAUNDRY BRANCH CIRCUITS			
2 SMALL APPLIANCES EACH AT 1,500 VA		3,000 VA	
1 LAUNDRY AT 1,500 VA		1,500 VA	
3. APPLIANCE LOADS			
ELECTRIC DISHWASHER		1,200 VA	
ELECTRIC CLOTH WASHER		1,500 VA	
ELECTRIC CLOTH DRYER		5,000 VA	
ELECTRIC RANGE		8,000 VA	
REFRIGERATOR		1,200 VA	
MICROWAVE		1,500 VA	
4. MOTOR LOAD			
RANGE HOOD FAN/LIGHT		300 VA	
SUBTOTAL GENERAL LOAD		24,934 VA	
APPLY DEMAND FACTOR PER NEC 220.82(B)			
FRIST 10,000 VA AT 100%		10,000 VA	
REMAINDER AT 40%		5,974 VA	
TOTAL GENERAL CONNECTED LOAD		15,974 VA	
5. HEATING AND AIR CONDITIONING LOADS			
1-INDOOR AIR UNIT (IAU) - 2.65A, 208V, 1-PHASE		551 VA	
FEEDER AND SERVICE LOAD		16,525 VA	
MINIMUM FEEDER/SERVICE SIZE FOR 120/208 V, SINGLE-PHASE, THREE-WIRE			
16,525 VA / 208V =		79 AMPS	
BASED ON THE ABOVE CALCULATION, 100A 120/208V SINGLE-PHASE, THREE-WIRE SERVICE IS REQUIRED FOR 1-BEDROOM UNIT.			

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PERMIT SUBMITTAL



COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK

REVISION SCHEDULE		
#	DESCRIPTION	DATE

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	XPT
REVIEWED	XPT,TEH

SHEET NAME	ELECTRICAL LOAD CALCULATIONS
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SHEET NO.	E0.02
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HOUSE DISTRIBUTION PANEL 'HDP'																
MFR/MODEL: SQUARE 'D' TYPE I-LINE					VOLTS: 120/208V,3PH,4W					ENCLOSURE: NEMA 1					600 A	
MTG SPACE: AS REQUIRED					VOLT-AMPS					MTG: SURFACE						
NOTE	POLE	AMPS	SERVICE	TYPE	A		B		C		TYPE	SERVICE	AMPS	POLE	NOTE	
a	3	*	PANEL 3HA	FEDR	4473	3233					FEDR	PANEL 2HA	*	3	a	
a	3	*	AAA	FEDR			4635	2591			FEDR	AAA	*	3	a	
a	3	*	AAA	FEDR					3459	2663	FEDR	AAA	*	3	a	
a	2	*	SOLAR PV SYSTEM	SPEC	20622						FEDR	PANEL 1HM	*	3	a	
a	2	*	AA	SPEC			19499				FEDR	AAA	*	3	a	
a	2	*	SOLAR PV SYSTEM	SPEC					19095		FEDR	AAA	*	3	a	
a	2	*	AA	SPEC								SPACE	*	3	a	
a	2	*	SOLAR PV SYSTEM	SPEC								AAA	*	3	a	
a	2	*	AA	SPEC								AAA	*	3	a	
a	3	*	SPACE		13129						FEDR	PANEL 1HA	*	3	a	
a	3	*	AAA				12898				FEDR	AAA	*	3	a	
a	3	*	AAA						13835		FEDR	AAA	*	3	a	
a	3	*	SPACE		4083						MOTR	ELEVATOR	*	3	a	
a	3	*	AAA				4083				MOTR	AAA	*	3	a	
a	3	*	AAA						4083		MOTR	AAA	*	3	a	
a	3	*	SPACE									(SHUNT TRIP)	*	1		
3	*	AAA										SPACE	*	1		
3	*	AAA										SPACE	*	1		
TOTAL V-A					45541		43707		43136		132,383 VA					
TOTAL AMPS					380		364		359		367 A					
AVAILABLE FAULT CURRENT : 20,822 A					AIC RATING: 42,000											
				LTG	REC	MOTR	LG MTR	MISC	KIT	HEAT	SPEC	TOTAL		AMPS		
CONNECTED LOAD IN KVA (THIS PANEL)				0.00	0.00	12.25	3.06	0.00	0.00	0.00	0.00	12.2 KVA		34 A		
CONNECTED LOAD IN KVA (BRANCH PANELS)				10.64	17.28	88.17	2.18	3.79	0.00	0.10	0.00	120.0 KVA		333 A		
TOTAL CONNECTED LOAD IN KVA:				10.64	17.28	100.42	3.06	3.79	0.00	0.10	0.00	132.2 KVA		367 A		
DEMAND LOAD IN KVA:				13.30	13.64	100.42	3.06	3.79	0.00	0.10	0.00	134.3 KVA		373 A		
PANEL NOTES:											PANEL OPTIONS:					
a SEE ONE-LINE DIAGRAM FOR BREAKER SIZE											MAIN LUGS ONLY					
b 25% OF MECHANICAL CONTINUOUS LOAD IS NOT INCLUDED. SEE HOUSE LOAD ANALYSIS ON SHEET E0.02.																

PANEL '1HM'																	
MFR/MODEL: SQUARE 'D' TYPE NQ						VOLTS: 120/208V,3PH,4W				ENCLOSURE: NEMA 1				225 A			
						VOLT-AMPS					MTG: SURFACE						
NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	A		B		C		TYPE	SERVICE	AMPS	POLE	CIRC	NOTE
	1	3	50	CP-1 RM 116	LG.MT	2,906							SPACE	-	1	2	
	3	3	50	AAA	LG.MT			2,906					SPACE	-	1	4	
	5	3	50	AAA	LG.MT					2,906			SPACE	-	1	6	
	7	3	60	WSHP-1A RM 116	MOTR	3,408	3,360					MOTR	WSHP-1B RM 116	60	3	8	
	9	3	60	AAA	MOTR			3,408	3,360			MOTR	AAA	60	3	10	
	11	3	60	AAA	MOTR					3,408	3,360	MOTR	AAA	60	3	12	
	13	3	60	WSHP-2A RM 116	MOTR	3,456	3,456					MOTR	WSHP-2B RM 116	60	3	14	
	15	3	60	AAA	MOTR			3,456	3,456			MOTR	AAA	60	3	16	
	17	3	60	AAA	MOTR					3,456	3,456	MOTR	AAA	60	3	18	
	19	3	15	CP-3 RM 116	MOTR	444	288					MOTR	CP-4 RM 116	15	3	20	
	21	3	15	AAA	MOTR			444	288			MOTR	AAA	15	3	22	
	23	3	15	AAA	MOTR					444	288	MOTR	AAA	15	3	24	
	25	3	15	CP-5 RM 116	MOTR	300							SPARE	20	1	26	
	27	3	15	AAA	MOTR			300					SPARE	20	1	28	
	29	3	15	AAA	MOTR					300			SPARE	20	1	30	
	31	1	15	B-1 RM 116	MISC	324	324					MISC	B-2 RM 116	15	1	32	
	33	1	15	BP-1 RM 116	MOTR			276	276			MOTR	BP-2 RM 116	15	1	34	
	35	1	20	SPARE	MOTR					178	312	MOTR	CP-7 RM 116	15	1	36	
	37	1	15	HWG-1,2 RM 116	MISC	480	1,047					RECP	RECP RM 116, GT-1, GT-2,UH-1	20	1	38	
	39	1	15	BOILER CONTROL PANEL RM 116	MISC			500					SPACE	-	1	40	
	41	3	15	VF-1 RM 116	MOTR					158			SPACE	-	1	42	
	43	3	15	CP-6, RM 116	MOTR	829							SPACE	-	1	44	
	45	3	15	AAA	MOTR			829					SPACE	-	1	46	
	47	3	15	AAA	MOTR					829			SPACE	-	1	48	
	49	1	-	SPACE									SPACE	-	1	50	
	51	1	-	SPACE									SPACE	-	1	52	
	53	1	-	SPACE									SPACE	-	1	54	
TOTAL V-A						20,622		19,499		19,095		59,216 VA					
TOTAL AMPS						172		162		159		164 A					
A.I.C. RATING: 22,000																	
CONNECTED LOAD IN KVA (THIS PANEL):					LTG	RECP	MOTR	LG.MT	MISC	KIT	HEAT	SPEC	TOTAL		AMPS		
CONNECTED LOAD IN KVA (BRANCH PANELS):					0.00	1.05	56.38	2.18	1.63	0.00	0.00	0.00	59.1 KVA		164 A		
TOTAL CONNECTED LOAD IN KVA:					0.00	1.05	56.38	2.18	1.63	0.00	0.00	0.00	0.0 KVA		0 A		
TOTAL DEMAND LOAD IN KVA:					0.00	1.05	56.38	2.18	1.63	0.00	0.00	0.00	59.1 KVA		164 A		
					0.00	1.05	56.38	2.18	1.63	0.00	0.00	0.00	61.2 KVA		170 A		
PANEL NOTES:												PANEL OPTIONS:					
												MAIN LUGS ONLY					

PANEL '1HA'																						
MFR/MODEL: SQUARE 'D' TYPE NQ						VOLTS: 120/208V,3PH,4W						ENCLOSURE: NEMA 1				225 A						
NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	VOLT-AMPS						MTG: SURFACE										
						A		B		C		TYPE	SERVICE		AMPS	POLE	CIRC	NOTE				
	1	1	20	LTG-BUILDING SIGN	LTG	1500	552					RECP	RECP-ST1, EXT, CUH-3		20	1	2					
	3	1	20	LTG-115-117	LTG			608	1080			RECP	RECP - CORR NORTH		20	1	4					
	5	1	20	CORR/STAIR NORTH, LOBBY	LTG					597	540	RECP	RECP - LOBBY		20	1	6					
	7	1	20	CORR/STAIR SOUTH	LTG	517	912					RECP	RECP- CORR/STAIR SOUTH, CUH-2		20	1	8					
	9	1	20	LTG-BLDG SIGN	LTG			1500	540			RECP	RECP 115		20	1	10					
	11	1	20	RECP-EXT ELEC SERVICE	RECP					180	540	RECP	RECP 117		20	1	12					
a	13	1	20	LTG EXTERIOR	LTG	538	400					MISC	ELECTRIC DOOR 100		15	1	14					
	15	1	20	LTG,RECP - ELEVATOR PIT	LTG			212	360			RECP	RECP-100,EXTERIOR		20	1	16					
b	17	1	15	FSD CORR 114 & 118	MISC					100	360	RECP	RECP EXT		20	1	18					
	19	2	15	(2)HRU, IAU-9, IAU-46 RM 114	MOTR	584	360					RECP	RECP BIKE STO		20	1	20					
	21	2	15	AA				584	1000			MISC	FACP 100		15	1	22	b				
	23	2	15	(2)HRU-1, IAU-8,10	MOTR					584	1500	LTG	MONUMENT SIGN		20	1	24					
	25	2	15	AA	MOTR	584	720					RECP	VIDEO INT SYST RM		20	1	26					
	27	1	15	CUH-1	MOTR			192	360			RECP	IP CAMERA SYST RM		20	1	28					
	29	1	20	SP-1 ELEVATOR	MOTR					1176	720	RECP	TTB RM 117		20	1	30					
	31	3	50	CP-2 RM 116	LG.MT	2906	100					MISC	POWERLOGIC TENANT METERING		15	1	32					
	33	3	50	AAA	LG.MT			2906	100			HEAT	HEAT TRACE		15	1	34	c				
	35	3	50	AAA	LG.MT					2906	1176	MOTR	HRV-2 RM 116		20	1	36					
	37	3	60	WSHP-2C RM 116	MOTR	3456							SPARE		20	1	38					
	39	3	60	AAA	MOTR			3456					SPARE		20	1	40					
	41	3	60	AAA	MOTR					3456			SPARE		20	1	42					
	43	1	-	SPACE									SPACE		-	1	44					
	45	1	-	SPACE									SPACE		-	1	46					
	47	1	-	SPACE									SPACE		-	1	48					
	49	1	-	SPACE									SPACE		-	1	50					
	51	1	-	SPACE									SPACE		-	1	52					
	53	1	-	SPACE									SPACE		-	1	54					
TOTAL V-A						13,129		12,998		13,835		39,863 VA										
TOTAL AMPS						109		107		115		111 A										
A.I.C. RATING: 22,000																						
CONNECTED LOAD IN KVA (THIS PANEL):					6.97	7.22	23.97	2.18	MISC	1.60	0.00	0.10	SPEC	0.00	TOTAL		AMPS					
CONNECTED LOAD IN KVA (BRANCH PANELS):															39.9 KVA		111 A					
TOTAL CONNECTED LOAD IN KVA:					6.97	7.22	23.97	2.18	1.60	0.00	0.10	0.00	39.9 KVA		111 A							
TOTAL DEMAND LOAD IN KVA:					8.72	7.22	23.97	2.18	1.60	0.00	0.10	0.00	43.8 KVA		122 A							
PANEL NOTES:												PANEL OPTIONS:										
a ROUTE THROUGH TIME CLOCK AND PHOTOCELL. SEE 1/E5.01.												MAIN LUGS ONLY										
b PROVIDE RED HANDLED BREAKER CAPABLE OF BEING LOCKED IN THE "ON" POSITION.																						
c PROVIDE 30mA TYPE CIRCUIT BREAKER.																						

PANEL '2HA'																				
MFR/MODEL: SQUARE 'D' TYPE NQ						VOLTS: 120/208V,3PH,4W						ENCLOSURE: NEMA 1				225 A				
NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	VOLT-AMPS						MTG: SURFACE								
						A		B		C		TYPE	SERVICE		AMPS	POLE	CIRC	NOTE		
	1	1	20	RECP - DECK	RECP	540	900					RECP	RECP-214 NORTH, 205	20	1	2				
	3	1	20	CORR/STAIR NORTH, COMMUNITY	LTG			541	1106			RECP	RECP-214- S, 219,213, PWR SUPPLY	20	1	4				
	5	1	20	CORR/STAIR SOUTH	LTG					634	1260		RECP	RECP-215-218	20	1	6			
	7	1	20	RECP - 217, 214	RECP	900	584					MOTR	(2)HRU, IAU-24,IAU-25,RM 214	15	2	8				
	9	1	20	SPARE					584			MOTR	^^	15	2	10				
	11	1	20	SPARE							309	MOTR	(2)HRU, IAU-26 RM 214	15	2	12				
	13	1	20	SPARE			309					MOTR	^^	15	2	14				
	15	1	20	SPARE					360			RECP	TTB RM 219	20	1	16				
a	17	1	15	FSD RM 214	MISC					100	360	MISC	VIDEO INT SYSTEM RM 219	20	1	18				
	19	1	-	SPACE									SPACE	-	1	20				
	21	1	-	SPACE									SPACE	-	1	22				
	23	1	-	SPACE									SPACE	-	1	24				
	25	1	-	SPACE									SPACE	-	1	26				
	27	1	-	SPACE									SPACE	-	1	28				
	29	1	-	SPACE									SPACE	-	1	30				
	31	1	-	SPACE									SPACE	-	1	32				
	33	1	-	SPACE									SPACE	-	1	34				
	35	1	-	SPACE									SPACE	-	1	36				
	37	1	-	SPACE									SPACE	-	1	38				
	39	1	-	SPACE									SPACE	-	1	40				
	41	1	-	SPACE									SPACE	-	1	42				
TOTAL V-A						3,233		2,591		2,663		8,487 VA								
TOTAL AMPS						27		22		22		24 A								
A.I.C. RATING: 10,000																				
CONNECTED LOAD IN KVA (THIS PANEL): CONNECTED LOAD IN KVA (BRANCH PANELS): TOTAL CONNECTED LOAD IN KVA: DEMAND LOAD IN KVA:						LTG	RECP	MOTR	LG.MT	MISC	KIT	HEAT	SPEC	TOTAL	AMPS					
						1.18	5.07	1.79	0.29	0.46	0.00	0.00	0.00	8.5 KVA	24 A					
						1.18	5.07	1.79	0.29	0.46	0.00	0.00	0.00	0.0 KVA	0 A					
						1.18	5.07	1.79	0.29	0.46	0.00	0.00	0.00	8.5 KVA	24 A					
PANEL NOTES: a PROVIDE RED HANDLE BREAKER CAPABLE OF BEING LOCKED IN 'ON' POSITION.						1.47	5.07	1.79	0.29	0.46	0.00	0.00	0.00	9.1 KVA	25 A					
						PANEL OPTIONS: MAIN LUGS ONLY														

PANEL '1B'																
MFR/MODEL: SQUARE 'D' HOMELINE					VOLTS: 120/208V,1PH,3W					ENCLOSURE: NEMA 1					125 A	
TYPE: LOADCENTER					VOLT-AMPS					MTG: RECESSED						
NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	A		B		TYPE	SERVICE	AMPS	POLE	CIRC	NOTE	
a	1	1	20	LIGHTS	LTG	366	1,500			RECP	CLOTHES WASHER	20	1	2	c	
a	3	1	20	RECP BEDRM	RECP			540	2500	MISC	CLOTHES DRYER	30	2	4		
a	5	1	20	RECP GREAT CK1	RECP	540	2500			MISC	^^	30	2	6		
a	7	1	20	RECP & LV CAB HALL	RECP			360	4000	MISC	RANGE	50	2	8	b	
	9	1	20	RANGE HOOD FAN/LIGHT	MISC	300	4000			MISC	^^	50	2	10		
c	11	1	20	RECP KITCHEN	RECP			1500	1200	MISC	DISHWASHER	20	1	12		
c	13	1	20	RECP KITCHEN	RECP	1500	1200			MISC	REF	15	1	14	b	
c	15	1	20	MICROWAVE KIT	MISC			1500	180	RECP	RECP EXTERIOR	20	1	16		
	17	1	20	SPARE			275			MOTR	IAU-2	15	2	18		
a	19	1	20	RECP BATHROOM	RECP			180	275	MOTR	^^	15	2	20		
a	21	1	20	RECP GREAT CK2	RECP	360					SPACE	-	1	22		
	23	1	20	SPARE							SPACE	-	1	24		
	25	1	-	SPACE							SPACE	-	1	26		
	27	1	-	SPACE							SPACE	-	1	28		
	29	1	-	SPACE							SPACE	-	1	30		
TOTAL V-A						12,541		12,235		24,776 VA						
TOTAL AMPS						105		102		119 A						
A.I.C. RATING: 10,000																
PANEL NOTES:										PANEL OPTIONS:						
a PROVIDE AFCI TYPE CIRCUIT BREAKER										MAIN LUGS ONLY						
b PROVIDE GFCI TYPE CIRCUIT BREAKER																
c PROVIDE DUAL FUNCTION AFCI/GFCI TYPE CIRCUIT BREAKER																

PANEL '3HA'																						
MFR/MODEL: SQUARE 'D' TYPE NQ						VOLTS: 120/208V,3PH,4W						ENCLOSURE: NEMA 1						225 A				
						VOLT-AMPS						MTG: SURFACE										
NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	A		B		C		TYPE	SERVICE	AMPS	POLE	CIRC	NOTE					
	1	1	20	RECP - CORR, COMMUNITY RM	RECP	900	1084					RECP	RECP-300,ST1, CUH-4,	20	1	2						
	3	1	20	CORR/STAIR NORTH, COMMUNITY	LTG			577	1058			RECP	RECP-300,ST2,CUH-5, PWR SUPPLY	20	1	4						
	5	1	20	CORR/STAIR SOUTH	LTG					634	100	MISC	FSD RM 314	15	1	6	a					
	7	1	-	SPACE			584					MOTR	(2)HRU, IAU-40, IAU-41 RM 314	15	2	8						
	9	1	-	SPACE					584			MOTR	^^	15	2	10						
	11	1	-	SPACE							309	MOTR	(2)HRU, IAU-42 RM 314	15	2	12						
	13	1	-	SPACE			309					MOTR	^^	15	2	14						
	15	1	20	SPARE									SPARE	20	1	16						
	17	1	20	SPARE									SPARE	20	1	18						
	19	1	20	SPARE									SPACE	-	1	20						
	21	1	20	SPARE									SPACE	-	1	22						
	23	1	20	SPARE									SPACE	-	1	24						
	25	1	20	SPARE									SPACE	-	1	26						
b	27	1	20	ELEVATOR CAB LIGHTS, VENT	LTG			1000					SPACE	-	1	28						
	29	1	20	LTG, RECP HOISTWAY	LTG					280			SPACE	-	1	30						
	31	3	15	HRV-1 (ROOF)	MOTR	1416							SPACE	-	1	32						
	33	3	15	^^^	MOTR			1416					SPACE	-	1	34						
	35	3	15	^^^	MOTR					1416	360	RECP	TTB RM 318	20	1	36						
	37	1	20	RECP ROOF	RECP	180							SPARE	20	1	38						
	39	1	-	SPACE									SPARE	20	1	40						
	41	1	-	SPACE							360	RECP	VIDEO INT. SYSTEM 318	20	1	42						
TOTAL V-A						4,473		4,635		3,459		12,568 VA										
TOTAL AMPS						37		39		29		35 A										
A.I.C. RATING: 10,000																						
CONNECTED LOAD IN KVA (THIS PANEL): CONNECTED LOAD IN KVA (BRANCH PANELS): TOTAL CONNECTED LOAD IN KVA: TOTAL DEMAND LOAD IN KVA:						LTG	RECP	MOTR	LG.MT	MISC	KIT	HEAT	SPEC	TOTAL		AMPS						
						2.49	3.94	6.03	1.06	0.10	0.00	0.00	0.00	12.6 KVA		35 A						
														0.0 KVA		0 A						
						2.49	3.94	6.03	1.06	0.10	0.00	0.00	0.00	12.6 KVA		35 A						
						3.11	3.94	6.03	1.06	0.10	0.00	0.00	0.00	14.3 KVA		40 A						
PANEL NOTES:												PANEL OPTIONS:										
a PROVIDE RED HANDLE BREAKER CAPABLE OF BEING LOCKED IN 'ON' POSITION.												MAIN LUGS ONLY										
b PROVIDE BREAKER CAPABLE OF BEING LOCKED IN 'ON' POSITION.																						

- 1
- 2

PANEL `R1' (SECTION 1)																
MFR/MODEL: SQUARE 'D' TYPE NQ						VOLTS: 120/208V,3PH,4W				ENCLOSURE: NEMA 1				400 A		
NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	VOLT-AMPS			MTG: SURFACE		AMPS	POLE	CIRC	NOTE		
						A	B	C	TYPE	SERVICE						
	1	1	20	LTG,EXIT SIGN	LTG	192	360			RECP	RECP RM104	20	1	2		
	3	1	20	SPARE			360			RECP	RECP RM 104	20	1	4		
	5	1	20	LTG-SIGN	LTG			1,500	180	RECP	RECP-EXT	20	1	6		
	7	1	20	LTG-SIGN	LTG	1,500					SPARE	20	1	8		
	9	1	20	SPARE				1,176		MOTR	HRV	20	1	10		
	11	1	20	SPARE							SPARE	20	1	12		
	13	1	20	SPARE							SPARE	20	1	14		
	15	1	20	SPARE			364			MOTR	IAU	15	2	16		
	17	1	20	SPARE					364	MOTR	AA	15	2	18		
	19	1	20	SPARE							SPACE	-	1	20		
	21	1	20	SPARE							SPACE	-	1	22		
	23	1	-	SPACE							SPACE	-	1	24		
	25	1	-	SPACE							SPACE	-	1	26		
	27	1	-	SPACE							SPACE	-	1	28		
	29	1	-	SPACE							SPACE	-	1	30		
	31	1	-	SPACE							SPACE	-	1	32		
	33	1	-	SPACE							SPACE	-	1	34		
	35	1	-	SPACE							SPACE	-	1	36		
	37	1	-	SPACE							SPACE	-	1	38		
	39	1	-	SPACE							SPACE	-	1	40		
	41	1	-	SPACE							SPACE	-	1	42		
SECTION 1 V-A						2,052		1,900		2,044		5,996		VA		
SECTION 1 AMPS						17		16		17		17		A		
PANEL `R1' (SECTION 2)																
MFR/MODEL: SQUARE 'D' TYPE NQ						VOLTS: 120/208V,3PH,4W				ENCLOSURE: NEMA 1				400 A		
NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	VOLT-AMPS			MTG: SURFACE		AMPS	POLE	CIRC	NOTE		
						A	B	C	TYPE	SERVICE						
	43	1	-	SPACE							SPARE	20	1	44		
	45	1	-	SPACE							SPARE	20	1	46		
	47	1	-	SPACE							SPARE	20	1	48		
	49	1	-	SPACE							SPACE	-	1	50		
	51	1	-	SPACE							SPACE	-	1	52		
	53	1	-	SPACE							SPACE	-	1	54		
	55	1	-	SPACE							SPACE	-	1	56		
	57	1	-	SPACE							SPACE	-	1	58		
	59	1	-	SPACE							SPACE	-	1	60		
	61	1	-	SPACE							SPACE	-	1	62		
	63	1	-	SPACE							SPACE	-	1	64		
	65	1	-	SPACE							SPACE	-	1	66		
	67	1	-	SPACE							SPACE	-	1	68		
	69	1	-	SPACE							SPACE	-	1	70		
	71	1	-	SPACE							SPACE	-	1	72		
	73	1	-	SPACE							SPACE	-	1	74		
	75	1	-	SPACE							SPACE	-	1	76		
	77	1	-	SPACE							SPACE	-	1	78		
	79	1	-	SPACE							SPACE	-	1	80		
	81	1	-	SPACE							SPACE	-	1	82		
	83	1	-	SPACE							SPACE	-	1	84		
SECTION 2 V-A						0		0		0		0		VA		
SECTION 2 AMPS						0		0		0		0		A		
TOTAL V-A						2,052		1,900		2,044		5,996		VA		
TOTAL AMPS						17		16		17		17		A		
AIC RATING: 22,000																
CONNECTED LOAD IN KVA (THIS PANEL): CONNECTED LOAD IN KVA (BRANCH PANELS): TOTAL CONNECTED LOAD IN KVA: TOTAL DEMAND LOAD IN KVA:				LTG	RECP	MOTR	LG.MT	MISC	KIT	HEAT	SPEC	TOTAL		AMPS		
				3.19	0.90	1.90	0.29	0.00	0.00	0.00	0.00	6.0 KVA		17 A		
												0.0 KVA		0 A		
				3.19	0.90	1.90	0.29	0.00	0.00	0.00	0.00	6.0 KVA		17 A		
				3.99	0.90	1.90	0.29	0.00	0.00	0.00	0.00	7.1 KVA		20 A		
PANEL NOTES: a b c d e											PANEL OPTIONS: MAIN LUGS ONLY PROVIDE WITH FEED-THRU LUGS (SECT. 1)					

SHEET NOTES:

1. TYPICAL PANEL SCHEDULE FOR RETAIL UNIT. TYPICAL OF 3. SEE 1/E1.01.
2. SEE 1/E3.00 FOR PANEL NAMES AND LOCATIONS.



COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK

REVISION SCHEDULE		
#	DESCRIPTION	DATE

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	XPT
REVIEWED	XPT,TEH

SHEET NAME	PANEL SCHEDULES
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SHEET NO.	E0.05
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1 ELECTRICAL SITE PLAN
1" = 20'-0"

