

ELECTRICAL SYMBOL LIST

LIGHTING SYMBOLS

	LIGHT FIXTURE, RECESSED
	LIGHT FIXTURE, RECESSED - EMERGENCY
	LIGHT FIXTURE, SURFACE MOUNT
	LIGHT FIXTURE, SURFACE MOUNT - EMERGENCY
	LIGHT FIXTURE, STRIP
	LIGHT FIXTURE, STRIP - EMERGENCY
	DOWNLIGHT FIXTURE, RECESSED
	DOWNLIGHT FIXTURE, RECESSED, WALLWASH
	DOWNLIGHT FIXTURE, RECESSED - EMERGENCY
	LIGHT FIXTURE, WALL MOUNT
	LIGHT FIXTURE, CEILING MOUNT
	RECESSED LIGHT FIXTURE, WALL MOUNT
	LIGHT FIXTURE, WALL MOUNT
	LIGHT FIXTURE, TRACK W/ HEADS AS SHOWN ON PLAN
	EXIT SIGN, UNIVERSAL MOUNT, W/ DIRECTIONAL ARROW
	EXIT SIGN, WALL MOUNT, +8'-0" A.F.F.
	EMERGENCY LIGHT W/ BATTERY PACK, +8'-0" A.F.F.
	FLOOD LIGHT
	AREA LUMINAIRE
	AREA LUMINAIRE W/STANDBY LAMP
	AREA LUMINAIRE, WALL MOUNT
	AREA LUMINAIRE, POLE MOUNT

SWITCH SYMBOLS

	SWITCH, SPST +48" A.F.F.
	SWITCH, DPST +48" A.F.F.
	SWITCH, 3-WAY +48" A.F.F.
	SWITCH, 4-WAY +48" A.F.F.
	SWITCH, DIMMER +48" A.F.F.
	SWITCH, SPST, W/PILOT LIGHT +48" A.F.F.
	SWITCH, KEY-OPERATED +48" A.F.F.
	SWITCH, TIMED +48" A.F.F.
	PHOTOCELL CONTROL
	OCCUPANCY SENSOR CONTROL

SIGNAL SYMBOLS

	TELEPHONE OUTLET +18" A.F.F.
	DATA OUTLET +18" A.F.F.
	DATA/TELEPHONE OUTLET +18" A.F.F.
	CLOCK
	SIGNAL BELL
	VISUAL ALARM SIGNAL (COLOR AS INDICATED ON PLAN)
	P.A. SPEAKER
	CATV OUTLET (LOCATE AS SHOWN ON PLANS)

FIRE ALARM SYMBOLS

	FIRE ALARM MANUAL PULL STATION, +48" A.F.F.
	MAGNETIC DOOR HOLDER
	SMOKE DETECTOR, W/AUX. CONTACTS
	SMOKE/FIRE DAMPER
	SMOKE DETECTOR, DUCT, IONIZATION TYPE W/SAMPLING TUBE
	SMOKE DETECTOR, IONIZATION TYPE
	SMOKE DETECTOR, PHOTO TYPE
	HEAT DETECTOR, RATE-OF-RISE OR FIXED TEMP.
	FIRE MAIN FLOW DETECTION SWITCH
	FIRE MAIN TAMPER DETECTION SWITCH
	FIRE ALARM BELL, +80" A.F.F.
	FIRE ALARM HORN, +80" A.F.F.
	FIRE ALARM HORN/STROBE, +80" A.F.F.
	FIRE ALARM STROBE, +80" A.F.F.

POWER SYMBOLS

	RECEPTACLE, DUPLEX +18" A.F.F.
	RECEPTACLE, QUAD +18" A.F.F.
	RECEPTACLE, DUPLEX +6" ABV COUNTER
	RECEPTACLE, DUPLEX +18" A.F.F. (ONE OUTLET SWITCHED)
	RECEPTACLE, DUPLEX +18" A.F.F. (BOTH OUTLETS SWITCHED)
	RECEPTACLE, DUPLEX, PEDESTAL MOUNT
	RECEPTACLE, DUPLEX, FLUSH FLOOR MOUNT
	RECEPTACLE, SPECIAL (COORDINATE WITH EQUIPMENT SERVED)
	RELAY
	TIME CLOCK CONTROL
	PUSHBUTTON STATION
	JUNCTION BOX
	THERMOSTAT
	TRANSFORMER
	DISCONNECT, NON-FUSED
	DISCONNECT, FUSED
	ELECTRICAL CONNECTION
	ELECTRICAL CONNECTION, SINGLE MOTOR
	ELECTRICAL CONNECTION, MULTI-MOTOR
	ELECTRICAL DISTRIBUTION PANEL, RECESSED
	ELECTRICAL DISTRIBUTION PANEL, SURFACE
	MISCELLANEOUS PANEL, RECESSED
	MISCELLANEOUS PANEL, SURFACE
	FLUSH FLOOR BOX (W/ DEVICES AS SHOWN ON PLAN)

WIRING SYMBOLS

	PANEL & CIRCUIT NUMBER
	HOMERUN TO PANEL
	CONDUCTOR SIZE (IF OTHER THAN #12)
	PHASE CONDUCTOR
	NEUTRAL CONDUCTOR
	GROUND CONDUCTOR
	CONCEALED CONDUIT
	CONDUIT SIZE
	CONDUIT (UNDER SLAB OR FLOOR)

	FLEXIBLE CONNECTION
	CONDUIT, STUBBED & CAPPED
	NORMAL POWER CIRCUIT LINETYPE
	EMERGENCY POWER CIRCUIT LINETYPE
	EXISTING POWER CIRCUIT LINETYPE

NOTATIONS

	DRAWING NOTE
	DETAIL REFERENCE: TOP=DETAIL NO., BOTTOM=SHEET NO.
	MECHANICAL EQUIPMENT MARK NO. (SEE EQUIPMENT SCHEDULE)
	EQUIPMENT NO. (SEE EQUIPMENT SCHEDULE)

ONE-LINE DIAGRAM SYMBOLS

	ELECTRICAL DISTRIBUTION PANELBOARD (MLO)
	ELECTRICAL DISTRIBUTION PANELBOARD (MCB)
	SUB-FEED CIRCUIT BREAKER
	CIRCUIT BREAKER (TRIP RATING & POLES AS INDICATED ON PLAN)
	MAIN SWITCH (RATING & POLES AS INDICATED ON PLAN)
	FUSE (RATING & CLASS AS INDICATED ON PLAN)
	TRANSFER SWITCH (MANUAL OR AUTOMATIC)
	GENERATOR (RATING AS INDICATED ON PLAN)
	TRANSFORMER (RATING AS INDICATED ON PLAN)
	FUSE (RATING & CLASS AS INDICATED ON PLAN)
	GROUND SYSTEM (SIZE AS INDICATED ON PLAN)
	WATER PIPE GROUND ELECTRODE
	TRANSIENT VOLTAGE SURGE SUPPRESSOR
	UTILITY METER & METER BASE
	UTILITY METER CURRENT TRANSFORMER
	FEEDER NO. (SEE FEEDER SCHEDULE)

ABBREVIATIONS

'A'	LIGHT FIXTURE TYPE (SEE FIXTURE LIST)	I.G.	ISOLATED GROUND
A.F.F.	ABOVE FINISHED FLOOR	LCP	LIGHTING CONTROL PANEL
A.F.G.	ABOVE FINAL GRADE	MCB	MAIN CIRCUIT BREAKER
A.F.I.	ARC FAULT INTERRUPTER	MLO	MAIN LUGS ONLY
A.T.S.	TRANSFER SWITCH, AUTOMATIC	N.I.C.	NOT IN CONTRACT
C	CONDUIT	N.L.	NIGHT LIGHT
C.O.	CONDUIT ONLY	P	POLE
CATV	CABLE TELEVISION	PC	PARTIAL CIRCUIT
CB	CIRCUIT BREAKER	PH	PHASE
CCTV	CLOSED CIRCUIT TELEVISION	R.T.U.	REMOTE TELEMETRY UNIT
C.T.	CURRENT TRANSFORMER	T.V.S.S.	TRANSIENT VOLTAGE SURGE SUPPRESSOR
(E)	EXISTING	U.G.	UNDERGROUND
FACP	FIRE ALARM CONTROL PANEL	U.O.N.	UNLESS OTHERWISE NOTED
G.F.I.	GROUND FAULT INTERRUPTER	VFD	VARIABLE FREQUENCY DRIVE
GND	GROUND	W	WIRE
HP	HORSEPOWER	W.G.	WIRE GUARD
		W.P.	WEATHERPROOF

NOTE: SOME OF THE SYMBOLS AND ABBREVIATIONS ON THIS LIST MAY NOT APPLY TO THIS PROJECT.



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5020 CONDOMINIUMS
PROUD GROUND / HABITAT FOR HUMANITY
5050 N INTERSTATE AVE.
PORTLAND, OR 97217
CONFORMANCE SET

ELECTRICAL
LEGEND

PROJECT NO.
17020

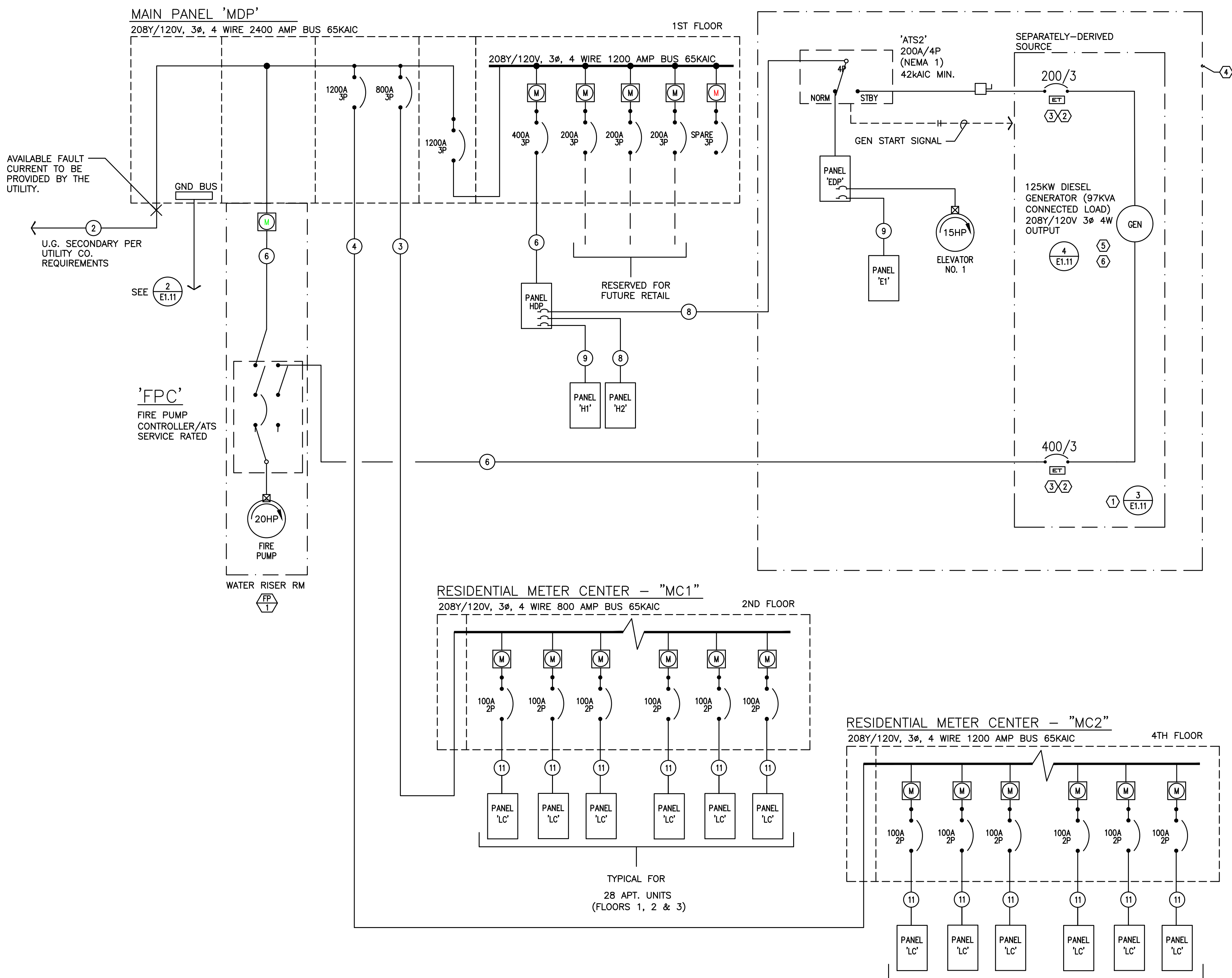
02.07.20

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E1.00



FEEDER SCHEDULE (COPPER)					
NO.	AMPS	CONDUIT	CONDUCTOR		
1		*(6) 4"	BY UTILITY CO.	& (1)	GND
2		*(8) 4"	BY UTILITY CO.	& (1)	GND
3	1200A	*(3) 4"	ea w / (4) #600Kcmil	& (1) #3/0	GND
4	800A	*(2) 4"	ea w / (4) #600Kcmil	& (1) #1/0	GND
5	600A	*(2) 3"	ea w / (4) #350Kcmil	& (1) #1	GND
6	400A	3 1/2"	(4) #500Kcmil	& (1) #3	GND
7	250A	2 1/2"	(4) #250Kcmil	& (1) #4	GND
8	200A	2"	(4) #3/0	& (1) #6	GND
9	150A	2"	(4) #1/0	& (1) #6	GND
10	100A	1 1/2"	(4) #1	& (1) #8	GND
11	100A	1 1/2"	(3) #1	& (1) #8	GND
12	125A	1 1/2"	(3) #1	& (1) #6	GND
13	60A	1 1/4"	(4) #4	& (1) #10	GND

* PARALLEL FEEDER

5020 Condos Main Distribution 'MDP'							
LOAD:	LIGHTS	RECEPT	HEAT	MSC	EQUIP	MOTORS	LARGEST MOTOR
House Loads Est. @ 15w/sf	7,000	12,500	8,000		22,000	46,000	
Elevator (15hp)						17,388	17,388
Fire Pump (40hp)						43,200	
EV Charger					7,200		
Residential Meters MC1				275,000			
Residential Meters MC2				323,000			
Leasable Space 2300sf @ 30w/sf					69,000		
SUBTOTAL	7,000	12,500	8,000	598,000	98,200	106,588	17,388
X-FACTOR	1.25	1 + .5	1	1	1	1	0.25
CODE LOAD:	8,750	11,250	8,000	598,000	98,200	106,588	4,347
CONN LOAD:	848 KVA						
VOLTS:	208 3Ø						
TOTAL CALC:	835 KVA						
CALC AMPS:	2318 AMPS						

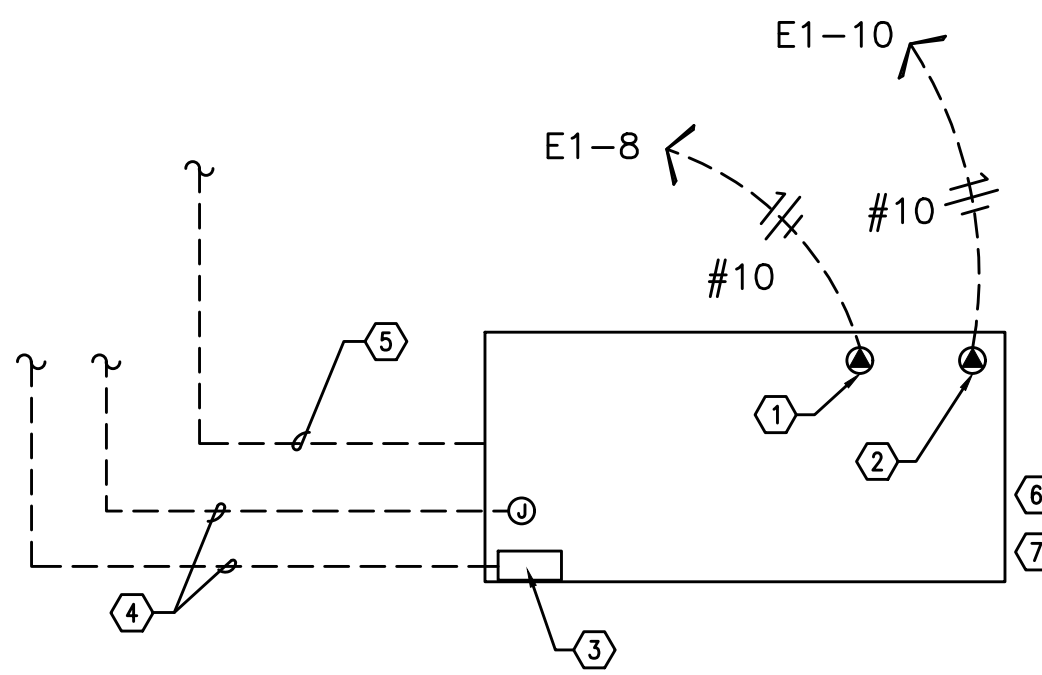
5020 Condos Generator Load Summary							
LOAD:	LIGHTS	RECEPT	HEAT	MSC	EQUIP	MOTORS	LARGEST MOTOR
House Loads Est. @ 15w/sf	2,750	360	1,500		14,000	900	
Elevator (15hp)						17,388	17,388
Fire Pump (40hp)						43,200	
SUBTOTAL	2,750	360	1,500	0	14,000	61,488	17,388
X-FACTOR	1.25	1 + .5	1	1	1	1	0.25
CODE LOAD:	3,438	360	1,500	0	14,000	61,488	4,347
CONN LOAD:	97 KVA						
VOLTS:	208 3Ø						
TOTAL CALC:	85 KVA						
CALC AMPS:	236 AMPS						

ONE-LINE GENERAL NOTES:

- COORDINATE ALL WORK ASSOCIATED WITH ELECTRIC SERVICE WITH LOCAL UTILITY. PROVIDE ALL CONDUIT, GROUNDING, TRANSFORMER VAULT/PAD, ETC., IN ACCORDANCE WITH SERVING UTILITY REQUIREMENTS.
- COORDINATE METERING REQUIREMENTS WITH UTILITY.
- FOR LOAD CENTER FEEDER LENGTHS GREATER THAN 150'-0" FROM METER CENTER, INCREASE WIRE SIZE ONE SIZE UP FOR VOLTAGE DROP.
- PER NEC 240.87, THE ELECTRICAL CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR ARC ENERGY REDUCTION DEVICE(S) FOR CIRCUIT BREAKERS 1200A OR GREATER. CONTRACTOR SHALL PROVIDE AN ENERGY-REDUCING ACTIVE FLASH MITIGATION SYSTEM OR OTHER METHOD APPROVED BY THE NEC.
- ELECTRICAL SERVICE ENTRANCE EQUIPMENT SHALL MEET PGE'S EUSERC REQUIREMENTS AS DEFINED IN THE PGE ELECTRIC SERVICE REQUIREMENTS.

ONE-LINE NOTES:

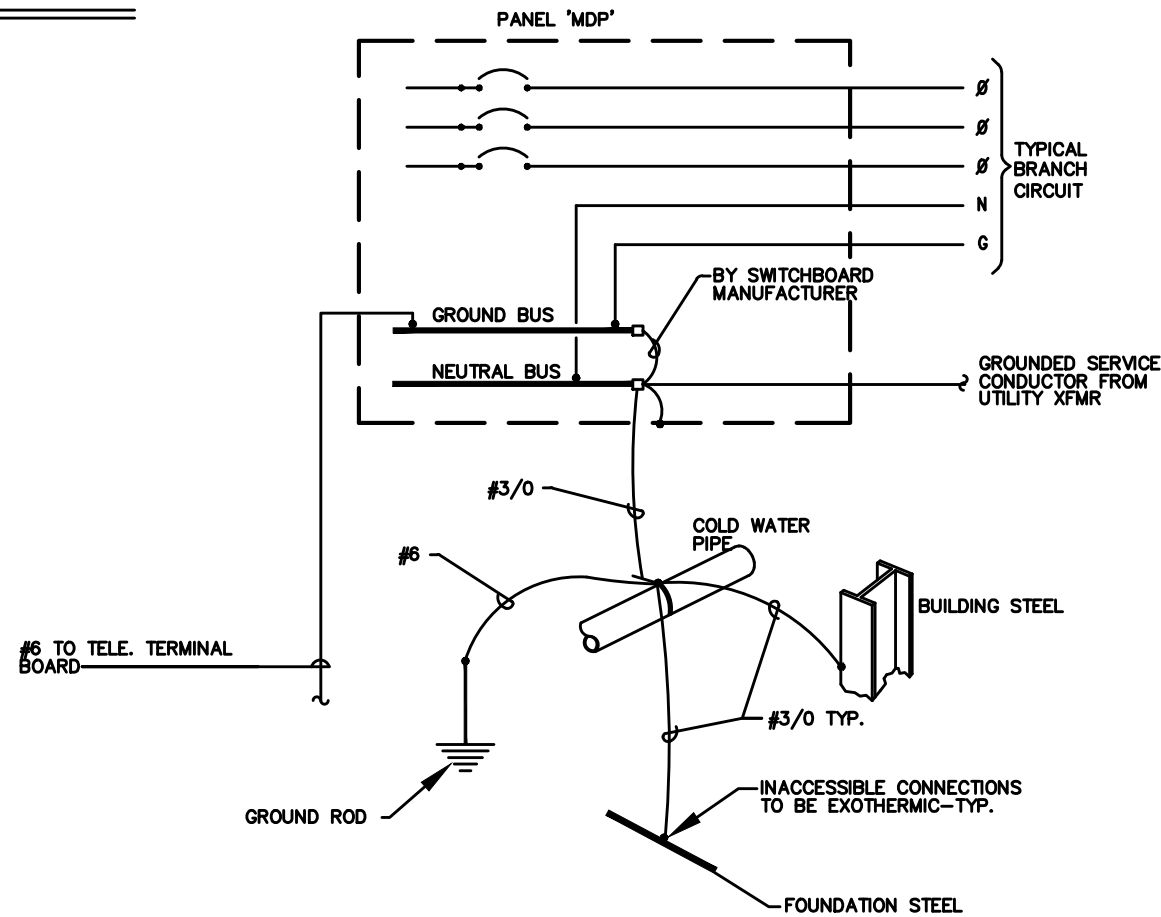
- PROVIDE GROUND FOR SEPARATELY DERIVED SYSTEM PER NEC.
- PROVIDE ELECTRONIC TRIP CIRCUIT BREAKER. EXACT BREAKER TYPE, SETTINGS, ETC. TO BE VERIFIED AND AS DETERMINED BY SELECTIVE COORDINATION STUDY AS PERFORMED BY THE ELECTRICAL DISTRIBUTION EQUIPMENT MANUFACTURER.
- COORDINATE INSTALLATION OF OUTPUT BREAKER WITH GENERATOR MANUFACTURER TO SELECTIVELY COORDINATE WITH POWER STUDY RECOMMENDATIONS.
- 'LIFE SAFETY' BRANCH TO MEET ALL REQUIREMENTS OF NEC 700. CONTRACTOR SHALL BE AWARE THAT MFIA HAS ATTEMPTED TO INDICATE EQUIPMENT AND SIZES THAT WILL SELECTIVELY COORDINATE, BUT WILL NOT BE KNOWN UNTIL ELECTRICAL EQUIPMENT MANUFACTURER PERFORMS THE REQUIRED POWER STUDIES AS SPECIFIED IN 26 05 73. CHANGES MAY BE NECESSARY AFTER THE BID.
- GENERATOR SIZED TO OPERATE ONLY ONE ELEVATOR AT A TIME. COORDINATE WITH ELEVATOR PROVIDER FOR AUTOMATIC SEQUENTIAL OPERATION AS REQUIRED UNDER ASME A17.1, SECTION 2.27.2.1 THROUGH 2.27.2.5.
- REFER TO THE MECHANICAL PLAN SET FOR INFORMATION REGARDING THE GENERATOR FUEL TANK.