APPROXIMATE EXISTING
SINGLE PHASE UTILITY
PAD-MOUNT
TRANSFORMER AND
BOLLARDS TO REMAIN

SERVICE ENTRANCE
EQUIPMENT. SEE
1/E1.01

SOLAR PV SYSTEM DC
AND AC DISCONNECT
SWITCHES. SEE 1/E1.07

3 COLUMN DETAIL
1/4" = 1'-0"

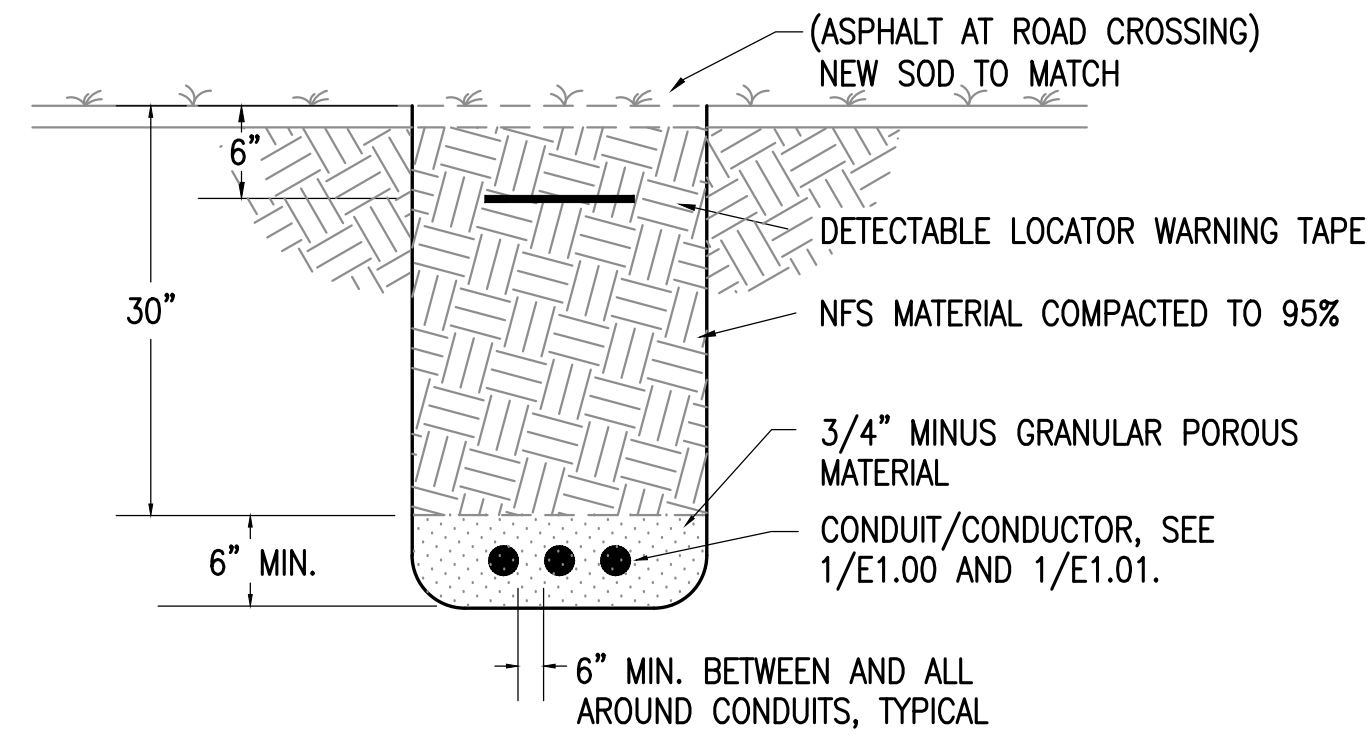
2 TRENCH DETAIL
NTS

GENERAL NOTES:

- FIELD COORDINATE WITH CHUGACH ELECTRIC ASSOCIATION, INC. (CEA), ANCHORAGE COMMUNICATIONS SERVICE, INC. (ACS), AND GENERAL COMMUNICATIONS INC (GCI) FOR LOCATION OF UTILITY TRANSFORMER, TELEPHONE, AND CABLE VAULTS PRIOR TO ROUGH-IN.
- FIELD COORDINATE WITH ENSTAR UTILITY FOR GAS METER LOCATION AND MAINTAIN 3'-0" CLEARANCE BETWEEN THE GAS METER AND ELECTRICAL GROUNDING SYSTEM.
- PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED TO PROVIDE POWER CONNECTION FROM ELECTRICAL SOURCE TO BUILDING EQUIPMENT, LIGHTS, RECEPTACLES, ETC. PANELS AND CIRCUIT ASSIGNMENTS AS INDICATED ON PLANS.
- CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND MAKE ADJUSTMENT AS REQUIRED TO AVOID ANY CONFLICTS PRIOR TO ROUGH-IN.
- PROVIDE A DEDICATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRING A NEUTRAL.

SHEET NOTES:

- SERVICE LATERALS. SEE 1/E1.01 AND 2/E1.00.
- PROVIDE A PROPERLY SIZED CONCRETE HOUSEKEEPING PAD (MINIMUM 6" OVERLAP ALL SIDES) FOR MOUNTING FREE-STANDING MAIN SERVICE SWITCHBOARD AND TENANT METERING SWITCHBOARD.
- PROVIDE A 30A, 240V NEMA 3R NON-FUSED DISCONNECT SWITCH FOR BUILDING MONUMENT SIGN CONNECTION. FIELD COORDINATE FOR EXACT LOCATION PRIOR TO ROUGH-IN. PROVIDE 3/4"C, 2#10, 1#10 GND TO DESIGNATED PANEL AND CIRCUIT ASSIGNMENT AS SHOWN.
- PROVIDE 4" PVC SCH 40 WITH PULL WIRE FOR GCI SERVICE (PHONE AND INTERNET VIA CABLE LINE). STUB UP 3" ABOVE FINISH GRADE BELOW TTb AND THE OTHER END AT GCI CABLE PEDESTAL. PROVIDE END CAPS AND MARK GCI AT BOTH ENDS. FIELD COORDINATE WITH GCI REPRESENTATIVE FOR LOCATION PRIOR TO ROUGH-IN.
- PROVIDE 2"x4"x4" MARKER SET AGAINST THE CONDUITS FOR GCI AND ACS.
- PROVIDE 4" PVC SCH 40 WITH PULL WIRE FOR ACS SERVICE (PHONE AND INTERNET). STUB UP 3" ABOVE FINISH GRADE BELOW TTb AND THE OTHER END AT ACS TELEPHONE PEDESTAL. PROVIDE END CAPS AND MARK ACS AT BOTH ENDS. FIELD COORDINATE WITH ACS REPRESENTATIVE FOR LOCATION PRIOR TO ROUGH-IN.
- PHOTOCELL TO CONTROL EXTERIOR AND PARKING LOT LIGHTING SYSTEM. SEE 2/E5.01.
- APPROXIMATE LOCATION OF USB CHARGER AND DUPLEX RECEPTACLE (TO BE POWERED BY SOLAR PV SYSTEM). FIELD COORDINATE FOR FINAL LOCATION PRIOR TO ROUGH-IN. SEE 2/E1.07 FOR CIRCUIT ASSIGNMENT AND 3/E5.01 FOR DETAIL.
- ENCLOSED CIRCUIT BREAKER FOR USB CHARGER AND DUPLEX RECEPTACLE. SEE 2/E1.07 FOR REQUIREMENT.
- UNLESS OTHERWISE NOTED, PROVIDE 3/4"C, 2#10, 1#10 GND CONDUCTOR TO DESIGNATED PANEL AND CIRCUIT ASSIGNMENT AS SHOWN FOR EXTERIOR AND PARKING LOT LIGHTING SYSTEM.
- TYPE 'A1' FIXTURE MOUNTED INSIDE OF ARCHITECTURAL COLUMN. SEE 3/1.00 FOR DETAIL. COORDINATE WITH ARCHITECTURAL.
- APPROXIMATE LOCATION OF EXISTING 75kVA 3-PHASE PAD-MOUNT UTILITY TRANSFORMER TO BE REPLACED WITH A NEW PAD-MOUNT TRANSFORMER BY CEA.
- 1" CONDUIT FROM TELECOM BACKBOARD TO FUTURE ENERGY MONITORING DISPLAY LOCATION. COORDINATE WITH ARCHITECT FOR FINAL LOCATION.
- 1" CONDUIT FROM HOUSE PANEL TO FUTURE ENERGY MONITORING DISPLAY LOCATION. COORDINATE WITH ARCHITECT FOR FINAL LOCATION.
- 1" CONDUIT FROM TELECOM BACKBOARD TO FUTURE OUTDOOR PROJECTOR. COORDINATE WITH ARCHITECT FOR FINAL LOCATION.
- 1" CONDUIT FROM HOUSE PANEL TO FUTURE OUTDOOR PROJECTOR. COORDINATE WITH ARCHITECT FOR FINAL LOCATION.



COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK

REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	ADDENDA #1	5/20/16

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	FWS
REVIEWED	XPT,TEH

SHEET NAME	ELECTRICAL SITE PLAN
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SHEET NO.	E1.00
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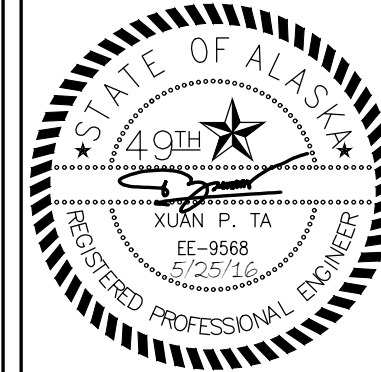
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RS&A Engineering, Inc.

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ANCHORAGE, AK 99501 • (907) 276-0521

670 West Fireweed Lane, Suite 200 • Anchorage, AK 99503 • (907) 276-0521



SHEET NOTES:

- UTILITY PAD-MOUNTED TRANSFORMER AND CONCRETE PAD. SEE 1/E1.00 FOR LOCATION.
- CONTRACTOR SHALL CONNECT UNIT LOAD CENTERS TO ALTERNATING PHASES SUCH AS TO BALANCE THE LOAD ON THE SERVICE.
- FEEDER HAS BEEN UPSIZED TO ACCOMMODATE VOLTAGE DROP.
- 2500A, 42kA AIC RATING NEMA 3R MAIN SERVICE SWITCHBOARD. MAIN SERVICE SWITCHBOARD CONSISTS OF UTILITY TERMINATION, (3) 400A, (1) 600A AND (1) 1200A SERVICE DISCONNECTS WITH CT'S AND A 13 TERMINAL TRANSFORMER RATED METER SOCKETS, 120/208V, 3-PHASE, 4-WIRE SWITCHBOARDS. SQUARE D OR APPROVED EQUAL.
- SERVICE GROUNDING. SEE 2/E5.00.
- SEE 1/E5.00 FOR ELECTRIC SERVICE ENTRANCE ELEVATION.
- SEE 1/E1.07 FOR SOLAR PHOTOVOLTAIC (PV) SYSTEM REQUIREMENTS.
- COMMERCIAL METERING SWITCHBOARD WITH 1200A, 42kA AIC RATING, 120/208V, 3-PHASE, 4-WIRE RATED BUS, 100A RATED METER SOCKETS WITH 100A, 120/208V, SINGLE PHASE SERVICE RATED DISCONNECT (CIRCUIT BREAKER TYPE) FOR EACH TENANT. XXXKA AIC RATING NEMA 3R RATED ENCLOSURE. SQUARE D OR APPROVED EQUAL.
- PROVIDE SHUNT TRIP BREAKER TO INTERLOCKED WITH ELEVATOR CONTROLS AND FIRE ALARM PANEL. CONNECT SHUNT TRIP BREAKER TO OPEN AN ACTIVATION OF HEAT DETECTOR IN ELEVATOR SHAFT. FIELD COORDINATE WITH ELEVATOR MANUFACTURER FOR REQUIREMENTS.
- PROVIDE CIRCUIT BREAKER WITH INTEGRAL ALTERNATE MAINTENANCE SETTING (AMS) SWITCH.

GENERAL NOTES:

- CHUGACH ELECTRIC ASSOCIATION, INC. (CEA) WILL PROVIDE PAD-MOUNTED TRANSFORMER, CONCRETE PAD, NET METER, CT'S AND SERVICE CONDUCTORS BETWEEN THE TRANSFORMER SECONDARY SIDE TO CT'S CABINET. PROVIDE GROUNDING AND BONDING AT UTILITY COMPANY'S METERING EQUIPMENT.
- PROVIDE PROPERLY SIZED NEMA 3R ENCLOSURE FOR METER AND CURRENT TRANSFORMER (CT'S). COORDINATE WITH CEA FOR PROPER SIZE OF BUS BAR DRILLINGS, OFFSET TEST SWITCH PERCH PROVISION, AND OTHER REQUIREMENTS PRIOR TO ORDERING.
- FIELD COORDINATE WITH CEA FOR MOUNTING HEIGHT OF CT'S CABINET, METER ENCLOSURE, ETC. PRIOR TO ROUGH-IN.
- CONTRACTOR SHALL GROUND THE FRAME OF ALL MOTORS, ELEVATOR MOTOR, CONTROLLER, AND METAL ENCLOSURES FOR ALL ELECTRICAL EQUIPMENT.
- FEEDER FOR PANELS LOCATED IN SECOND AND THIRD FLOOR HAS BEEN UPSIZED TO ACCOMMODATE VOLTAGE DROP.
- SEE E0-SERIES AND E3-SERIES DRAWINGS FOR PANEL AIC RATINGS AND LOCATIONS.
- PROVIDE SIGNAGE WITH THE AVAILABLE FAULT CURRENT AT THE SERVICE DISCONNECT IN ACCORDANCE WITH NEC 110.24(A).
- CONTRACTOR TO FILE AN INTERCONNECTING APPLICATION WITH CEA PRIOR TO STARTING.
- CONTRACTOR SHALL PROVIDE 48 HOURS'S NOTICE TO CEA PRIOR TO THE INSTALLATION AND BURIAL OF THE CONDUIT BETWEEN THE SWITCHBOARDS. CEA WILL INSPECT THE INSTALLATION PRIOR TO BACKFILL.
- OTIS MACHINE-ROOMLESS GEN2 IS BASIC OF DESIGN.

SHORT CIRCUIT CALCULATION SUMMARY

FAULT ANALYSIS WAS PERFORMED USING POINT-TO-POINT METHOD. THE FOLLOWING ARE THE UTILITY CONTRIBUTION AND EQUIPMENT ASSUMPTIONS:

AVAILABLE FAULT CURRENT AT UTILITY XFMR:	INFINITE BUS
UTILITY TRANSFORMER SIZE:	750 KVA
UTILITY TRANSFORMER IMPEDENCE:	5.00 %
SERVICE LATERAL # PARALLEL RUNS:	6 EA.
SERVICE LATERAL SIZE:	#600 KCMIL
SERVICE LATERAL LENGTH:	75 FEET
SERVICE LATERAL CONDUIT TYPE:	METALLIC
TOTAL MOTOR CONTRIBUTIONS:	238 AMPS

AVAILABLE FAULT CURRENT AT BUSS TERMINATION: 35980 A RMS (SYM)

NOTE: VERIFY THE ABOVE TRANSFORMER RATINGS AND SERVICE LATERAL SIZE/TYPE WITH LOCAL UTILITY PRIOR TO ORDERING EQUIPMENT. ADJUST EQUIPMENT SHORT CIRCUIT RATINGS ACCORDINGLY BASED ON ACTUAL EQUIPMENT INSTALLED BY UTILITY. INSTALL LABEL ON SERVICE EQUIPMENT INDICATING DATE AND FINAL CALCULATION RESULTS PER NEC 110.24.

FEEDER SCHEDULE

FEEDER #	CONDUIT AND WIRES SIZED (CU XHHW)	FEEDER #	CONDUIT AND WIRES SIZED (CU XHHW)
1	(1) 3.5°C EA. 4#600kcmil, 1#3 GND	7	1-1/2°C, 3#1/0, 1#4 GND
2	(2) 3°C EA., 4#500kcmil, 1#2/0 GND	8	1-1/4°C, 3#2 1#8 GND
3	(2) 2-1/2°C EA. 4#4/0 1#4 GND	9	2°C, 3#2/0, 1#4 GND
4	1.5°C, 3#2, 1#6 GND	10	1-1/4°C 3#1, 1#6 GND
5	1°C, W/REQUIRED CONTROL WIRES PER MANUFACTURER	11	2°C 4#3/0, 1#4 GND
6	2-1/2°C, 4#4/0, 1#4 GND	12	2°C 4#1/0, 1#6 GND

ELECTRICAL POWER ONE-LINE DIAGRAM

NO SCALE



COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK

REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	ADDENDUM #3	5/4/16

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	XPT
REVIEWED	XPT,TEH

SHEET NAME	ELECTRICAL POWER ONE-LINE DIAGRAM
SHEET NO.	E1.01

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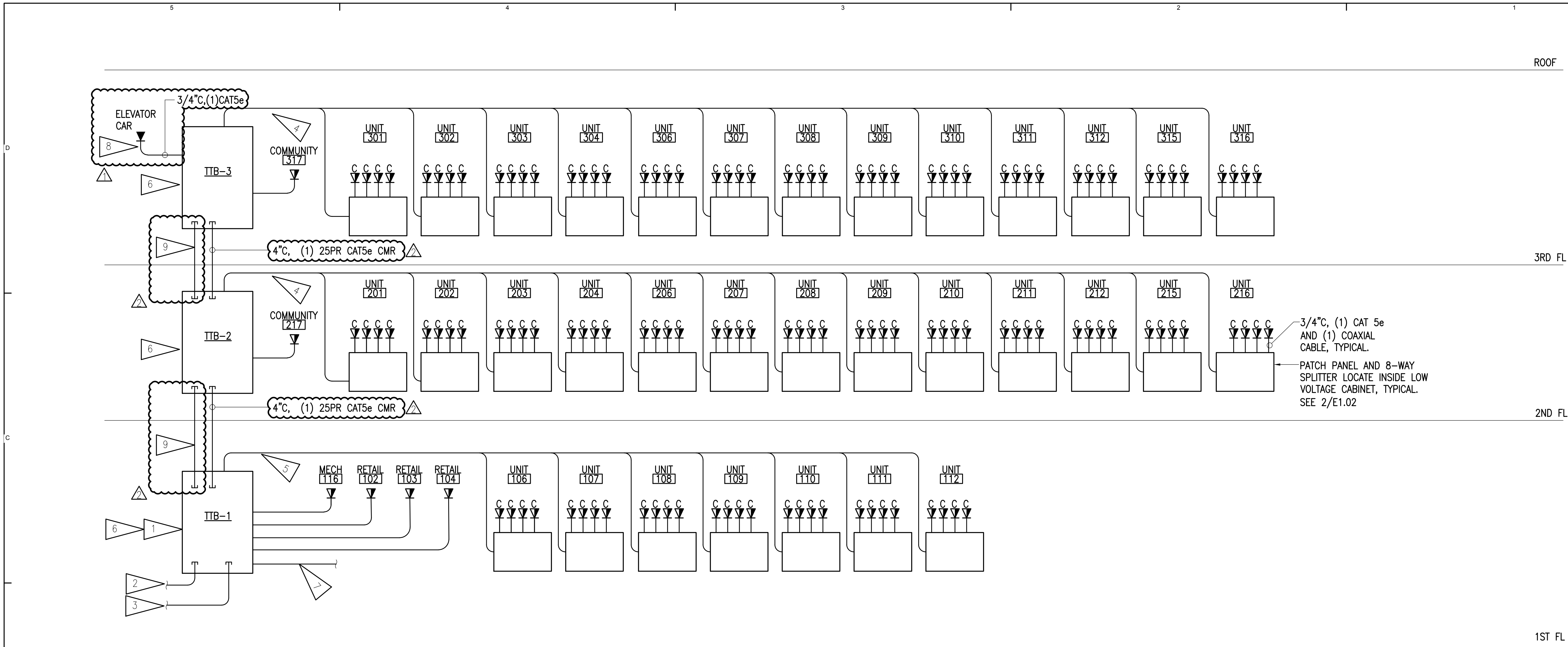
REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	ADDENDUM #3	5/18/16
1	ADDENDUM #4	5/20/16

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	XPT
REVIEWED	XPT,TEH

SHEET NAME:
TELEPHONE DISTRIBUTION
RISER DIAGRAM AND
DETAIL

SHEET NO.
E1.02

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1 TELEPHONE AND CABLE/DIGITAL TELEVISION DISTRIBUTION DIAGRAM
NO SCALE

GENERAL NOTES:

- COORDINATE WITH GCI AND ACS FOR STANDARD REGULATIONS AND REQUIREMENT PRIOR TO ROUGH-IN.
- PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED FOR TELEPHONE AND CATV CONNECTIONS TO THE LOW VOLTAGE CABINET.
- CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS.
- COMBINATION TELEPHONE AND TELEVISION OUTLET CONSISTS OF 2-PORT. THE 1ST PORT - PHONE AND THE 2ND PORT - TELEVISION. SEE E4.03 FOR LOCATIONS.
- SEE SHEETS E4-SERIES FOR EXACT NUMBER AND LOCATION OF TELEPHONE EQUIPMENT.

SHEET NOTES:

- TELEPHONE TERMINAL BOARD (TTB) FOR GCI AND ACS HEAD-END EQUIPMENT (i.e. NETWORK INTERFACE DEVICE (NID), CATV EQUIPMENT, ETC.) SEE 1/E4.00 FOR LOCATION.
- CABLE FEED FROM GCI UTILITY, SEE 1/E1.00.
- FIBER FEED FROM ACS UTILITY. SEE 1/E1.00.
- 1"Ø WITH (1) CAT 5e AND (1) QUAD SHIELD RG-6 HOMERUN BETWEEN EACH LOW VOLTAGE CABINET (LOCATED IN EACH UNIT) AND TTB. TYPICAL OF 13. SEE 2/E1.02.
- 1"Ø WITH (1) CAT 5e AND (1) QUAD SHIELD RG-6 HOMERUN BETWEEN EACH LOW VOLTAGE CABINET (LOCATED IN EACH UNIT) AND TTB. TYPICAL OF 7. SEE 2/E1.02.
- TTB FOR TELEPHONE, CATV AND VIDEO INTERCOM EQUIPMENT. SEE 1/E4.01 AND 1/E4.02. TERMINATE CAT5e RISER CABLE AND HORIZONTAL CABLES TO 110 PUNCH DOWN BLOCKS AT TTB.
- 1"Ø WITH (1) QUAD-SHIELD RG-6 TO POWER LOGIC TENANT METERING ETHERNET SWITCH VIA GCI CABLE BOX. SEE 1/E1.08.
- PROVIDE 3/4"Ø, (1)CAT5e DEDICATED PHONE LINE FOR ELEVATOR CAR TELEPHONE CONNECTION.
- 4"Ø WITH (1)0.625 RISER RATED COAXIAL CABLE (CATV/INTERNET/PHONE) WITH 6'-0" MINIMUM TAILS FOR GCI TO TERMINATE.

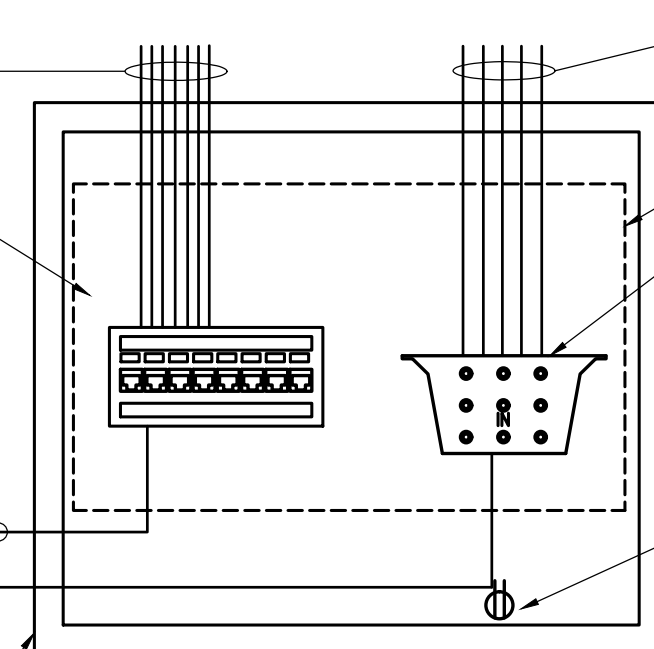
DEDICATED HORIZONTAL CAT 5e CABLE TO TELECOMMUNICATION OUTLETS. SEE E4.03 FOR EXACT NUMBER AND LOCATION OF TELEPHONE OUTLETS.

8-PORT TELEPHONE MODULE, HUBBELL #NSOPTM8 OR APPROVED EQUAL

CAT 5e CABLE HOMERUN TO TELEPHONE NETWORK INTERFACE DEVICE (NID)LOCATED AT TTB IN ELECT/COMM ROOM IN EACH FLOOR

QUAD SHIELD RG-6 HOMERUN TO TTB LOCATED IN ELECT/COMM ROOM IN EACH FLOOR

14.38"W x14"Hx3.96"D ENCLOSURE WITH HINGED COVER, HUBBELL #NSOBOX14 OR APPROVED EQUAL. SEE E4.03 FOR LOCATION.



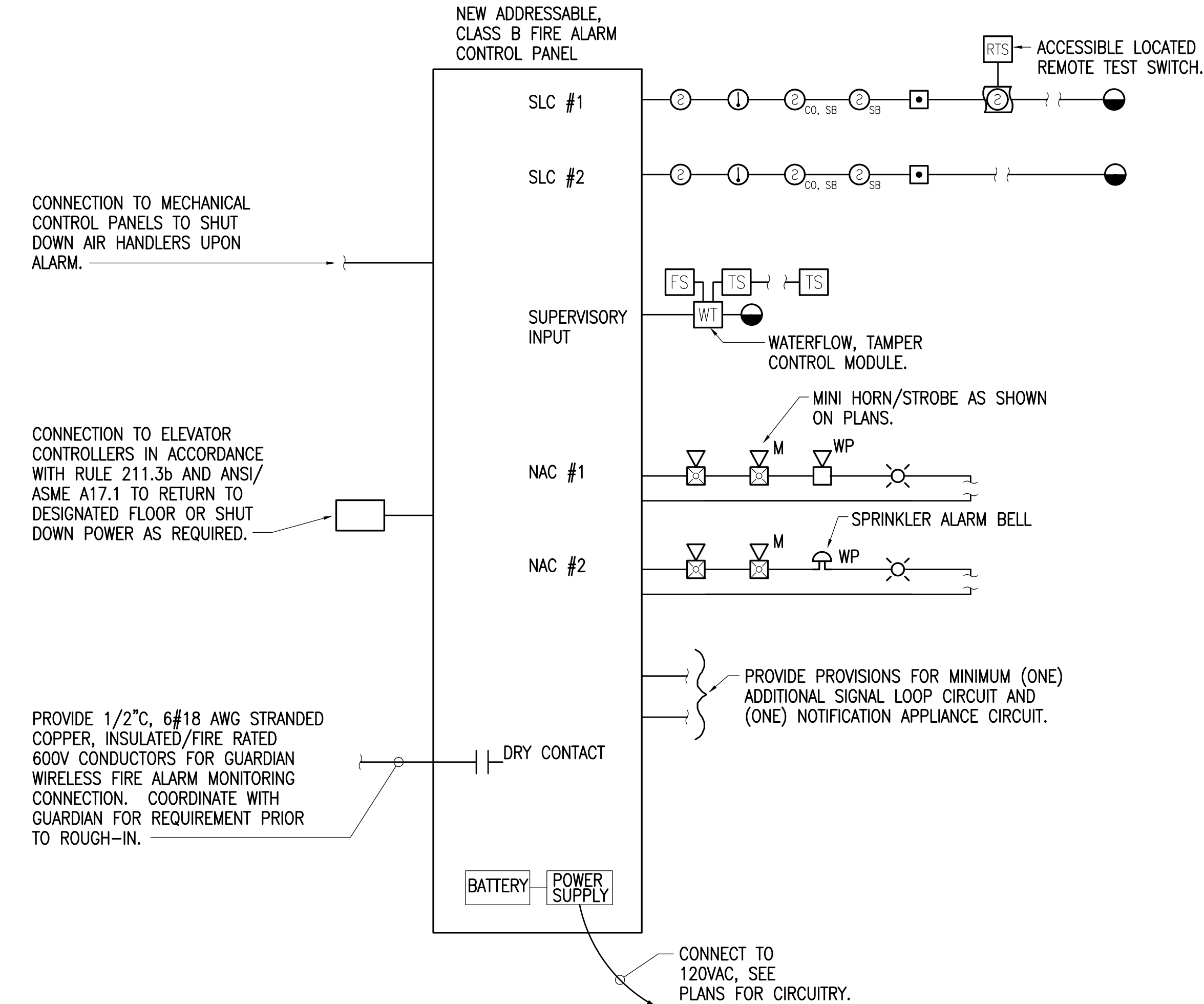
DEDICATED QUAD SHIELD RG-6 CABLE TO EACH TELEVISION OUTLET. SEE E4.03 FOR EXACT NUMBER AND LOCATION OF TELEVISION OUTLETS.