4 E1.11

NO SCALE

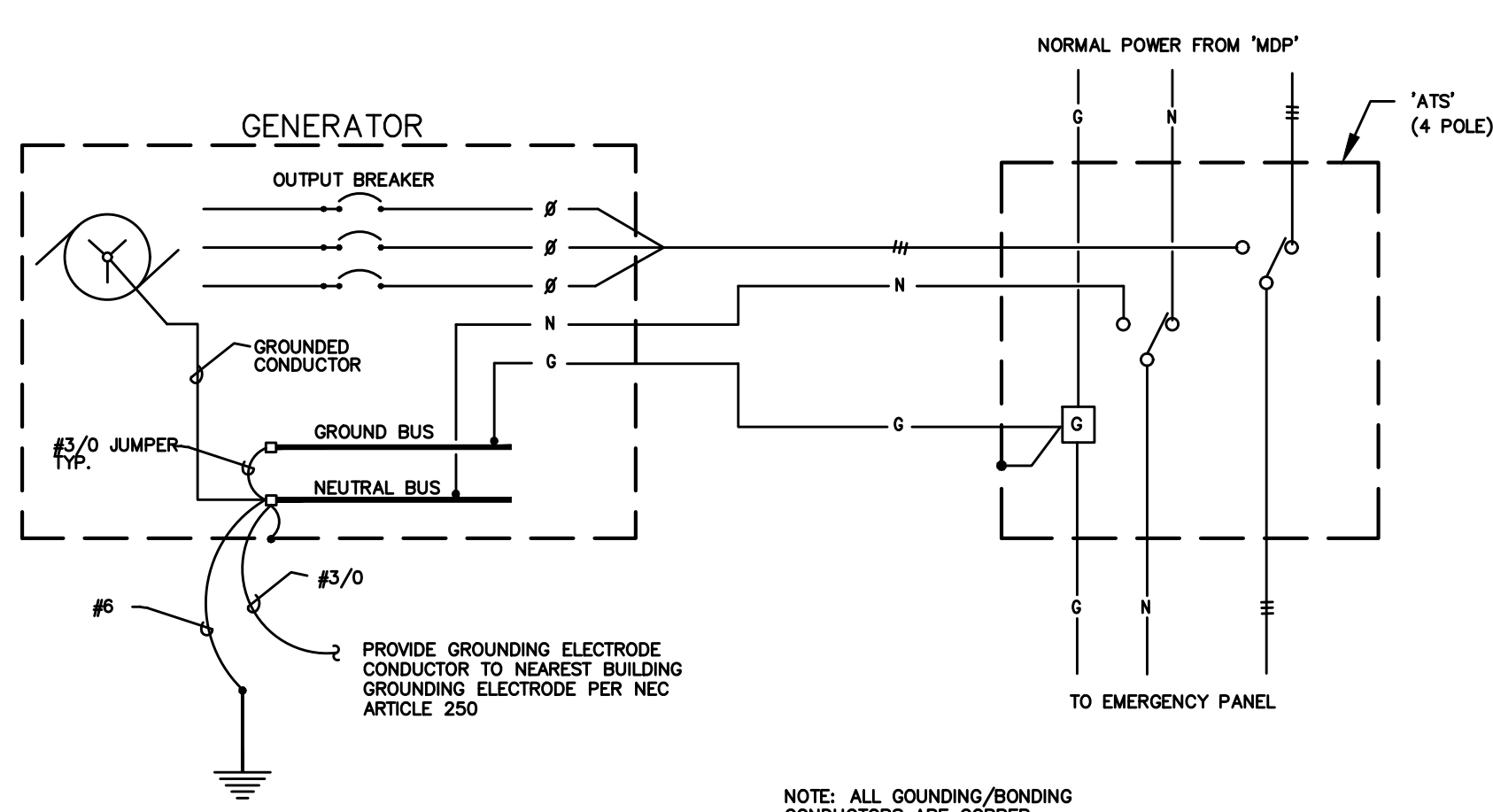
- 120V GENERATOR BLOCK HEATER. PANEL EM.
- 120V GENERATOR BATTERY CHARGER. PANEL EM.
- GENERATOR OUTPUT BREAKER AND CONTROL SECTION. PANEL EM.
- POWER AND CONTROL TO TRANSFER SWITCH AND REMOTE ANNUNCIATOR. SEE ONE-LINE DIAGRAM ON SHEET E1.11.
- TO AUTOMATIC TRANSFER SWITCH.
- DIESEL GENERATOR TO BE PROVIDED WITH DOUBLE-WALL FUEL TANK AND SPILL CONTAINMENT PER CITY OF PORTLAND REQUIREMENTS.
- DIESEL GENERATOR TANK SHALL DOUBLE WALLED AND BE EQUIPPED WITH OVERFILL PROTECTION (AUTO SHUTOFF), 5 GALLON INFILL SPILL BUCKET WITH DRAIN BACK, 12FT ABOVE GRADE TANK FUME VENTING AND ONSITE PRESSURE TESTING PER CITY REQUIREMENTS.



2 E1.11

GROUNDING/BONDING DIAGRAM

208Y/120V, 3Ø, 4 WIRE



3 E1.11

GENERATOR - ELECTRICAL GROUNDING/BONDING DETAIL

NO SCALE

5020 CONDOMINIUMS
PROUD GROUND / HABITAT FOR HUMANITY
5050 N INTERSTATE AVE.
PORTLAND, OR 97217
CONFORMANCE SET

ELECTRICAL
ONE-LINE DIAGRAM

PROJECT NO.
17020

02.07.20

REVISIONS:



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E1.11

MFA PANEL SCHEDULE													
panel	mounting	location		connected load amps		calculated load amps		363					
HDP	SURFACE	phase	3	400A	bus & main	MLO	va	3	363				
120/208V													
service	va	a/p	no.	a b c	no.	a/p	va	service	C				
7 PANEL EDP	12922	200/3	1	*	2	30/3	2100	TRASH COMPACTOR	6				
7 *	12783	*	3	*	4	*	2100	*	6				
7 *	11193	*	5	*	6	*	2100	*	6				
7 PANEL H1	12828	200/3	7	*	8	30/2	2500	EV CHARGER	5				
7 *	9408	*	9	*	10	*	2500	*	5				
7 *	6961	*	11	*	12	200/3	17495	PANEL H2	7				
SPARE	0	20/1	13	*	14	*	18429	*	7				
SPARE	0	20/1	15	*	16	*	17483	*	7				
BLANK			17	*	18		BLANK						
BLANK			19	*	20		BLANK						
BLANK			21	*	22		BLANK						
BLANK			23	*	24		BLANK						
BLANK			25	*	26		BLANK						
BLANK			27	*	28		BLANK						
BLANK			29	*	30		BLANK						
BLANK			31	*	32		BLANK						
BLANK			33	*	34		BLANK						
BLANK			35	*	36		BLANK						
BLANK			37	*	38		BLANK						
BLANK			39	*	40		BLANK						
BLANK			41	*	42		BLANK						
Phase A	48579	VA	NOTES:					line-line voltage					
Phase B	44274	VA								208			
Phase C	37749	VA						largest motor (va)					
Total Connected	130602	VA						calculated load (va)		0			
load code:	ph. A	ph. B	ph. C	total	factor								
1. LIGHTS=	0	0	0	VA	0	1.25	0						
2. RECEPT=	0	0	0	VA	0	1 + 0.5	0						
3. HEATING=	0	0	0	VA	0	1.00	0						
4. KITCHEN=	0	0	0	VA	0	1.00	0						
5. EQUIP.=	2500	2500	0	VA	5000	1.00	5000						
6. MOTORS=	2100	2100	0	VA	4200	1.00	4200						
7. MISC=	43979	39674	35649	VA	119302	1.00	119302						
(* 125% of the largest motor + 100% of the balance)				TOTAL =		130602							

MFA PANEL SCHEDULE													
panel H1		mounting		location		connected load amps		calculated load amps		81			
voltage 120/208V		phase 3		4th floor		bus & main							
service		va a/p no.		150A		MLO						82	
		va a/p no.		150A		MLO							
0	1. LIGHTS - SITE	688	20/1 1	*	2	20/1	1080	RECEPT - 1ST FLOOR	2			C	
1	1. LIGHTS - BLDG EXTERIOR	445	20/1 3	*	4	20/1	900	RECEPT - 1ST FLOOR	2			2	
1	1. LIGHTS - 1ST FLOOR	445	20/1 5	*	6	20/1	500	RECEPT - 1ST FLOOR	2			2	
1	1. LIGHTS - 1ST FLOOR	130	20/1 7	*	8	20/1	900	RECEPT - 1ST FLOOR	2			2	
1	1. LIGHTS - 2ND FLOOR	147	20/1 9	*	10	20/1	0	SPARE	3				
1	1. LIGHTS - 2ND FLOOR	386	20/1 11	*	12	20/1	500	EH-2 (RISER ROOM)	3				
3	EH-1 (STAR 2)	1500	20/1 13	*	14	30/2	2250	WH-2	3				
2	RECEPT - 2ND FLOOR	1440	20/1 15	*	16	*	2250	*	3				
5	PHONE BOARD	500	20/1 17	*	18	20/1	0	SPARE	3				
5	COMM. BOARD	500	20/1 19	*	20	20/1	0	SPARE	3				
5	IRRIGATION/LANDSCAPE LTC	1000	20/1 21	*	22	20/1	0	SPARE	3				
5	AUTO DOORS	1500	20/1 23	*	24	20/1	0	SPARE	3				
3	EH-3 (LEASE SPACE)	1500	20/2 25	*	26	20/2	1500	EH-3 (LEASE SPACE)	3				
3	*	1500	*	27	*	28	1500	*	3				
2	RECEPT - LEASE SPACE (TEMP)	1440	20/1 29	*	30	20/2	1500	EH-3 (LEASE SPACE)	3				
2	RECEPT - LEASE SPACE (TEMP)	1080	20/1 31	*	32	*	1500	*	3				
1	1. LIGHTS - LEASE SPACE (TEMP)	190	20/1 33	*	34		BLANK						
1	1. LIGHTS - LEASE SPACE (TEMP)	190	20/1 35	*	36		BLANK						
	BLANK		37	*	38		BLANK						
	BLANK		39	*	40		BLANK						
	BLANK		41	*	42		BLANK						
Phase A		12628 VA		NOTES:				line-line voltage		208			
Phase B		9408 VA											
Phase C		6961 VA											
Total Connected		28897 VA						largest motor (va)		0			
load code:		ph. A ph. B		ph. C		total factor		calculated load (va)					
1. LIGHTS=		818	818	1021	VA	2857	1.25	3321					
2. RECEPT=		3040	2340	7340	VA	+ 0.5		7340					
3. HEATING=		8250	5250	2000	VA	15000	1.00	15000					
4. KITCHEN=		0	0	0	VA	0	1.00	0					
5. EQUIP.=		500	1000	2000	VA	3500	1.00	3500					
6. MOTORS=		0	0	0	VA	0	1.00	0					
7. MISC=		0	0	0	VA	0	1.00	0					
(* 125% of the largest motor + 100% of the balance)								TOTAL =		29661			

MFA PANEL SCHEDULE													
panel	mounting	location		connected load amps		calculated load amps		148					
H2	SURFACE	phase	3	200A	bus & main	MLO	va	3	148				
120/208V													
service	va	a/p	no.	a	b	c	va	service	C				
1. LIGHTS - 3RD FLOOR	142	20/1	1	*	2	20/1	1440	RECEPT - 3RD FLOOR	2				
1. LIGHTS - 3RD FLOOR	386	20/1	3	*	4	20/1	1440	RECEPT - 4TH FLOOR	2				
1. LIGHTS - 4TH FLOOR	142	20/1	5	*	6	20/1	1440	RECEPT - 5TH FLOOR	2				
1. LIGHTS - 4TH FLOOR	386	20/1	7	*	8	20/1	1440	RECEPT - 6TH FLOOR	2				
1. LIGHTS - 5TH FLOOR	142	20/1	9	*	10	20/2	1175	FC-1	6				
1. LIGHTS - 5TH FLOOR	386	20/1	11	*	12	*	1175	*	6				
1. LIGHTS - 6TH FLOOR	142	20/1	13	*	14	40/3	3420	HP-1	6				
1. LIGHTS - 6TH FLOOR	386	20/1	15	*	16	*	3420	*	6				
2. RECEPTILES - ROOF	1440	20/1	17	*	18	*	3420	*	6				
6. EF-4 & EF-5	1045	20/1	19	*	20	30/3	2840	RTU-1	6				
6. BP-1	2100	30/3	21	*	22	*	2640	*	6				
6. *	2100	*	23	*	24	*	2640	*	6				
6. *	2100	*	25	*	26	30/3	2640	RTU-2	6				
6. BP-1	2100	30/3	27	*	28	*	2640	*	6				
6. *	2100	*	29	*	30	*	2640	*	6				
6. *	2100	*	31	*	32	20/1	1440	EXHAUST FAN (FUTURE)	6				
5. TRASH RM DOOR ACTUATOR	2000	2/1	33	*	34	*	2640	*	6				
BLANK								BLANK					
BLANK								BLANK					
BLANK								BLANK					
BLANK								BLANK					
BLANK								BLANK					
Phase A	17495	VA		NOTES:				line-line voltage					
Phase B	18429	VA											
Phase C	17483	VA											
Total Connected	53407	VA						largest motor (va)					
load code:	ph. A	ph. B	ph. C	total	factor		calculated load (va)		0				
1. LIGHTS=	6780	914	528	VA	2112		125	2840					
2. RECEPT=	2880	1440	2880	VA	7200		+ 0.5	7200					
3. HEATING=	0	0	0	VA	0		1.00	0					
4. KITCHEN=	0	0	0	VA	0		1.00	0					
5. EQUIP.=	0	2000	0	VA	2000		1.00	2000					
6. MOTORS=	13945	14675	14075	VA	42986		1.00	42986					
7. MIS=	0	0	0	VA	0		1.00	0					
(* 125% of the largest motor + 100% of the others)								TOTAL =				53935	

5020 Condos																				
RESIDENTIAL LOAD SUMMARY – MC1																				
UNIT TYPE:	QTY PER FLOOR						TOTAL	AREA (SF)	L1G/RECEPT (3VA / SF)	SM APPL (1500VA x 2)	LAUNDRY (1500VA)	COOKING (CONNECTED)	MICROWAVE (CONNECTED)	DISHWASHER (CONNECTED)	ELECT DRYER (CONNECTED)	WATER HEATER (CONNECTED)	DISPOSAL (CONNECTED)	MOTORS (CONNECTED)	LARGEST OF AC/HEATING (CONNECTED)	
	LW 1	LW 2	LW 3	LW 4	LW 5	LW 6														
1 Bedroom/1 Bath	1	3	3				7	600	1800	3000	1500	8500	0	1200	3500	4500	0	0	3500	
2 Bedroom/1 Bath	3	4	4				11	800	2400	3000	1500	8500	0	1200	3500	4500	0	0	5000	
3 Bedroom/2 Bath		5	5				10	950	2850	3000	1500	8500	0	1200	3500	4500	0	0	6500	
TOTALS:	4	12	12	0	0	0	28	22500	67500	84000	42000	238000	0	33600	98000	126000	0	0	144500	
VOLTS:								208	3ph											
TOTAL CONNECTED:								834	KVA											
DEMAND FACTOR:								0.33	Based on Total Number of Residential Units = 28 to 30 (See N.E.C. Article: 220.84)											
TOTAL CALCULATED:								275	KVA											
CALCULATED AMPS:								764	AMPS											
NOTE:																				

5020 Condos																				
RESIDENTIAL LOAD SUMMARY – MC2																				
UNIT TYPE:	QTY PER FLOOR						TOTAL	AREA (SF)	L1G/RECEPT (3VA / SF)	SM APPL (1500VA x 2)	LAUNDRY (1500VA)	COOKING (CONNECTED)	MICROWAVE (CONNECTED)	DISHWASHER (CONNECTED)	ELECT DRYER (CONNECTED)	WATER HEATER (CONNECTED)	DISPOSAL (CONNECTED)	MOTORS (CONNECTED)	LARGEST OF AC/HEATING (CONNECTED)	
	LW 1	LW 2	LW 3	LW 4	LW 5	LW 6														
1 Bedroom/1 Bath				3	3	3	9	600	1800	3000	1500	8500		0	1200	3500	4500	0	0	3500
2 Bedroom/1 Bath				4	4	4	12	800	2400	3000	1500	8500		0	1200	3500	4500	0	0	5000
3 Bedroom/2 Bath				5	5	5	15	950	2850	3000	1500	8500		0	1200	3500	4500	0	0	6500
TOTALS:	0	0	0	12	12	12	36	29250	87750	108000	54000	306000		0	43200	126000	162000	0	0	189000
VOLTS: 208 3ph																				
TOTAL CONNECTED: 1076 KVA																				
DEMAND FACTOR: 0.3 Based on Total Number of Residential Units = 34 to 36 (See N.E.C. Article: 220.84)																				
TOTAL CALCULATED: 323 KVA																				
CALCULATED AMPS: 896 AMPS																				
NOTE:																				

DWELLING UNIT LOAD CALCULATION

Project: 5020 CONDOS

Unit Type: 1Bed/1Bath

Area: 600 square feet(average)

Minimum Size Feeder (NEC 220.40):
General lighting load at 3 VA / SF
Small Appliance load (2 o.kts at 1500VA each)
Laundry Load (1 o.kt at 1500VA)
Electric Range
Other Cooking Appliance Load (Microwave Oven)
Dishwasher Load
Electric Dryer Load
Electric Water Heater Load
Disposal load
Other motor loads

1,800 VA
3,000 VA
1,500 VA
8,500 VA
1,500 VA
1,200 VA
3,500 VA
4,500 VA
800 VA
0 VA

Total "General Loads" 26,300 VA

First 10 kVA of "general loads" at 100% 10,000 VA
Remainder of "general loads" at 40% 6,320 VA

Net "general load" 16,520 VA

Largest of:
--or-- 3,500 VA of electric space heating (less than 4) at 65% 2,275 VA
--or-- VA of electric space heating (4 or more) at 40% 0 VA
--or-- VA of air conditioning/cooling/heat pumps at 100% 0 VA

TOTAL LOAD 16,795 VA

For 120/208-volt, 3-wire, single-phase service or feeder, 16,795 VA / 208 volts = 79 Amps

Therefore, this dwelling unit shall be permitted to be served by a 100 amp service.

DWELLING UNIT LOAD CALCULATION

Project: 5020 CONDOS

Unit Type: 2Bed/2Bath

Area: 800 square feet(average)

Minimum Size Feeder (NEC 220.40):
General lighting load at 3 VA / SF
Small Appliance load (2 o.kts at 1500VA each)
Laundry Load (1 o.kt at 1500VA)
Electric Range
Other Cooking Appliance Load (Microwave Oven)
Dishwasher Load
Electric Dryer Load
Electric Water Heater Load
Disposal load
Other motor loads

2,400 VA
3,000 VA
1,500 VA
8,500 VA
1,500 VA
1,200 VA
3,500 VA
4,500 VA
800 VA
0 VA

Total "General Loads" 26,800 VA

First 10 kVA of "general loads" at 100% 10,000 VA
Remainder of "general loads" at 40% 6,760 VA

Net "general load" 16,760 VA

Largest of:
--or-- 5,000 VA of electric space heating (less than 4) at 65% 3,250 VA
--or-- VA of electric space heating (4 or more) at 40% 0 VA
--or-- VA of air conditioning/cooling/heat pumps at 100% 0 VA

TOTAL LOAD 20,010 VA

For 120/208-volt, 3-wire, single-phase service or feeder, 20,010 VA / 208 volts = 83 Amps

Therefore, this dwelling unit shall be permitted to be served by a 100 amp service.

DWELLING UNIT LOAD CALCULATION

Project: 5020 CONDOS

Unit Type: 3Bed/2Bath

Area: 1,000 square feet(average)

Minimum Size Feeder (NEC 220.40):
General lighting load at 3 VA / SF
Small Appliance load (2 o.kts at 1500VA each)
Laundry Load (1 o.kt at 1500VA)
Electric Range
Other Cooking Appliance Load (Microwave Oven)
Dishwasher Load
Electric Dryer Load
Electric Water Heater Load
Disposal load
Other motor loads

3,000 VA
3,000 VA
1,500 VA
8,500 VA
1,500 VA
1,200 VA
3,500 VA
4,500 VA
800 VA
0 VA

Total "General Loads" 27,500 VA

First 10 kVA of "general loads" at 100% 10,000 VA
Remainder of "general loads" at 40% 7,000 VA

Net "general load" 17,000 VA

Largest of:
--or-- 6,500 VA of electric space heating (less than 4) at 65% 0 VA
--or-- VA of electric space heating (4 or more) at 40% 2,600 VA
--or-- VA of air conditioning/cooling/heat pumps at 100% 0 VA

TOTAL LOAD 19,600 VA

For 120/208-volt, 3-wire, single-phase service or feeder, 19,600 VA / 208 volts = 82 Amps

Therefore, this dwelling unit shall be permitted to be served by a 100 amp service.

MPA CIRCUIT DIRECTORY										28-Jan-20	
Loadcenter Name LC-18R/18A (TYPICAL)		mounting		RECESSED		location					
voltage		phase		1		bus & main					
208/120						100A MLO		(SCCR: 10K)			
service		11		o/p		no.		L1		L2	
LIGHTS-KITCHEN/LIVING/BEDRM		20/1(A)		1		2		20/1(A)		APPLIANCE CIRCUIT	
LTS & RECEPT - BATH		20/1		3		4		20/1(A)		APPLIANCE CIRCUIT	
RECEPTACLES		20/1(A)		5		6		20/1		REFRIGERATOR	
RECEPTACLES		20/1(A)		7		8		20/1		HOOD	
SMART PANEL		20/1		9		10		50/2		RANGE	
WASHER		20/1		11		12		20/1		DISHWASHER	
DRYER		40/2		13		14		20/1		SPARE	
WATER HEATER		30/2		17		18		20/2		HEAT	
DRYER BOOSTER (OPT.)		20/1		21		22		20/2		HEAT	
BLANK		-----		23		24		20/1		SPARE	
BLANK		-----		25		26		20/1		SPARE	
BLANK		-----		27		28		-----		BLANK	
BLANK		-----		29		30		-----		BLANK	
NOTES:											
1. (A) DENOTES: ARC-FAULT INTERRUPTER CIRCUIT BREAKER. INSTALL PER NEC 210.12											
2. LOADS FOR THIS PANEL ARE INDICATED ON THE "DWELLING UNIT LOAD CALCULATION".											
3. BREAKER & WIRE SHALL BE SIZED FOR EQUIPMENT INSTALLED.											
4. (G) DENOTES GFCI RATED BREAKER.											

MPA CIRCUIT DIRECTORY												28-Jan-20				
Loadcenter Name			mounting			RECESSED			location							
LC-28R/28A (TYPICAL)			voltage			phase			bus & main							
			208/120			1			100A MLO (SCCR: 10K)							
			service			o/p			no.		L1 L2		o/p			
LIGHTS-KITCHEN/LIVING/BEDRM			20/1(A)			1			*		2		20/1(A) APPLIANCE CIRCUIT			
LTS & RECEPT - BATH			20/1			3			4		20/1(A)		APPLIANCE CIRCUIT			
RECEPTACLES			20/1(A)			5			6		20/1		REFRIGERATOR			
RECEPTACLES			20/1(A)			7			8		20/1		HOOD			
RECEPTACLES			20/1(A)			9			10		50/2		RANGE			
SMART PANEL			20/1			11			*		12					
WASHER			20/1			13			*		14		20/1		DISHWASHER	
DRYER			40/2			17			*		18		20/2		HEAT	
WATER HEATER			30/2			19			*		20		20/2		HEAT	
DRYER BOOSTER (OPT)			20/1			23			*		24		20/2		HEAT	
BLANK			-----			25			*		26		20/2		HEAT	
BLANK			-----			27			*		28					
BLANK			-----			29			*		30				----- BLANK	

NOTES:

1. (A) DENOTES: ARC-FAULT INTERRUPTER CIRCUIT BREAKER. INSTALL PER NEC 210.12.

2. LOADS FOR THIS PANEL ARE INDICATED ON THE "DOWELLING UNIT LOAD CALCULATION".

3. BREAKER & WIRE SHALL BE SIZED FOR EQUIPMENT INSTALLED.

4. (G) DENOTES GFCI RATED BREAKER.

LIGHTING FIXTURE LIST					
TYPE	LAMP	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	OPTIONS
A1 A1E	LED 4000LM 3500K/80CRI 38W	LITHONIA (OR APPROVED EQUAL)	CLXL48 SERIES	TYPE :4FT GEN. PURPOSE STRIP MOUNTING :SURFACE HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :ELECTRONIC	A1E WITH EMERGENCY BATTERY PACK LEASE SPACE
A2E	LED 3000LM 3000K 23W	LITHONIA (OR APPROVED EQUAL)	FEML48 SERIES	TYPE :4' ENCLOSED STRIP MOUNTING :SURFACE HOUSING :FIBERGLASS LENS/REFL :POLYCARBONATE VOLTAGE :MVOLT BALLAST :LED DRIVER	PROVIDE W/ EMERGENCY BATTERY PACK ELEVATOR PIT
B1	LED 2800 LUMEN 3000K 25W	METALUX (OR APPROVED EQUAL)	SNLED SERIES	TYPE :4' WRAPAROUND MOUNTING :SURFACE HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER (DIMMING)	PROVIDE WITH INTEGRAL OCCUPANCY SENSOR FOR 50% LIGHT REDUCTION DURING PERIODS OF UNDETECTED OCCUPANCY. STAIRWELLS
B2 B2E	LED 2600 LUMEN 3000K 22W	METALUX (OR APPROVED EQUAL)	SNLED SERIES	TYPE :4' WRAPAROUND MOUNTING :SURFACE HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER (DIMMING)	PROVIDE WITH INTEGRAL OCCUPANCY SENSOR FOR 50% LIGHT REDUCTION DURING PERIODS OF UNDETECTED OCCUPANCY. B2E WITH EMERGENCY BATTERY PACK. EQUIPMENT, STORAGE ROOMS
B3	LED 1391 LUMEN 3000K (26W)	LITHONIA (OR APPROVED EQUAL)	FMVCL SERIES	TYPE :36" VANITY LIGHT MOUNTING :SURFACE (+6" ABOVE MIRROR) HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT. ENERGY STAR RATED BATHROOM
L1	LED 600 LUMEN 3000K 13W	HALO LIGHTING (OR APPROVED EQUAL)	H457CATIE HOUSING H4 SERIES TRIM	TYPE :4" DIA. DOWNLIGHT MOUNTING :RECESSED HOUSING :STEEL LENS/REFL :VERIFY W/ ARCHITECT VOLTAGE :MVOLT BALLAST :LED DRIVER (0-10 DIMMING)	PROVIDE W/ IC RATED HOUSING FINISH PER ARCHITECT CORRIDORS, LOBBY
L2	LED 1050 LUMEN 3000K 13W	PINNACLE LIGHTING (OR APPROVED EQUAL)	EDGE EV1 SERIES	TYPE :3FT LINEAR STRIP MOUNTING :RECESSED HOUSING :ALUMINUM LENS/REFL :SATIN LENS VOLTAGE :MVOLT BALLAST :LED DRIVER (0-10 DIMMING)	CONSULT ARCHITECTURAL PLANS FOR COVE LIGHT LOCATIONS. UNIT ENTRIES
L3	LED 1700 LUMEN 3000K 25W	CREATIVE LIGHTING SYSTEMS (OR APPROVED EQUAL)	SS4021 SERIES	TYPE :CYLINDER LIGHT MOUNTING :SURFACE HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER (0-10 DIMMING)	FINISH PER ARCHITECT ELEVATOR LOBBY, MAILBOXES
L4	(3) LED E26 3000K 45W	GRAYPANTS LIGHTING (OR APPROVED EQUAL)	KERFLIGHTS D9 SERIES	TYPE :33" DIA. DRUM LIGHT MOUNTING :SUSPENDED HOUSING :ALUMINUM LENS/REFL :WOOD/ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER (0-10 DIMMING)	FINISH PER ARCHITECT MAIN LOBBY
X1 X2	LED (RED) 2.5W	SURE-LITES (OR APPROVED EQUAL)	TPX SERIES	TYPE :EXIT SIGN MOUNTING :UNIVERSAL HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :NICKLE CADMIUM BATTERY	SINGLE OR DOUBLE SIDED AS INDICATED.
S1 (2)	LED 2777 LUMEN 4000K 37W	LIGMAN LIGHTING (OR APPROVED EQUAL)	UTA 80551 37W T4 SERIES	TYPE :7.3" DIA. CYLINDER MOUNTING :SURFACE HOUSING :ALUMINUM LENS/REFL :CLEAR TEMPERED GLASS VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT UL LISTED WET LOCATION BUILDING EXTERIOR
S2	LED 976 LUMEN 4000K 11W	LIGMAN LIGHTING (OR APPROVED EQUAL)	UMV 30001 11W M W30 SERIES	TYPE :EXTERIOR SCONCE MOUNTING :SURFACE (CENTERED ABOVE DOOR) HOUSING :ALUMINUM LENS/REFL :CLEAR TEMPERED GLASS VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT ARCHITECT TO VERIFY MOUNTING HEIGHT UL LISTED WET LOCATION UNIT EXTERIOR ENTRY
S4 (1)	LED 6295 LUMEN 4000K 81W	LIGMAN LIGHTING (OR APPROVED EQUAL)	UMC 20011 81W T3 SERIES	TYPE :AREA LIGHT MOUNTING :POST TOP (18" POLE) HOUSING :ALUMINUM LENS/REFL :CLEAR TEMPERED GLASS VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT PROVIDE WITH HOUSE SIDE SHIELDING TO REDUCE LIGHT TRESPASS. NIGHT SKY FRIENDLY UL LISTED WET LOCATION PARKING LOT
S5 (2)	LED 4000 LUMEN 4000K 33W	LITHONIA (OR APPROVED EQUAL)	VAP SERIES	TYPE :4' ENCLOSED STRIP MOUNTING :SURFACE HOUSING :POLYCARBONATE LENS/REFL :POLYCARBONATE VOLTAGE :MVOLT BALLAST :LED DRIVER	 COVERED PARKING
S6 (2)	LED 3500 LUMEN 4000K 38W	LIGHTOLIER (OR APPROVED EQUAL)	P6RDL35840 SERIES	TYPE :6" DIA DOWNLIGHT MOUNTING :RECESSED HOUSING :STEEL LENS/REFL :CLEAR DIFFUSER VOLTAGE :MVOLT BALLAST :LED DRIVER	UL LISTED WET LOCATION DRIVE CANOPY
S7E (2)	LED 700LM/FT 4000K 4W/FT	TBD (OR APPROVED EQUAL)	TBD	TYPE :LED TAPE LIGHT & CHANNEL MOUNTING :SURFACE HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :24V BALLAST :LED DRIVER	PROVIDE ALL REQUIRED COMPONENTS FOR COMPLETE INSTALL. TO BE TIED INTO EGRESS LIGHTING CIRCUIT. UL LISTED FOR WET LOCATION BUILDING EXTERIOR
S8 (2)	LED 1150 LM 4000K 14W	STONCO (OR APPROVED EQUAL)	LPW7 SERIES	TYPE :WALL PACK MOUNTING :SURFACE HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :120V BALLAST :LED DRIVER	CONSULT ARCHITECT FOR EXACT MOUNTING HEIGHT UL LISTED FOR WET LOCATION BUILDING EXTERIOR

LIGHTING FIXTURE LIST – TYPICAL LIVING UNITS					
TYPE	LAMP	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	OPTIONS
U1	LED 670 LUMEN 3000K (12W)	HALO (OR APPROVED EQUAL)	SLD405930 SERIES	TYPE :4" DIA. DOWNLIGHT MOUNTING :SURFACE (J-BOX) HOUSING :ALUMINUM LENS/REFL :MOLDED POLYMER VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT. UNIT KITCHEN, HALL, BATHROOM
U2	LED 1899LUMEN 3000K (28W)	LITHONIA (OR APPROVED EQUAL)	VERSI LITE SERIES	TYPE :13" DIA. CEILING LIGHT MOUNTING :SURFACE HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT. ENERGY STAR RATED UNIT BEDROOM, LIVING AREA
U3	LED 642 LUMEN 3000K (10W)	LITHONIA (OR APPROVED EQUAL)	VERSI LITE SERIES	TYPE :7" DIA. CEILING LIGHT MOUNTING :SURFACE HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT. ENERGY STAR RATED UNIT BATHROOM, LAUNDRY
U4	LED 1391 LUMEN 3000K (18W)	LITHONIA (OR APPROVED EQUAL)	FMVCL SERIES	TYPE :24" VANITY LIGHT MOUNTING :SURFACE (+6" ABOVE MIRROR) HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT. ENERGY STAR RATED UNIT BATHROOM
U5	LED 500LM/FT 3000K (5W/FT)	JESCO LIGHTING (OR APPROVED EQUAL)	INFINA SERIES	TYPE :LED TAPE UNDERCABINET MOUNTING :SURFACE HOUSING :ALUMINUM CHANNEL LENS/REFL :ACRYLIC LENS VOLTAGE :MVOLT BALLAST :LED DRIVER	CONTRACTOR TO PROVIDE ALL COMPONENTS FOR COMPLETE INSTALLION. VERIFY FIXTURE LENGTH & EXACT MOUNTING LOCATION UNIT KITCHEN
U6	LED xxL LUMEN 3000K (18W)	TBD	TBD	TYPE :MINI PENDANT MOUNTING :SURFACE HOUSING :STEEL LENS/REFL :GLASS VOLTAGE :MVOLT BALLAST :LED DRIVER (INTEGRAL)	FIXTURE PER OWNER/ARCHITECT. VERIFY MOUNTING HEIGHT. UNIT KITCHEN

GENERAL LIGHTING NOTES:

- ALL LIGHT FIXTURES SHALL HAVE ENERGY EFFICIENT LAMPING AND BALLASTS.
- LIGHT FIXTURES FOR LIVING UNITS SHALL BE "ENERGY STAR" RATED.
- VERIFY ALL FIXTURE FINISHES WITH ARCHITECT PRIOR TO BID.
- VERIFY ALL FIXTURE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO BID.
- VERIFY ALL FIXTURE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH IN.
- ALL INTERIOR LIGHTING SHALL BE 3000 KELVIN UNLESS OTHERWISE NOTED. THE EXCEPTION TO THIS WILL BE THE LIGHT FIXTURES IN THE APARTMENT UNITS, FIXTURES IN MAINTENANCE AREAS AND TEMPORARY LIGHTING.
- ALL PRODUCT SUBSTITUTIONS AND VALUE ENGINEERING SHALL BE SUBMITTED DURING BID PHASE, SHALL MEET DESIGN INTENT AND IS SUBJECT TO OWNER APPROVAL.
- EGRESS LIGHTING SHALL BE ROUTED VIA STANDBY GENERATOR.
- EGRESS LIGHTING IN CORRIDORS, STAIRWELLS AND OTHER COMMON AREAS SHALL BE PROVIDED TO MEET MINIMUM LIGHT LEVELS AS DESCRIBED PER OREGON STRUCTURAL SPECIALTY CODE 1006.3.
- LIGHTING IN CORRIDORS, STAIRWELLS AND OTHER COMMON AREAS SHALL BE CONTROLLED VIA OCCUPANCY SENSORS (EITHER INTEGRAL OR REMOTE) TO PROVIDE 50% LIGHT REDUCTION DURING PERIODS OF UNDETECTED ACTIVITY. LIGHTS SHALL RETURN TO 100% OUTPUT UPON ACTIVITY DETECTION AND REMAIN AT 100% FOR NO LESS THAN 30 MINUTES ONCE THE SPACE BECOMES UNOCCUPIED.

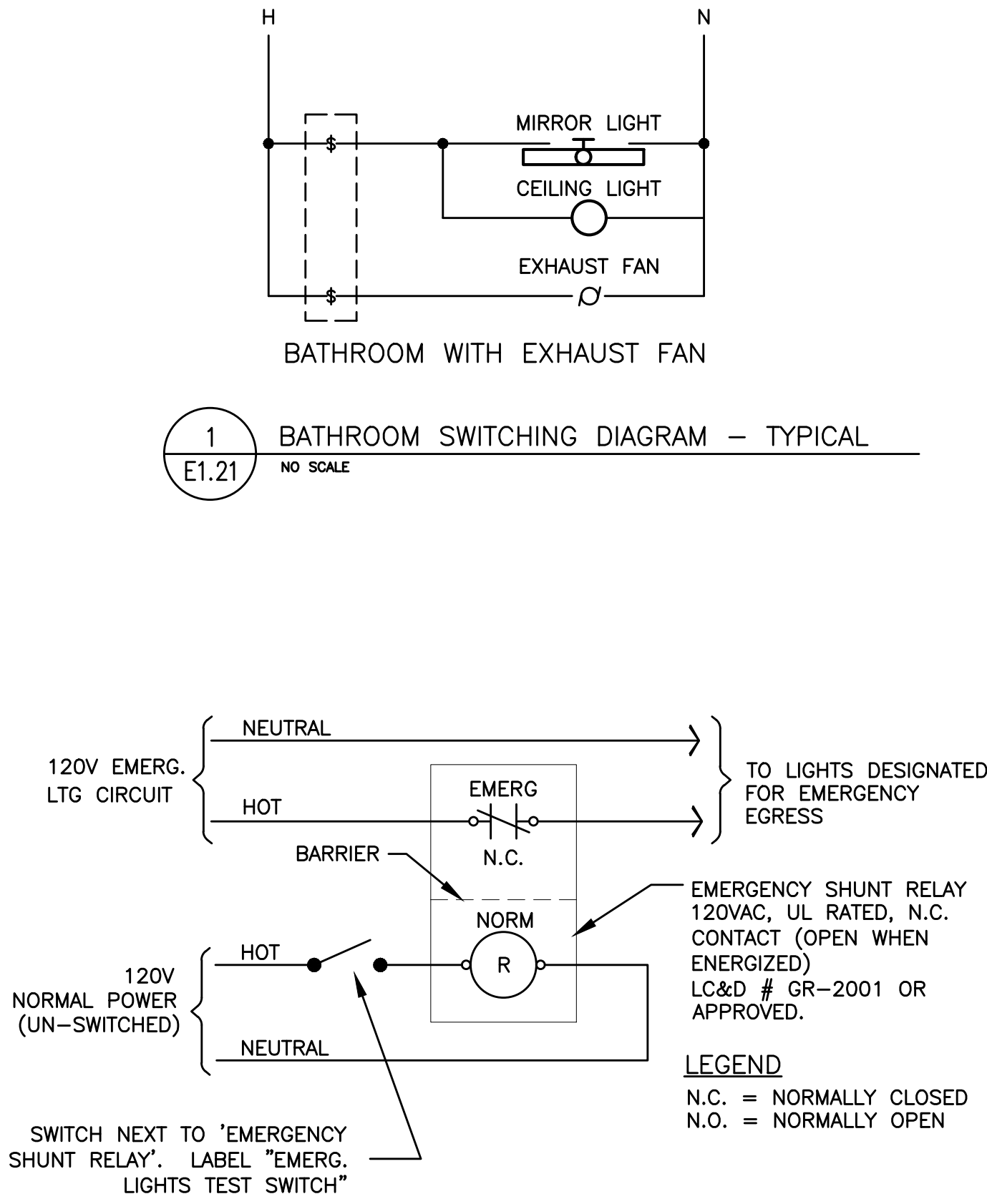
KEYED LIGHTING NOTES:

- POLE MOUNTED AREA LIGHTS TO BE CONTROLLED VIA PHOTOCELL, EITHER INTEGRAL OR REMOTE, FOR DUSK–TILL–DAWN OPERATION.
- BUILDING MOUNTED EXTERIOR LIGHTS SHALL BE CONTROLLED VIA ROOF MOUNTED PHOTOCELL FOR DUSK–TILL–DAWN OPERATION.

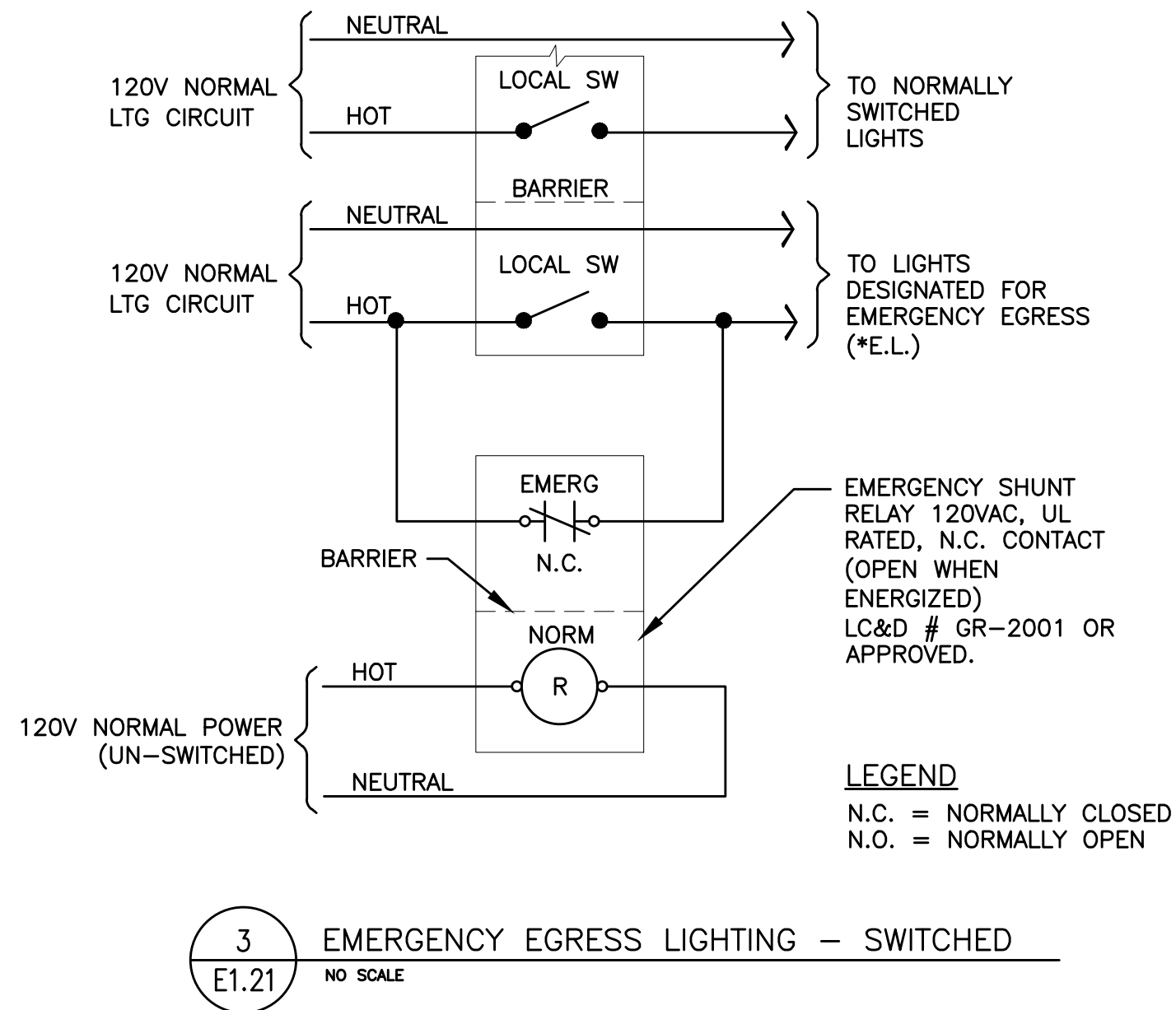
MECHANICAL EQUIPMENT SCHEDULE								
NO.	EQUIPMENT NAME	HP/KW	VOLTS	PH	AMPS	CONDUIT	WIRE	GND
CH-1	COVE HEATER NO.1	1050W	120	1		1/2"	#12	#12
EF-1	EXHAUST FAN NO.1	11.7W	120	1		1/2"	#12	#12
EF-2	EXHAUST FAN NO.2	8.5W	120	1		1/2"	#12	#12
EF-3	EXHAUST FAN NO.3	9.5W	120	1		1/2"	#12	#12
EF-4	EXHAUST FAN NO.4	1/10HP	120	1		1/2"	#12	#12
EF-5	EXHAUST FAN NO.5	135W	120	1		1/2"	#12	#12
EF-6	EXHAUST FAN NO.6	1/4HP	120	1		1/2"	#12	#12
EH-1	ELECTRIC WALL HEATER NO.1	1.5 KW	120	1		1/2"	#12	#12
EH-2	ELECTRIC WALL HEATER NO.2	0.5KW	120	1		1/2"	#12	#12
EH-3	ELECTRIC WALL HEATER NO.3	3.0KW	208	1		1/2"	#12	#12
FC-1	FAN COIL NO.1	11.3KW	208	1		1/2"	#12	#12
HP-1	HEAT PUMP NO.1		208	1	28.5MCA	3/4"	#8	#10
IHP-1	SPLIT SYST NO.1 (INDOOR)		120	1		1/2"	#12	#12
OHP-1	SPLIT SYST NO.1 (OUTDOOR)		208	1	18.3MCA	1/2"	#12	#12
IHP-2	SPLIT SYST NO.2 (INDOOR)		120	1		1/2"	#12	#12
OHP-2	SPLIT SYST NO.2 (OUTDOOR)		208	1	18.3MCA	1/2"	#12	#12
IHP-3	SPLIT SYST NO.3 (INDOOR)		120	1		1/2"	#12	#12
OHP-3	SPLIT SYST NO.3 (OUTDOOR)		208	1	12.2MCA	1/2"	#12	#12
IHP-4	SPLIT SYST NO.4 (INDOOR)		120	1		1/2"	#12	#12
OHP-4	SPLIT SYST NO.4 (OUTDOOR)		208	1	18.3MCA	1/2"	#12	#12
RTU-1	AIR HANDLING UNIT NO.1		208	3	22.0MCA	3/4"	#10	#10
RTU-2	AIR HANDLING UNIT NO.2		208	3	22.0MCA	3/4"	#10	#10
BP-1	BOOSTER PUMP NO.1 a & b	5HP (x2)	120	1		1/2"	#10	#10
SP-1	SUMP PUMP NO.1	1/2HP	120	1		1/2"	#12	#12
WH-1	WATER HEATER NO.1		208	1		1/2"	#10	#10
WH-2	WATER HEATER NO.2	1.5KW	120	1		1/2"	#12	#12