PLYWOOD BACKBOARD AS REQUIRED
8-WAY SPLITTER MODULE, 2.3 GHz, HUBBELL #NSOVM8 OR APPROVED EQUAL. PROVIDE 75 OHM, 1/4 WATT TERMINATORS FOR UNUSED PORTS.

POWER KIT WITH DUPLEX RECEPTACLE AT THE BOTTOM OF THE LOW VOLTAGE CABINET, HUBBELL #NSOKP OR APPROVED EQUAL. SEE E3.03 FOR CIRCUIT ASSIGNMENT.

2 TYPICAL LOW VOLTAGE CABINET DETAIL
NO SCALE

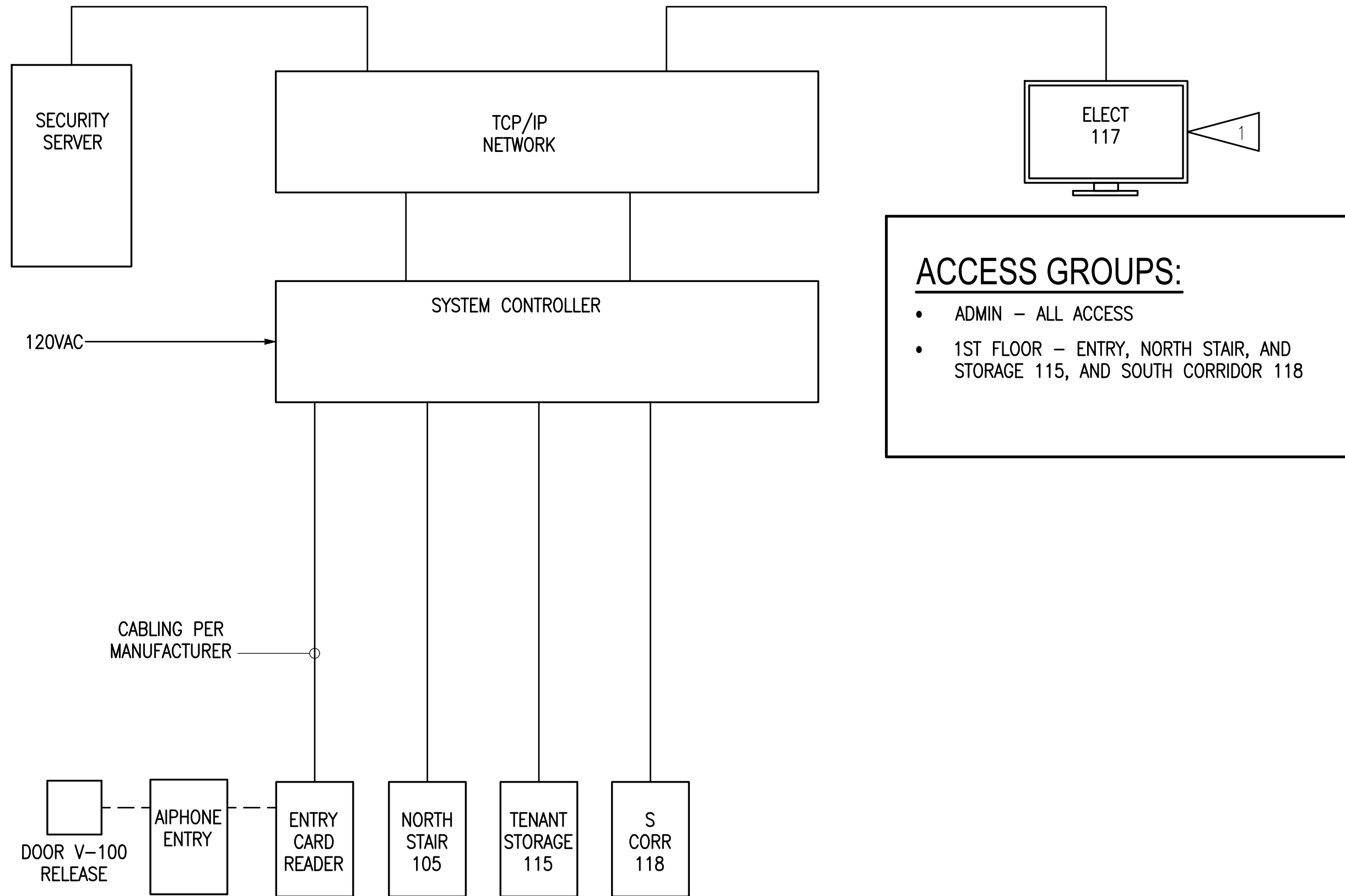
1 FIRE ALARM ONE-LINE DIAGRAM
NO SCALE



DETAIL NOTES:

- SEE POWER AND SIGNAL SHEETS FOR EXACT NUMBER AND LOCATION OF ALL FIRE ALARM EQUIPMENT, DEVICES, ETC.
- SIZE CONDUIT AND WIRES IN ACCORDANCE WITH FIRE ALARM SYSTEM MANUFACTURER RECOMMENDATIONS AND SPECIFICATIONS.
- COORDINATE INSTALLATION OF SMOKE DETECTORS WITH AIR SUPPLY AND RETURN DIFFUSERS TO MAINTAIN MINIMUM 36" SEPARATION PER NFPA 72 REQUIREMENTS.
- EXACT NUMBER OF FLOW AND TAMPER SWITCHES TO BE DETERMINED BY SPRINKLER SUPPLIER. FIELD COORDINATE WITH SPRINKLER INSTALLER PRIOR TO BIDDING FOR NUMBER AND LOCATION OF TAMPER AND FLOW SWITCHES.

2 SECURITY RISER DIAGRAM
NO SCALE



DETAIL NOTES:

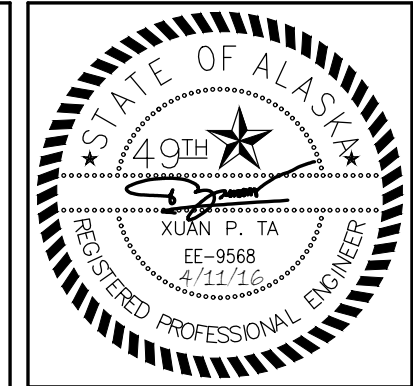
- THIS IS THE SAME WORKSTATION THAT WILL BE USED FOR THE VIDEO SYSTEM. PROVIDE EITHER A DUAL-NIC IN THE WORKSTATION, OR CONNECT THE ACCESS CONTROL SYSTEM TO THE VIDEO SYSTEM NETWORK SWITCH AND CONFIGURE NETWORK ACCESS.

RS&A Engineering, Inc.
REGISTERED PROFESSIONAL ENGINEERS
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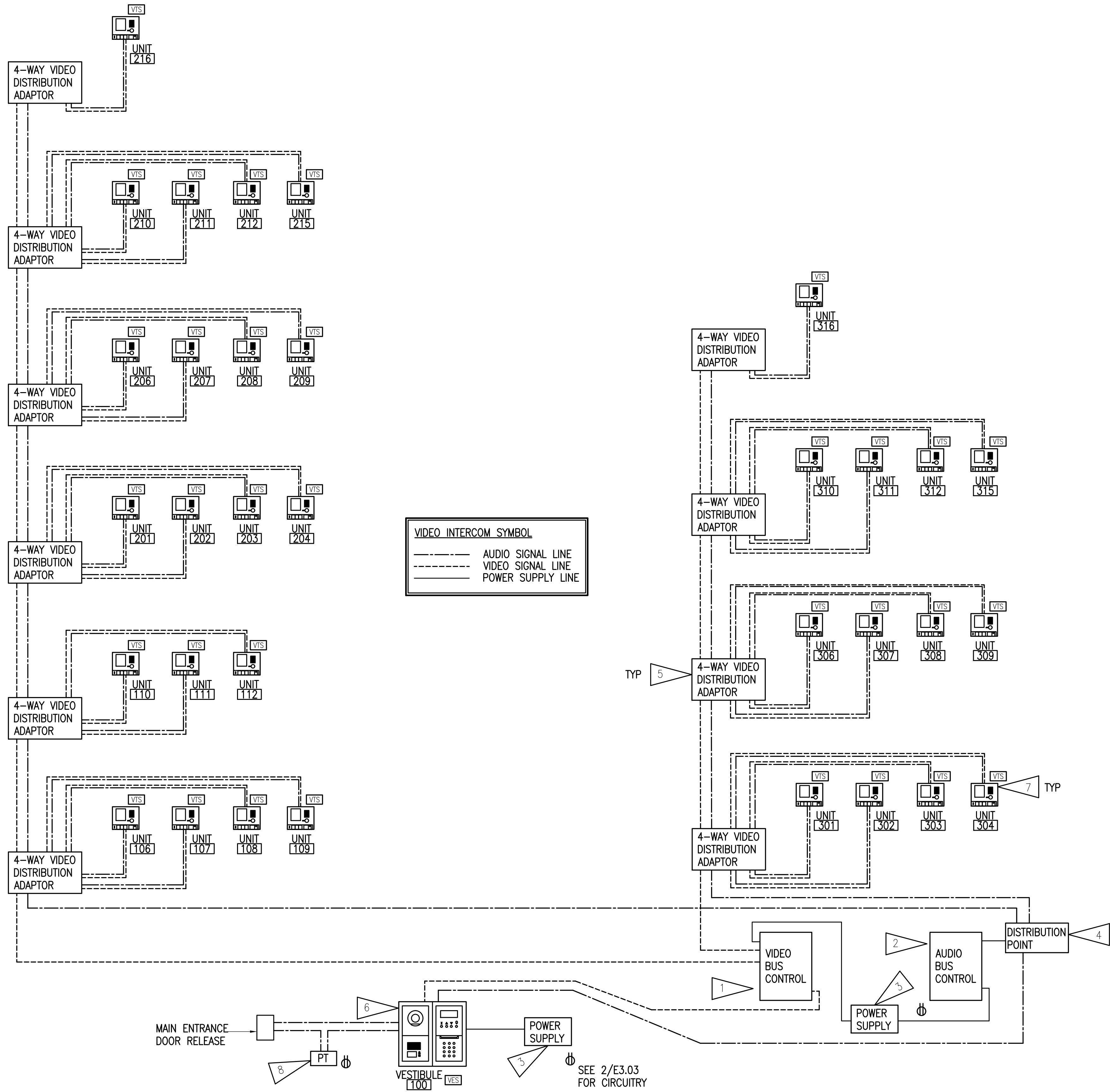
REVISION SCHEDULE		
#	DESCRIPTION	DATE

COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK

KPB ARCHITECTS
800 L STREET, SUITE 400,
ANCHORAGE, AK 99501
907.274.7443 • (907) 274.7407
WWW.KPBARCHITECTS.COM



1 VIDEO INTERCOM ONE-LINE DIAGRAM
NO SCALE



GENERAL NOTES:

- COORDINATE WITH VIDEO INTERCOM MANUFACTURER FOR INSTRUCTIONS, REQUIREMENTS, AND RECOMMENDATIONS FOR WIRE TYPE PRIOR TO ROUGH-IN AND ORDERING.
- PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED FOR A COMPLETE INSTALLATION OF VIDEO INTERCOM SYSTEM.
- CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS.
- SEE SHEET E4-SERIES FOR VIDEO INTERCOM SYSTEM DEVICES.

SHEET NOTES:

- VIDEO BUS CONTROL UNIT, AIPHONE #GT-VBC OR APPROVED EQUAL. LOCATE IN FIRST FLOOR ELEC 117. SEE 1/E4.00.
- AUDIO BUS CONTROL UNIT, AIPHONE #GT-BC OR APPROVED EQUAL. LOCATE IN FIRST FLOOR ELEC 117. SEE 1/E4.00.
- 125W, 120V POWER SUPPLY WITH CORD AND PLUG FOR VIDEO INTERCOM SYSTEM, AIPHONE #PS-2420UL OR APPROVED EQUAL. LOCATE IN FIRST FLOOR ELEC 117. SEE 1/E4.00.
- DISTRIBUTION POINT, AIPHONE #R1/R2 OR APPROVED EQUAL. LOCATE IN FIRST FLOOR ELEC 106. SEE 1/E4.00.
- 4-WAY VIDEO DISTRIBUTION ADAPTOR, AIPHONE #GT-4Z OR APPROVED EQUAL. LOCATE IN FIRST FLOOR ELEC 117. SEE 1/E4.00.
- AUDIO/VIDEO ENTRANCE STATION WITH DIGITAL DIRECTOR, AND 10-KEY KEYPAD, AIPHONE #GT-DES202 OR APPROVED EQUAL. SEE 1/E4.00.
- AUDIO/VIDEO TENTANT STATION, AIPHONE #GT-1C OR APPROVED EQUAL. SEE 1/E4.03.
- PROVIDE DOOR RELEASE CONNECTION BETWEEN AIPHONE SYSTEM AND DOOR HARDWARE. COORDINATE WITH DOOR HARDWARE PRIOR TO ROUGH-IN.

COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK



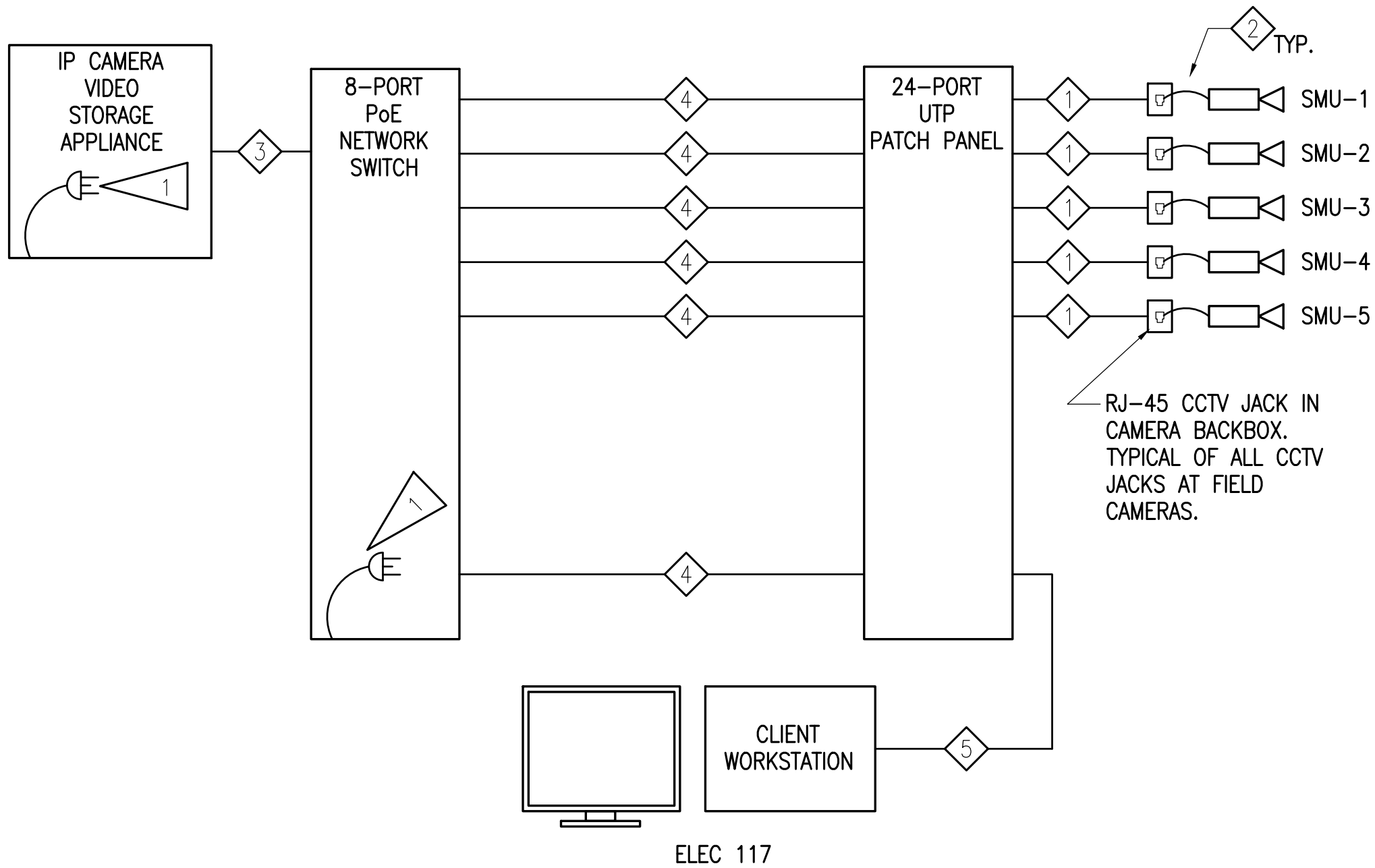
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REVISION SCHEDULE		
#	DESCRIPTION	DATE

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	XPT
REVIEWED	XPT,TEH

SHEET NAME:
VIDEO INTERCOM
ONE-LINE DIAGRAM

SHEET NO.
E1.04



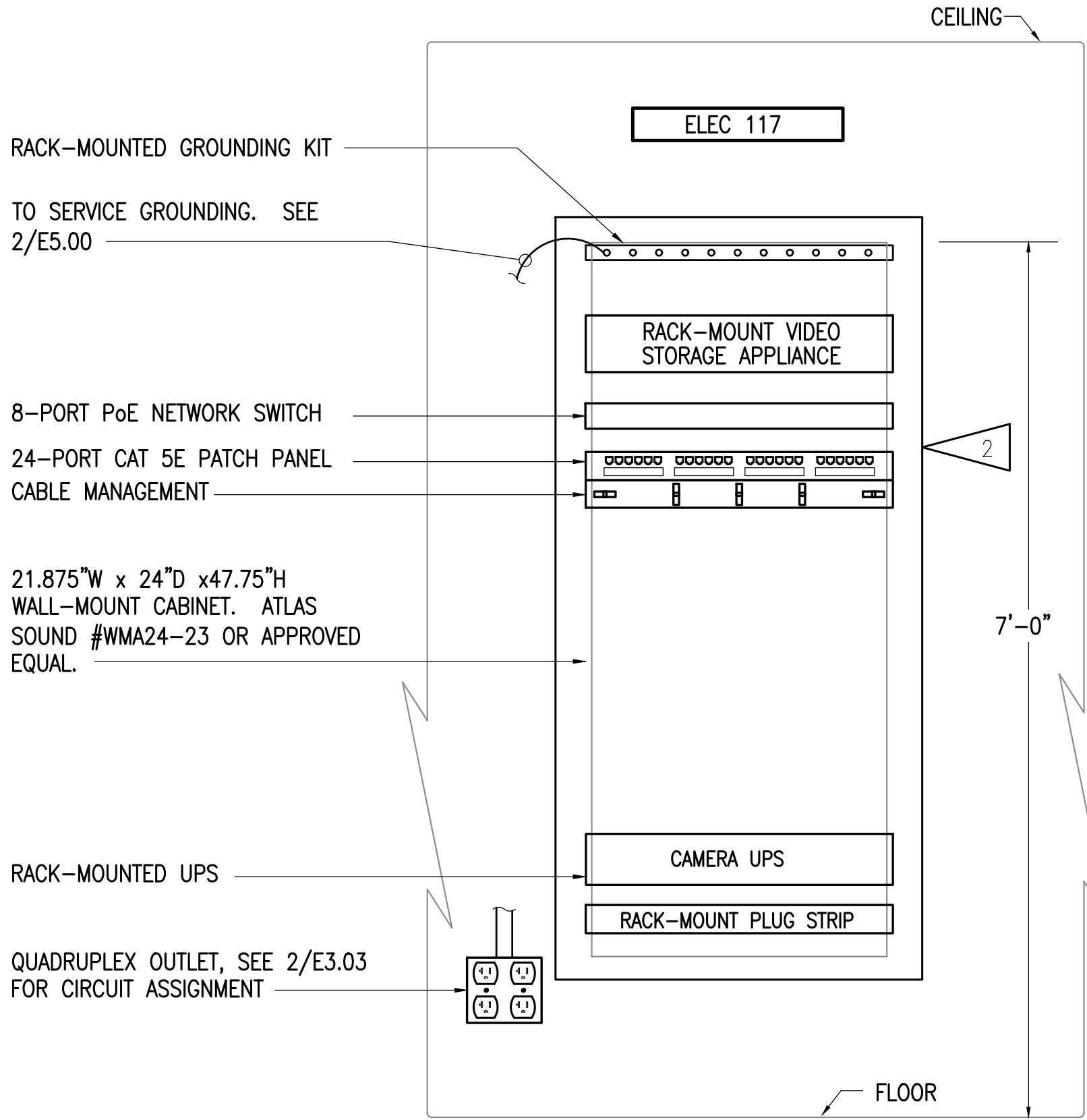
IP CAMERA SYSTEM CABLE SCHEDULE
(ALL CABLES SPECIFIED IN SECTION 28 23 00)

CABLE NUMBER	DESCRIPTION
1	CAMERA PoE CABLE, CAT 5e UTP
2	CAMERA FIELD PATCH CORD, CAT 5e UTP, LENGTH AS REQUIRED.
3	GIGABIT ETHERNET UPLINK PATCH CORD, CAT 5e UTP
4	CROSS-CONNECT PATCH CORD, CAT 5e UTP
5	NETWORK HORIZONTAL CABLE, CAT 5e UTP

IP SYSTEM CAMERA SCHEDULE

CAMERA DESIGNATION	CAMERA LOCATION (SEE PLANS)	INTENDED COVERAGE AREA	CAMERA LENS FOCAL LENGTH	CAMERA TYPE (SEE SPECS)
SMU-1	FIRST FLOOR - NORTH CORRIDOR 118, SEE 1/E4.00	GENERAL COVERAGE OF NORTH ENTRY	2.9 mm FIXED	TYPE 'A' SURFACE WALL-MOUNT
SMU-2	FIRST FLOOR - NORTH STAIR ST1, SEE 1/E4.00.	GENERAL COVERAGE OF NORTH ENTRY	2.9 mm FIXED	TYPE 'A' SURFACE WALL-MOUNT
SMU-3	FIRST FLOOR - EAST LOBBY, SEE 1/E4.00.	GENERAL COVERAGE OF SOUTH ENTRY	2.9 mm FIXED	TYPE 'A' SURFACE WALL-MOUNT
SMU-4	FIRST FLOOR - SOUTH CORRIDOR, SEE 1/E4.00.	GENERAL COVERAGE OF EAST ENTRY	2.9 mm FIXED	TYPE 'A' SURFACE WALL-MOUNT
SMU-5	SECOND FLOOR - ELEVATOR LOBBY, SEE 1/E4.01.	GENERAL COVERAGE OF EAST ENTRY	2.9 mm FIXED	TYPE 'A' SURFACE WALL-MOUNT

1 IP CAMERA ONE-LINE DIAGRAM
NO SCALE



2 IP CAMERA SYSTEM CABINET ELEVATION
NO SCALE

GENERAL NOTES:

- A. COORDINATE WITH IP CAMERA MANUFACTURER FOR INSTRUCTIONS AND RECOMMENDATIONS PRIOR TO ROUGH-IN.
- B. PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED FOR A COMPLETE AND FUNCTIONAL IP CAMERA SYSTEM.
- C. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS.