GENERAL EQUIPMENT NOTES:

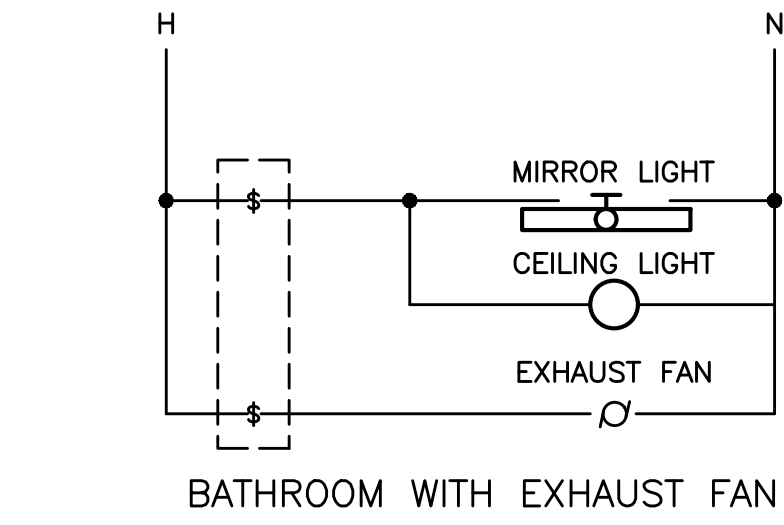
- CONTRACTOR/DESIGNER SHALL VERIFY ALL MECHANICAL EQUIPMENT CONNECTION LOAD REQUIREMENTS WITH THE MECHANICAL EQUIPMENT PROVIDER PRIOR TO ROUGH IN.
- MECHANICAL EQUIPMENT SIZES SHOWN IN THE MECHANICAL SCHEDULE ABOVE ARE FOR REFERENCE ONLY AND MAY NOT REFLECT THE ACTUAL EQUIPMENT TO BE INSTALLED.



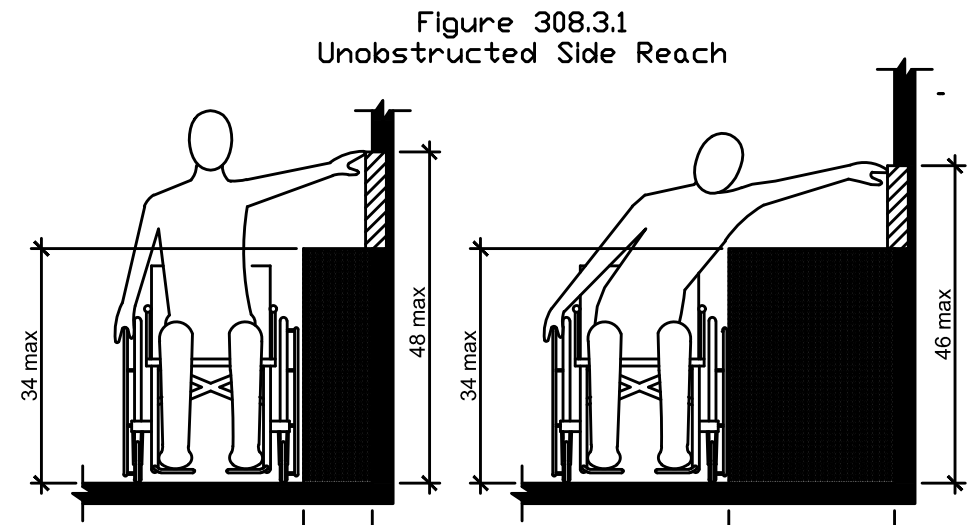
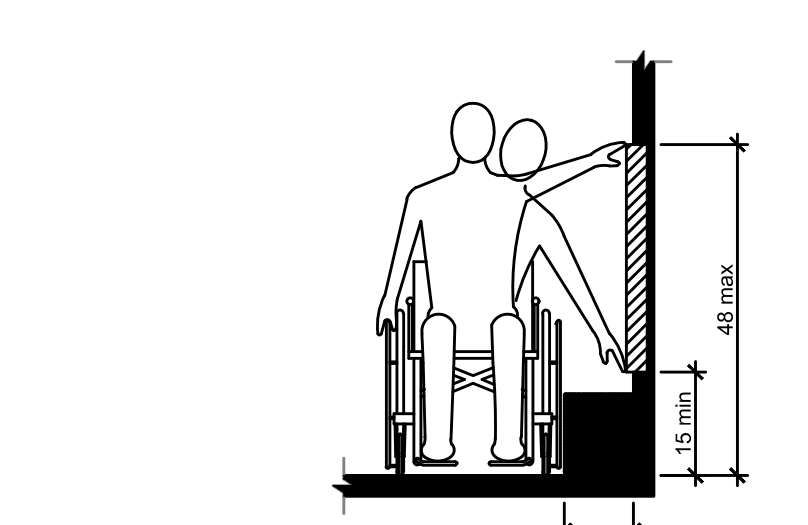
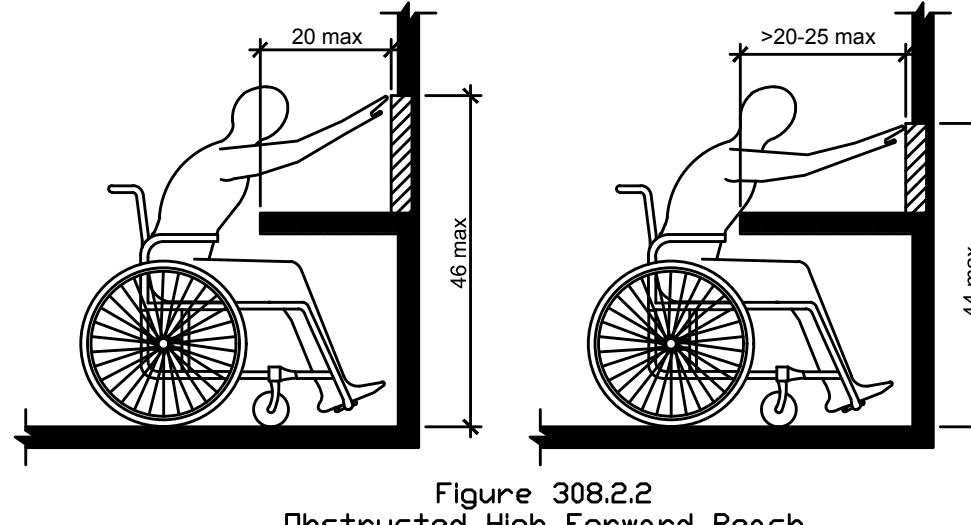
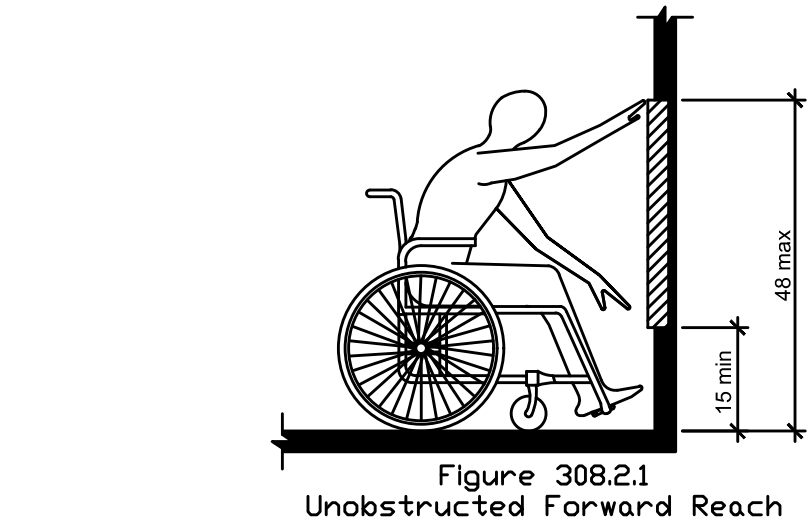
2 EMERGENCY EGRESS LIGHTING – UNSWITCHED
E1.21 NO SCALE



3 EMERGENCY EGRESS LIGHTING – SWITCHED
E1.21 NO SCALE



1 BATHROOM SWITCHING DIAGRAM – TYPICAL
E1.21 NO SCALE



4 ADA REACH REQUIREMENTS
E1.21 N.T.S.

308.2 Forward Reach.

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48" maximum and the low forward reach shall be 15" minimum above the floor or ground.

308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor or ground space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48" maximum where the reach depth is 20" maximum. Where the reach depth exceeds 20", the high forward reach shall be 44" maximum and the reach depth shall be 25" maximum.

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48" maximum and the low side reach shall be 15" minimum above the floor or ground.

Exception: Existing elements shall be permitted at 54" maximum above the floor or ground.

308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an object and the high side reach is over an obstruction, the height of the obstruction shall be 34" maximum and the depth of the obstruction shall be 24" maximum. The high side reach shall be 48" maximum for a reach depth of 10" maximum. Where the reach depth exceeds 10", the high side reach shall be 46" maximum for a reach depth of 24" maximum.

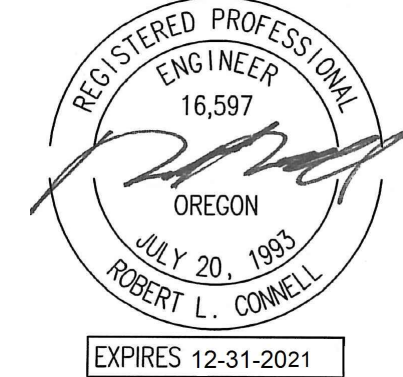
5020 CONDOMINIUMS
PROUD GROUND / HABITAT FOR HUMANITY
5050 N INTERSTATE AVE.
PORTLAND, OR 97217
CONFIRMANCE SET

LIGHT FIXTURE
SCHEDULE &
ELECT. DETAILS

PROJECT NO.
17020

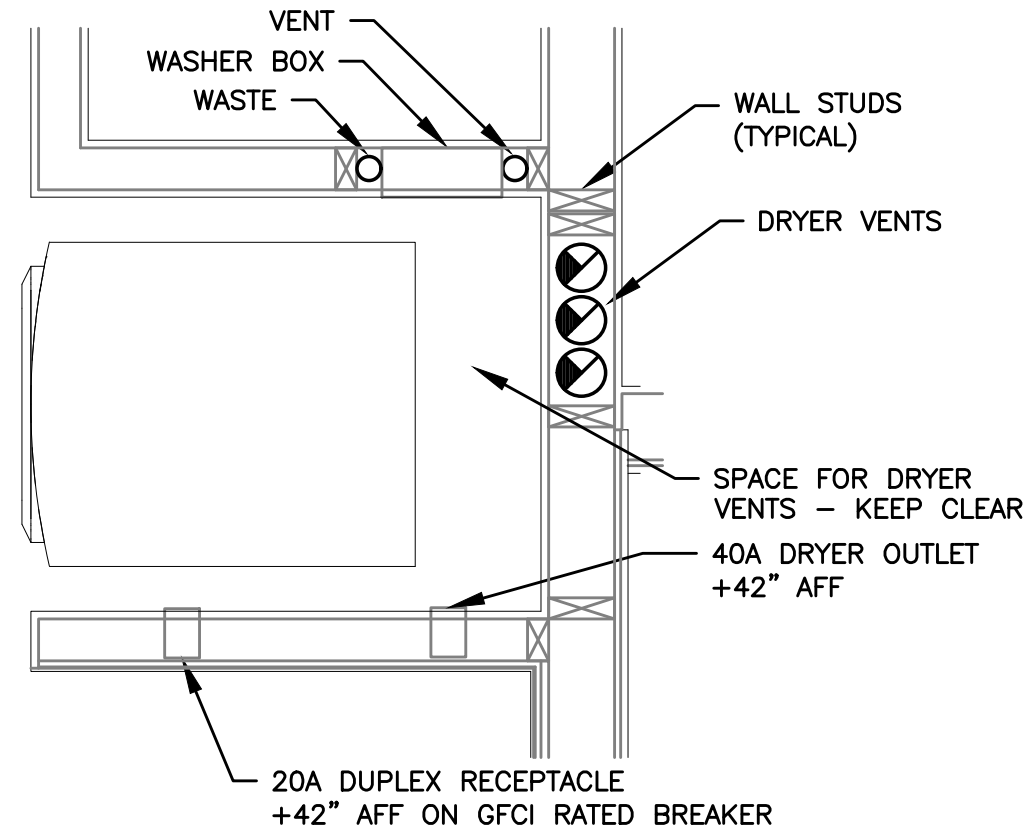
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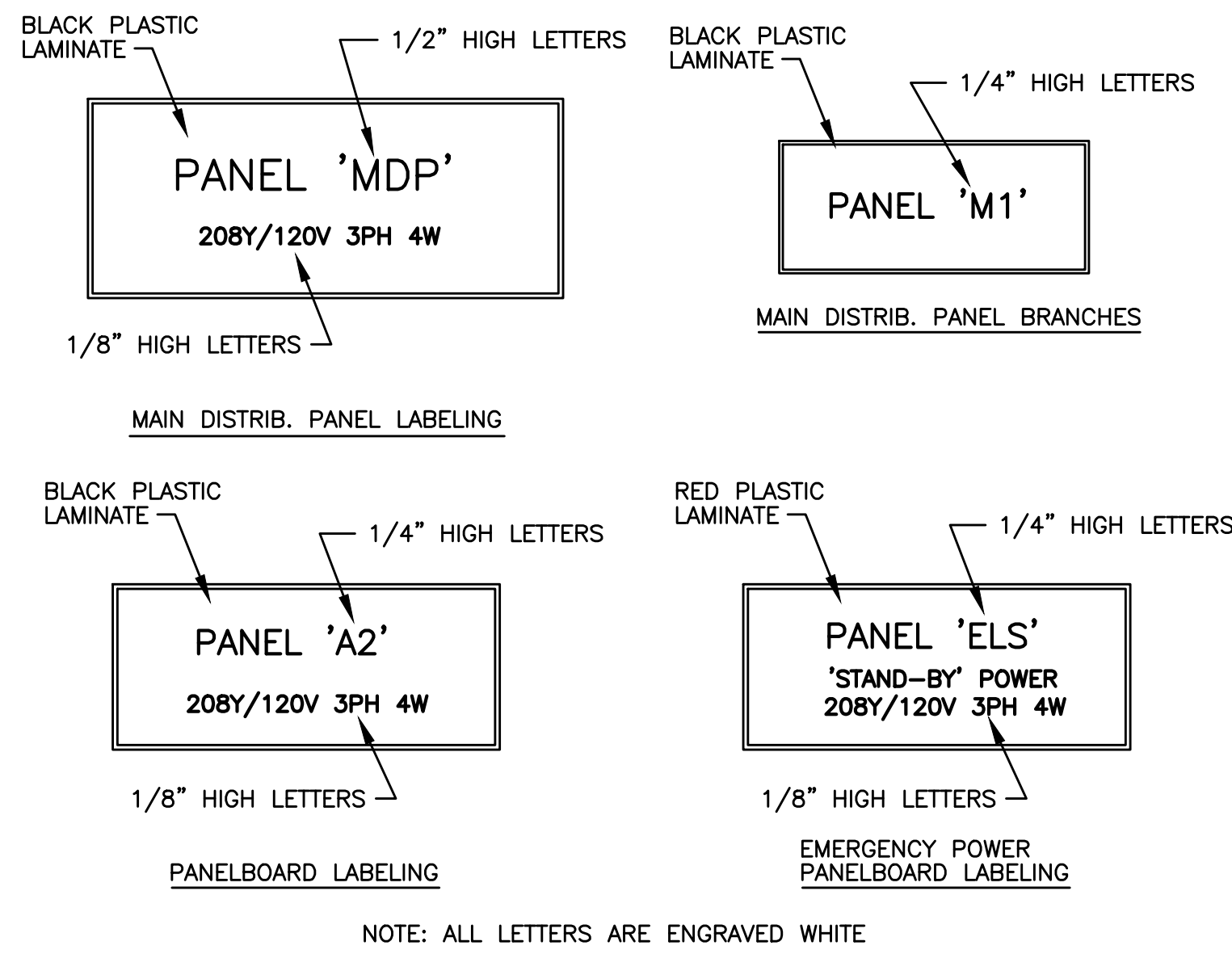


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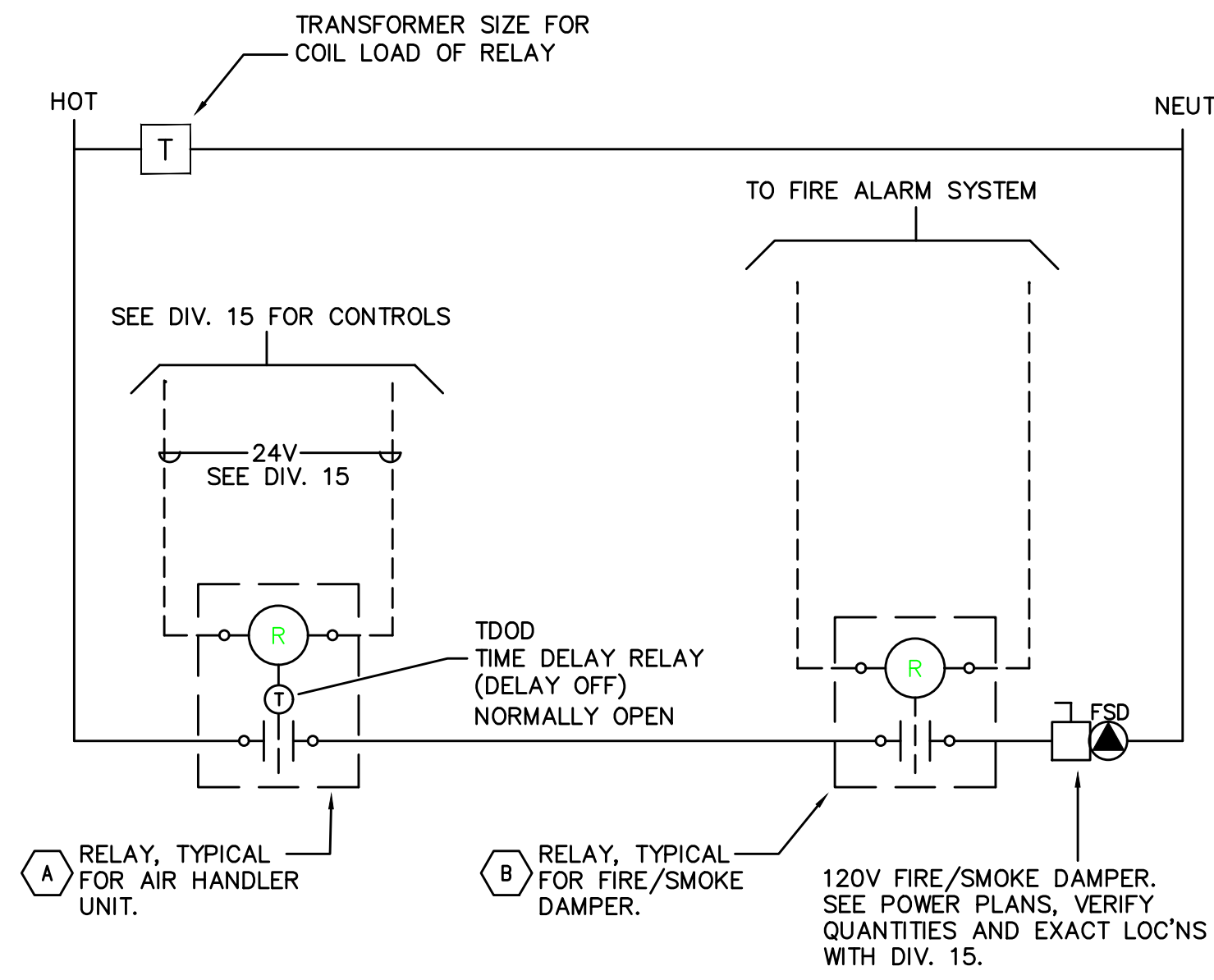
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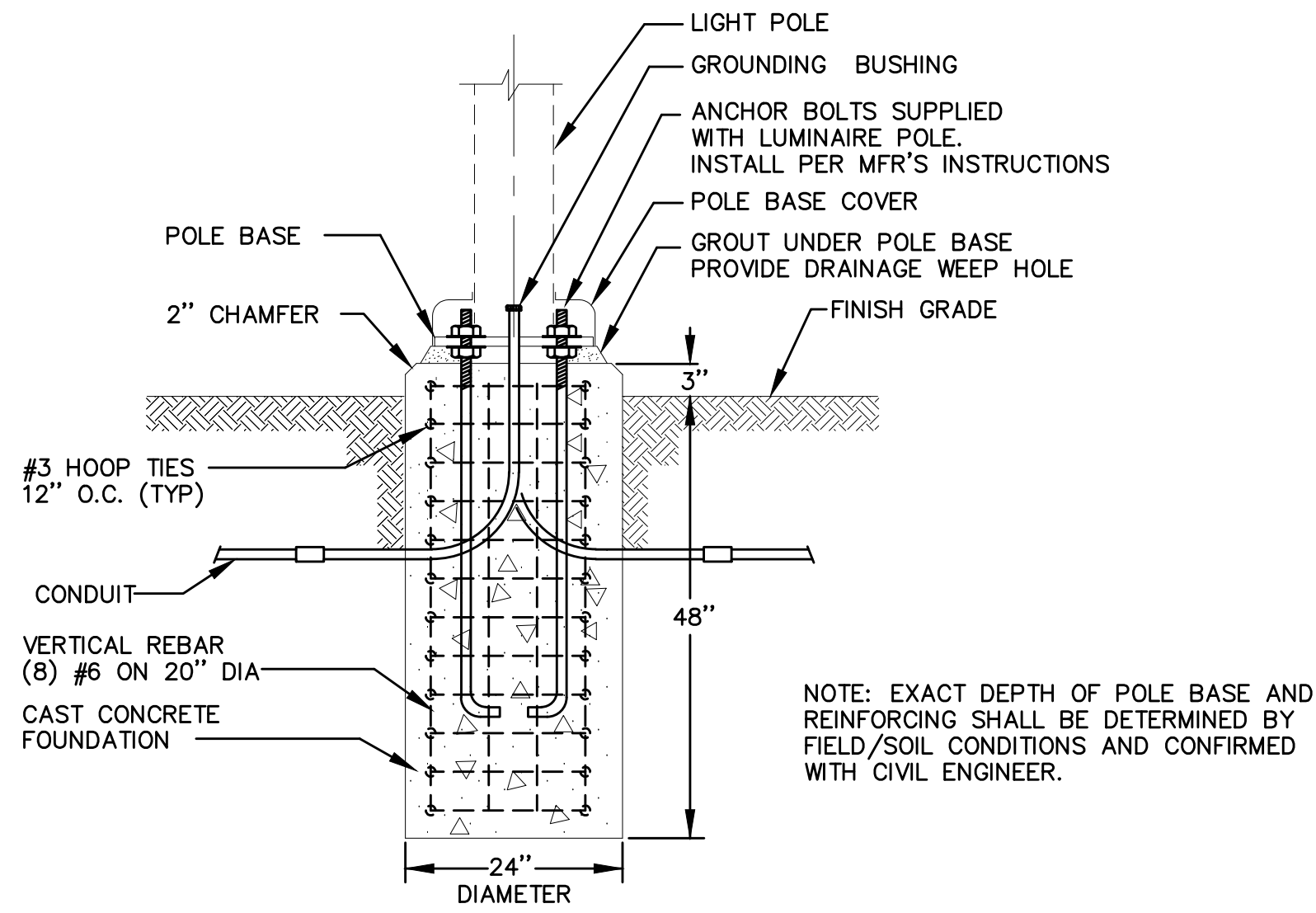
1 TYPICAL WASHER/DRYER ALCOVE — WHERE USED
NO SCALE
NOTE:
1. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE PLUMBING CONTRACTOR PRIOR TO ROUGH IN, TO ENSURE THAT ELECTRICAL DEVICES ARE NOT INSTALLED WHERE THEY WILL CREATE CONFLICT.
2. PREFERRED INSTALLATION SHALL HAVE THE ELECTRICAL DEVICES ON A WALL OPPOSITE THE WORK OF ANY OTHER TRADE.