SHEET NOTES:

1. PLUG EQUIPMENT INTO PLUG STRIP IN CABINET. SEE 1/E4.00 FOR LOCATION.
2. SEE 1/E4.00 FOR LOCATION.



COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK

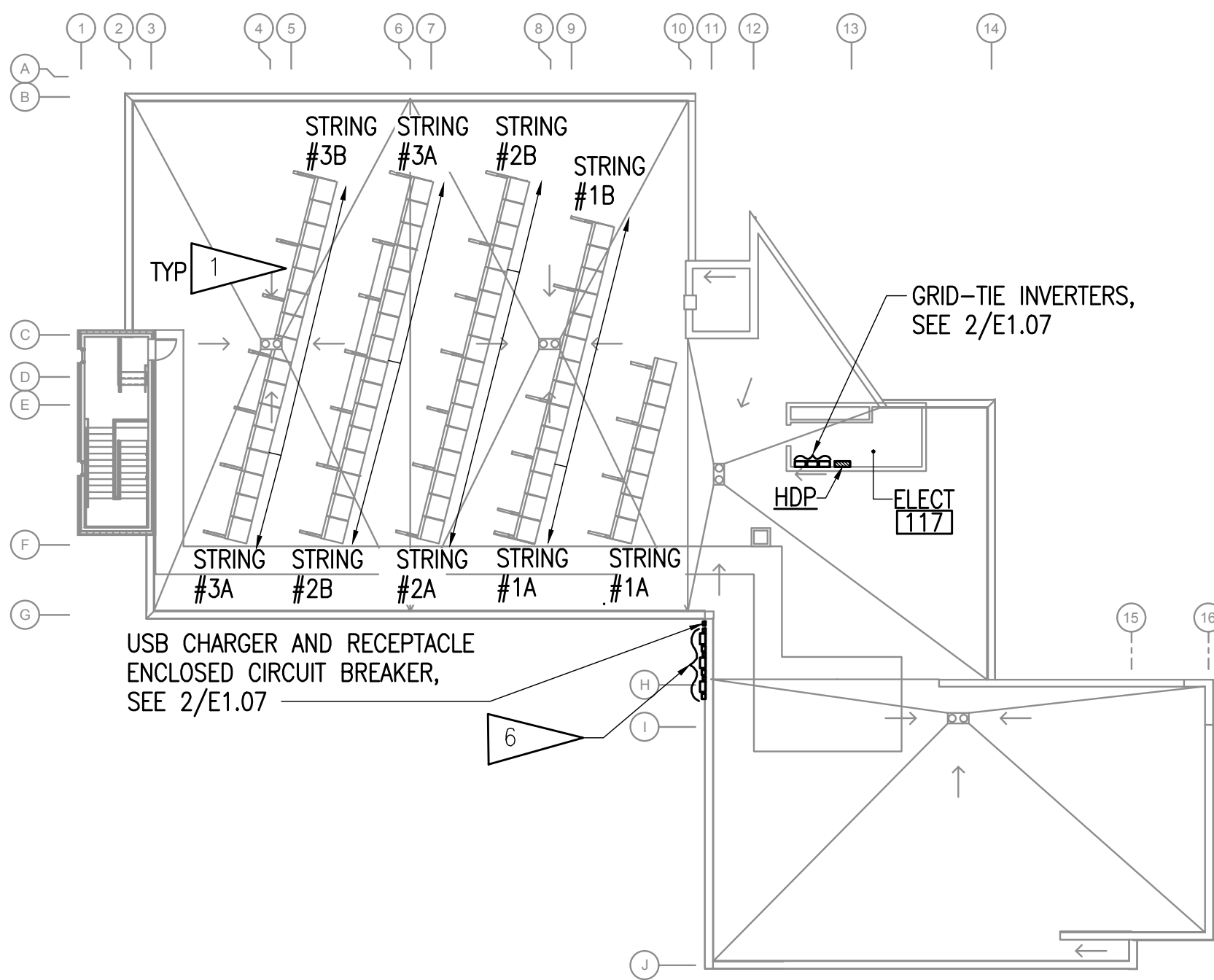
REVISION SCHEDULE		
#	DESCRIPTION	DATE

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	XPT
REVIEWED	XPT,TEH

SHEET NAME:
IP CAMERA ONE-LINE
DIAGRAM, SCHEDULE
AND DETAIL

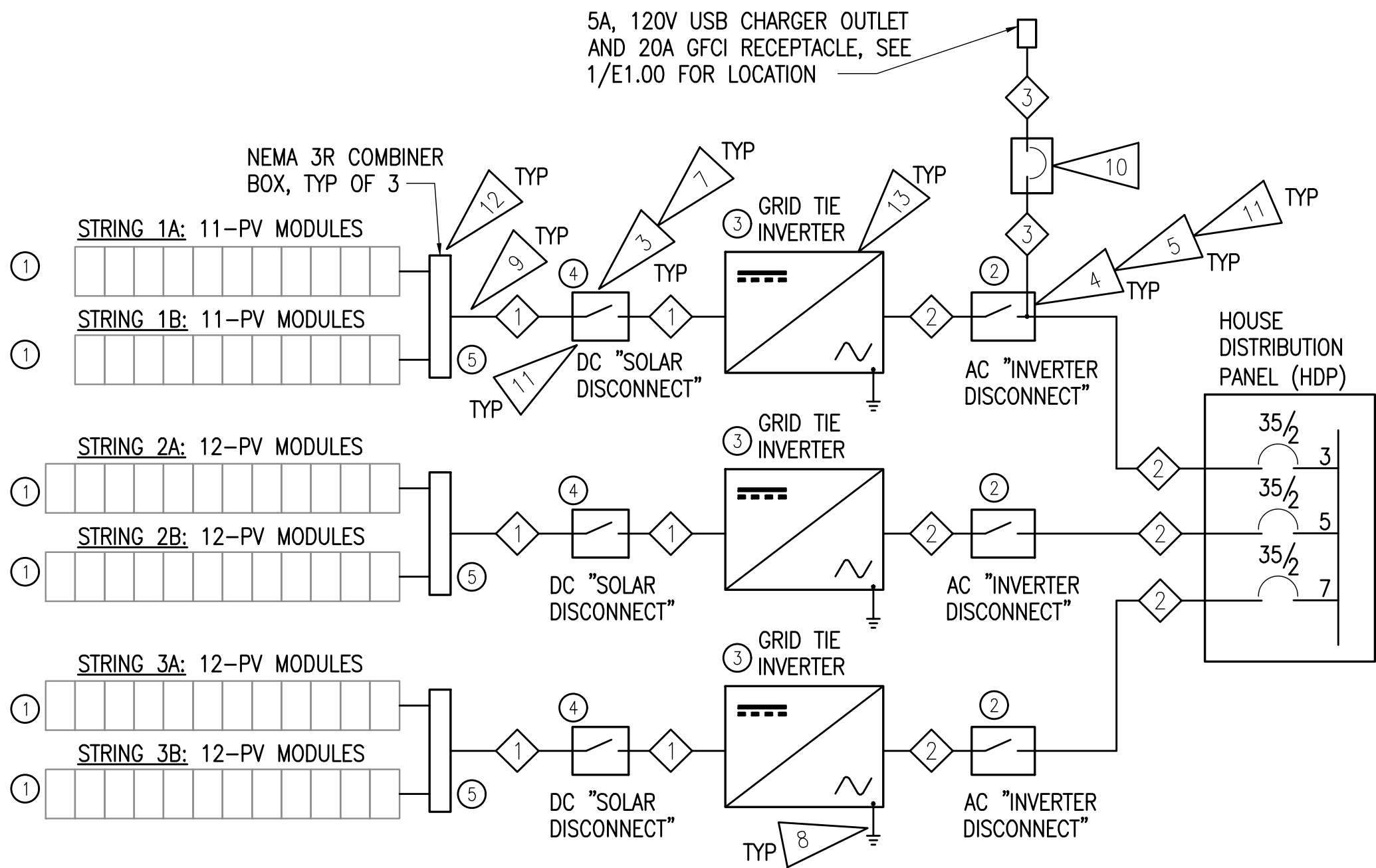
SHEET NO.
E1.05

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ROOF TRANSITION TO INVERTER WIRE SIZE CHART		
THWN-2 OR USE-2/RHW-2 AWG	MAX DISTANCE (FT)	GRSC (INCH)
10	200	3/4
8	300	1
6	400	1 1/4

FEEDER SCHEDULE	
FEEDER #	CONDUIT AND WIRES SIZED
1	1" C, 3#8, 1#8 GND CU XHHW-2
2	1" C, 3#8, 1#10 GND CU XHHW-2
3	1" C, 2#10, 1#10 GND CU XHHW-2



1 SOLAR PHOTOVOLTAIC (PV) SYSTEM

1" = 20'-0"

2 SOLAR PV SYSTEM ONE-LINE DIAGRAM

1" = 20'-0"

GENERAL NOTES:

- COORDINATE WITH CHUGACH ELECTRIC ASSOCIATION, INC. (CEA) FOR NET METERING REQUIREMENTS.
- PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED TO PROVIDE POWER CONNECTION FROM ELECTRICAL SOURCE TO MECHANICAL EQUIPMENT, RECEPTACLES, ETC. PANELS AND CIRCUIT ASSIGNMENTS AS INDICATED ON PLANS.
- CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS PRIOR TO ROUGH-IN.
- FIELD COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR FINAL LOCATIONS, SUPPORTING, AND BRACING PRIOR TO INSTALLING THE SOLAR PHOTOVOLTAIC (PV) SYSTEM.
- PV SYSTEM INSTALLER WILL BE RESPONSIBLE FOR FURNISHING AND INSTALLATION OF ALL RELATED EQUIPMENT, CABLES, ADDITIONAL CONDUITS, PV CIRCUIT COMBINERS, BOXES, AND OTHER ACCESSORIES NECESSARY FOR COMPLETE AND OPERATIONAL PHOTOVOLTAIC SYSTEM.
- AC AND DC SIDE GROUNDING ELECTRODE CONDUCTOR SHALL BE BONDED IN ACCORDANCE WITH NEC 690.47 AND MADE WITH IRREVERSIBLE CONNECTION PER NEC 250.64(C).
- BONDING JUMPER REQUIRED TO MAINTAIN CONTINUITY BETWEEN SOURCE OF OUTPUT CIRCUIT GROUNDING CONDUCTOR WHILE PV EQUIPMENT IS REMOVED PER NEC 690.49.
- ALL SYSTEM INCLUDING SUPPORT FRAME SHALL BE GROUNDED IN ACCORDANCE WITH NEC 690.43.
- SOLAR PV SYSTEM: BASIC OF DESIGN IS BASED ON SOLAR WORLD AND SMA MANUFACTURERS.

J. CONDUIT SHALL BE USED FOR PV SOLAR SYSTEM.

PV EQUIPMENT SCHEDULE		
TAG #	MANUFACTURER AND CATALOG NUMBER (OR APPROVED EQUAL)	EQUIPMENT DESCRIPTION
1	SOLAR WORLD #SW 280 MONO	280 WATT MONOCRYSTALLINE SOLAR MODULES
2	SQ D #HU362RB	60A, 3P 600V HEAVY-DUTY NEMA 3R NON-FUSED AC DISCONNECT
3	SMA #SB6000TL-US-22-208V	6000W, 600VDC GRID TIE INVERTER 208 VAC
4	SQ D #HU361NRB	30A, 3P 600V HEAVY-DUTY NEMA 3R NON-FUSED DC DISCONNECT
5	SMA #SBCB-6	NEMA 3R 6 CIRCUIT COMBINER BOX

PV SOURCE CIRCUIT:
PV MODULE $I_{sc} = 9.71$ A
PV MODULES $I_{mpp} = 9.07$ A
OF MODULES IN PARALLEL PER SOURCE CIRCUIT: 1
MAX $I_{sc} = 1 \times 9.71 \text{ A} \times (1.25 \times 1.25) = 15.17$ A

INVERTER OUTPUT CIRCUIT -- 6000 W, 208 V, 1-PHASE:
MAXIMUM CONTINUOUS CURRENT: $6000\text{W}/208 \text{ V} = 28.85$ A

DC VOLTAGE:
PV MODULE $V_{oc} = 39.5$ VDC STANDARD TEST CONDITION (STC)
MAXIMUM PV MODULES PER STRING 1A: (TYPICAL FOR STRING 1B): 11
MAXIMUM PV MODULES PER STRING 2A: 12 (TYPICAL FOR STRING 2A, 3A AND 3B)
CORRECTION FACTOR PER NEC 690.7(A) FOR $-40^\circ\text{C} = 0.152 \times (-40^\circ\text{C} - 25^\circ\text{C}) = 2.28$ VDC
MAXIMUM DC VOLTAGE FOR STRING 1A (TYPICAL FOR STRING 1B) = $11 \times (39.5 + 2.28) = 459.58$ VDC
MAXIMUM DC VOLTAGE FOR STRING 2A (TYPICAL FOR STRING 2B, 3A AND 3B) = $12 \times (39.5 + 2.28) = 501.36$ VDC

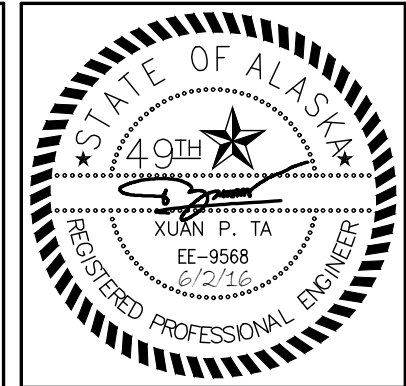
SHEET NOTES:

- PHOTOVOLTAIC (PV) MODULE PANELS SHALL BE WIRED IN SERIES OF THREE STRINGS. THE 1ST STRING WILL CONSIST OF 22 PV MODULE PANELS. THE FIRST HALF OF THE 1ST STRING CONSISTS OF 11 PV MODULE PANELS AND THE SECOND HALF OF THE 1ST STRING CONSISTS OF 11 PV MODULE PANELS. THE 2ND STRING WILL CONSIST OF 24 PV MODULE PANELS. EACH HALF OF THE 2ND STRING CONSISTS OF 12 PV MODULE PANELS. THE 3RD STRING IS IDENTICAL TO THE 2ND STRING.
- SYSTEM OF DESCRIPTION: ENCLOSED DOCUMENTS DESCRIBE CONSTRUCTION REQUIREMENTS FOR A NEW 18.5 kW STC PHOTOVOLTAIC (PV) SYSTEM ON METAL ROOFING PANELS. ALL PV MODULES ARE FACTORY INSTALLED PANELS. PV MODULES SHALL BE WIRED IN A SERIES OF STRING OF 70 PV MODULES EACH FOR A 30.7 VDC NOMINAL OUTPUT AND 38.3 VDC OPEN CIRCUIT VOLTAGE. ALL WIRES TO TRANSITION BOXES SHALL BE ROUTED AND CONCEALED UNDER RIDGE CAP OR WITHIN METALLIC RACEWAY SYSTEM. LENGTH AND GAUGE OF ALL WIRING, ROUTING FROM ANY RACEWAY OR TRANSITION BOX TO AN INVERTER SHALL NOT EXCEED DISTANCE INDICATED ON "ROOF TO INVERTER WIRE SIZE CHART". OUTPUT FROM GRID-TIE INVERTERS SHALL BE COMBINED IN THE AC PANEL, THEN INTERCONNECTED WITH THE GRID POWER IN ACCORDANCE WITH NEC 690.64. THE COMPLETE PV SYSTEM DESCRIBED HEREIN SHALL BE INSTALLED AND COMMISSIONED SUCH THAT IT OPERATES AUTOMATICALLY AS FOLLOWS:
 - WHEN GRID POWER IS PRESENT, SOLAR POWER RUNS LOADS ON SITE DURING THE DAY.
 - WHEN GRID POWER FAILS, THE PV SYSTEM SHALL DISCONNECT FROM THE GRID.
 - THE PV SYSTEM SHALL AUTOMATICALLY RESUME SUPPLYING POWER TO THE GRID WHEN THE PROPER VOLTAGE AND FREQUENCY IS RESTORED AND THERE IS SUFFICIENT SUNLIGHT.
- DC DISCONNECT. PROVIDE A PLACARD, MINIMUM 1" X 4", WITH UV RESISTANT BLACK LETTERS ON YELLOW BACKGROUND TO READ: "SOLAR PHOTOVOLTAIC POWER SYSTEM EMERGENCY DC DISCONNECT" PER NEC 690.14. TYPICAL OF 3. SEE 2/E1.07.
- AC DISCONNECT. PROVIDE A PLACARD, MINIMUM 1" X 4", WITH UV RESISTANT BLACK LETTERS ON YELLOW BACKGROUND TO READ: "SOLAR PHOTOVOLTAIC POWER SYSTEM AC DISCONNECT" PER NEC 690.14. TYPICAL OF 3. SEE 2/E1.07.
- EACH AC DISCONNECT SHALL ALSO BE LABELED WITH "WARNING! - ELECTRICAL SHOCK HAZARD - DO NOT TOUCH TERMINALS. TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION" PER NEC 690.17. LABEL SHALL BE 1" X 4" MINIMUM WITH UV RESISTANT BLACK LETTERS ON YELLOW BACKGROUND.
- SOLAR PV EQUIPMENT (FROM LEFT-TO-RIGHT) DC "SOLAR DISCONNECT", GRID TIE INVERTER AND AC "INVERTER DISCONNECT" FOR STRING 1A & 1B. TYPICAL FOR STRING 2A & 2B AND 3A & 3B. SEE 2/E1.07.
- PROVIDE A PLACARD, MINIMUM 1" X 4", WITH UV RESISTANT BLACK LETTERS AND YELLOW BACKGROUND BESIDE THE DC DISCONNECT LOCATION WITH THE FOLLOWING TEXT:

DC PHOTOVOLTAIC POWER SOURCE:

OPERATING CURRENT (I_{mpp}) FOR STRING 1A: 9.07 AMPS DC
OPERATING CURRENT (I_{mpp}) FOR STRING 2A (TYP FOR STRING 3A): 9.07 AMPS DC
OPERATING VOLTAGE (V_{mpp}) FOR STRING 1A: $31.2 \times 11 = 343.2$ VDC
OPERATING VOLTAGE (V_{mpp}) FOR STRING 2A (TYP FOR STRING 3A): $31.2 \times 12 = 374.4$ VDC
MAXIMUM SYSTEM VOLTAGE FOR STRING 1A: $(39.5 \times 1.25) \times 11 = 543.12$ VDC
MAXIMUM SYSTEM VOLTAGE FOR STRING 2A (TYP FOR STRING 3A): $(39.5 \times 1.25) \times 12 = 592.50$ VDC
SHORT CIRCUIT CURRENT FOR STRING 1A : 15.17 AMPS DC
SHORT CIRCUIT CURRENT FOR STRING 2A (TYP FOR STRING 3A) : 15.17 AMPS DC

- CONTINUE TO SERVICE GROUNDING. SEE 2/E5.00.
- PROVIDE CONTINUOUS EQUIPMENT GROUNDING CONDUCTOR BETWEEN THE DC DISCONNECT AND PV MODULE PANELS.
- PROVIDE 20A, 120V 10KA AIC RATING NEMA 3R ENCLOSED CIRCUIT BREAKER FOR USB CHARGER AND DUPLEX RECEPTACLE CONNECTION. SEE 1/E1.00 FOR LOCATION.
- DC "SOLAR DISCONNECT" AND AC "INVERTER DISCONNECT" SWITCHES LOCATED ADJACENT TO THE BUILDING SERVICE ENTRANCE EQUIPMENT. SEE 1/E1.00 AND 1/E5.00.
- COMBINER BOX WILL BE MOUNTED TO THE PV MODULE PANEL SUPPORTING BRACKETS. FIELD COORDINATE FOR LOCATION PRIOR TO ROUGH-IN.
- GRID-TIE INVERTER LOCATED IN THE FIRST FLOOR ELECTRICAL ROOM. 1/E1.07.



REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	ADDENDUM #6	6/7/16

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	XPT
REVIEWED	XPT,TEH

SHEET NAME:
SOLAR PHOTOVOLTAIC (PV)
SYSTEM AND PV
ONE-LINE DIAGRAM

SHEET NO.
E1.07

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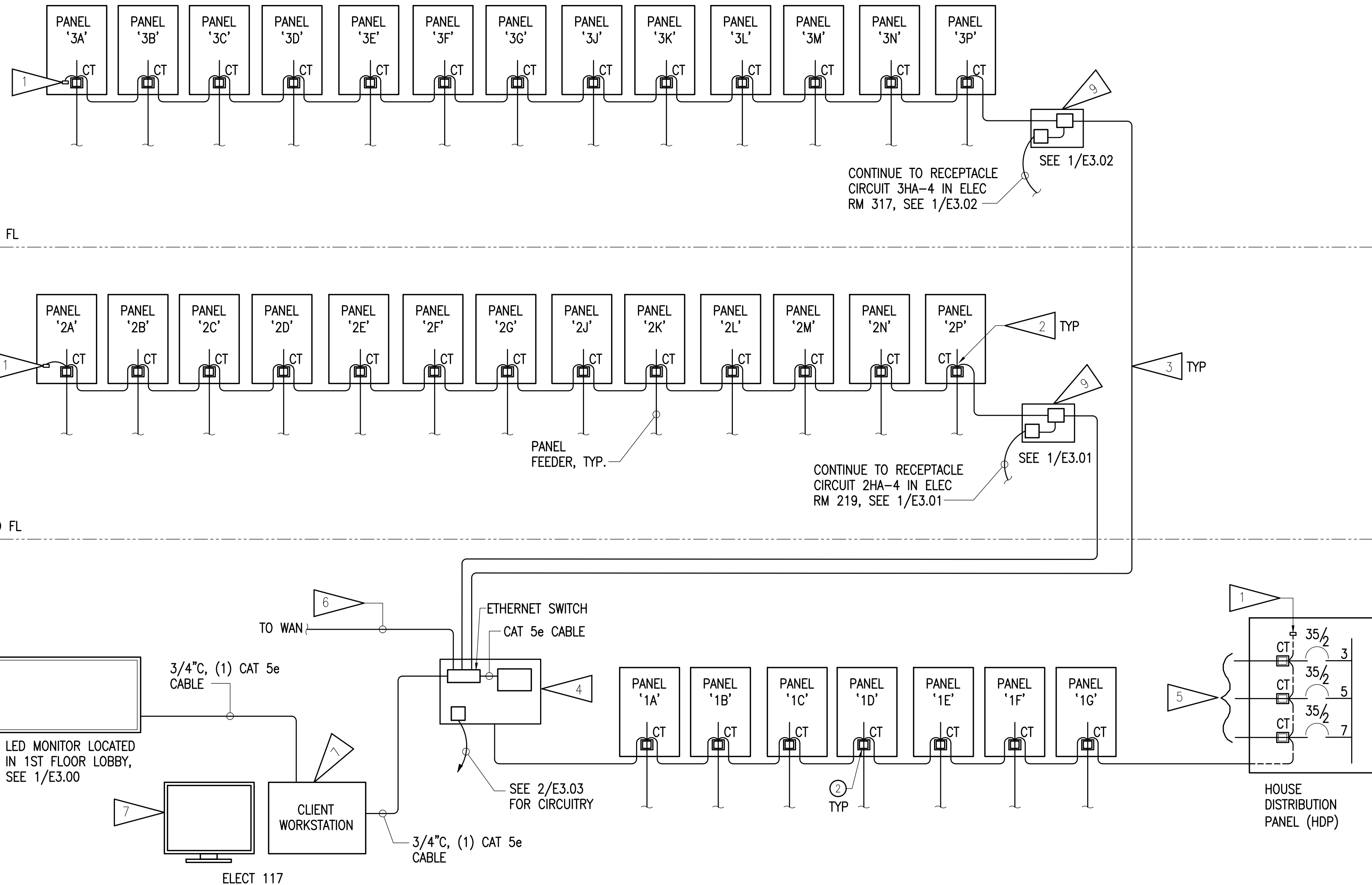
ROOF

3RD FL

2ND FL

1ST FL
EXTERIOR

1 POWER LOGIC TENANT METERING ONE-LINE DIAGRAM
NTS



GENERAL NOTES:

- SQUARE D POWERLOGIC POWER MONITORING SYSTEM IS A BASIC OF DESIGN.
- COORDINATE WITH POWER LOGIC TENANT METERING MANUFACTURER FOR RECOMMENDATIONS AND REQUIREMENTS.
- ALL ENERCEP METER WIRING IS CLASS 1, WITH THE EXCEPTION OF THE DATA CABLE WHICH IS A CLASS 2 WIRE AND MUST BE ISOLATED FROM CLASS 1 WIRE PER UL508.
- DO NOT GROUND THE SHIELD INSIDE THE ELECTRICAL PANEL. ISOLATE ALL MODBUS WIRES, INCLUDING THE SHIELD
- SECURE THE MODBUS CABLE WHERE IT ENTERS THE ELECTRICAL PANEL.
- SEE SHEET E3--SERIES FOR UNIT PANEL LOCATIONS.
- TYPICAL UNIT PANEL IS 100A, 2P MLO 120/208V 1--PHASE, 3--WIRE.

NOTES:

- TERMINATE THE LAST DEVICE ON THE DAISY-CHAIN WITH A TERMINATOR. SQUARE D MCTAS-485 OR APPROVED EQUAL.
- PROVIDE SQUARE D METSEEM4236 ENERCEPT METER OR APPROVED EQUAL METER WILL CONNECT TO LV (0.33V) CT's MOUNTED ON INCOMING PHASE CONDUCTORS OF EACH TENANT PANEL. CONNECT CT's TO METER AND MOUNT METER INSIDE EACH TENANT PANEL OR HOUS DISTRIBUTION PANEL (HDP) AS NOTED.
- PROVIDE 1/2\"C, WITH A TWISTED, SHIELDED PAIR BELDEN 1120A OR APPROVED EQUAL AND CONNECT ALL MODBUS DEVICES TOGETHER IN A DAISY-CHAIN TO FORM THE COMMUNICATION LINK.
- PROVIDE SQUARE D ITM6583590 OR APPROVED EQUAL UL LISTED NEMA 4X PAD LOCKABLE ENCLOSURE WITH COMX510 COMMUNICATIONS GATEWAY/ ENERGY SAVER AND POWER SUPPLY WITH ETHERNET SWITCH INSTALLED AND WIRED.
- CIRCUITS TO SOLAR PV SYSTEM.
- PROVIDE WAN CONNECTION FOR REMOTE MONITORING. OWNER WILL PROVIDE SERVICE VIA LOCAL INTERNET SERVICE PROVIDER. COORDINATE CONNECTION REQUIREMENTS AND LOCATION ONCE SERVICE IS ESTABLISHED.
- PROVIDE SQUARE D CSTM593345 OR APPROVED EQUAL CLIENT DESKTOP WORKSTATION AND SQUARE D 8788LCD22WIDE 21.5\" FLAT PANEL MONITOR, 1920x1080 MAX. PIXEL RESOLUTION OR APPROVED EQUAL.
- PROVIDE SQUARE D ITM1547620 OR APPROVED EQUAL CUSTOM WEB PAGE DEVELOPMENT OF THE POWER LOGIC TENANT METERING SYSTEM. THE WEB PAGE SHALL BE PROGRAMMED TO SHOW THE HISTORICAL DATA FROM EACH UNIT PANEL METER AND HOUSE DISTRIBUTION PANEL METER IN A LINE CHART FORMAT AS DESCRIBED BELOW:

TYPICAL UNIT 106

- VOLTAGE (V)
- CURRENT (A)
- POWER CONSUMPTION (kW)

HOUSE DISTRIBUTION PANEL (HDP): DISPLAY THE SOLAR PHOTOVOLTAIC SYSTEM PRODUCES VIA EACH GRID-TIE INVERTER

- NOMINAL AC VOLTAGE (V)
- MAXIMUM CURRENT (A)
- MAX. REAL POWER PRODUCES (kW)
- MAX. APPARENT POWER PRODUCES (kVA)
- POWER FACTOR
- AC POWER FREQUENCY (Hz)

- PROVIDE SQUARE D ITM9675770 OR APPROVED EQUAL UL LISTED NEMA 12 PAD LOCKABLE ENCLOSURE WITH LINK 150 COMMUNICATIONS GATEWAY AND POWER SUPPLY INSTALLED AND WIRED.
- ON-SITE COMMISSIONING AND STARTUP OF POWER LOGIC SYSTEM TO BE PROVIDED BY SQUARE D FACTORY TECHNICIAN TO ENSURE PROPER CONNECTION AND READINGS OF PANEL METERS AND COMMUNICATIONS INFRASTRUCTURE AS WELL AS CORRECT FUNCTIONALITY OF WEB PAGE DISPLAYS ON LOBBY MONITOR. CONTRACTOR TO COORDINATE STARTUP SCHEDULE WITH INSTALLATION COMPLETION SCHEDULE.



COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK

REVISION SCHEDULE		
#	DESCRIPTION	DATE

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	XPT
REVIEWED	XPT,TEH

SHEET NAME:	POWER LOGIC TENANT METERING ONE-LINE
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SHEET NO.	E1.08
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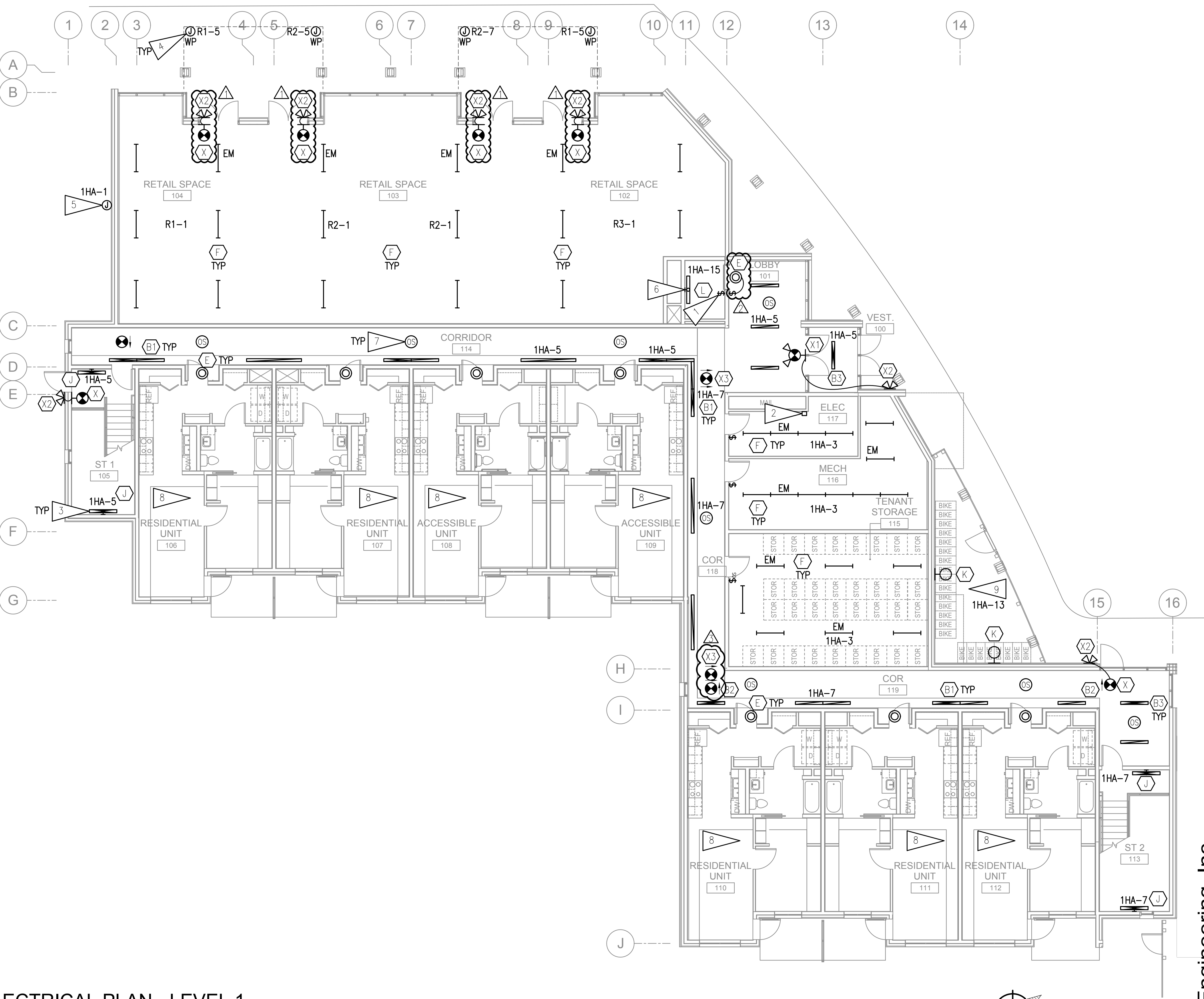
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GENERAL NOTES:

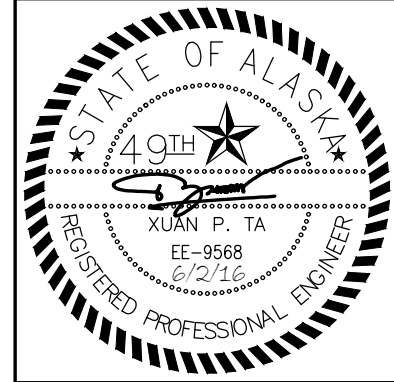
- A. PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED TO PROVIDE POWER CONNECTION FROM ELECTRICAL SOURCE TO MECHANICAL EQUIPMENT, RECEPTACLES, ETC. PANELS AND CIRCUIT ASSIGNMENTS AS INDICATED ON PLANS.
- B. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS PRIOR TO ROUGH-IN.
- C. PROVIDE A DEDICATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL CONDUCTOR.
- D. PROVIDE CONNECTION OF UN-SWITCHED LEG OF LOCAL LIGHTING CIRCUIT TO EMERGENCY LIGHTS AND EXIT SIGNS.
- E. STAIRWAY AND CORRIDOR LIGHTS WILL BE ALWAYS ON. DIM TO 50% WHEN UNOCCUPIED.
- F. OCCUPANCY SENSORS ARE SHOWN TO INDICATE AREAS OF COVERAGE. CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL LAYOUT AND DEVICE COUNT PRIOR TO BIDDING.
- G. METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT-RATED WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.

SHEET NOTES:

1. LOCATE SWITCH WITHIN REACH OF ACCESS.
2. TIME CLOCK AND PILOT LIGHT SWITCH FOR EXTERIOR LIGHTING SYSTEM. PROVIDE AN IDENTIFICATION "EXTERIOR LIGHTS" TAG ON THE COVER. SEE 4/E5.01.
3. STAIR LIGHTS HAVE DUAL TECHNOLOGY INTEGRAL OCCUPANCY SENSOR. STAIR LIGHTS WILL DIM TO APPROXIMATELY 50% LIGHT OUTPUT WHEN UNOCCUPIED.
4. JUNCTION BOX FOR RETAIL SIGN. FIELD-COORDINATE FOR LOCATION AND MOUNTING HEIGHT PRIOR TO ROUGH-IN.
5. JUNCTION BOX AT +28'-0" FOR BUILDING SIGN. FIELD-COORDINATE FOR LOCATION AND MOUNTING HEIGHT PRIOR TO ROUGH-IN.
6. FIELD LOCATE TO AVOID ANY CONFLICT. CONTINUE TO GFCI DUPLEX RECEPTACLE IN ELEVATOR PIT. SEE 1/E3.00.
7. PROVIDE DUAL TECHNOLOGY, OCCUPANCY CONTROLLED DIMMING, CEILING-MOUNT OCCUPANCY SENSOR, SENSOR SWITCH MODEL #CMR-PDT 9 2P OR APPROVED EQUAL. CONNECT SO OCCUPANCY SENSOR WILL PROVIDE 100% LIGHT OUTPUT WHEN OCCUPIED AND WILL AUTOMATICALLY DIM TO 50% LIGHT OUTPUT AFTER 15-MINUTES OF BEING UNOCCUPIED.
8. SEE 1/E2.03 FOR ENLARGED TYPICAL UNIT LIGHTING PLAN. FOR ROOMS THAT HAVE A MIRRORRED LAYOUT, MIRROR LIGHTING EQUIPMENT AS WELL.
9. FIXTURES IN BIKE STORAGE TO BE CONTROLLED WITH EXTERIOR LIGHTING. SEE 1/E1.02 FOR ADDITIONAL FIXTURES ON THIS CIRCUIT.



1 ELECTRICAL PLAN - LEVEL 1
1/8" = 1'-0"



**COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK**

REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	OWNER COMMENTS	5/4/16
2	ADDENDUM #3	5/19/16
3	NOV FIRE COMMENTS	5/21/16

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	FWS
REVIEWED	XPT,TEH

SHEET NAME	LEVEL 1 LIGHTING PLAN
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SHEET NO.	E2.00
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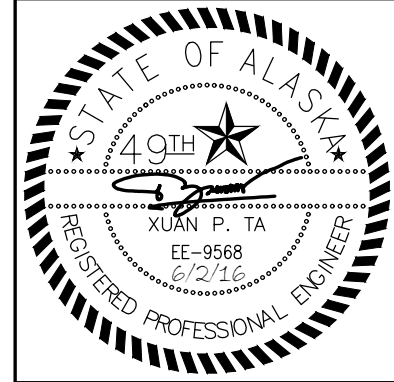
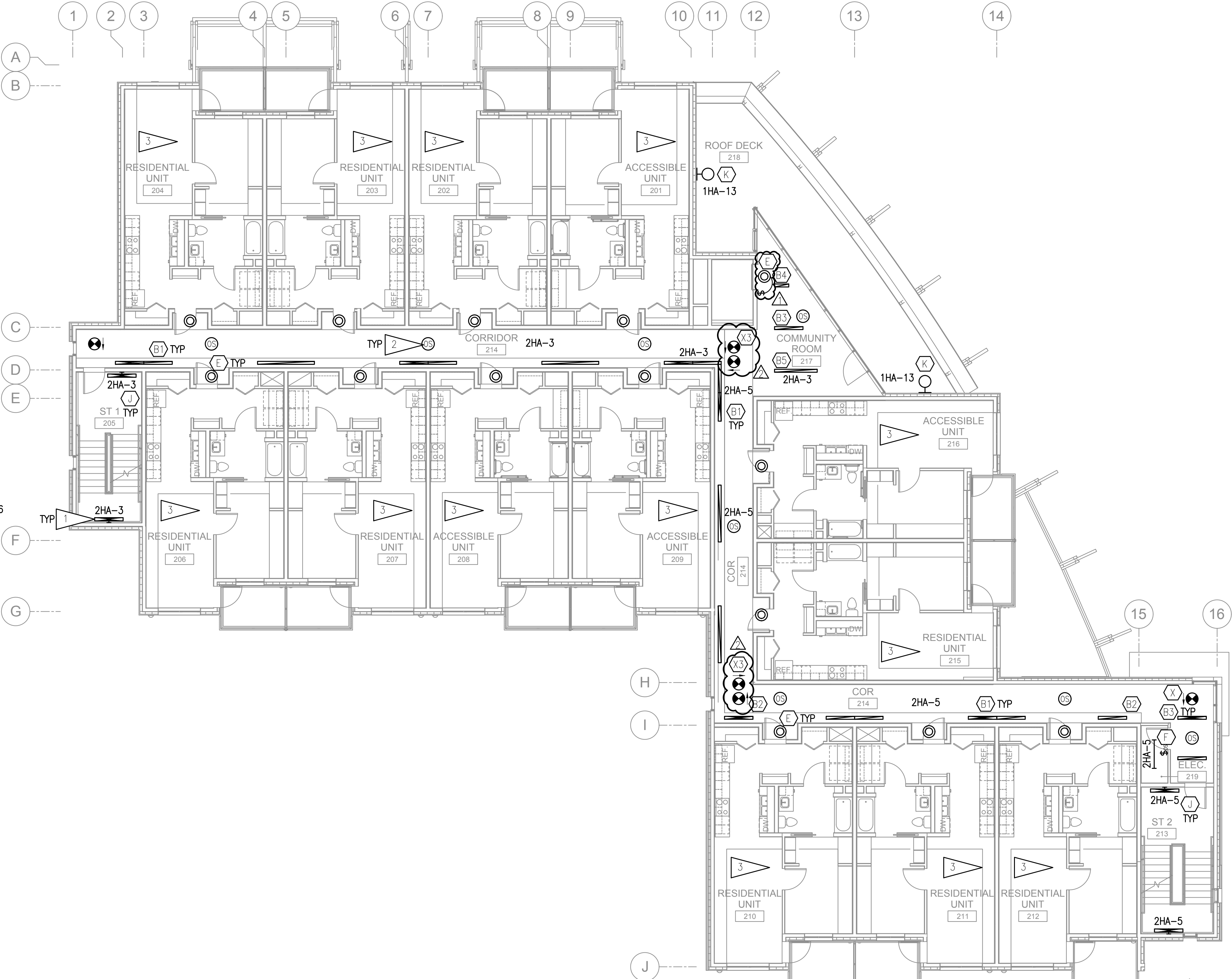
GENERAL NOTES:

- A. PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED TO PROVIDE POWER CONNECTION FROM ELECTRICAL SOURCE TO MECHANICAL EQUIPMENT, RECEPTACLES, ETC. PANELS AND CIRCUIT ASSIGNMENTS AS INDICATED ON PLANS.
- B. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS PRIOR TO ROUGH-IN.
- C. PROVIDE A DEDICATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL CONDUCTOR.
- D. PROVIDE CONNECTION OF UN-SWITCHED LEG OF LOCAL LIGHTING CIRCUIT TO EMERGENCY LIGHTS AND EXIT SIGNS.
- E. E-STAIRWAY AND CORRIDOR LIGHTS WILL BE ALWAYS ON. DIM TO 50% WHEN UNOCCUPIED.
- F. OCCUPANCY SENSORS ARE SHOWN TO INDICATE AREAS OF COVERAGE. CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL LAYOUT AND DEVICE COUNT PRIOR TO BIDDING.
- G. METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT-RATED WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.

SHEET NOTES:

1. STAIR LIGHTS HAVE DUAL TECHNOLOGY INTEGRAL OCCUPANCY SENSOR. STAIR LIGHTS WILL DIM TO APPROXIMATELY 50% LIGHT OUTPUT WHEN UNOCCUPIED.
2. PROVIDE DUAL TECHNOLOGY, OCCUPANCY CONTROLLED DIMMING, WALL-MOUNT OCCUPANCY SENSOR, SENSOR SWITCH MODEL #WVR PDT 16 2P OR APPROVED EQUAL. CONNECT SO OCCUPANCY SENSOR WILL PROVIDE 100% LIGHT OUTPUT WHEN OCCUPIED AND WILL AUTOMATICALLY DIM TO 50% LIGHT OUTPUT AFTER 15-MINUTES OF BEING UNOCCUPIED.
3. SEE 1/E2.03 FOR ENLARGED TYPICAL RESIDENTIAL UNIT LIGHTING PLAN. FOR ROOMS THAT HAVE A MIRRORED LAYOUT, MIRROR LIGHTING EQUIPMENT AS WELL.

1 ELECTRICAL PLAN - LEVEL 2
1/8" = 1'-0"



KPB ARCHITECTS
600 L STREET, SUITE 400, ANCHORAGE, AK 99501
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SPENARD MIXED USE
ANCHORAGE, AK**

REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	ADDENDUM #3	5/18/16
2	NOI FIRE COMMENT	5/31/16

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	FWS
REVIEWED	XPT,TEH
SHEET NAME LEVEL 2 LIGHTING PLAN	
SHEET NO. E2.01	

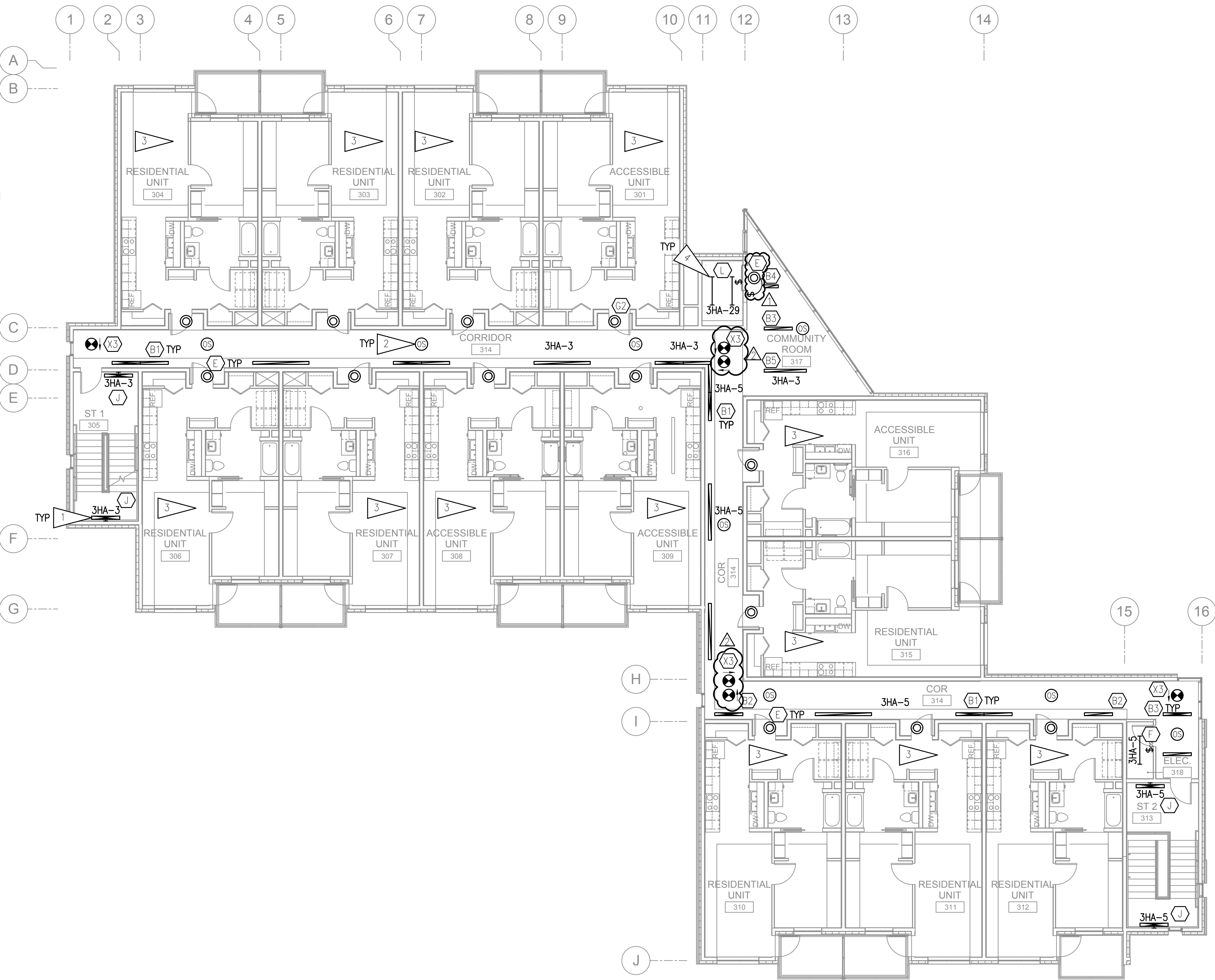
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GENERAL NOTES:

- A. PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED TO PROVIDE POWER CONNECTION FROM ELECTRICAL SOURCE TO MECHANICAL EQUIPMENT, RECEPTACLES, ETC. PANELS AND CIRCUIT ASSIGNMENTS AS INDICATED ON PLANS.
- B. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS PRIOR TO ROUGH-IN.
- C. PROVIDE A DEDICATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL CONDUCTOR.
- D. PROVIDE CONNECTION OF UN-SWITCHED LEG OF LOCAL LIGHTING CIRCUIT TO EMERGENCY LIGHTS AND EXIT SIGNS.
- E. STAIRWAY AND CORRIDOR LIGHTS WILL BE ALWAYS ON. DIM TO 50% WHEN UNOCCUPIED.
- F. OCCUPANCY SENSORS ARE SHOWN TO INDICATE AREAS OF COVERAGE. CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL LAYOUT AND DEVICE COUNT PRIOR TO BIDDING.
- G. METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT-RATED WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.

SHEET NOTES:

1. STAIR LIGHTS HAVE DUAL TECHNOLOGY INTEGRAL OCCUPANCY SENSOR. STAIR LIGHTS WILL DIM TO APPROXIMATELY 50% LIGHT OUTPUT WHEN UNOCCUPIED.
2. PROVIDE DUAL TECHNOLOGY, OCCUPANCY CONTROLLED DIMMING, CEILING-MOUNT OCCUPANCY SENSOR, SENSOR SWITCH MODEL #CMR-PDT 9 2P OR APPROVED EQUAL. CONNECT SO OCCUPANCY SENSOR WILL PROVIDE 100% LIGHT OUTPUT WHEN OCCUPIED AND WILL AUTOMATICALLY DIM TO 50% LIGHT OUTPUT AFTER 15-MINUTES OF BEING UNOCCUPIED.
3. SEE 1/E2.04 FOR ENLARGED TYPICAL RESIDENTIAL UNIT LIGHTING PLAN. FOR ROOMS THAT HAVE A MIRRORED LAYOUT, MIRROR LIGHTING EQUIPMENT AS WELL.
4. FIELD COORDINATE WITH ELEVATOR MANUFACTURER FOR LOCATION PRIOR TO ROUGH-IN. CONTINUE TO RECEPTACLE LOCATED IN THE HOISTWAY. SEE 2/E3.03.



1 ELECTRICAL PLAN - LEVEL 3
1/8" = 1'-0"



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SPENARD MIXED USE
ANCHORAGE, AK

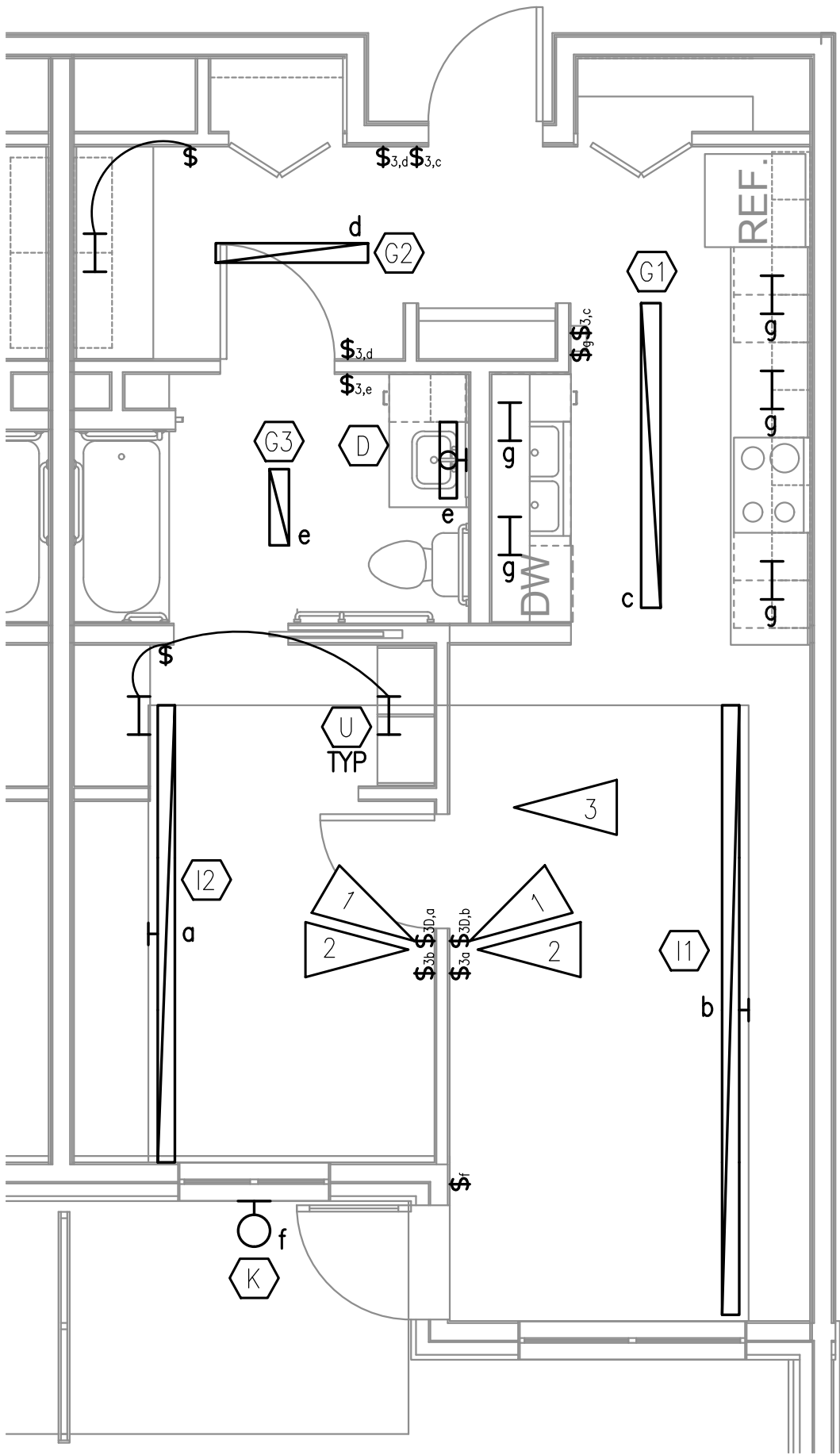
REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	ADDENDUM #3	5/18/16
2	NOI FIRE COMMENT	5/31/16

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	FWS
REVIEWED	XPT, TEH

SHEET NAME	LEVEL 3 LIGHTING PLAN
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SHEET NO.	E2.02
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1 ENLARGED TYPICAL UNIT LIGHTING
1/4" = 1'-0"

GENERAL NOTES:

- PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED TO PROVIDE POWER CONNECTION FROM ELECTRICAL SOURCE TO MECHANICAL EQUIPMENT, RECEPTACLES, ETC. PANELS AND CIRCUIT ASSIGNMENTS AS INDICATED ON PLANS.
- CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS PRIOR TO ROUGH-IN.
- PROVIDE A DEDICATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL CONDUCTOR.
- METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT-RATED WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.

SHEET NOTES:

- PROVIDE 0-10V DIMMER SWITCH COMPATIBLE WITH FIXTURE.
- FOR UNITS WITH FULL HEIGHT WALL SEPARATING BEDROOM FROM LIVING ROOM, PROVIDE SINGLE SWITCH FOR DIMMING OF LOCAL ZONE ONLY.
- CONNECT LIGHTS TO CIRCUIT 1 OF RESIDENTIAL UNIT LOAD CENTER.

COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK



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REGISTERED PROFESSIONAL ENGINEERS
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191 East Swanson Ave., Suite 101 • Wasilla, AK 99654 • (907) 357-1521
PERMIT SUBMITTAL

REVISION SCHEDULE		
#	DESCRIPTION	DATE

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	FWS
REVIEWED	XPT,TEH

SHEET NAME
ENLARGED LIGHTING PLANS

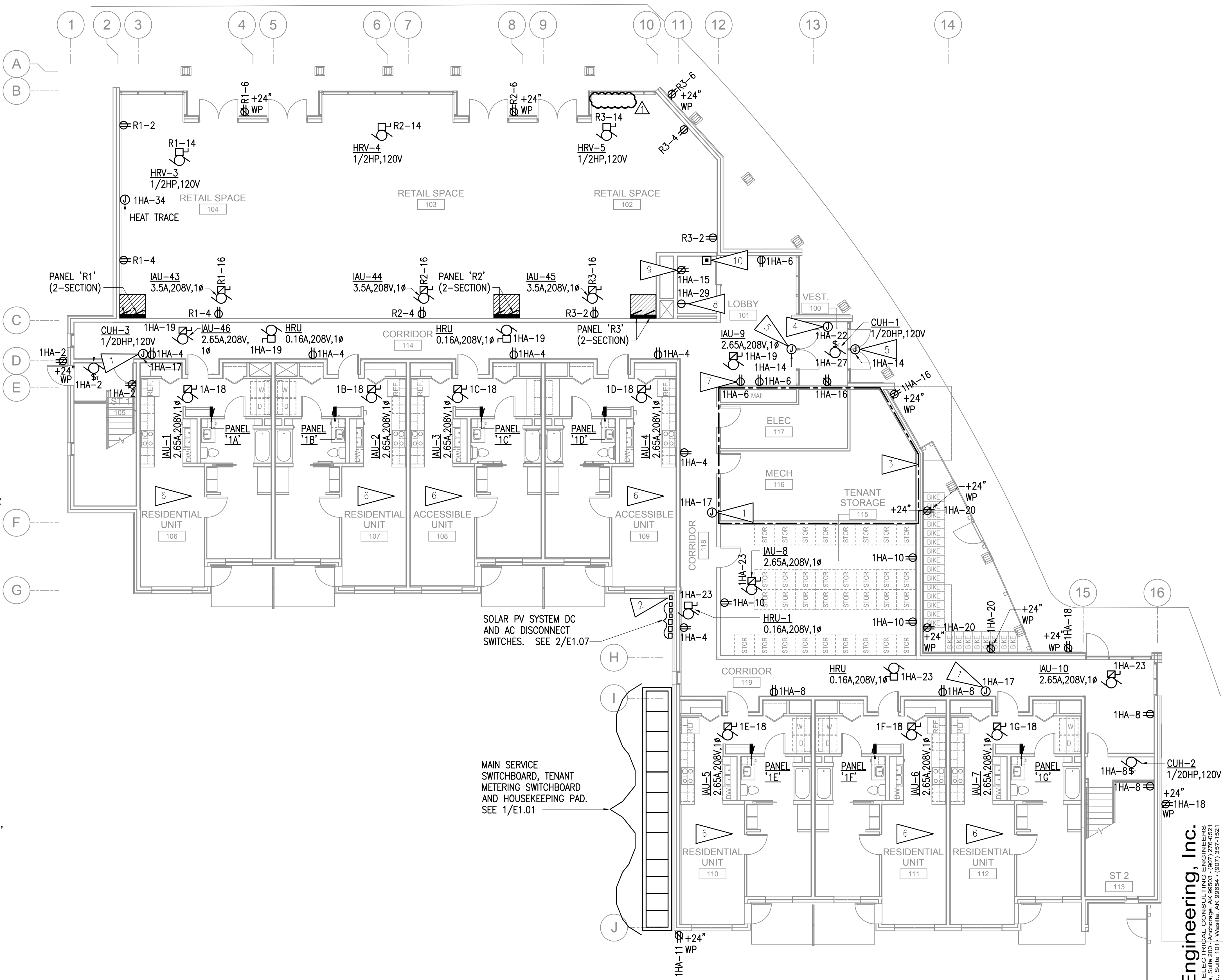
SHEET NO.
E2.03

GENERAL NOTES:

- PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED TO PROVIDE POWER CONNECTION FROM ELECTRICAL SOURCE TO MECHANICAL EQUIPMENT, RECEPTACLES, ETC. PANELS AND CIRCUIT ASSIGNMENTS AS INDICATED ON PLANS.
- CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS PRIOR TO ROUGH-IN.
- PROVIDE A DEDICATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL CONDUCTOR.
- FIELD-COORDINATE WITH MECHANICAL EQUIPMENT, PIPING, DUCTWORK, ETC. PRIOR TO ROUGH-IN OF ELECTRICAL DEVICES. (SUCH AS COMBINATION DISCONNECT/MAGNETIC MOTOR STARTER, DISCONNECT SWITCH, ETC.) TO MAINTAIN WORKING CLEARANCE IN FRONT OF ELECTRICAL DEVICES. PROVIDE STEEL CHANNEL SUPPORT AS REQUIRED FOR MOUNTING ELECTRICAL DEVICES TO THE MECHANICAL EQUIPMENT ENCLOSURE.
- METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT-RATED WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.