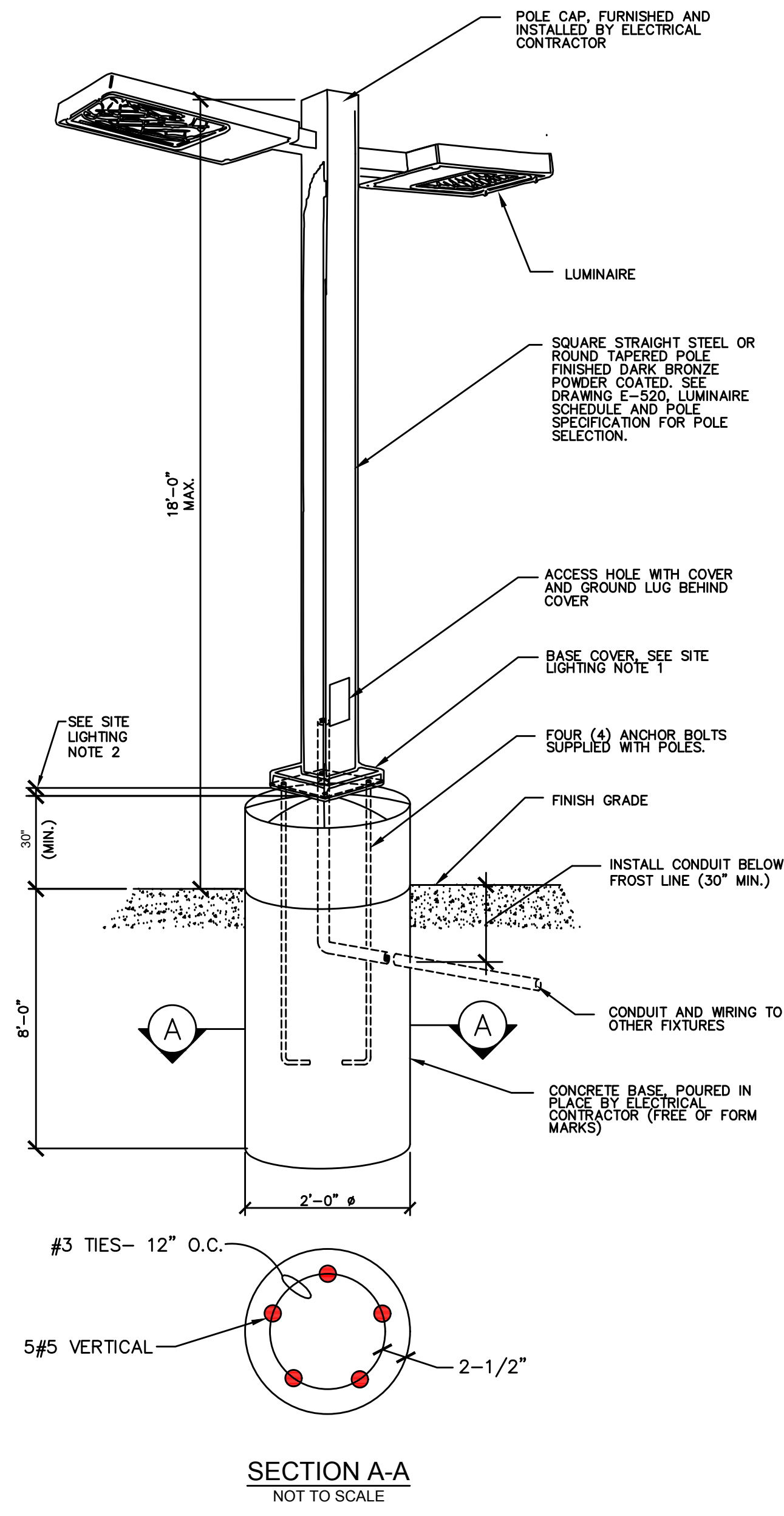
2 SWITCHBOARD/PANEL LABELING DETAIL
NO SCALE
NOTE: ALL LETTERS ARE ENGRAVED WHITE



3 SMOKE/FIRE DAMPER CONTROL DIAGRAM
NO SCALE
ADDRESSABLE DETECTOR CONTROL
A RELAY TO BE "NORMALLY OPEN". TDOO (TIME DELAY ON DE-ENERGIZE) SET FOR 15 SECONDS. RELAY TO CLOSE UPON SIGNAL FROM HVAC CONTROL SYSTEM (ALLOWS DAMPER TO OPEN); PROVIDE WITH 20A CONTACTS AND COIL VOLTAGE AS REQ'D BY HVAC CONTROL SYSTEM. MOUNT RELAY IN NEMA 1 ENCLOSURE ADJACENT TO HVAC CONTROL PANEL.
B RELAY TO BE "NORMALLY ENERGIZED". RELAY TO BE DE-ENERGIZED UPON SIGNAL FROM FIRE ALARM SYSTEM (ALLOWS DAMPERS TO CLOSE). PROGRAM FIRE ALARM SYSTEM FOR 15 SECOND DELAY BETWEEN SMOKE DETECTOR ACTIVATION AND FIRE/SMOKE DAMPER SHUTDOWN. PROVIDE WITH 20A CONTACTS AND COIL VOLTAGE AS REQ'D BY FIRE ALARM SYSTEM. MOUNT RELAY IN NEMA 1 ENCLOSURE ADJACENT TO FIRE/SMOKE DAMPER.



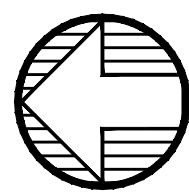
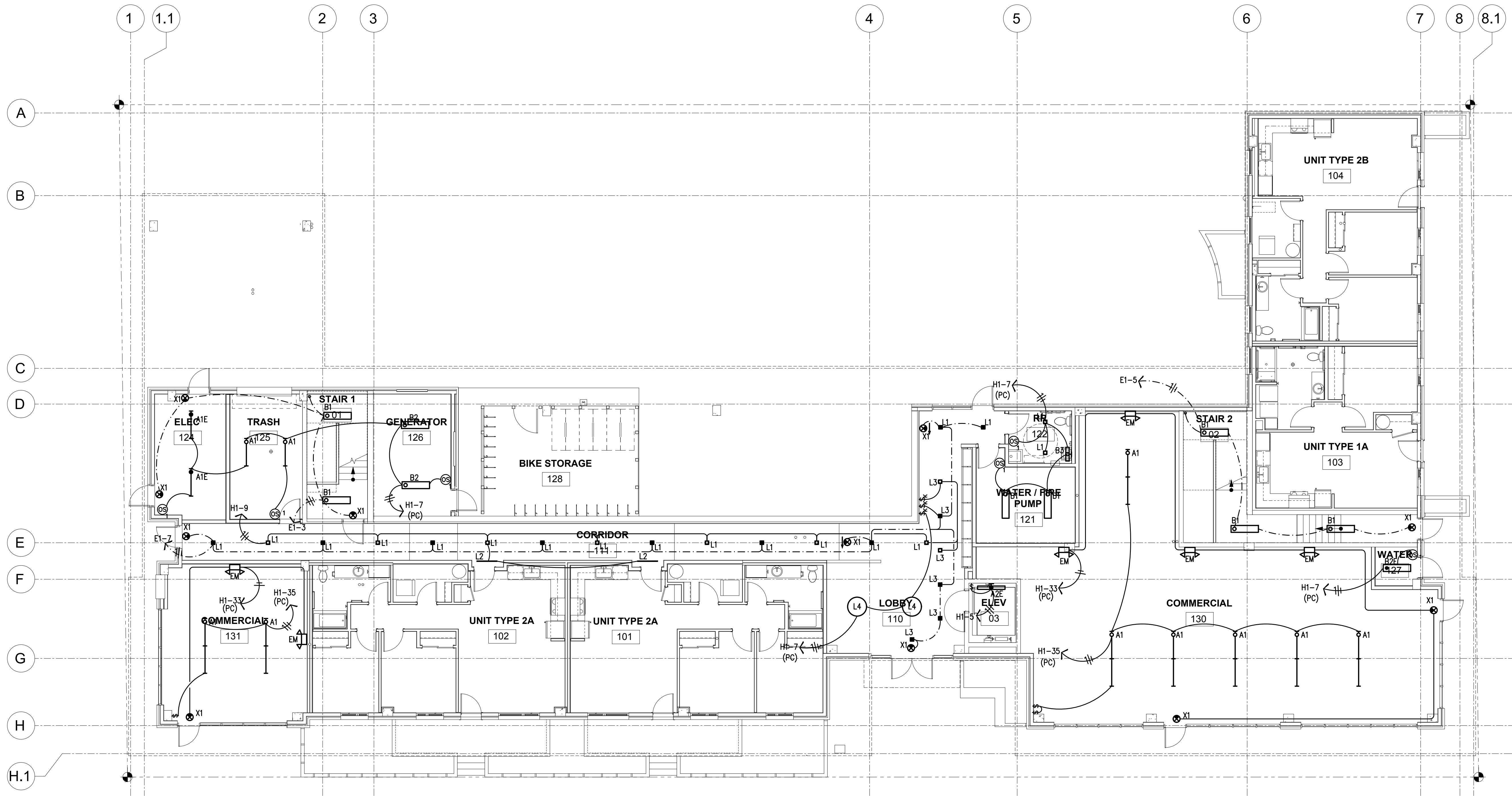
4 POLE BASE MOUNTING DETAIL (AT GRADE)
NO SCALE



5 POLE BASE DETAIL (ABOVE GRADE)
NO SCALE

- NOTES
1. PROVIDE CROWN ON TOP OF CONCRETE BASE TO COMPLETELY SHED WATER.
 2. 1/2" (MIN) AIRGAP SPACE BETWEEN TOP OF CONCRETE CROWN AND BOTTOM OF POLE BASE PLATE FOR VENTILATION.





1 LIGHTING PLAN - FIRST FLOOR
E2.01 SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

- ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
- ELECTRICAL CONTRACTOR TO PROVIDE THERMOSTATS NOT SUPPLIED BY MECHANICAL CONTRACTOR, AS REQUIRED. CONSULT MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
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- THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
- REFER TO ENLARGED TYPICAL UNIT PLANS (E4 SERIES SHEETS) FOR TYPICAL POWER & LIGHTING LAYOUTS FOR THE APARTMENT UNITS.
- ELECTRICAL PANELS LOCATED IN PUBLIC OR UNSECURED SPACES SHALL BE PROVIDED WITH A LOCKABLE DOOR PANEL.
- COORDINATE WITH DIVISION 23 FOR EXACT LOCATION AND POWER REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH IN. REFER TO SHEET E1.11 FOR MECHANICAL EQUIPMENT SCHEDULE.
- SERVICE ENTRANCE AND METERING EQUIPMENT SHOWN TO APPROXIMATE SCALE, BASED ON SIEMENS PRODUCTS. SERVICE ENTRANCE PULL SECTION SHALL BE PROVIDED WITH A MINIMUM 10FT CLEAR WORKSPACE.
- CONSULT ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ELEVATOR EQUIPMENT. CONSULT ELEVATOR PROVIDER/INSTALLER FOR EXACT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH IN AND COORDINATE EXACT LOCATION(S).
- FIRE ALARM DEVICES SHOWN ARE STRICTLY DIAGRAMMATIC AND SHOWN FOR REFERENCE ONLY. FIRE ALARM & DETECTION SYSTEMS ARE TO BE DESIGNED AND INSTALLED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE FIRE ALARM SYSTEM DESIGNER FOR EXACT LOCATIONS AND PROVIDE ROUGH IN ONLY.
- LIGHTING, RECEPTACLES AND FREEZE PROTECTION IN THE RETAIL LEASE SPACES SHALL BE PROVIDED WITH TEMPORARY CIRCUITS FROM THE HOUSE BRANCH PANELS AS INDICATED ON THE PLANS. AT SUCH TIME THAT EACH SPACE IS LEASED AND BUILT TO SUIT THE TENANT, THE TEMPORARY POWER CIRCUITS SHALL BE DISCONNECTED AND REMOVED, WITH THE BREAKERS NOTED AS "SPARE".

KEYED NOTES:

- ONE 20A GFCI RECEPTACLE LOCATED IN ELEVATOR PIT. CIRCUIT AS INDICATED.
- CONSULT ELEVATOR PROVIDER'S INSTALLATION DRAWINGS AND DOCUMENTATION FOR EXACT POWER REQUIREMENTS PRIOR TO ROUGH IN AND COORDINATE ALL WORK.
- HOUSE ELECTRICAL PANEL. PROVIDE WITH LOCKING DOOR PANEL. PROVIDE WITH LABEL INDICATING BUILDING NUMBER, AMPERAGE RATING, AND VOLTAGE.
- TELEPHONE BACKBOARD BY OTHERS. VERIFY EXACT LOCATION AND PROVIDE ONE 20A, 120V, 1P QUAD. RECEPTACLE. REFER SCHEDULE FOR HOUSE ELECTRICAL PANEL FOR CIRCUIT DESIGNATION.
- PROVIDE ONE 20A, 120V, 1PH POWER CONNECTION FOR IRRIGATION SYSTEM AS REQUIRED. CONSULT LANDSCAPE CONTRACTOR FOR ADDITIONAL INFORMATION. CIRCUIT AS INDICATED.
- CODE REQUIRED MINIMUM FLAT, LEVEL WORKING CLEARANCE OF 48" SHALL BE MAINTAINED. PGE REQUIRES METERING EQUIPMENT WITHIN 10'-0" OF THE FACE OF THE BUILDING AND 3'-0" CLEAR OF DOORS.
- ELECTRICAL SERVICE ENTRANCE EQUIPMENT AND UTILITY METERS. REFER TO TYPICAL ONE-LINE DIAGRAM ON SHEET E1.11 FOR ADDITIONAL INFORMATION.
- PROVIDE ONE 20A, 120V, 1PH POWER CONNECTION FOR LANDSCAPE LIGHTING SYSTEM AS REQUIRED. CONSULT LANDSCAPE CONTRACTOR FOR ADDITIONAL INFORMATION. CIRCUIT AS INDICATED.

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LIGHTING PLAN
FIRST FLOOR
PROJECT NO.
17020

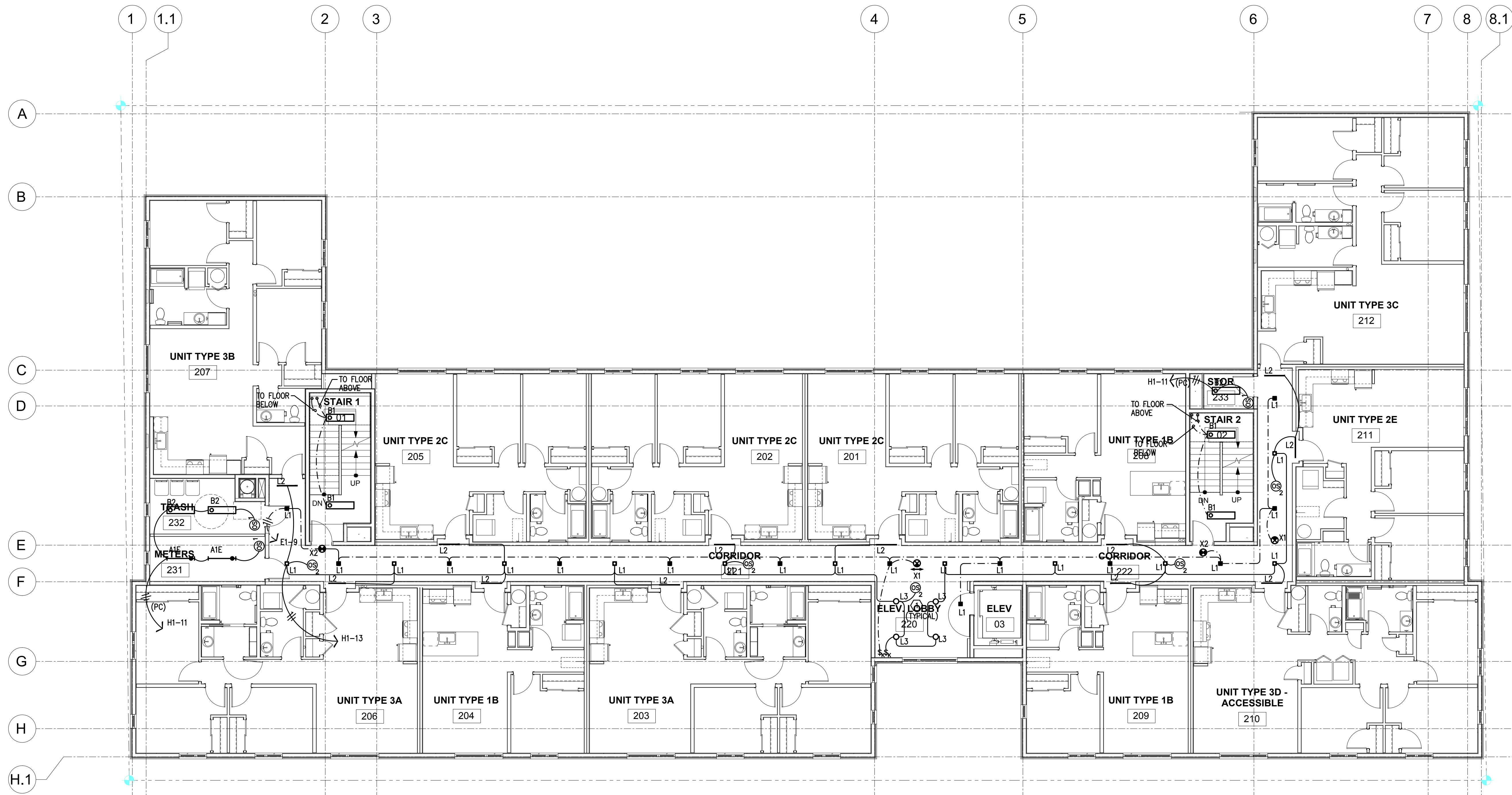
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E2.01

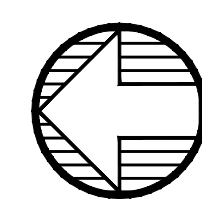


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KEYED NOTES:

- CEILING MOUNTED OCCUPANCY SENSORS TO DIM LIGHT FIXTURES BY 50% DURING PERIODS OF LOW ACTIVITY AND IMMEDIATELY RETURN LIGHT LEVELS TO 100% UPON DETECTION OF MOVEMENT. EGRESS LIGHTING SHALL REMAIN AT 100% LIGHT OUTPUT CONTINUOUSLY.