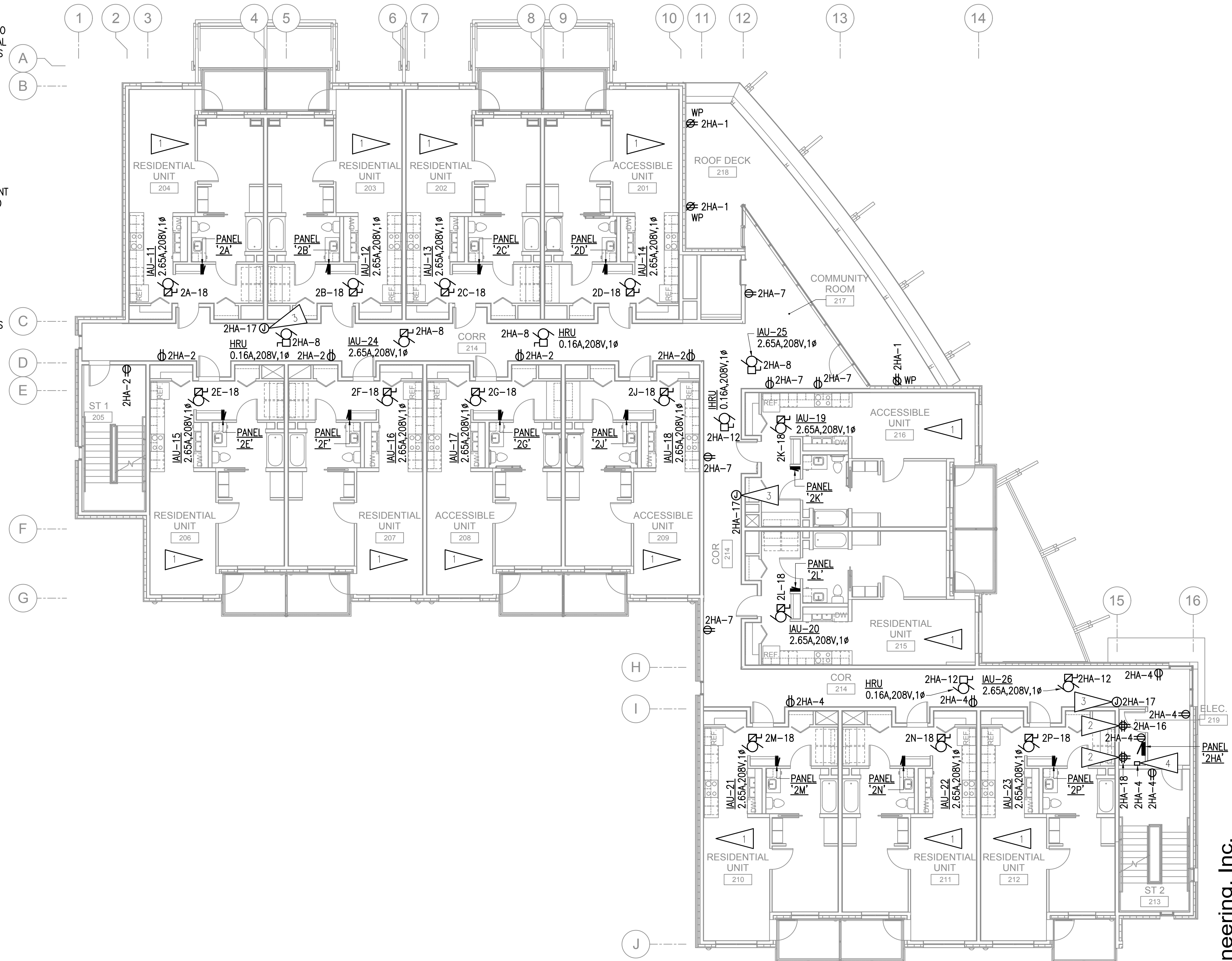
SHEET NOTES:

- JUNCTION BOX FOR FIRE SMOKE DAMPER CONNECTIONS. FIELD LOCATE PRIOR TO ROUGH-IN.
- ENCLOSED CIRCUIT BREAKER FOR USB CHARGER AND RECEPTACLE. SEE 2/E1.07.
- SEE 2/E3.03 FOR ENLARGED MECHANICAL AND ELECTRICAL ROOM POWER PLAN.
- JUNCTION BOX FOR FIRE ALARM CONTROL PANEL CONNECTION.
- JUNCTION BOX FOR ELECTRIC DOOR OPERATOR CONNECTION.
- SEE 1/E3.03 FOR ENLARGED UNIT POWER PLAN. FOR ROOMS THAT HAVE A MIRRORRED LAYOUT, MIRROR POWER EQUIPMENT AS WELL.
- DUPLEX RECEPTACLE FOR LED MONITOR CONNECTION LOCATED ABOVE MAILBOXES. FIELD COORDINATE FOR EXACT LOCATION AND MOUNTING HEIGHT PRIOR TO ROUGH-IN.
- SINGLE RECEPTACLE FOR CONNECTION TO ELEVATOR SP-1 1/2HP,120V. FIELD VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
- RECEPTACLE LOCATED IN ELEVATOR PIT. CONTINUE TO LIGHTING CIRCUIT IN ELEVATOR PIT. SEE 1/E2.00. COORDINATE HEIGHT WITH ELEVATOR MANUFACTURER REQUIREMENTS.
- PROVIDE STOP SWITCH IN ELEVATOR PIT TO REMOVE THE ELECTRIC POWER FROM THE ELEVATOR DRIVING MACHINE MOTOR AND BRAKE PER ASME A17.1 SECTION 2.2.6 AND 2.26.2.5. MOUNT SWITCH AT 18" ABOVE FLOOR LEVEL OF LANDING. EMERGENCY SWITCH SHALL BE MANUALLY OPENED AND CLOSED TYPE, HAVE RED OPERATING HANDLES OR BUTTONS, BE CONSPICUOUSLY AND PERMANENTLY MARKED "STOP" AND SHALL INDICATE THE "STOP" AND "RUN" POSITIONS. WHEN OPENED, AUDIBLE DEVICE SHALL SOUND PER ASME A17.1 SECTION 2.27.1.2.

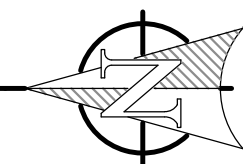


- A. PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED TO PROVIDE POWER CONNECTION FROM ELECTRICAL SOURCE TO MECHANICAL EQUIPMENT, RECEPTACLES, ETC. PANELS AND CIRCUIT ASSIGNMENTS AS INDICATED ON PLANS.
- B. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS PRIOR TO ROUGH-IN.
- C. PROVIDE A DEDICATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL CONDUCTOR.
- D. MOUNT THE TOP ROW OF THE CIRCUIT BREAKER OF EACH UNIT PANEL WILL NOT EXCEED 48 INCHES ABOVE FINISHED FLOOR.
- E. METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT-RATED WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.

1. SEE 1/E3.03 FOR ENLARGED TYPICAL UNIT POWER PLANT. FOR ROOMS THAT HAVE A MIRRORRED LAYOUT, MIRROR POWER EQUIPMENT AS WELL.
2. RECEPTACLE FOR TELEPHONE/CATV AND VIDEO INTERCOM SYSTEM.
3. JUNCTION BOX FOR FIRE SMOKE DAMPER CONNECTIONS. FIELD LOCATE PRIOR TO ROUGH-IN.
4. LOCKABLE ENCLOSURE WITH LINK 150 AND POWER SUPPLY. SEE 1/E1.08. MOUNT +6"-6" AFF.



1 POWER PLAN - LEVEL 2
1/8" = 1'-0"



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JOB NO.	L5225.00
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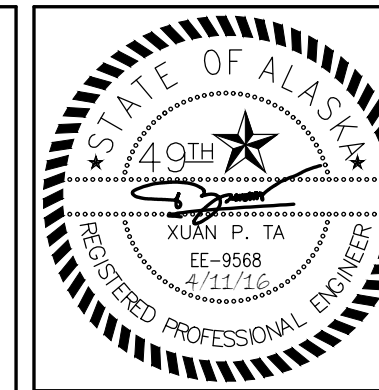
SHEET NAME
LEVEL 2
POWER PLAN

SHEET NO.
E3.01

RS&A Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
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191 East Swanson Ave., Suite 101 • Wasilla, AK 99654 • (907) 357-1521

- A. PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED TO PROVIDE POWER CONNECTION FROM ELECTRICAL SOURCE TO MECHANICAL EQUIPMENT, RECEPTACLES, ETC. PANELS AND CIRCUIT ASSIGNMENTS AS INDICATED ON PLANS.
- B. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS PRIOR TO ROUGH-IN.
- C. PROVIDE A DEDICATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL CONDUCTOR.
- D. MOUNT THE TOP ROW OF THE CIRCUIT BREAKER OF EACH UNIT PANEL WILL NOT EXCEED 48 INCHES ABOVE FINISHED FLOOR.
- E. METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT-RATED WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.

1. SEE 1/E3.03 FOR ENLARGED UNIT POWER PLAN. FOR ROOMS THAT HAVE A MIRRORRED LAYOUT, MIRROR POWER EQUIPMENT AS WELL.
2. RECEPTACLE FOR TELEPHONE/CATV AND VIDEO INTERCOM SYSTEM.
3. SEE 3/3.03 FOR ENLARGED ELEVATOR ROOM POWER PLAN.
4. LOCKABLE ENCLOSURE WITH LINK 150 AND POWER SUPPLY. MOUNT AT +6'-6" AFF. SEE 1/E1.8.
5. JUNCTION BOX FOR FIRE SMOKE DAMPER CONNECTIONS. FIELD LOCATE PRIOR TO ROUGH-IN.



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SHEET NAME
LEVEL 3
POWER PLAN

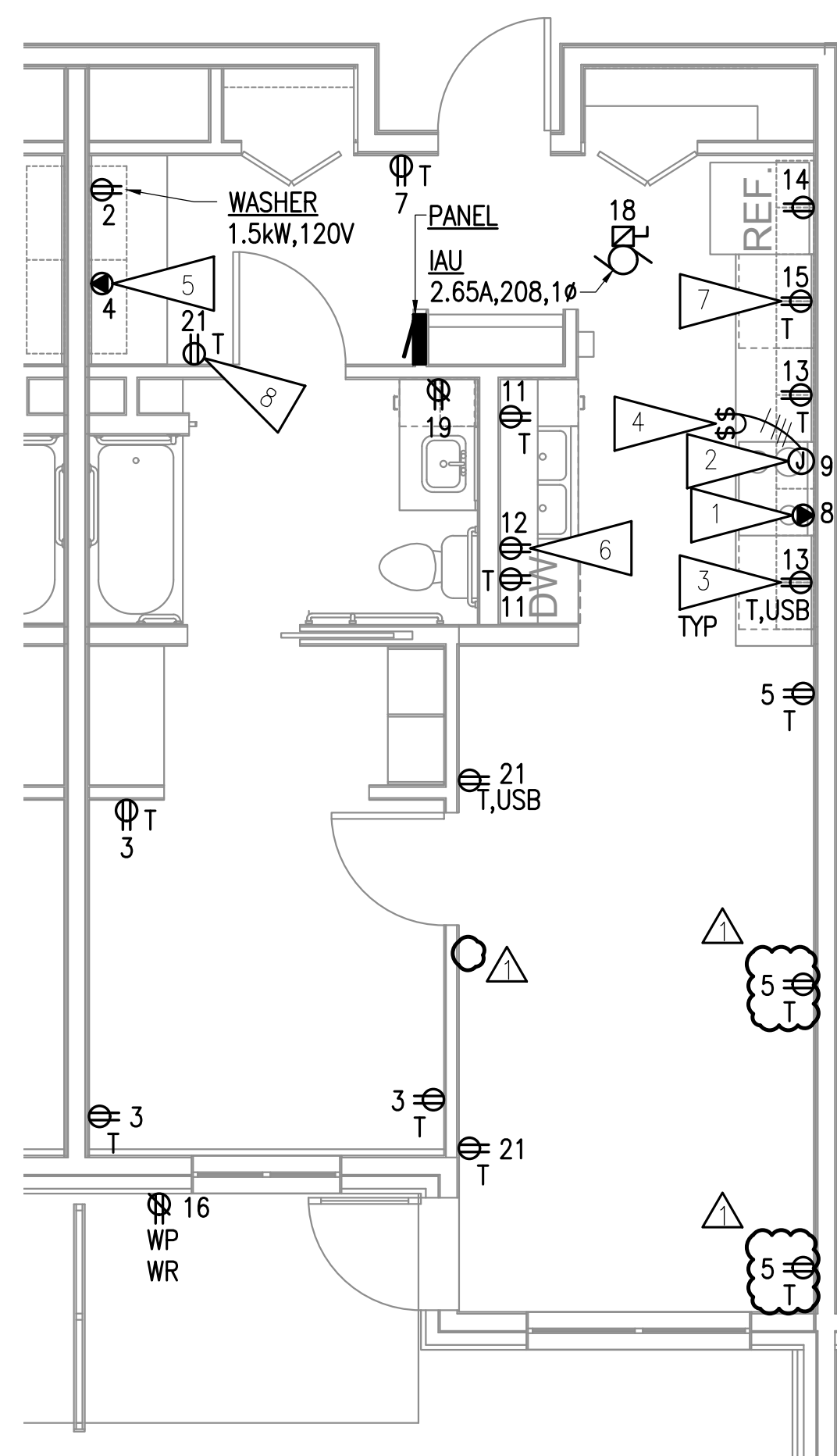
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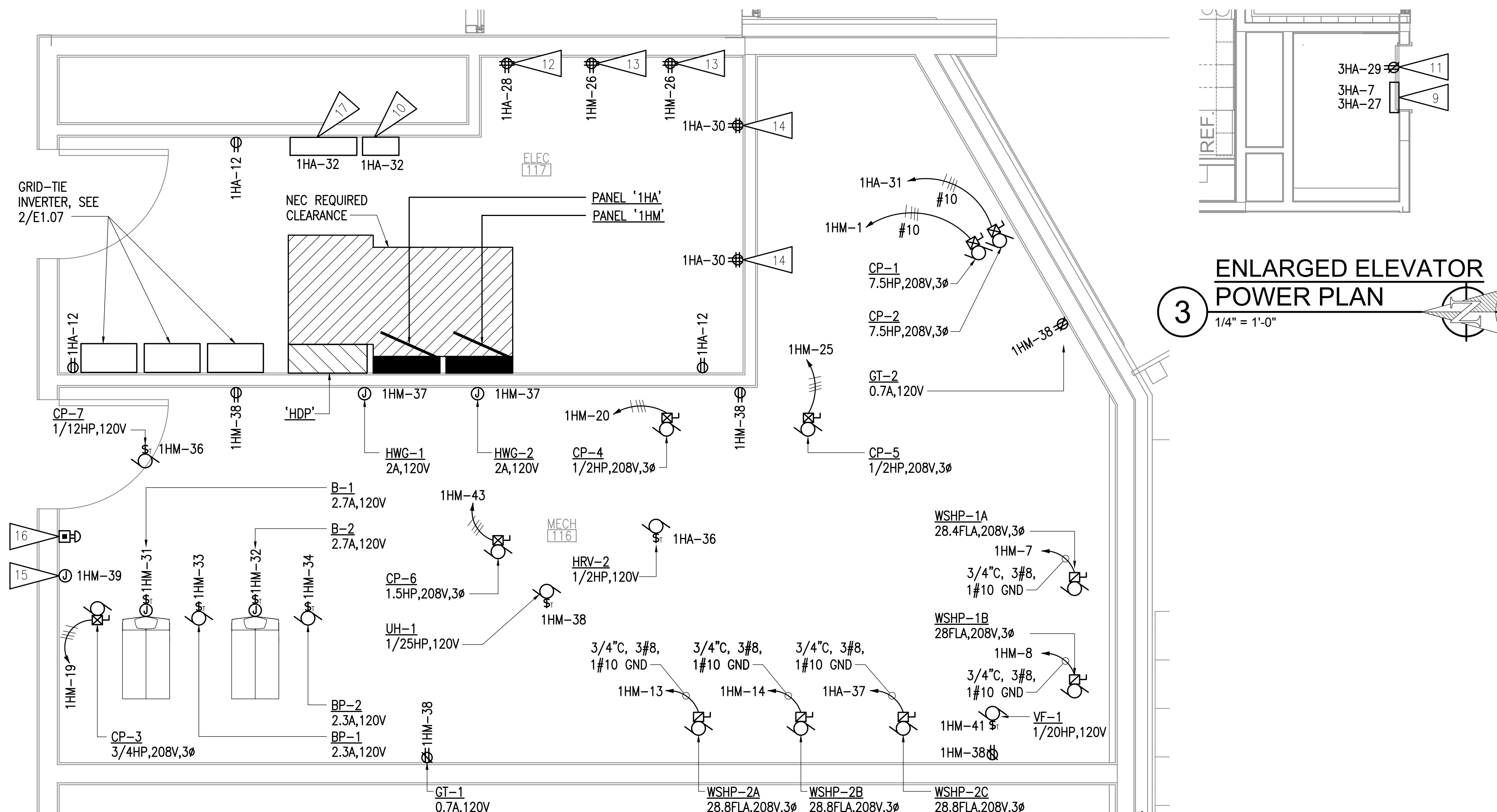
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ENLARGED POWER PLAN - TYPICAL RESIDENTIAL UNIT



ENLARGED ELEVATOR POWER PLAN

- GENERAL NOTES:

- A. PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED TO PROVIDE POWER CONNECTION FROM ELECTRICAL SOURCE TO MECHANICAL EQUIPMENT, RECEPTACLES, ETC. PANELS AND CIRCUIT ASSIGNMENTS AS INDICATED ON PLANS.
- B. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS PRIOR TO ROUGH-IN.
- C. PROVIDE A DEDICATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL CONDUCTOR.
- D. COORDINATE EXACT NEMA CONFIGURATION FOR ELECTRIC RANGE AND CLOTHES DRYER WITH EQUIPMENT SUPPLIER PRIOR TO ORDERING.
- E. FIELD COORDINATE WITH MECHANICAL FOR LOCATION OF THE MECHANICAL EQUIPMENT (I.E. PUMPS, BOILERS, WATER SOURCE HEAT PUMP, ECT.) PRIOR TO ROUGH-IN.
- F. SEE MECHANICAL DRAWING FOR EQUIPMENT NUMBER FOR 1AU IN EACH UNIT.
- G. METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT-RATED WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.
- H. SEE E3-SERIES FOR PANEL NAMES AND LOCATIONS.
- I. FIELD COORDINATE WITH MECHANICAL EQUIPMENT, PIPING, DUCTWORK ETC. PRIOR TO ROUGH-IN ELECTRICAL DEVICES (I.E. COMBINATION DISCONNECT/MAGNETIC MOTOR STARTER DISCONNECT SWITCH, ETC.) TO MAINTAIN 3'-0" CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT. PROVIDE STEEL CHANNEL SUPPORT AS REQUIRED FOR MOUNTING ELECTRICAL DEVICES TO MECHANICAL EQUIPMENT ENCLOSURE.

SHEET NOTES:

1. RANGE – 10kW, 208V, 1Ø. PROVIDE A 50A NEMA 14–50R RECEPTACLE, 3/4"C, 3#6, 1#10 GND, AND CONNECT TO UNIT PANEL AND CIRCUIT ASSIGNMENT AS SHOWN.
2. JUNCTION BOX FOR RANGE HOOD FAN/LIGHT – 2.5A, 120V CONNECTION.
3. MOUNT DUPLEX RECEPTACLE AT +44" AFF. COORDINATE WITH ARCHITECT PRIOR TO ROUGH-IN.
4. MOUNT SWITCHES FOR RANGE HOOD FAN AND LIGHT IN FACE OF CASEWORK FOR ACCESSIBILITY. COORDINATE WITH MILLWRIGHT PRIOR TO ROUGH-IN.
5. DRYER – 5kW, 208V, 1Ø. PROVIDE A 30A NEMA 14–30R RECEPTACLE, 1/2"C, 3#10, 1#10 GND, AND CONNECT TO UNIT PANEL AND CIRCUIT ASSIGNMENT AS SHOWN.
6. DISHWASHER – 1.2kW, 120V. LOCATE RECEPTACLE UNDER THE SINK FOR READILY ACCESSIBLE.
7. MICROWAVE – 1.5kW, 120V. MOUNT DUPLEX RECEPTACLE AT +44" AFF. FIELD COORDINATE FOR MOUNTING HEIGHT PRIOR TO ROUGH-IN.
8. DUPLEX RECEPTACLE FOR LOW VOLTAGE CABINET. SEE 1/E1.02. FIELD COORDINATE FOR MOUNTING HEIGHT PRIOR TO ROUGH-IN.
9. PROVIDE CONNECTION FOR MACHINE ROOM–LESS ELEVATOR CONTROLLER. LOCAL DISCONNECT SWITCHES ARE NOT REQUIRED. PROVIDE SINGLE POINT CONNECTION FOR MAIN POWER TO ELEVATOR CONTROLLER AND A SECOND DEDICATED 20A, 120V BRANCH CIRCUIT FOR ELEVATOR CAB LIGHTS, CAB VENTILATION, ETC. FIELD COORDINATE WITH ELEVATOR MANUFACTURER FOR EXACT LOCATION PRIOR TO ROUGH-IN. SEE 1/E1.01 FOR CONDUIT AND WIRE SIZES.
10. LOCKABLE ENCLOSURE WITH LINK 150 AND POWER SUPPLY. SEE 1/E1.08.

11. CONTINUE TO LIGHTING CIRCUIT. SEE 1/E2.02.
12. QUADRUPLER RECEPTACLE FOR IP CAMERA SURVEILLANCE SYSTEM CONNECTION.
13. QUADRUPLER RECEPTACLE FOR VIDEO INTERCOM SYSTEM CONNECTION.
14. QUADRUPLER RECEPTACLE FOR TELEPHONE AND CATV/DIGITAL TELEVISION SYSTEM CONNECTION.
15. JUNCTION BOX FOR BOILER CONTROL PANEL CONNECTION. FIELD COORDINATE FOR LOCATION PRIOR TO ROUGH-IN.
16. PROVIDE BOILER ILLUMINATED MAINTAINED CONTACT (PUSH/PULL) EMERGENCY SHUT-OFF OPERATOR VIA RELAY-IN-A-BOX.
17. POWER LOGIC TENANT METERING PANEL. SEE 1/E1.08.

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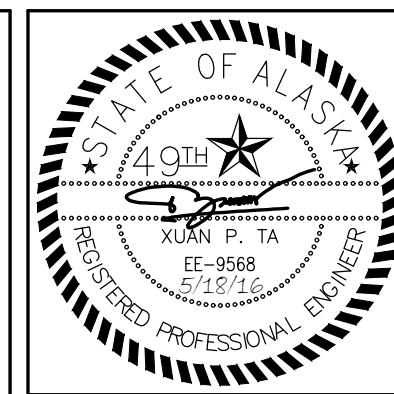
REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	OWNER COMMENTS	5/4/10

JOB NO.	L5225.00
DATE	4.11.2018
DRAWN	FWS
REVIEWED	XPT.TEH

SHEET NAME
ENLARGED POWER PLANS

SHEET NO

E3.03



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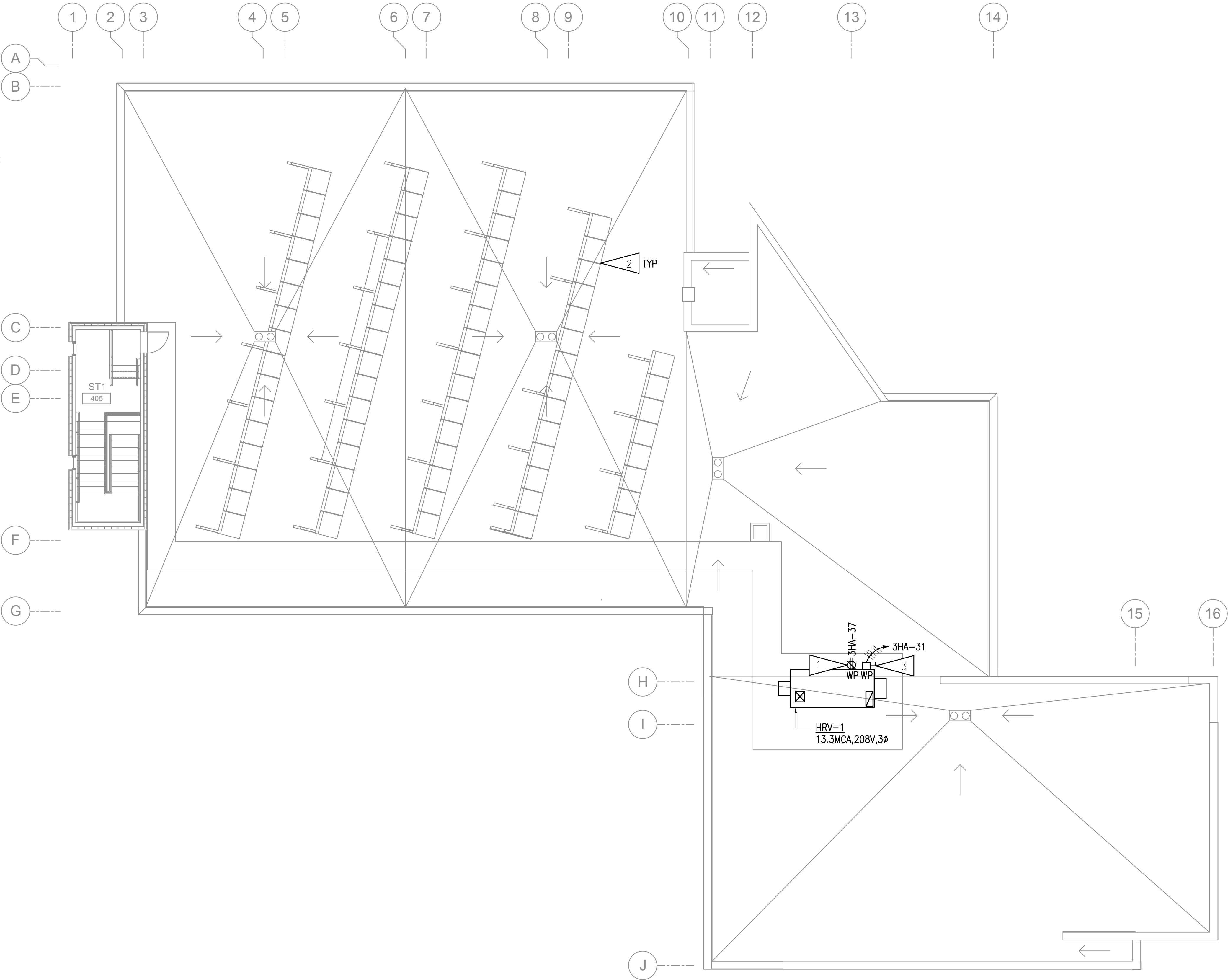
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GENERAL NOTES:

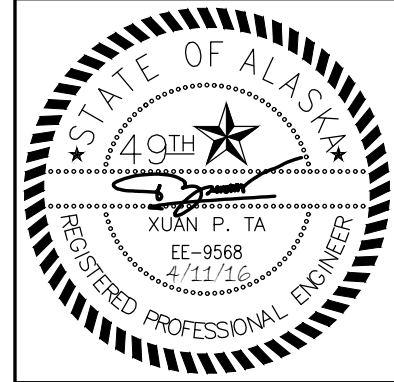
- A. PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED TO PROVIDE POWER CONNECTION FROM ELECTRICAL SOURCE TO MECHANICAL EQUIPMENT, RECEPTACLES, ETC. PANELS AND CIRCUIT ASSIGNMENTS AS INDICATED ON PLANS.
- B. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS PRIOR TO ROUGH-IN.
- C. PROVIDE A DEDICATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT THAT REQUIRES A NEUTRAL CONDUCTOR.
- D. FIELD COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR FINAL LOCATIONS, SUPPORTING AND BRACING PRIOR TO INSTALLING THE SOLAR PHOTOVOLTAIC (PV) SYSTEM.

SHEET NOTES:

1. MOUNT GFCI DUPLEX RECEPTACLE TO THE SIDE OF ROOF CURB.
2. SOLAR PHOTOVOLTAIC (PV) SYSTEM. SEE 1/E1.07 FOR REQUIREMENTS.
3. PROVIDE A 30A, 3P 240V HEAVY-DUTY NEMA 3R NON-FUSED DISCONNECT SWITCH FOR HRV-1 CONNECTION.



1 POWER PLAN - ROOF
1/8" = 1'-0"



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ANCHORAGE, AK**

REVISION SCHEDULE		
#	DESCRIPTION	DATE

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	FWS
REVIEWED	XPT,TEH

SHEET NAME	ROOF POWER PLAN
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SHEET NO.	E3.04
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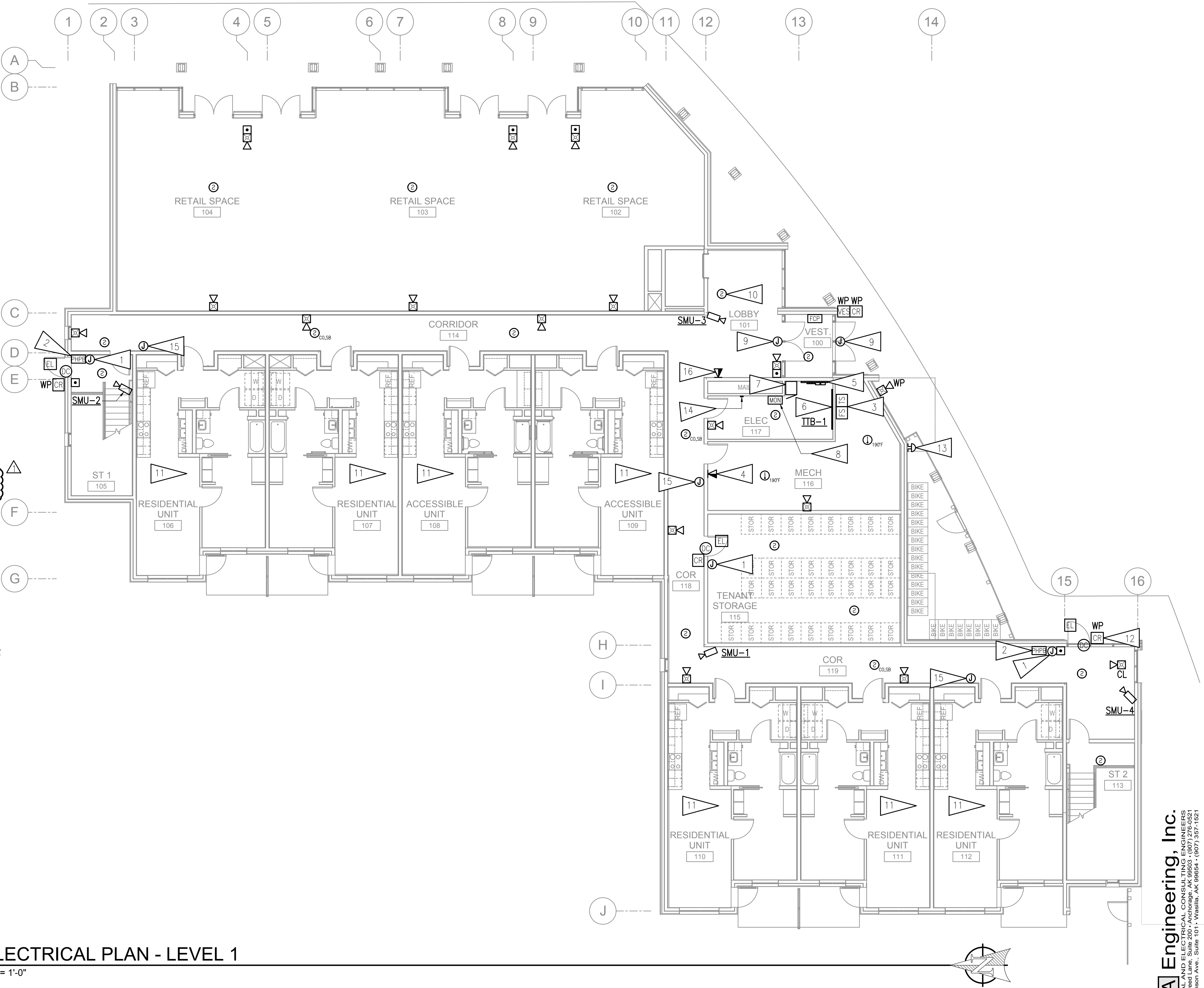
GENERAL NOTES:

- A. PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED FOR FIRE ALARM, TELEPHONE, CATV, AUDIO/VIDEO DOOR MONITORING, AND CAMERA SURVEILLANCE DEVICE CONNECTIONS TO THE FIRE ALARM CONTROL PANEL, ITB, CATV, VIDEO INTERCOM, AND CAMERA SURVEILLANCE HEAD-END EQUIPMENT.
- B. FIELD COORDINATE WITH MECHANICAL DUCTWORK, SPRINKLER PIPING, SPRINKLER HEADS, AIR DIFFUSERS, ETC. PRIOR TO ROUGH-IN TO AVOID ANY CONFLICTS.
- C. DO NOT LOCATE SMOKE AND HEAT DETECTOR WITHIN 3'-0" OF AN ELECTRONIC BALLAST.
- D. FIRE ALARM DEVICES ARE SHOWN TO REPRESENT DESIRED COVERAGE. CONTRACTOR IS RESPONSIBLE FOR COVERAGE PER NFPA 72 AND DEVICE COUNT PRIOR TO BID.
- E. METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT RATED WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.

SHEET NOTES:

1. JUNCTION BOX FOR CONSOLIDATION OF ACCESS CONTROL CABLING.
2. MOUNT POWER SUPPLY IN ACCESSIBLE LOCATION ON WALL. FIELD LOCATE TO AVOID ANY CONFLICTS.
3. APPROXIMATE LOCATION OF SPRINKLER TAMPER AND FLOW SWITCH. COORDINATE WITH SPRINKLER INSTALLER FOR QUANTITY AND LOCATIONS PRIOR TO ROUGH-IN.
4. TELECOMMUNICATION OUTLET FOR BOILER CONTROL PANEL. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
5. PROVIDE 3/4" THICK x 48"W x 96"H FIRE RESISTANT PLYWOOD BACKBORAD FOR VIDEO INTERCOM HEAD-END EQUIPMENT. SEE 1/E1.04.
6. PROVIDE 3/4" THICK x 96"W x 48"H FIRE RESISTANT PLYWOOD BACKBOARD FOR TELEPHONE AND CATV HEAD-END EQUIPMENT. SEE 1/E1.02.
7. 19"W x 24"D x 42"H WALL-MOUNTED CABINET FOR IP CAMERA SURVEILLANCE HEAD-END EQUIPMENT. SEE 2/E1.05.
8. COORDINATE IP CAMERA CLIENT WORKSTATION AND MONITOR LOCATION WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
9. JUNCTION BOX FOR MOTION DETECTOR EGRESS CONNECTION.
10. CONNECT TO CAPTURE ELEVATOR AND RETURN IT TO THE DESIGNATED OR ALTERNATE FLOOR IN ACCORDANCE WITH A17.1 SECTION 2.27.3.2.
11. SEE 1/E4.03 FOR ENLARGED TYPICAL UNIT SIGNAL PLAN. FOR ROOMS THAT HAVE A MIRRORRED LAYOUT, MIRROR SIGNAL EQUIPMENT AS WELL.
12. MOUNT CARD READER TO MULLION.
13. SPRINKLER ALARM BELL PROVIDED BY SPRINKLER INSTALLER. FIELD VERIFY FOR LOCATION AND MOUNTING HEIGHT PRIOR TO ROUGH-IN.
14. GCI CABLE MODEM FOR POWER LOGIC TENANT METERING NETWORK SWITCH CONNECTION. MODEM PROVIDED BY SERVICE PROVIDER. SEE 1/E1.02.
15. JUNCTION BOX FOR FIRE SMOKE DAMPER CONNECTIONS TO FACP. FIELD LOCATE PRIOR TO ROUGH-IN.
16. LED MONITOR PROVIDED BY THE OWNER FOR DISPLAY OF POWER LOGIC TENANT METERING SYSTEM. FIELD COORDINATE FOR EXACT LOCATION AND MOUNTING HEIGHT PRIOR TO ROUGH-IN. SEE 1/E1.08.

1 ELECTRICAL PLAN - LEVEL 1
1/8" = 1'-0"



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REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	OWNER COMMENTS	5/4/16

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	FWS
REVIEWED	XPT,TEH

SHEET NAME	LEVEL 1 SIGNAL PLAN
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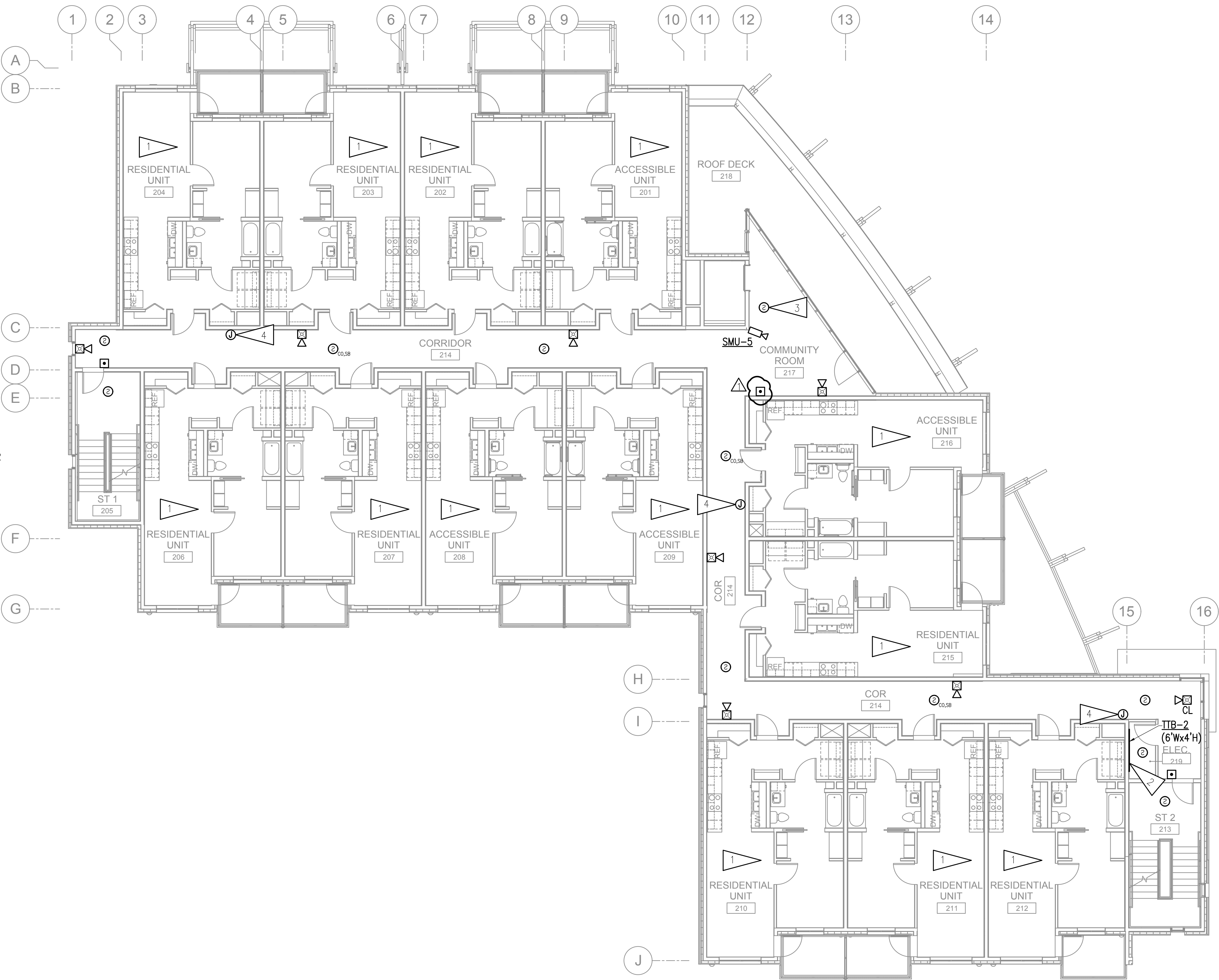
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GENERAL NOTES:

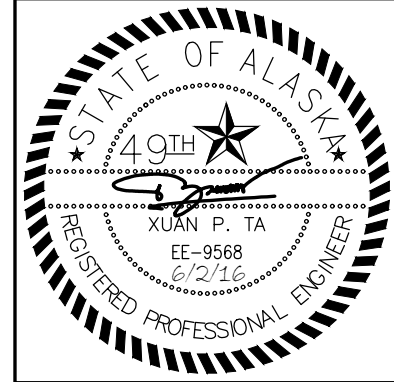
- A. PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED FOR FIRE ALARM, TELEPHONE, CATV, AUDIO/VIDEO DOOR MONITORING, AND CAMERA SURVEILLANCE DEVICE CONNECTIONS TO THE FIRE ALARM CONTROL PANEL, TTB, CATV, VIDEO INTERCOM, AND CAMERA SURVEILLANCE HEAD-END EQUIPMENT.
- B. FIELD COORDINATE WITH MECHANICAL DUCTWORK, SPRINKLER PIPING, SPRINKLER HEADS, AIR DIFFUSERS, ETC. PRIOR TO ROUGH-IN TO AVOID ANY CONFLICTS.
- C. DO NOT LOCATE SMOKE AND HEAT DETECTOR WITHIN 3'-0" OF AN ELECTRONIC BALLAST.
- D. FIRE ALARM DEVICES ARE SHOWN TO REPRESENT DESIRED COVERAGE. CONTRACTOR IS RESPONSIBLE FOR COVERAGE PER NFPA 72 AND DEVICE COUNT PRIOR TO BID.
- E. METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT-RATED WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.

SHEET NOTES:

1. SEE 1/E4.03 FOR ENLARGED TYPICAL UNIT SIGNAL PLAN. FOR ROOMS THAT HAVE A MIRRORED LAYOUT, MIRROR SIGNAL EQUIPMENT AS WELL.
2. 3/4" THICK FIRE RESISTANT PLYWOOD BACKBOARD AND ASSEMBLE IN LENGTH ON WALLS AS SHOWN FOR TELEPHONE, CATV AND VIDEO INTERCOMM EQUIPMENT.
3. CONNECT TO CAPTURE ELEVATOR AND RETURN IT TO THE DESIGNATED OR ALTERNATE FLOOR IN ACCORDANCE WITH ASME A17.1 SECTION 2.27.3.2.
4. JUNCTION BOX FOR FIRE SMOKE DAMPER CONNECTIONS TO FACP. FIELD LOCATE PRIOR TO ROUGH-IN.



1 ELECTRICAL PLAN - LEVEL 2
1/8" = 1'-0"



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REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	NOA FIRE COMMENT	5/31/16

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	FWS
REVIEWED	XPT,TEH
SHEET NAME LEVEL 2 SIGNAL PLAN	
SHEET NO. E4.01	

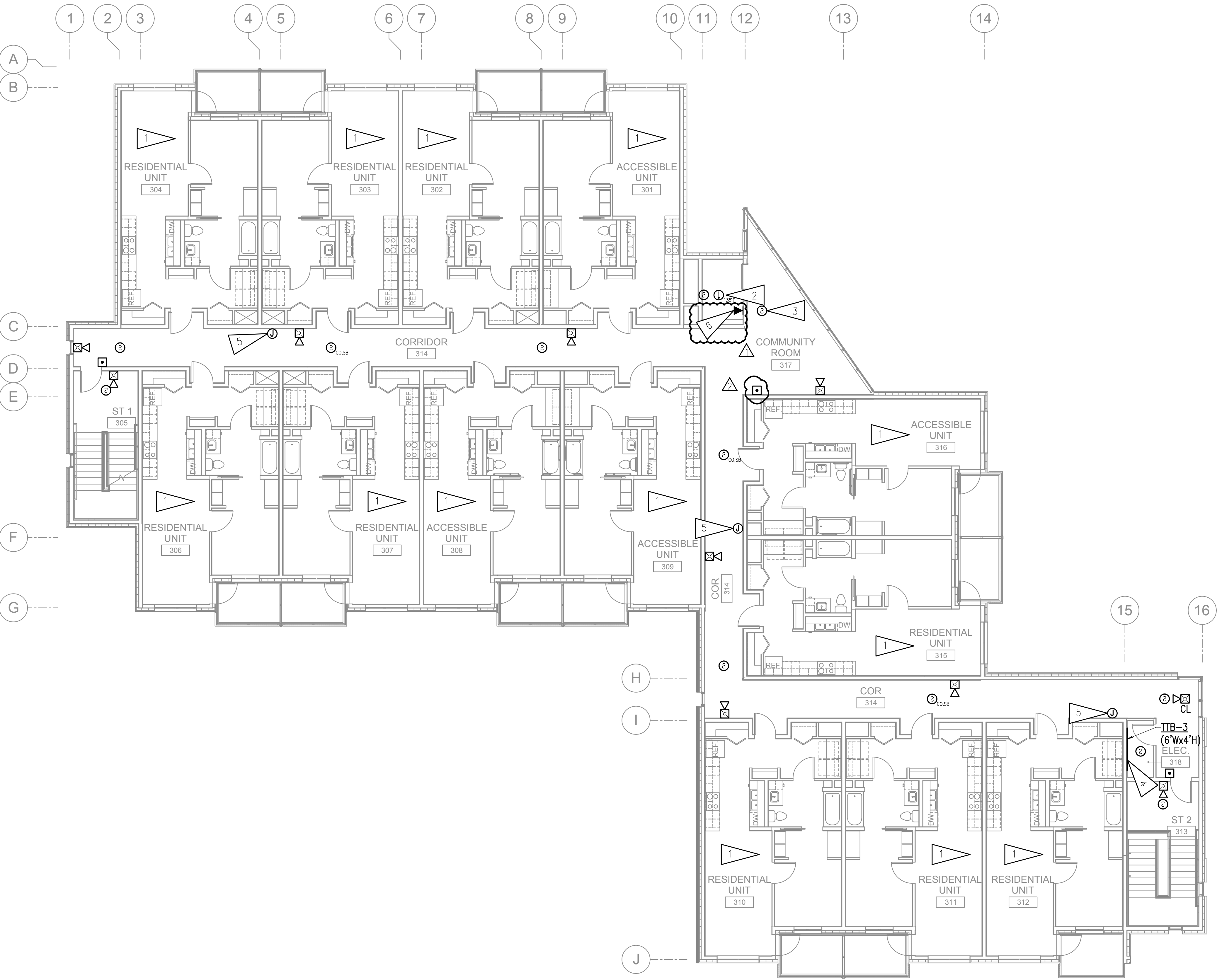
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GENERAL NOTES:

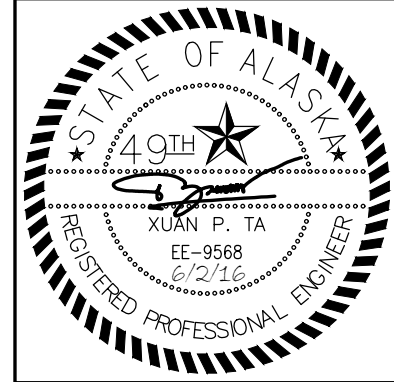
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- B. FIELD COORDINATE WITH MECHANICAL DUCTWORK, SPRINKLER PIPING, SPRINKLER HEADS, AIR DIFFUSERS, ETC. PRIOR TO ROUGH-IN TO AVOID ANY CONFLICTS.
- C. DO NOT LOCATE SMOKE AND HEAT DETECTOR WITHIN 3'-0" OF AN ELECTRONIC BALLAST.
- D. FIRE ALARM DEVICES ARE SHOWN TO REPRESENT DESIRED COVERAGE. CONTRACTOR IS RESPONSIBLE FOR COVERAGE PER NFPA 72 AND DEVICE COUNT PRIOR TO BID.
- E. METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.

SHEET NOTES:

1. SEE 1/E4.03 FOR ENLARGED TYPICAL UNIT SIGNAL PLAN. FOR ROOMS THAT HAVE A MIRRORRED LAYOUT, MIRROR LIGHTING EQUIPMENT AS WELL.
2. IF HEAT DETECTOR IS INSTALLED, CONNECT THE HEAT DETECTOR TO SHUNT TRIP BREAKER IN PANEL '3HA' FOR ELEVATOR MOTOR. COORDINATE HEAT DETECTOR REQUIREMENTS WITH SPRINKLER CONTRACTOR.
3. CONNECT TO CAPTURE ELEVATOR AND RETURN IT TO THE DESIGNATED OR ALTERNATE FLOOR IN ACCORDANCE WITH ASME A17.1 SECTION 2.27.3.2.
4. 3/4" THICK FIRE RESISTANT PLYWOOD BACKBOARD AND ASSEMBLE IN LENGTH ON WALLS AS SHOWN FOR TELEPHONE, CATV AND VIDEO INTERCOM EQUIPMENT.
5. JUNCTION BOX FOR FIRE SMOKE DAMPER CONNECTION TO FACP. FIELD LOCATE PRIOR TO ROUGH-IN.
6. TELEPHONE JACK FOR CONNECTION TO ELEVATOR CAR TELEPHONE.



1 ELECTRICAL PLAN - LEVEL 3
1/8" = 1'-0"



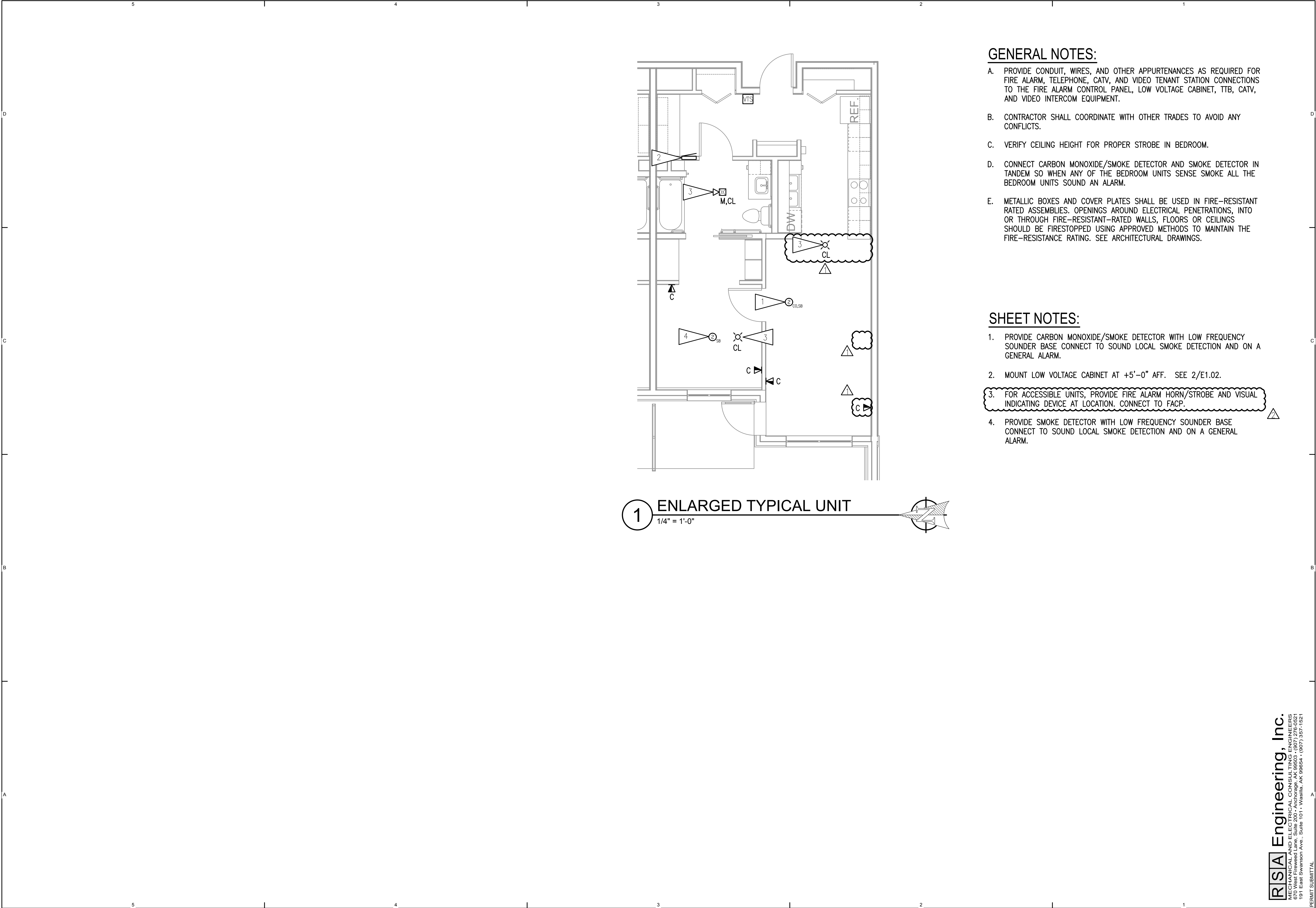
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**COOK INLET HOUSING AUTHORITY
SPENARD MIXED USE
ANCHORAGE, AK**

REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	ADDENDUM #3	5/4/16
2	NOI FIRE COMMENT	5/31/16

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	FWS
REVIEWED	XPT,TEH
SHEET NAME LEVEL 3 SIGNAL PLAN	
SHEET NO. E4.02	

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1 ENLARGED TYPICAL UNIT
1/4" = 1'-0"

GENERAL NOTES:

- A. PROVIDE CONDUIT, WIRES, AND OTHER APPURTENANCES AS REQUIRED FOR FIRE ALARM, TELEPHONE, CATV, AND VIDEO TENANT STATION CONNECTIONS TO THE FIRE ALARM CONTROL PANEL, LOW VOLTAGE CABINET, TTB, CATV, AND VIDEO INTERCOM EQUIPMENT.
- B. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY CONFLICTS.
- C. VERIFY CEILING HEIGHT FOR PROPER STROBE IN BEDROOM.
- D. CONNECT CARBON MONOXIDE/SMOKE DETECTOR AND SMOKE DETECTOR IN TANDEM SO WHEN ANY OF THE BEDROOM UNITS SENSE SMOKE ALL THE BEDROOM UNITS SOUND AN ALARM.
- E. METALLIC BOXES AND COVER PLATES SHALL BE USED IN FIRE-RESISTANT RATED ASSEMBLIES. OPENINGS AROUND ELECTRICAL PENETRATIONS, INTO OR THROUGH FIRE-RESISTANT-RATED WALLS, FLOORS OR CEILINGS SHOULD BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING. SEE ARCHITECTURAL DRAWINGS.