1 LIGHTING PLAN - SECOND FLOOR
E2.02 SCALE: 1/8" = 1'-0"



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LIGHTING PLAN
SECOND FLOOR
PROJECT NO.
17020

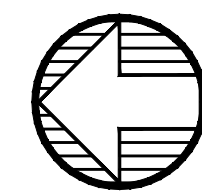
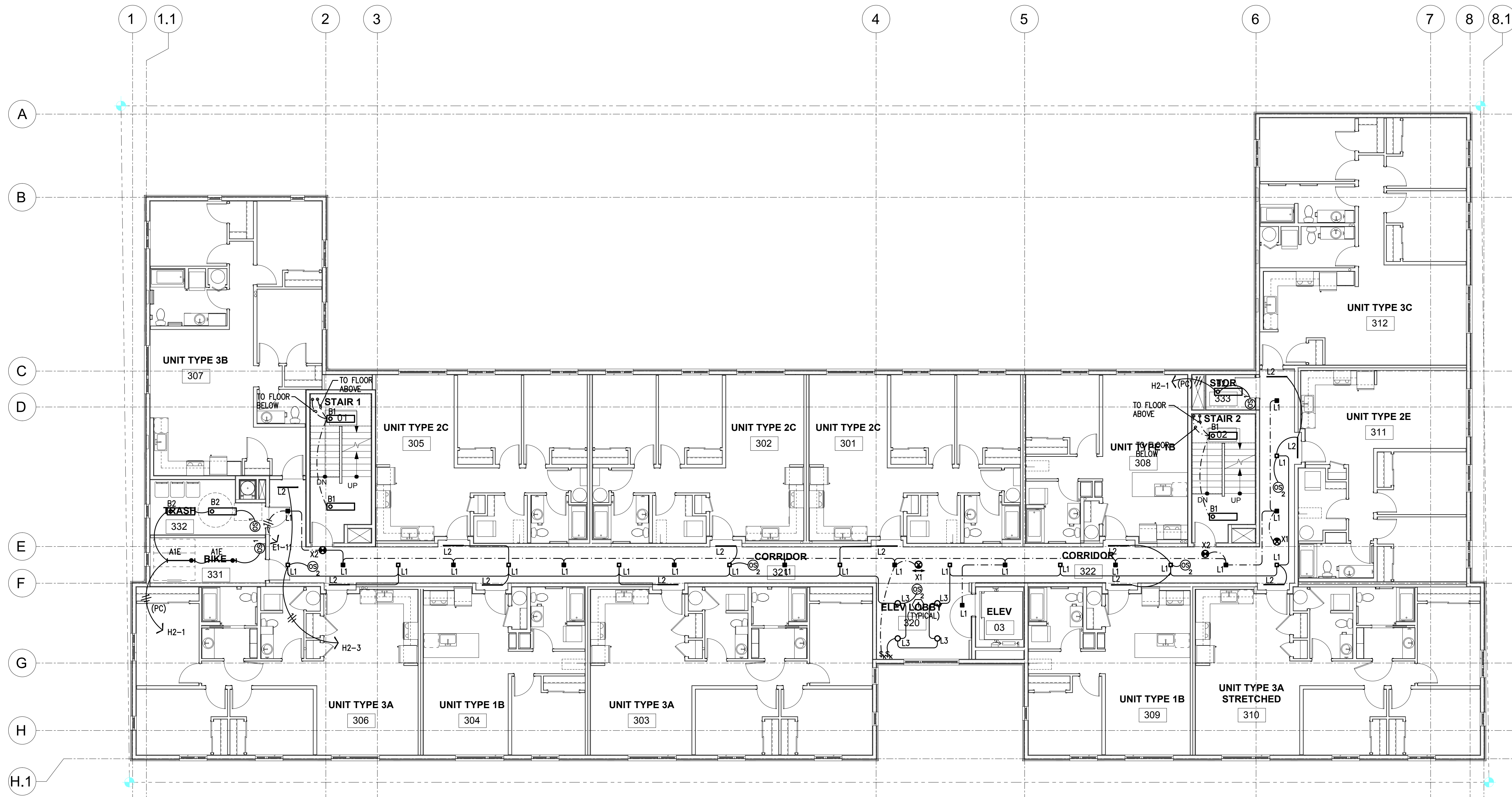
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E2.02



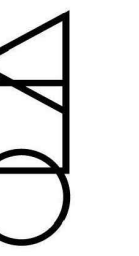
1 LIGHTING PLAN - THIRD FLOOR
E2.03 SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

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KEYED NOTES:

- CEILING MOUNTED OCCUPANCY SENSORS TO DIM LIGHT FIXTURES BY 50% DURING PERIODS OF LOW ACTIVITY AND IMMEDIATELY RETURN LIGHT LEVELS TO 100% UPON DETECTION OF MOVEMENT. EGRESS LIGHTING SHALL REMAIN AT 100% LIGHT OUTPUT CONTINUOUSLY.



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LIGHTING PLAN
THIRD FLOOR

PROJECT NO.
17020

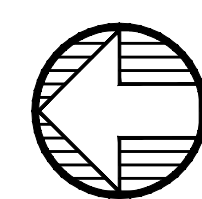
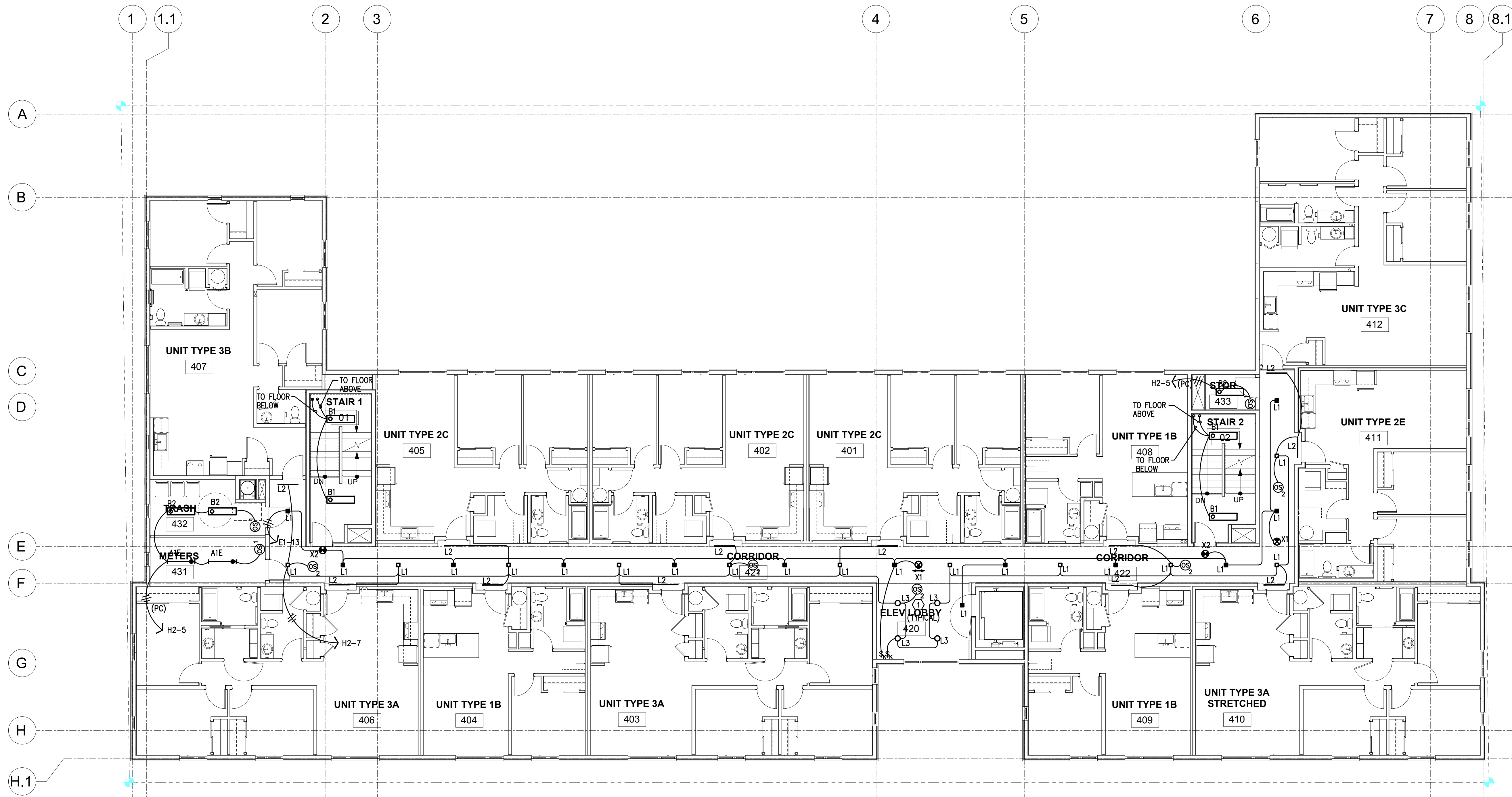
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E2.03



1 LIGHTING PLAN - FOURTH FLOOR
E2.04 SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

- ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
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LIGHTING PLAN
FOURTH FLOOR

PROJECT NO.
17020

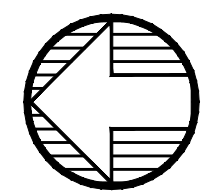
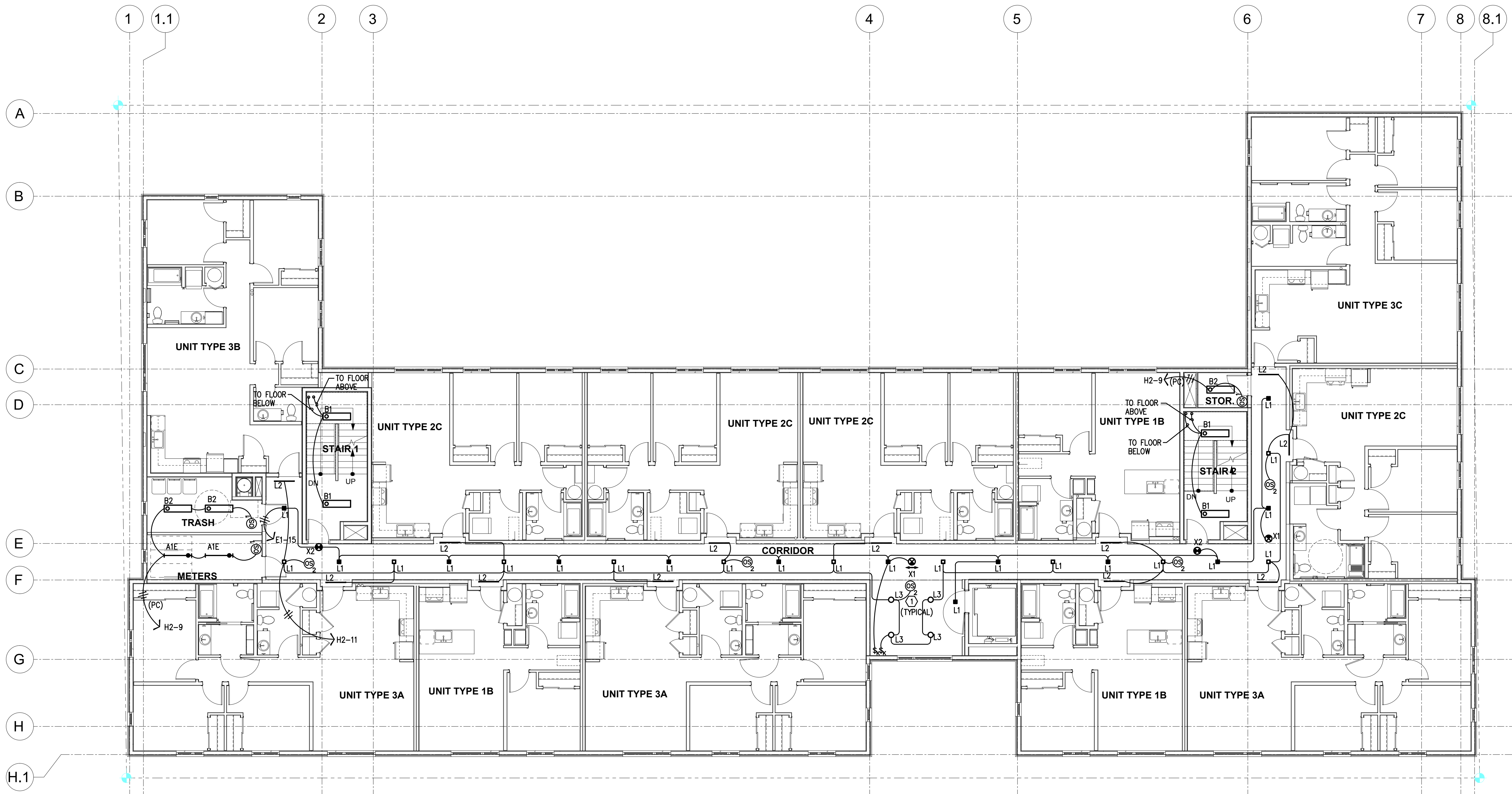
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E2.04



1 LIGHTING PLAN - FIFTH FLOOR
E2.05 SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

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KEYED NOTES:

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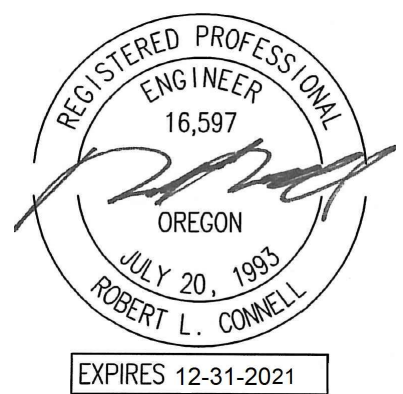
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LIGHTING PLAN
FIFTH FLOOR
PROJECT NO.
17020

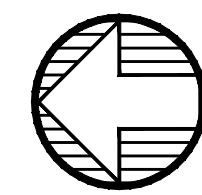
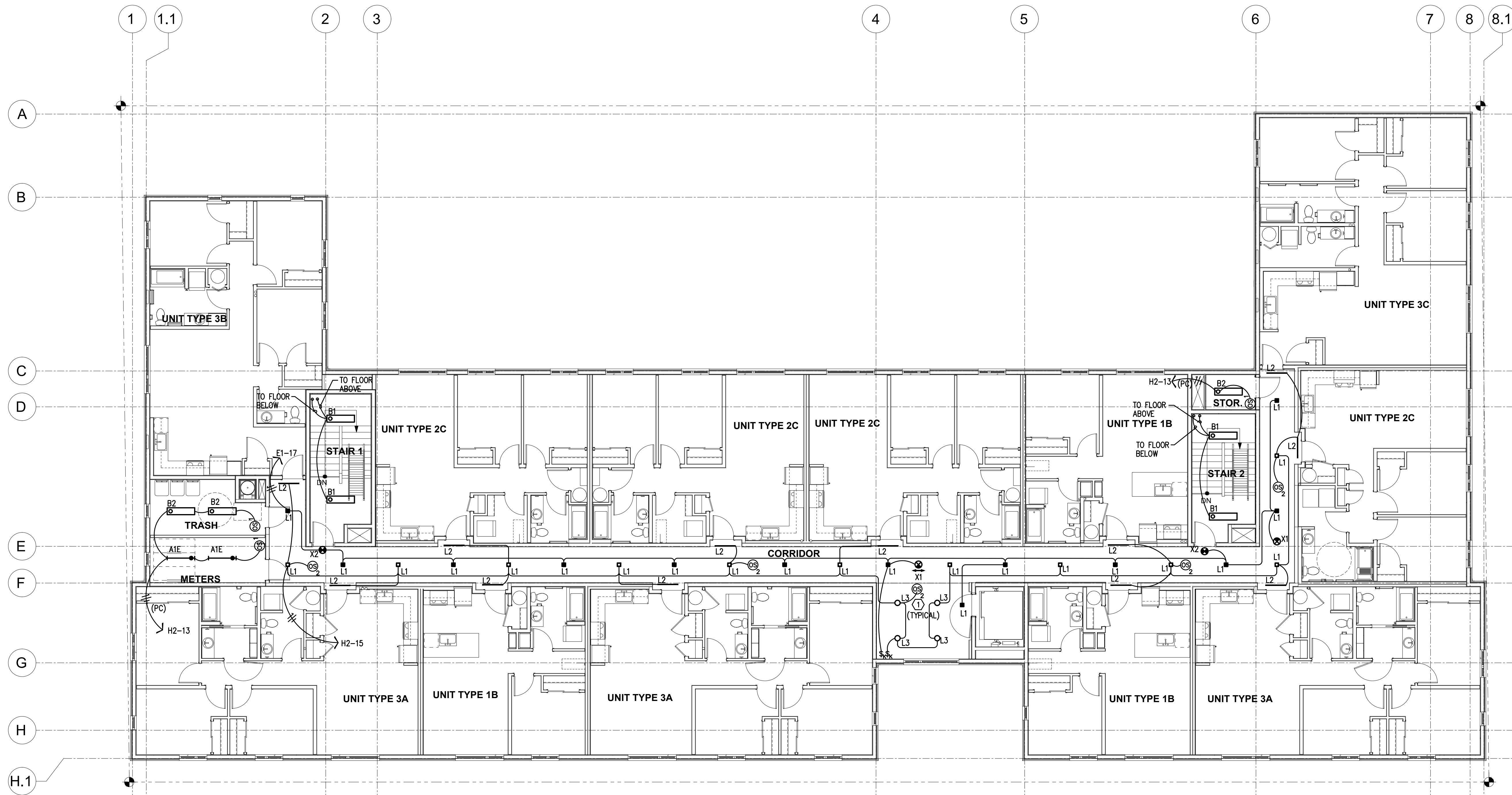
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E2.05



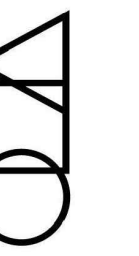
1 LIGHTING PLAN - SIXTH FLOOR
E2.06 SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

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KEYED NOTES:

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5020 CONDOMINIUMS
PROUD GROUND / HABITAT FOR HUMANITY
5050 N INTERSTATE AVE.
PORTLAND, OR 97217
CONFORMANCE SET

LIGHTING PLAN
SIXTH FLOOR
PROJECT NO.
17020

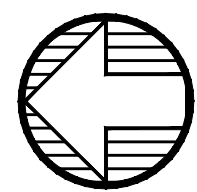
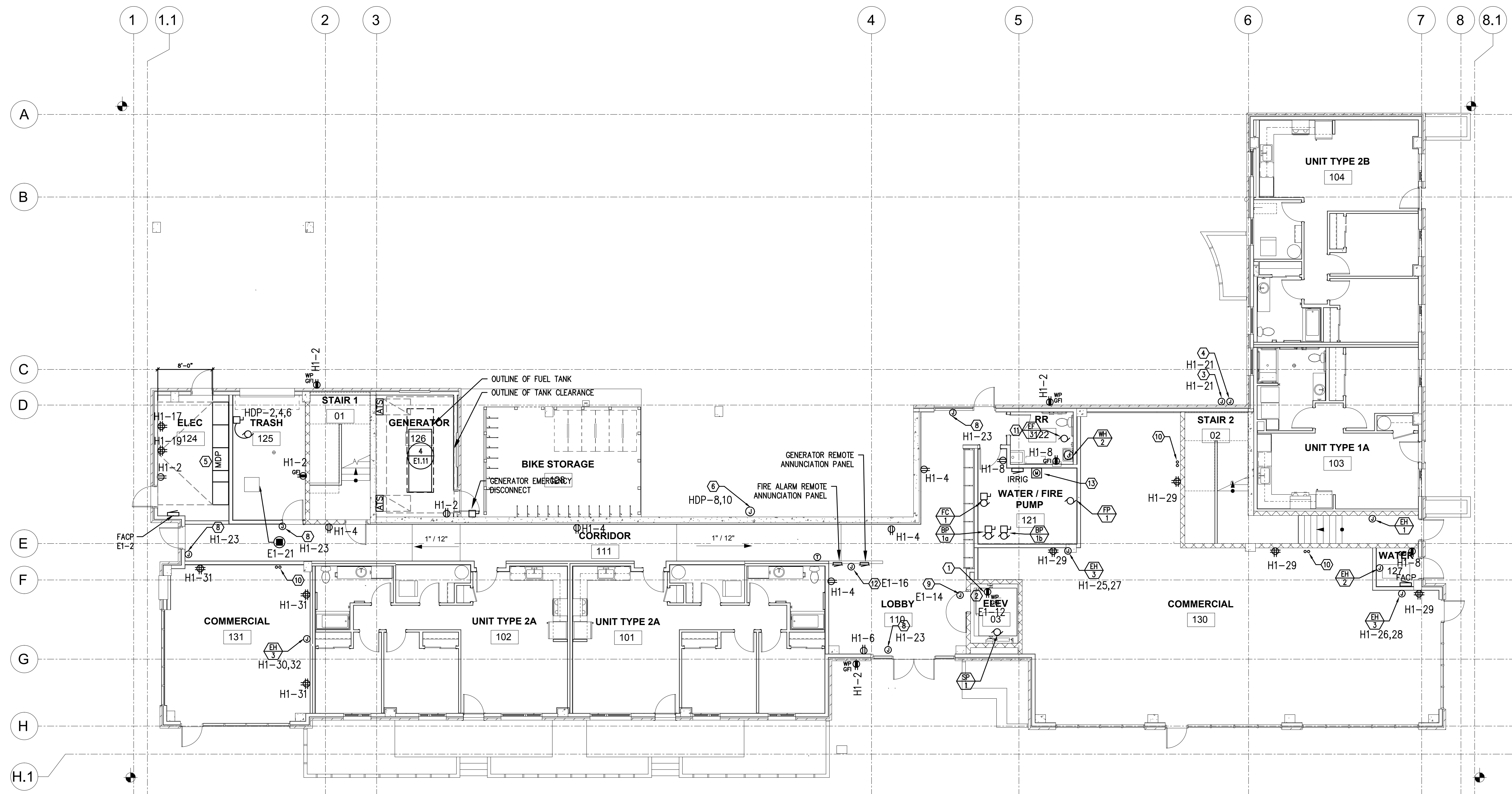
02.07.20

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WWW.MHA-ENG.COM
CONTACT: DENISE TAYLOR

E2.06



1 POWER PLAN - FIRST FLOOR
E3.01 SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

- ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
- ELECTRICAL CONTRACTOR TO PROVIDE THERMOSTATS NOT SUPPLIED BY MECHANICAL CONTRACTOR, AS REQUIRED. CONSULT MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
- ELECTRICAL CONTRACTOR SHALL PROVIDE INSTALLATION AND FINAL CONNECTION OF THERMOSTATS AS REQUIRED. CONSULT MECHANICAL CONTRACTOR FOR EXACT REQUIREMENTS PRIOR TO ROUGH IN.
- THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
- REFER TO ENLARGED TYPICAL UNIT PLANS (E5 SERIES SHEETS) FOR TYPICAL POWER & LIGHTING LAYOUTS FOR THE APARTMENT UNITS.
- ELECTRICAL PANELS LOCATED IN PUBLIC OR UNSECURED SPACES SHALL BE PROVIDED WITH A LOCKABLE DOOR PANEL.
- COORDINATE WITH DIVISION 23 FOR EXACT LOCATION AND POWER REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH IN. REFER TO SHEET E1.11 FOR MECHANICAL EQUIPMENT SCHEDULE.
- SERVICE ENTRANCE AND METERING EQUIPMENT SHOWN TO APPROXIMATE SCALE, BASED ON SQUARE D PRODUCTS. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT WILL FIT THE SPACE AND MAINTAIN REQUIRED WORKING CLEARANCES.
- CONSULT ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ELEVATOR EQUIPMENT. CONSULT ELEVATOR PROVIDER/INSTALLER FOR EXACT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH IN AND COORDINATE EXACT LOCATION(S).
- FIRE ALARM DEVICES SHOWN ARE STRICTLY DIAGRAMMATIC AND SHOWN FOR REFERENCE ONLY. FIRE ALARM & DETECTION SYSTEMS ARE TO BE DESIGNED AND INSTALLED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE FIRE ALARM SYSTEM DESIGNER FOR EXACT LOCATIONS AND PROVIDE ROUGH IN ONLY.
- LIGHTING, RECEPTACLES AND FREEZE PROTECTION IN THE RETAIL LEASE SPACES SHALL BE PROVIDED WITH TEMPORARY CIRCUITS FROM THE HOUSE BRANCH PANELS AS INDICATED ON THE PLANS. AT SUCH TIME THAT EACH SPACE IS LEASED AND BUILT TO SUIT THE TENANT, THE TEMPORARY POWER CIRCUITS SHALL BE DISCONNECTED AND REMOVED, WITH THE BREAKERS NOTED AS "SPARE".