SHEET NOTES:

- 1. PROVIDE CARBON MONOXIDE/SMOKE DETECTOR WITH LOW FREQUENCY SOUNDER BASE CONNECT TO SOUND LOCAL SMOKE DETECTION AND ON A GENERAL ALARM.
- 2. MOUNT LOW VOLTAGE CABINET AT +5'-0" AFF. SEE 2/E1.02.
- 3. FOR ACCESSIBLE UNITS, PROVIDE FIRE ALARM HORN/STROBE AND VISUAL INDICATING DEVICE AT LOCATION. CONNECT TO FACP.
- 4. PROVIDE SMOKE DETECTOR WITH LOW FREQUENCY SOUNDER BASE CONNECT TO SOUND LOCAL SMOKE DETECTION AND ON A GENERAL ALARM.

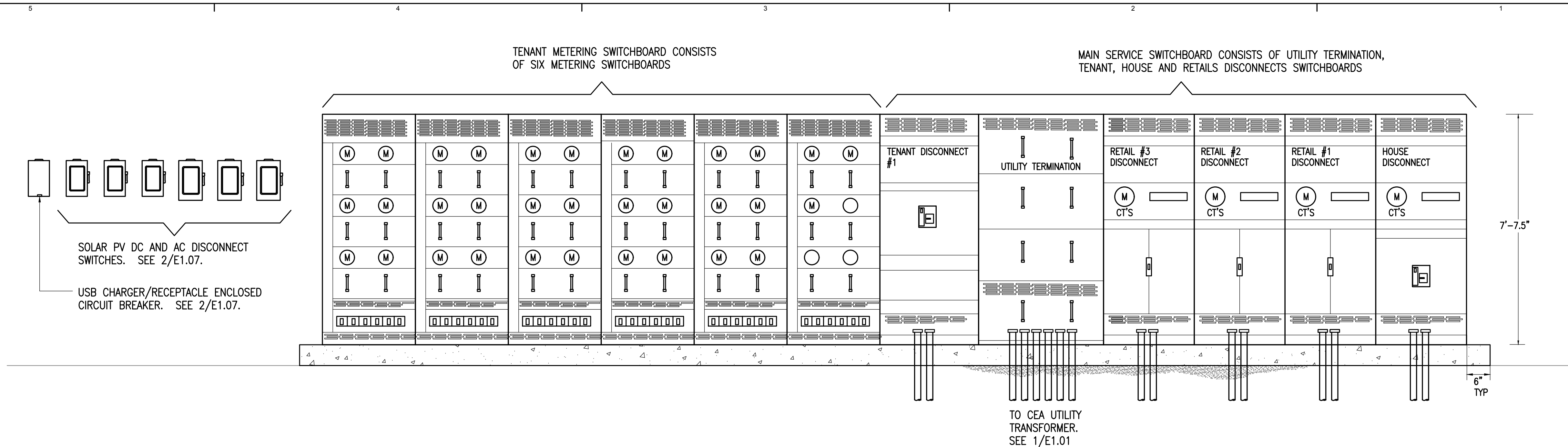


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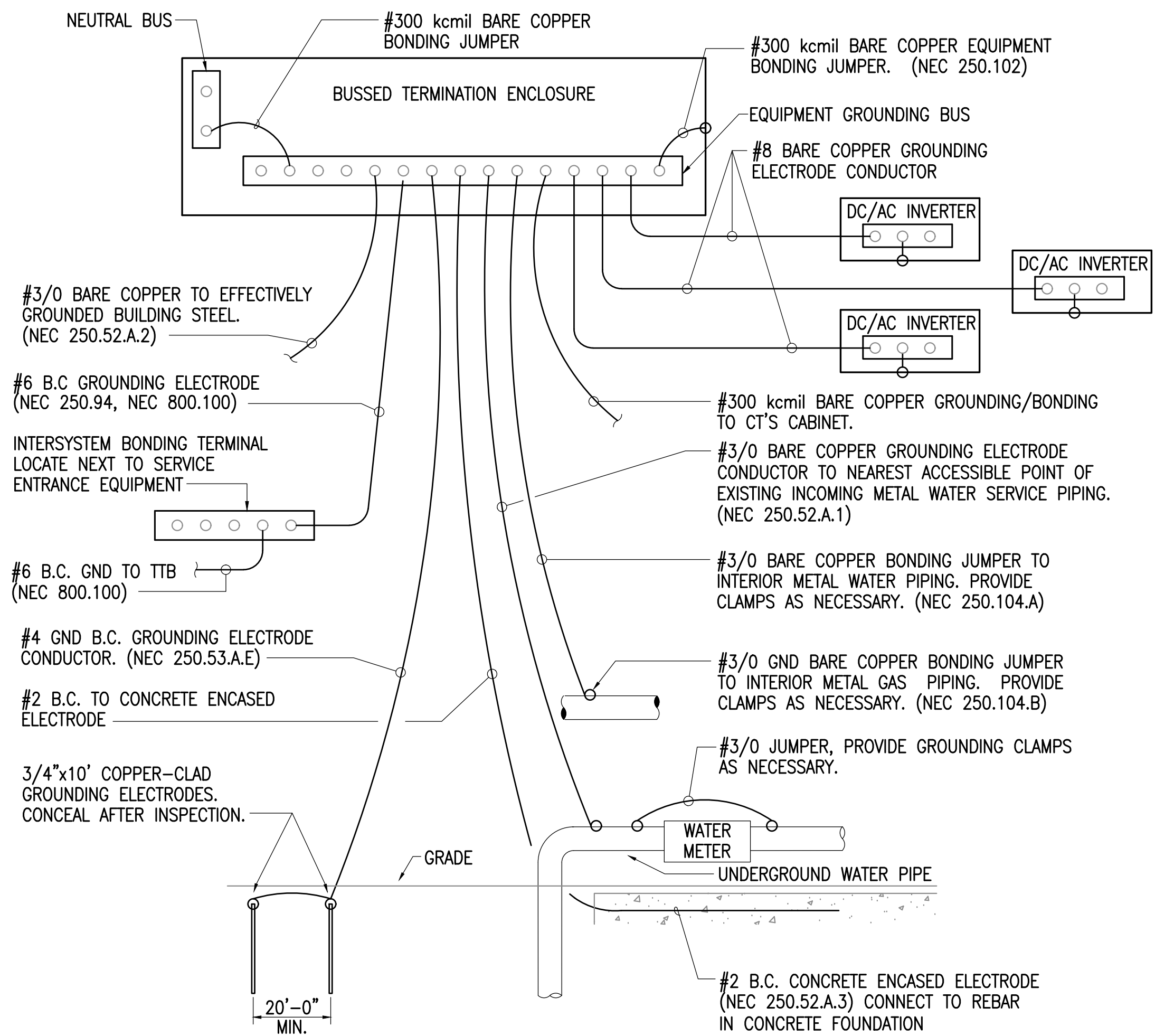
REVISION SCHEDULE		
#	DESCRIPTION	DATE
1	OWNER COMMENTS	5/4/16
2	ADDENDUM #3	5/16/16

JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	FWS
REVIEWED	XPT,TEH
SHEET NAME ENLARGED SIGNAL PLANS	
SHEET NO. E4.03	

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1 ELECTRIC SERVICE ENTRANCE ELEVATION
NO SCALE



2 SERVICE GROUNDING DETAIL
NO SCALE

GENERAL NOTES:

A. SEE 1/E1.01 FOR REQUIREMENTS.



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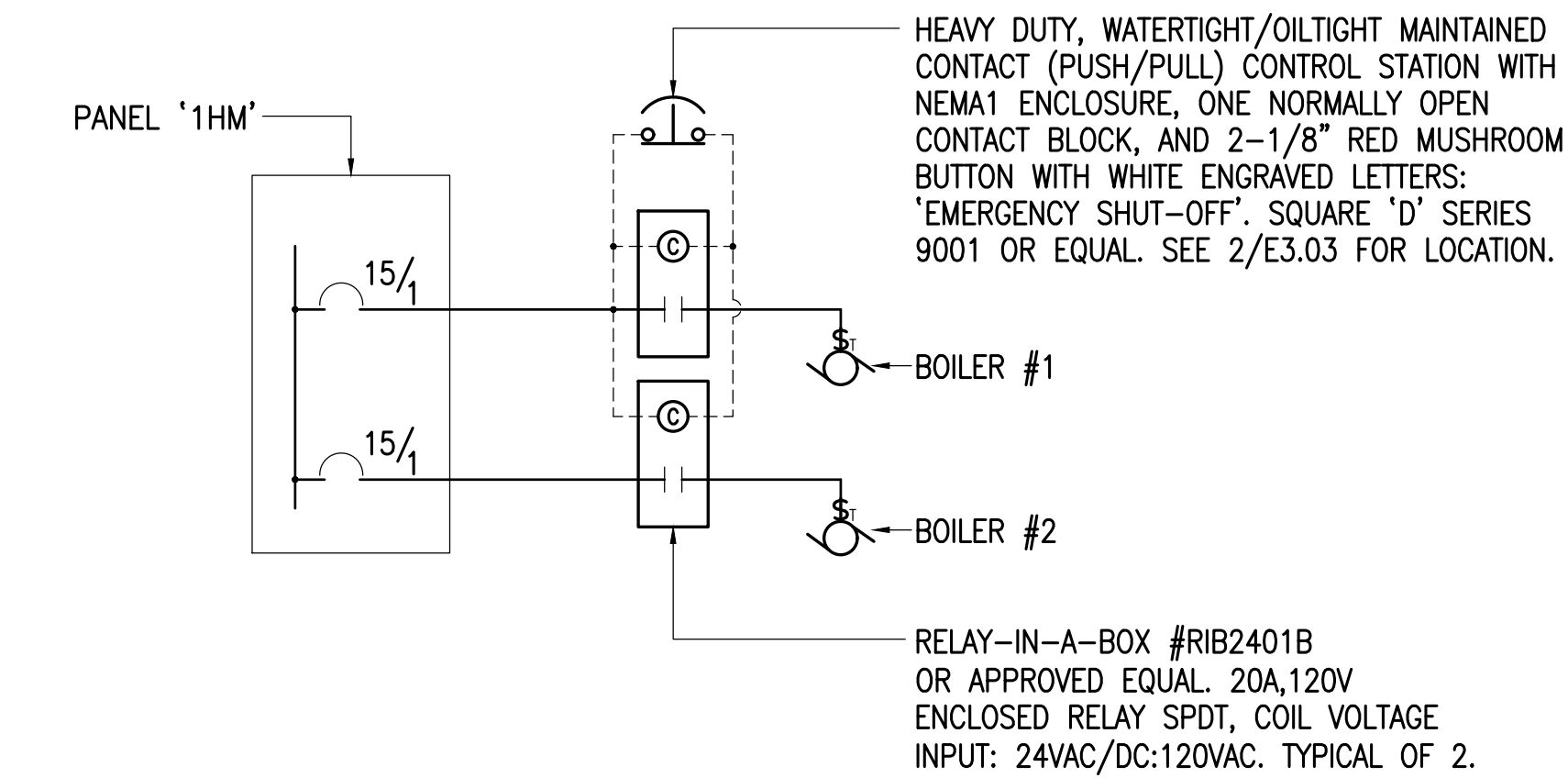
REVISION SCHEDULE		
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JOB NO.	L5225.00
DATE	4.11.2016
DRAWN	XPT
REVIEWED	XPT,TEH

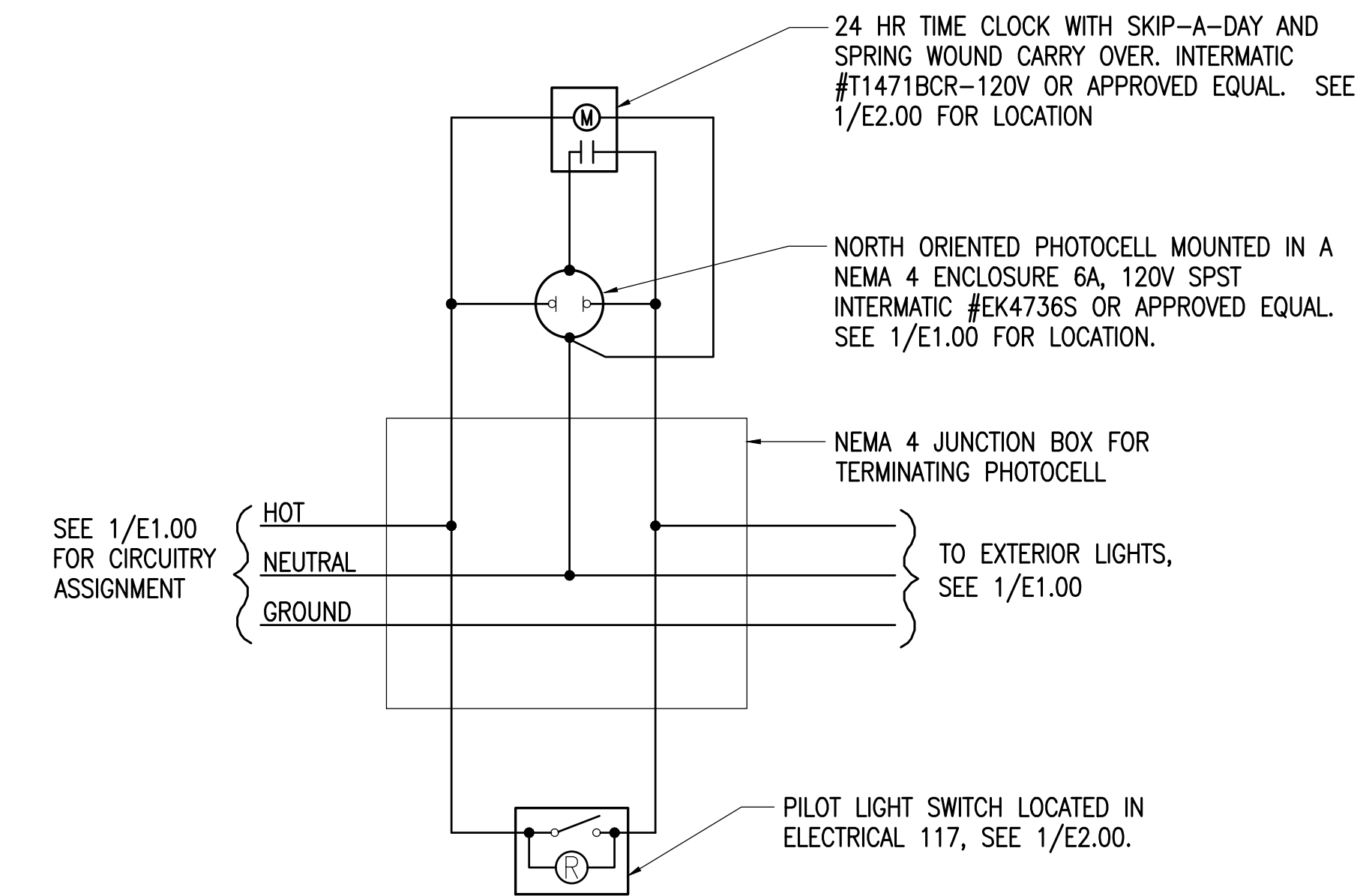
SHEET NAME
ELECTRICAL DETAILS

SHEET NO.
E5.00

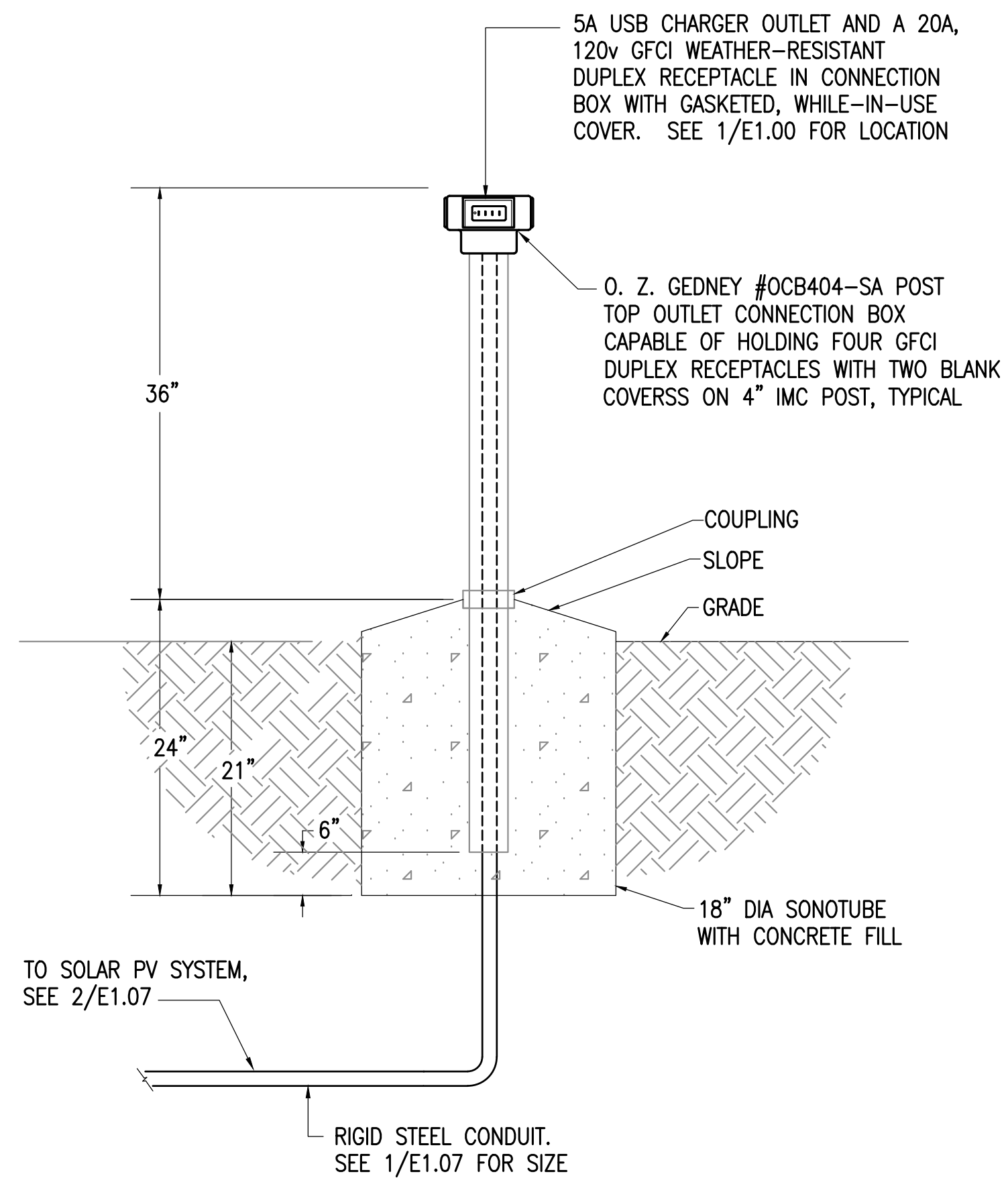
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1 BOILER EMERGENCY SHUT-OFF WIRING DIAGRAM
NTS



2 EXTERIOR LIGHTING CONTROL WIRING DIAGRAM
NO SCALE



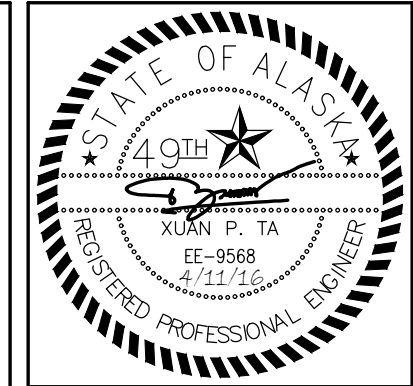
3 USB CHARGER OUTLET DETAIL
NO SCALE

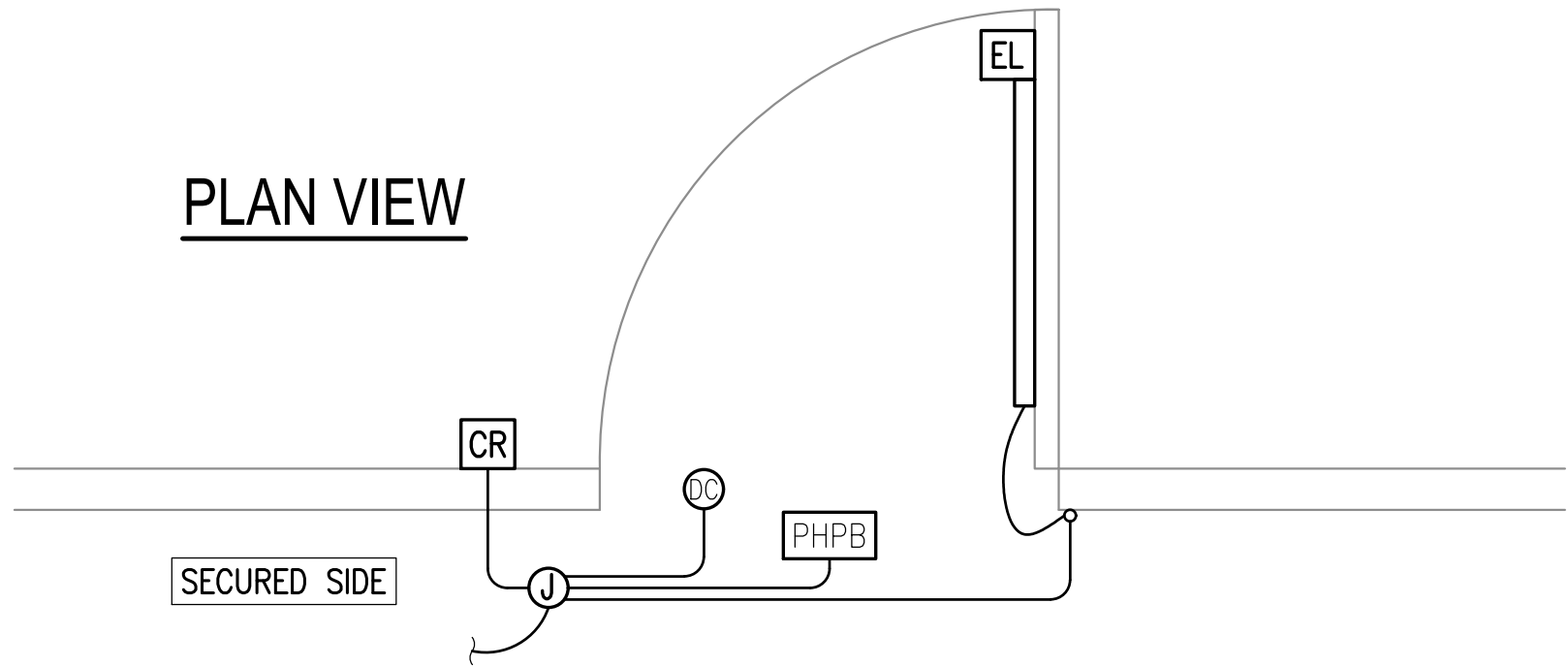
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MIN. 3/4" C TO READER CONTROLLER AND DOOR LOCK POWER SUPPLY. SEE ACCESS CONTROL ONE-LINE DIAGRAMS.

CONCEAL BOX ABOVE ACCESSIBLE CEILING SPACE (WHERE APPLICABLE). OTHERWISE, SURFACE-MOUNT BOX ABOVE DOOR.

CONCEAL CONDUIT IN HOLLOW WALL OR ALUMINUM STOREFRONT FRAME (WHERE APPLICABLE). OTHERWISE, USE SURFACE RACEWAY.

UNLESS OTHERWISE NOTED, INSTALL READER ON OUTSIDE OF WALL AND STUB CABLE THROUGH CONDUIT NIPPLE TO BOX ON INSIDE OF WALL. CONTINUE IN CONDUIT OR SURFACE RACEWAY UP TO JUNCTION BOX ABOVE DOOR. USE MULLION READER WHERE INDICATED ON THE SCHEDULES.

JUNCTION BOX FOR CONSOLIDATION OF ACCESS CONTROL CABLING. ROUTE TO DESIGNATED READER CONTROLLER AND DOOR LOCK POWER SUPPLY AS INDICATED ON THE ACCESS CONTROL ONE-LINE FOR EACH SITE.

1/2" C BETWEEN FIELD DEVICE AND JUNCTION BOX ABOVE DOOR. TYPICAL UNLESS OTHERWISE NOTED. CONCEAL CONDUIT IN HOLLOW WALLS (WHERE APPLICABLE).

SEE PLANS FOR EACH SITE FOR EXACT MOUNTING AND CIRCUITING REQUIREMENTS OF PANIC HARDWARE POWER BOOSTER.

MOUNT RECESSED DOOR CONTACT IN HOLLOW METAL FRAME, 4-6" FROM EDGE OF DOOR.

CONCEAL CONDUIT IN HOLLOW WALLS OR ALUMINUM STOREFRONT FRAME (WHERE APPLICABLE) AND ROUTE DOWN INTO HOLLOW METAL DOOR FRAME. IF WALL IS NOT HOLLOW, USE SURFACE RACEWAY DOWN TO DOOR FRAME. ROUTE CABLE DOWN THROUGH FRAME TO PANIC DEVICE. CONNECT TO LOCK WITH ARMORED DOOR CORD.

SEAL PENETRATIONS WHERE ARMORED CORD ENTERS DOOR FRAME AND PANIC DEVICE.

NEW ELECTRIFIED RIM PANIC DEVICE. SEE SCHEDULES.

ELEVATION

NOTE:
SEE SHEET E4 SERIES FOR ACTUAL QUANTITY AND LOCATION OF DOOR SIGNALING EQUIPMENT, DEVICES, ETC. REFER TO ARCHITECTURAL FOR DOOR TYPE.

1 ACCESS CONTROL/DOOR LOCK DETAIL

NO SCALE

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JOB NO.	L5225.00
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REVIEWED	XPT,TEH

SHEET NAME
ELECTRICAL DETAILS

SHEET NO.
E5.02