KEYED NOTES:

- ONE 20A GFCI RECEPTACLE LOCATED IN ELEVATOR PIT. CIRCUIT AS INDICATED.
- CONSULT ELEVATOR PROVIDER'S INSTALLATION DRAWINGS AND DOCUMENTATION FOR EXACT POWER REQUIREMENTS PRIOR TO ROUGH IN AND COORDINATE ALL WORK.
- PROVIDE ONE 15A, 120V, 1PH POWER CONNECTION FOR EXTERIOR IRRIGATION SYSTEM AS NEEDED. CONSULT LANDSCAPE CONTRACTOR FOR ADDITIONAL INFORMATION. CIRCUIT AS INDICATED.
- PROVIDE ONE 20A, 120V, 1PH POWER CONNECTION FOR LOW VOLTAGE LANDSCAPE LIGHTING AS REQUIRED. CONSULT LANDSCAPE CONTRACTOR FOR ADDITIONAL INFORMATION. CIRCUIT AS INDICATED.
- ELECTRICAL SERVICE ENTRANCE EQUIPMENT. REFER TO TYPICAL ONE-LINE DIAGRAM ON SHEET E1.11 FOR ADDITIONAL INFORMATION. SERVICE ENTRANCE AND DISTRIBUTION EQUIPMENT IS BASED ON SQUARE D PRODUCTS.
- PROVIDE ONE 40A, 208V, 1PH POWER CONNECTION FOR WALL MOUNTED EV CAR CHARGING STATION, PROVIDED BY OTHERS. CONSULT MANUFACTURER'S DOCUMENTATION FOR EXACT POWER REQUIREMENTS PRIOR TO ROUGH IN AND CIRCUIT TO PANEL 'H1'.
- TIE CONTINUOUS OPERATION EXHAUST FAN INTO LIGHTING CIRCUIT FOR THIS SPACE, (NOT TO BE SWITCHED WITH LIGHTS). CONSULT MECHANICAL CONTRACTOR FOR EXACT POWER REQUIREMENTS PRIOR TO ROUGH IN.
- PROVIDE ONE 20A, 120V, 1P CIRCUIT FOR AUTO DOOR ACTUATOR. CONSULT ARCHITECT FOR EXACT PRODUCT REQUIREMENTS. PROVIDE PUSH-BUTTON CONTROLS AS REQUIRED.
- PROVIDE ONE 20A, 120V, 1P CIRCUIT FOR ELEVATOR SMOKE CURTAINS. CONSULT ARCHITECT FOR EXACT PRODUCT REQUIREMENTS PRIOR TO ROUGH IN AND CIRCUIT AS INDICATED.
- ROUTE (2) EMPTY 3 1/2" CONDUIT WITH PULL STRING, FROM MDP, UNDER SLAB AND STUB-UP INTO LEASE SPACE FOR TENANT SUPPLIED BRANCH PANEL AND CAP OFF.
- TIE EXHAUST FAN INTO LIGHTING CIRCUIT FOR THIS SPACE, (TO BE SWITCHED WITH LIGHTS). CONSULT MECHANICAL CONTRACTOR FOR EXACT POWER REQUIREMENTS PRIOR TO ROUGH IN.
- AREA OF REFUGE PANEL. REFER TO TELECOM PLAN SET FOR ADDITIONAL INFORMATION & CIRCUIT AS INDICATED.
- FIRE PUMP METER LOCATION AND CONTROL PANEL.

5020 CONDOMINIUMS
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CONFIRMANCE SET

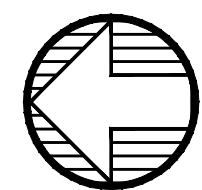
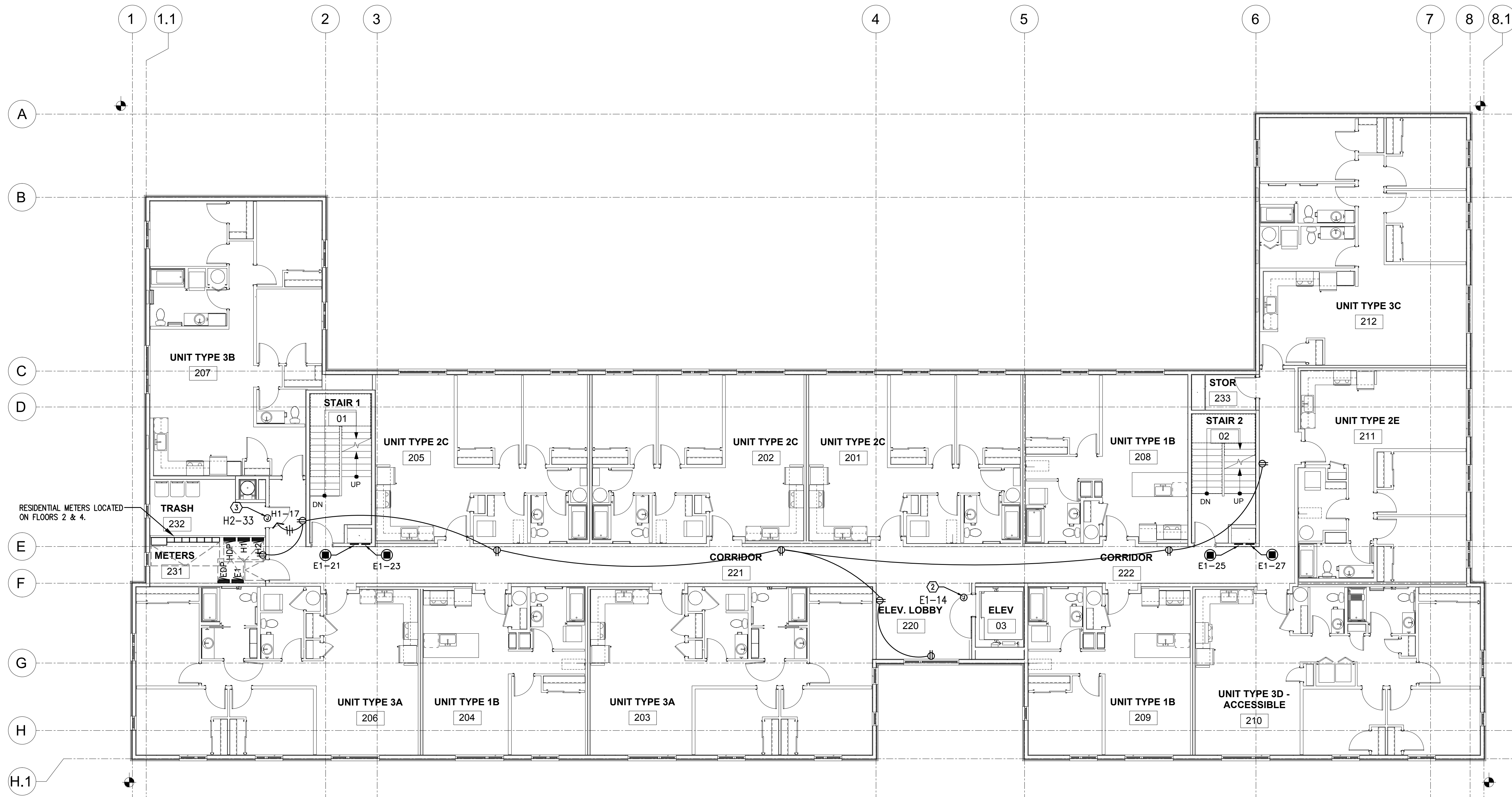
POWER PLAN
FIRST FLOOR
PROJECT NO.
17020

02.07.20
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E3.01



1 POWER PLAN - SECOND FLOOR
E3.02 SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

- ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
- ELECTRICAL CONTRACTOR TO PROVIDE THERMOSTATS NOT SUPPLIED BY MECHANICAL CONTRACTOR, AS REQUIRED. CONSULT MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
- ELECTRICAL CONTRACTOR SHALL PROVIDE INSTALLATION AND FINAL CONNECTION OF THERMOSTATS AS REQUIRED. CONSULT MECHANICAL CONTRACTOR FOR EXACT REQUIREMENTS PRIOR TO ROUGH IN.
- THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
- REFER TO ENLARGED TYPICAL UNIT PLANS (E4 SERIES SHEETS) FOR TYPICAL POWER & LIGHTING LAYOUTS FOR THE APARTMENT UNITS.
- ELECTRICAL PANELS LOCATED IN PUBLIC OR UNSECURED SPACES SHALL BE PROVIDED WITH A LOCKABLE DOOR PANEL.
- COORDINATE WITH DIVISION 23 FOR EXACT LOCATION AND POWER REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH IN. REFER TO SHEET E1.11 FOR MECHANICAL EQUIPMENT SCHEDULE.

KEYED NOTES:

- COMMUNICATIONS BACKBOARDS BY OTHERS. COORDINATE WITH THE TELECOM PLANS (T SERIES SHEETS) & LOW VOLTAGE INSTALLER. PROVIDE ONE 20A, 120V, 1P QUAD. RECEPTACLE FOR EACH BOARD. REFER SCHEDULE FOR HOUSE ELECTRICAL PANEL 'H1' FOR CIRCUIT DESIGNATION.
- PROVIDE ONE 20A, 120V, 1P CIRCUIT FOR ELEVATOR SMOKE CURTAINS. CONSULT ARCHITECT FOR EXACT PRODUCT REQUIREMENTS PRIOR TO ROUGH IN AND CIRCUIT AS INDICATED.
- PROVIDE ONE 20A, 120V, 1P CIRCUIT FOR AUTO DOOR ACTUATOR. CONSULT ARCHITECT FOR EXACT PRODUCT REQUIREMENTS. PROVIDE PUSH-BUTTON CONTROLS AS REQUIRED.



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5050 N INTERSTATE AVE.
PORTLAND, OR 97217
CONFORMANCE SET

POWER PLAN
SECOND FLOOR

PROJECT NO.
17020

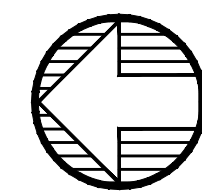
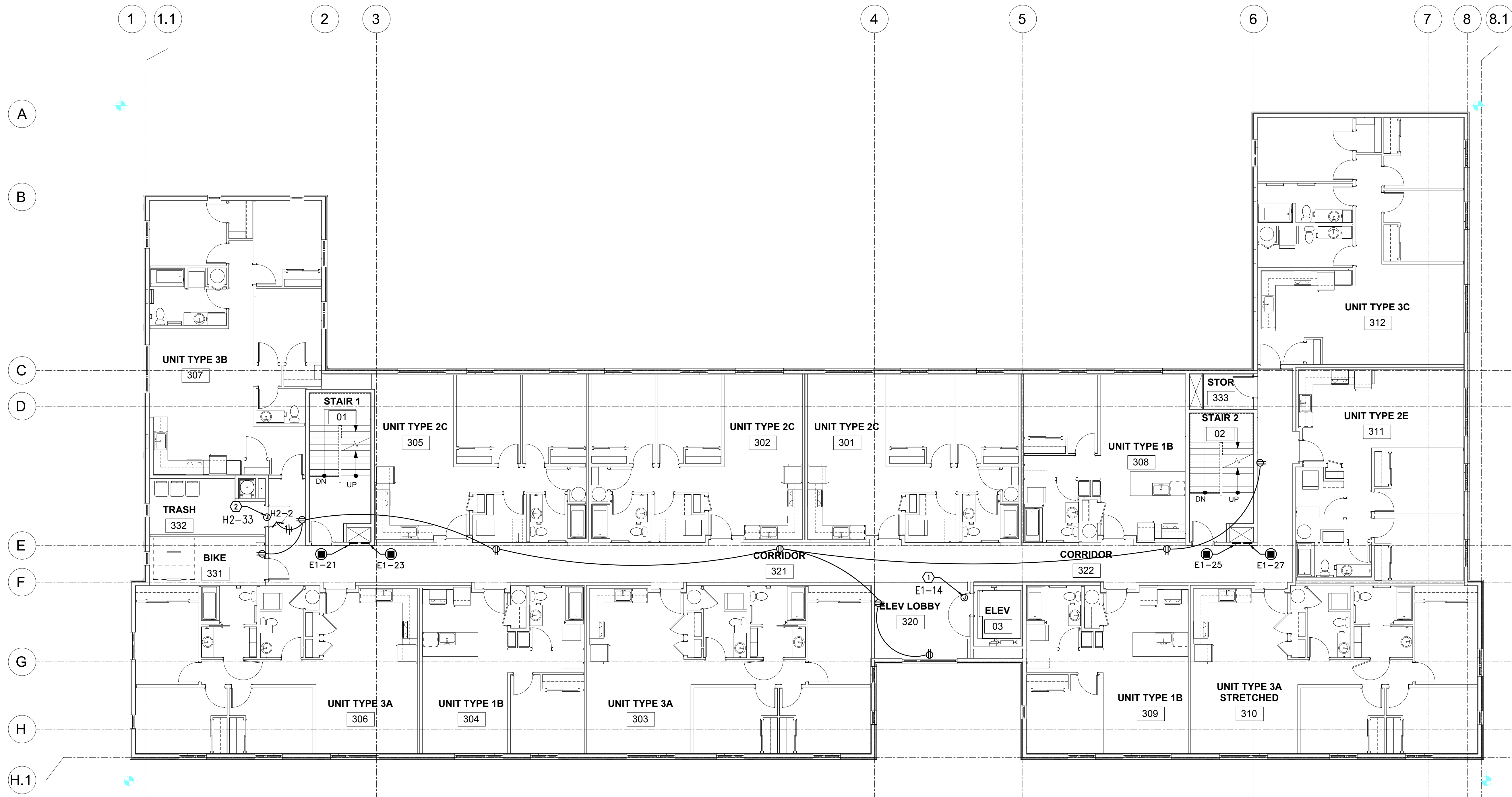
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E3.02



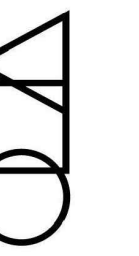
1 POWER PLAN - THIRD FLOOR
E3.03 SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

- ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
- ELECTRICAL CONTRACTOR TO PROVIDE THERMOSTATS NOT SUPPLIED BY MECHANICAL CONTRACTOR, AS REQUIRED. CONSULT MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
- ELECTRICAL CONTRACTOR SHALL PROVIDE INSTALLATION AND FINAL CONNECTION OF THERMOSTATS AS REQUIRED. CONSULT MECHANICAL CONTRACTOR FOR EXACT REQUIREMENTS PRIOR TO ROUGH IN.
- THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
- REFER TO ENLARGED TYPICAL UNIT PLANS (E4 SERIES SHEETS) FOR TYPICAL POWER & LIGHTING LAYOUTS FOR THE APARTMENT UNITS.
- ELECTRICAL PANELS LOCATED IN PUBLIC OR UNSECURED SPACES SHALL BE PROVIDED WITH A LOCKABLE DOOR PANEL.
- COORDINATE WITH DIVISION 23 FOR EXACT LOCATION AND POWER REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH IN. REFER TO SHEET E1.11 FOR MECHANICAL EQUIPMENT SCHEDULE.

KEYED NOTES:

- PROVIDE ONE 20A, 120V, 1P CIRCUIT FOR ELEVATOR SMOKE CURTAINS. CONSULT ARCHITECT FOR EXACT PRODUCT REQUIREMENTS PRIOR TO ROUGH IN AND CIRCUIT AS INDICATED.
- PROVIDE ONE 20A, 120V, 1P CIRCUIT FOR AUTO DOOR ACTUATOR. CONSULT ARCHITECT FOR EXACT PRODUCT REQUIREMENTS. PROVIDE PUSH-BUTTON CONTROLS AS REQUIRED.



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CONFORMANCE SET

POWER PLAN
THIRD FLOOR

PROJECT NO.
17020

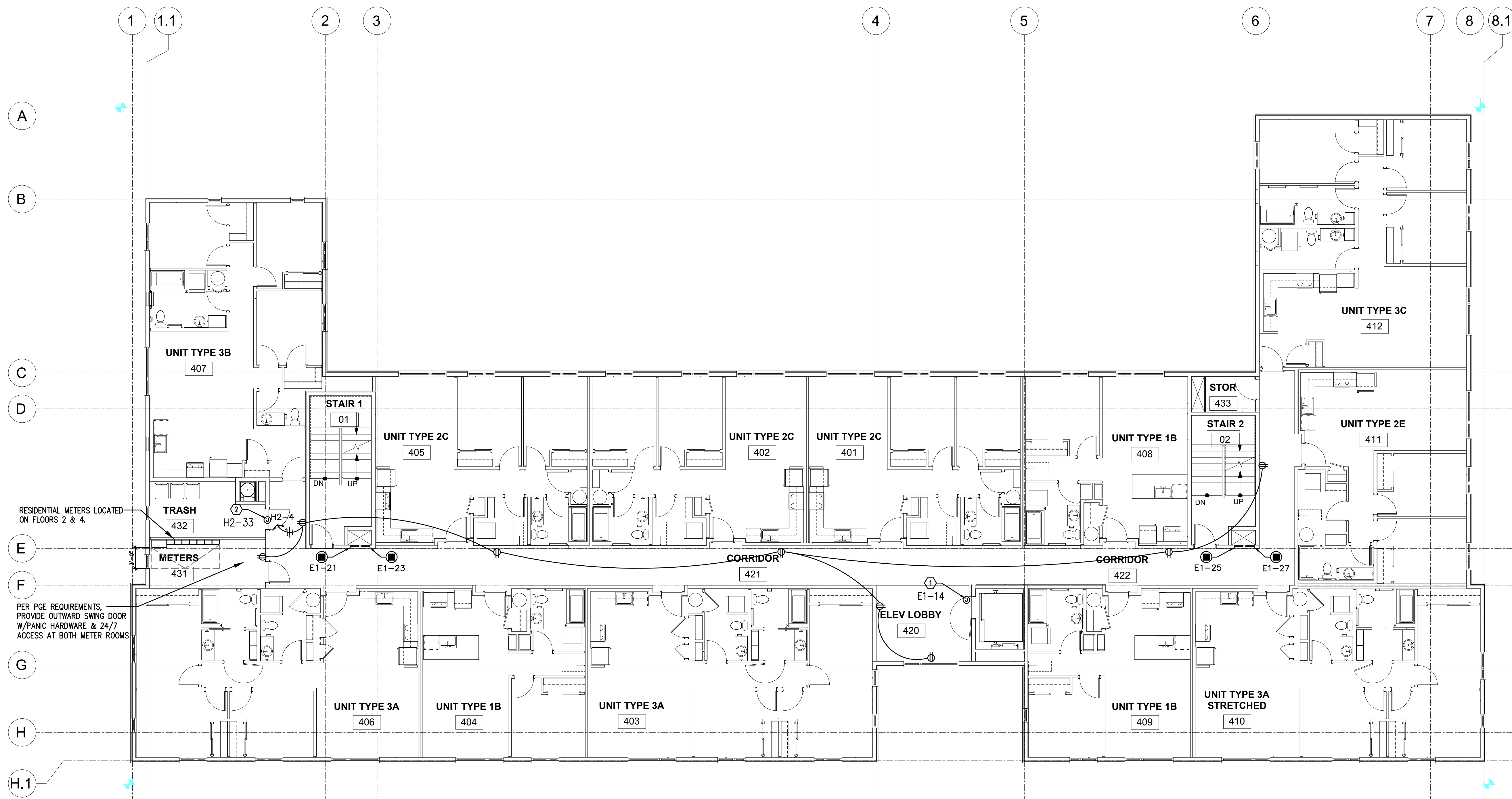
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E3.03



1 POWER PLAN – FOURTH FLOOR
E3.04 SCALE: 1/8" = 1'-0"

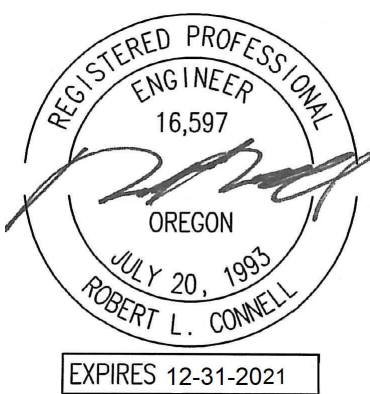
- GENERAL POWER NOTES:
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 - B. ELECTRICAL CONTRACTOR TO PROVIDE THERMOSTATS NOT SUPPLIED BY MECHANICAL CONTRACTOR, AS REQUIRED. CONSULT MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
 - C. ELECTRICAL CONTRACTOR SHALL PROVIDE INSTALLATION AND FINAL CONNECTION OF THERMOSTATS AS REQUIRED. CONSULT MECHANICAL CONTRACTOR FOR EXACT REQUIREMENTS PRIOR TO ROUGH IN.
 - E. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
 - F. REFER TO ENLARGED TYPICAL UNIT PLANS (E4 SERIES SHEETS) FOR TYPICAL POWER & LIGHTING LAYOUTS FOR THE APARTMENT UNITS.
 - G. ELECTRICAL PANELS LOCATED IN PUBLIC OR UNSECURED SPACES SHALL BE PROVIDED WITH A LOCKABLE DOOR PANEL.
 - H. COORDINATE WITH DIVISION 23 FOR EXACT LOCATION AND POWER REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH IN. REFER TO SHEET E1.11 FOR MECHANICAL EQUIPMENT SCHEDULE.

- KEYED NOTES:
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 - 2. PROVIDE ONE 20A, 120V, 1P CIRCUIT FOR AUTO DOOR ACTUATOR. CONSULT ARCHITECT FOR EXACT PRODUCT REQUIREMENTS. PROVIDE PUSH-BUTTON CONTROLS AS REQUIRED.

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PROUD GROUND / HABITAT FOR HUMANITY
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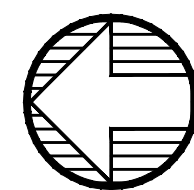
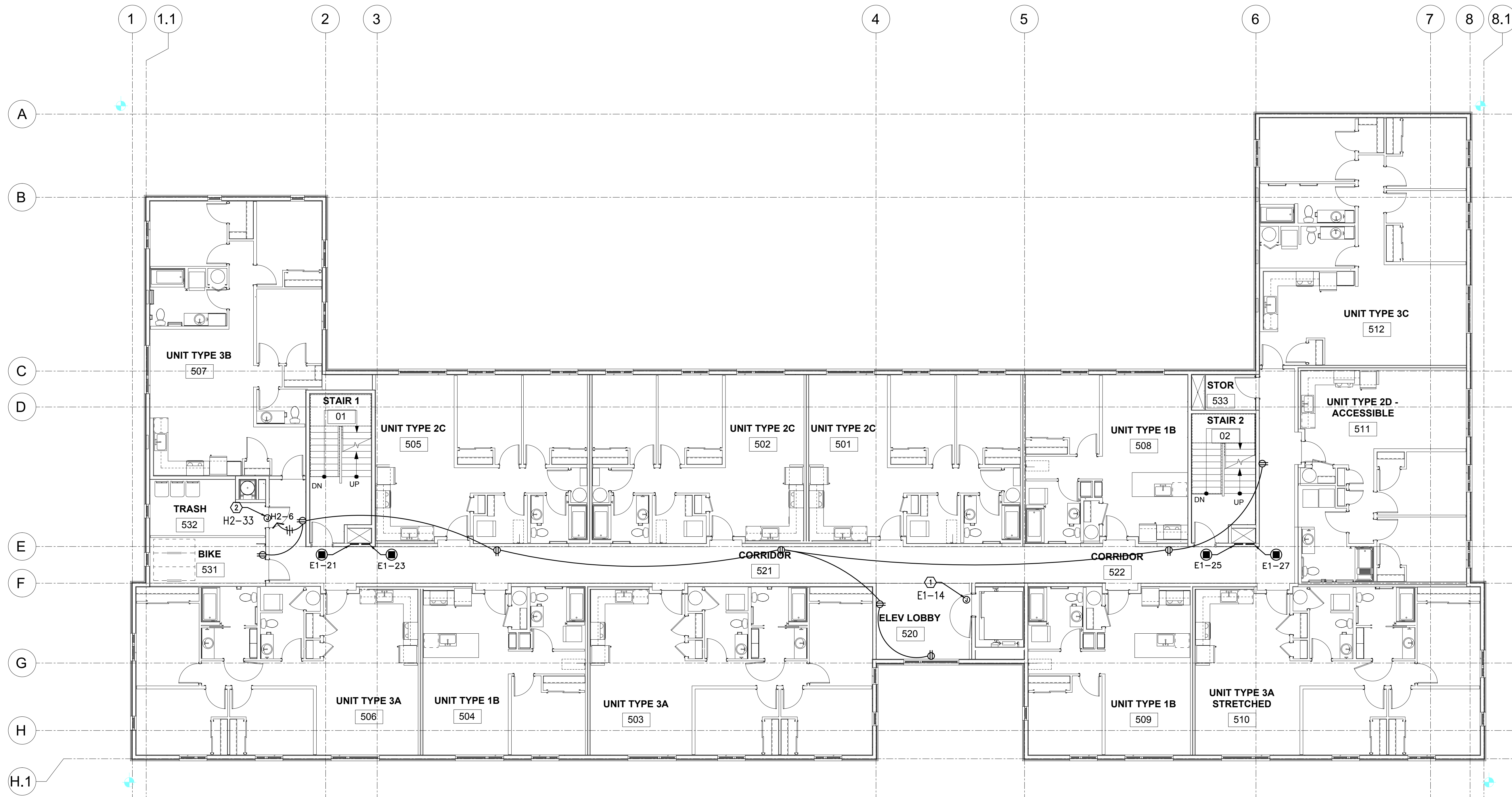
POWER PLAN
FOURTH FLOOR
PROJECT NO.
17020
02.07.20

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E3.04



1 POWER PLAN – FIFTH FLOOR
E3.05 SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

- ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
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- ELECTRICAL PANELS LOCATED IN PUBLIC OR UNSECURED SPACES SHALL BE PROVIDED WITH A LOCKABLE DOOR PANEL.
- COORDINATE WITH DIVISION 23 FOR EXACT LOCATION AND POWER REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH IN. REFER TO SHEET E1.11 FOR MECHANICAL EQUIPMENT SCHEDULE.

KEYED NOTES:

- PROVIDE ONE 20A, 120V, 1P CIRCUIT FOR ELEVATOR SMOKE CURTAINS. CONSULT ARCHITECT FOR EXACT PRODUCT REQUIREMENTS PRIOR TO ROUGH IN AND CIRCUIT AS INDICATED.
- PROVIDE ONE 20A, 120V, 1P CIRCUIT FOR AUTO DOOR ACTUATOR. CONSULT ARCHITECT FOR EXACT PRODUCT REQUIREMENTS. PROVIDE PUSH-BUTTON CONTROLS AS REQUIRED.



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CONFERENCE SET

POWER PLAN
FIFTH FLOOR

PROJECT NO.
17020

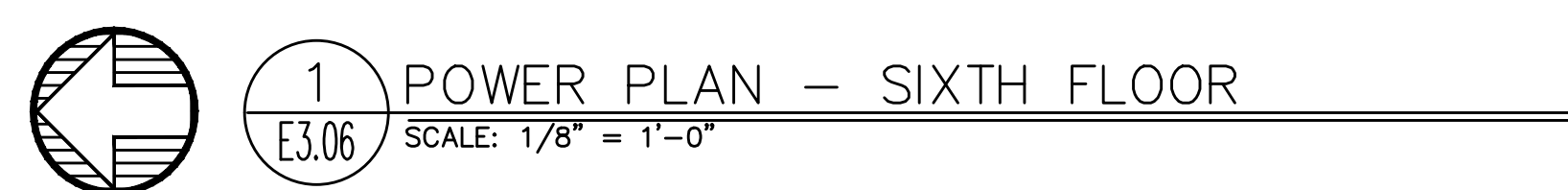
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E3.05



- A. ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
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- E. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
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3. CONSULT ELEVATOR PROVIDER'S INSTALLATION DRAWINGS AND DOCUMENTATION FOR EXACT POWER REQUIREMENTS PRIOR TO ROUGH IN AND COORDINATE ALL WORK.



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CONFORMANCE SET

POWER PLAN
SIXTH FLOOR

PROJECT NO
17020

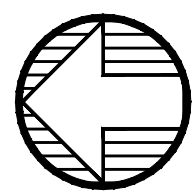
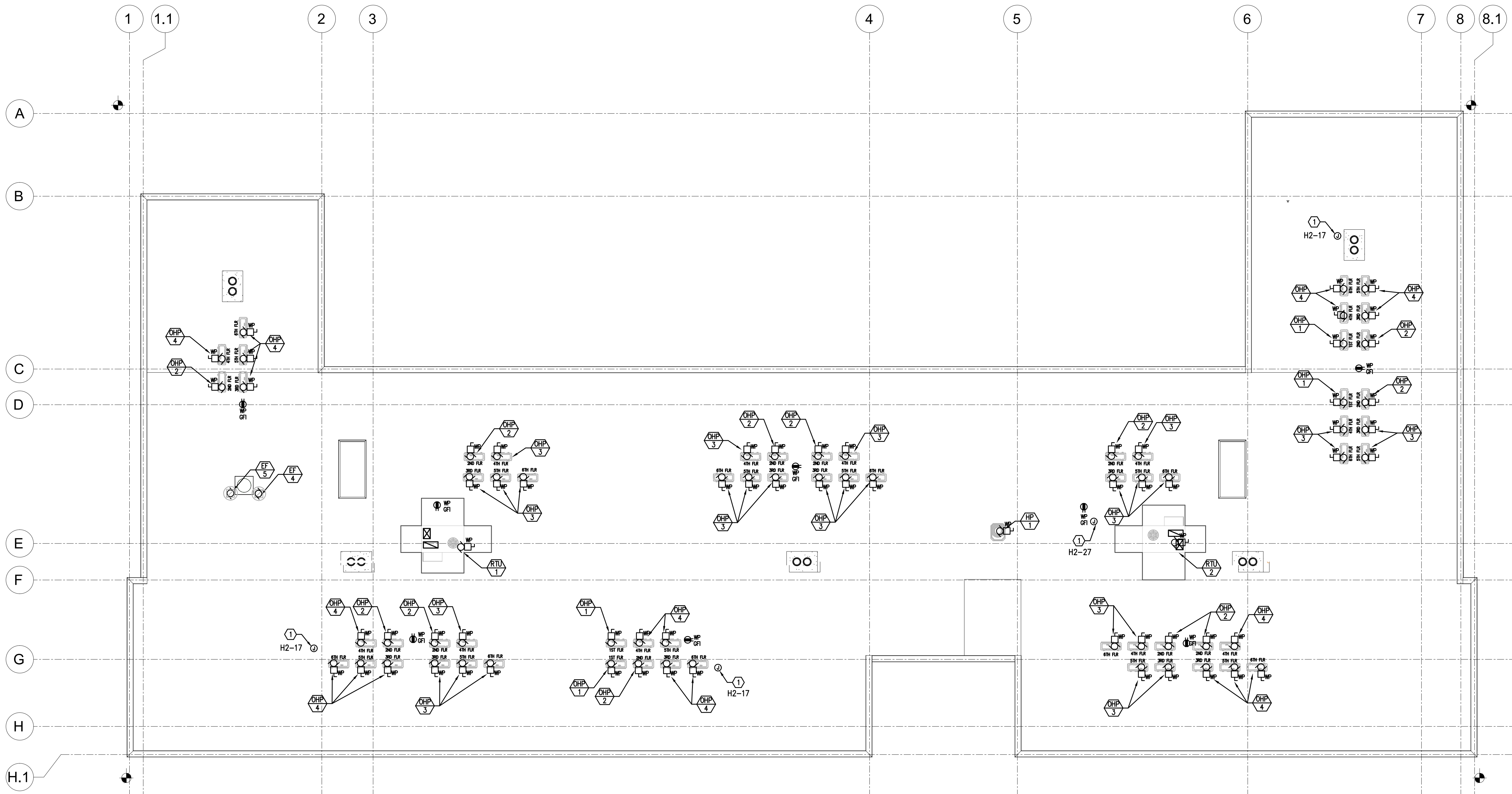
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E3.06



1 POWER PLAN – ROOF LEVEL
E3.07 SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

- ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
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- COORDINATE WITH DIVISION 23 FOR EXACT LOCATION AND POWER REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH IN. REFER TO SHEET E1.11 FOR MECHANICAL EQUIPMENT SCHEDULE.

KEYED NOTES:

- PROVIDE ONE 20A, 120V, 1P POWER CONNECTION FOR FUTURE RADON EXHAUST FAN(S) AND CIRCUIT AS INDICATED.



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PROUD GROUND / HABITAT FOR HUMANITY
5050 N INTERSTATE AVE.
PORTLAND, OR 97217
CONFERENCE SET

POWER PLAN
ROOF LEVEL

PROJECT NO.
17020

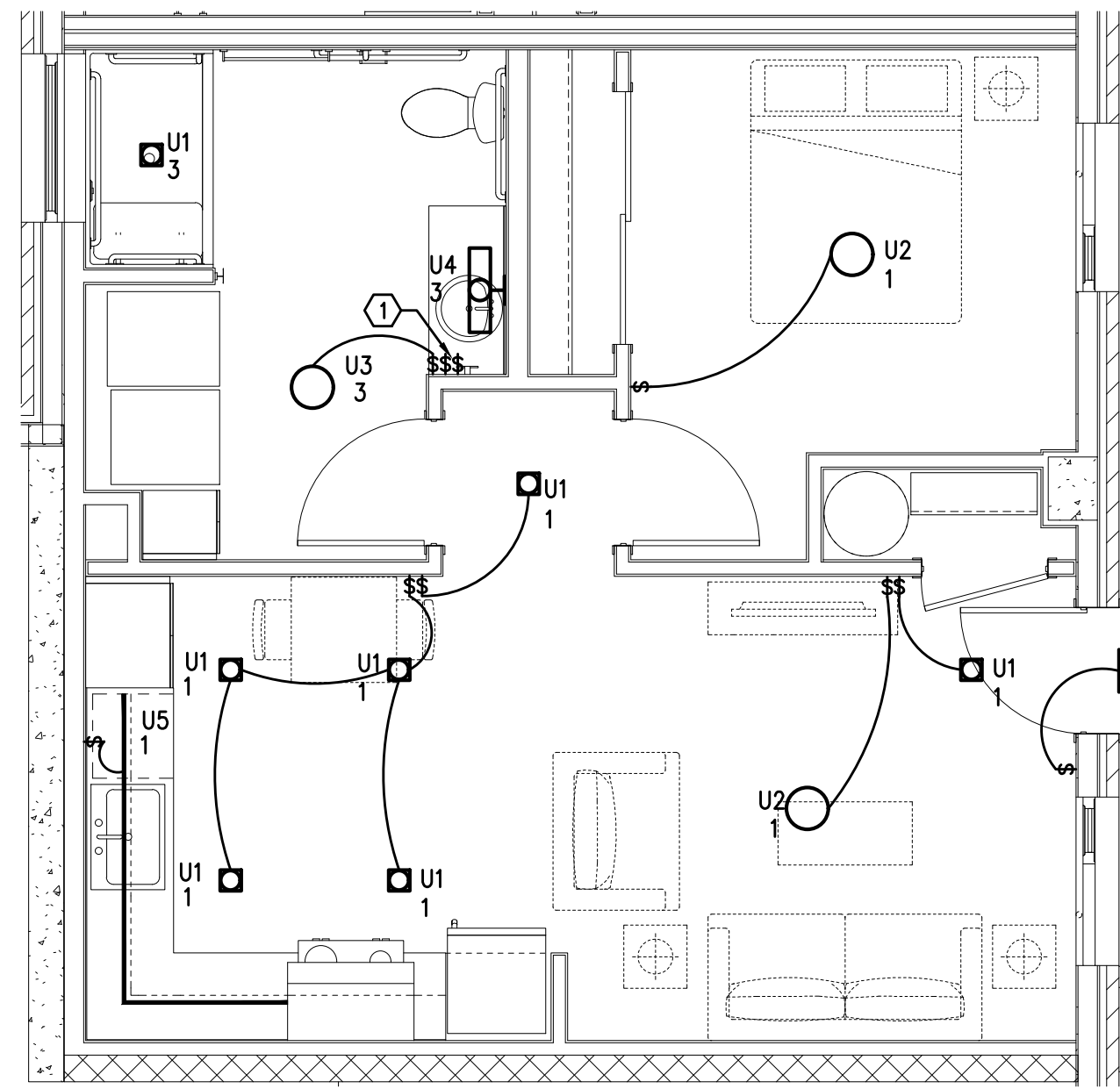
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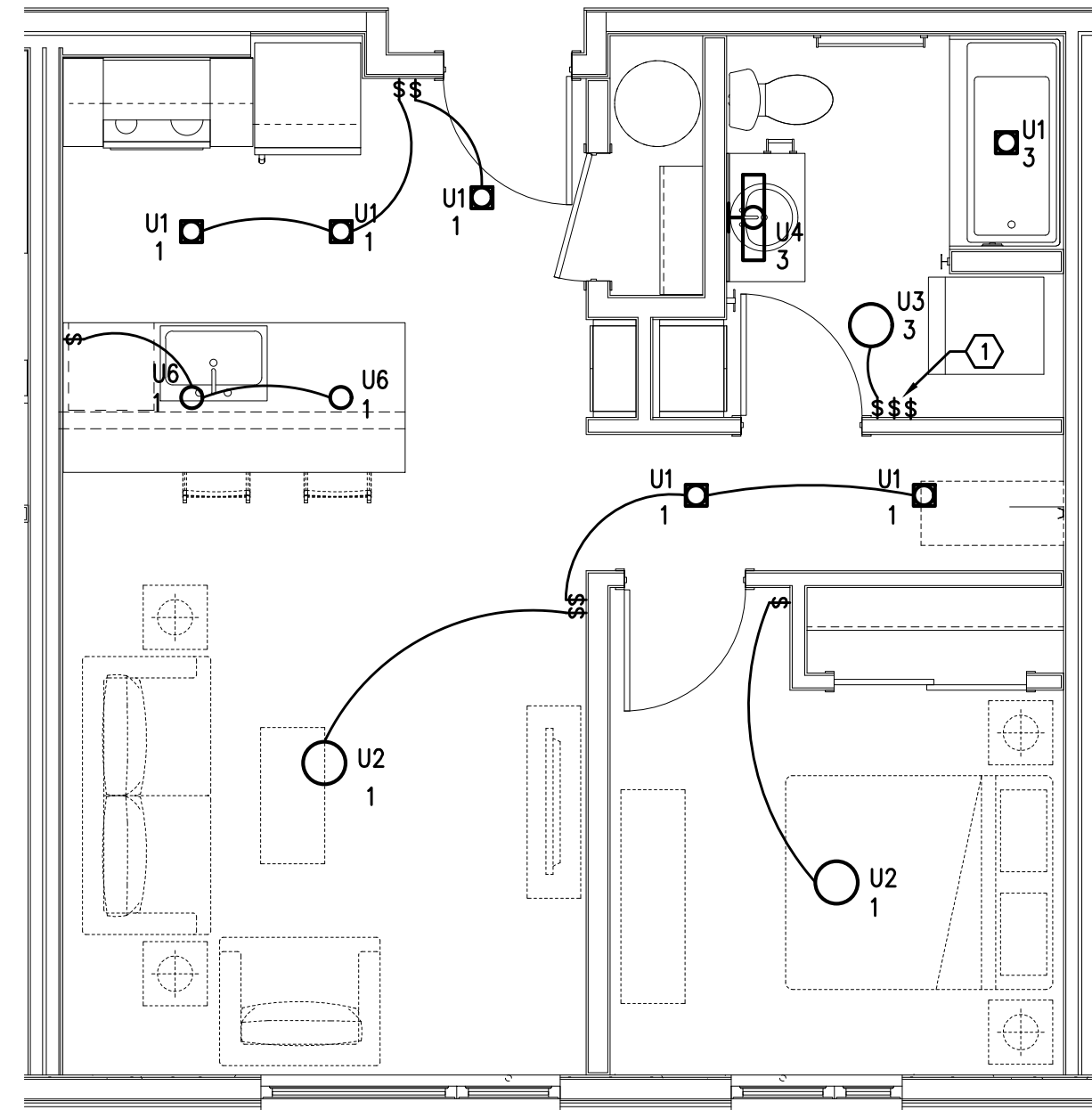


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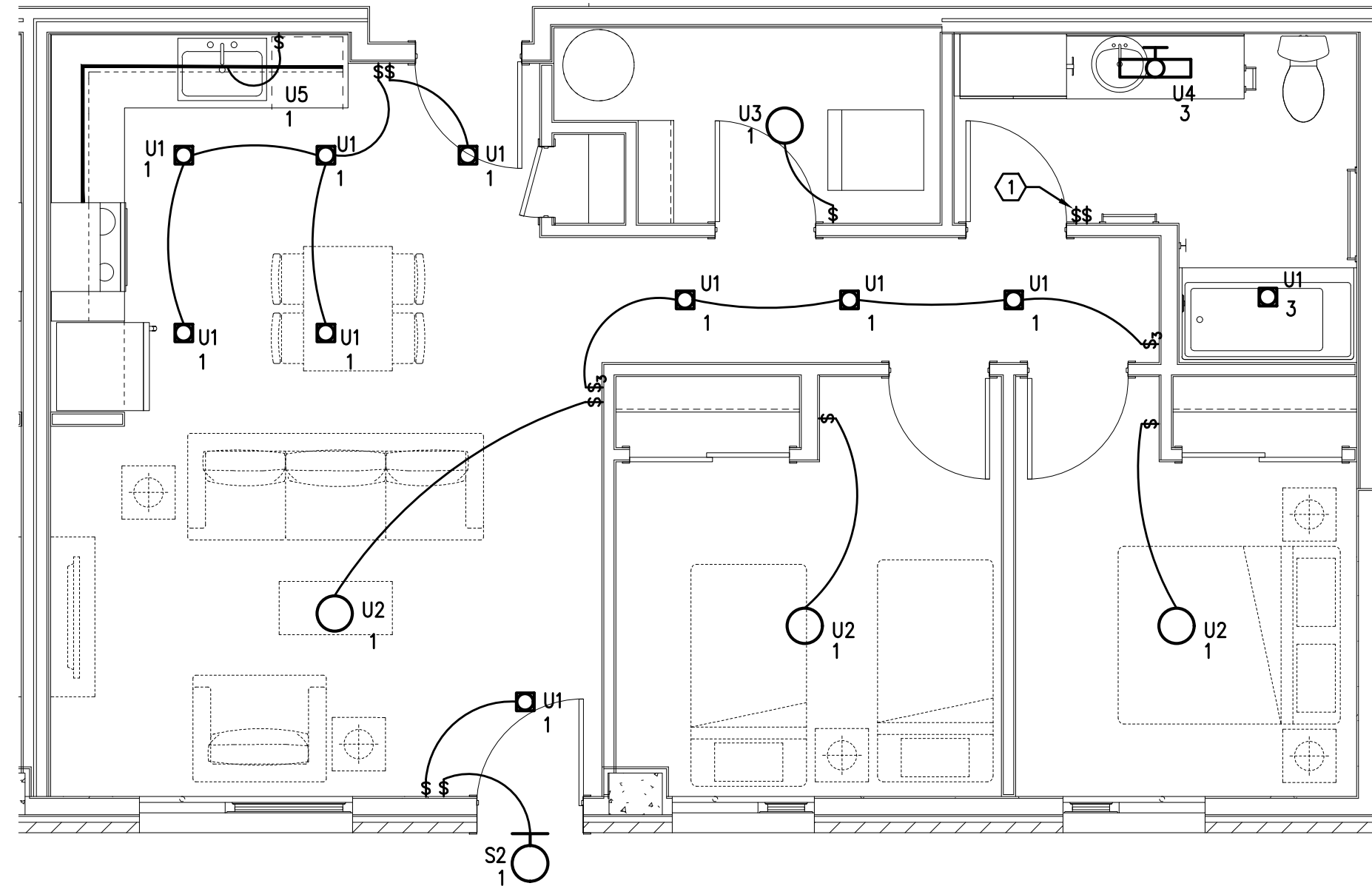
E3.07



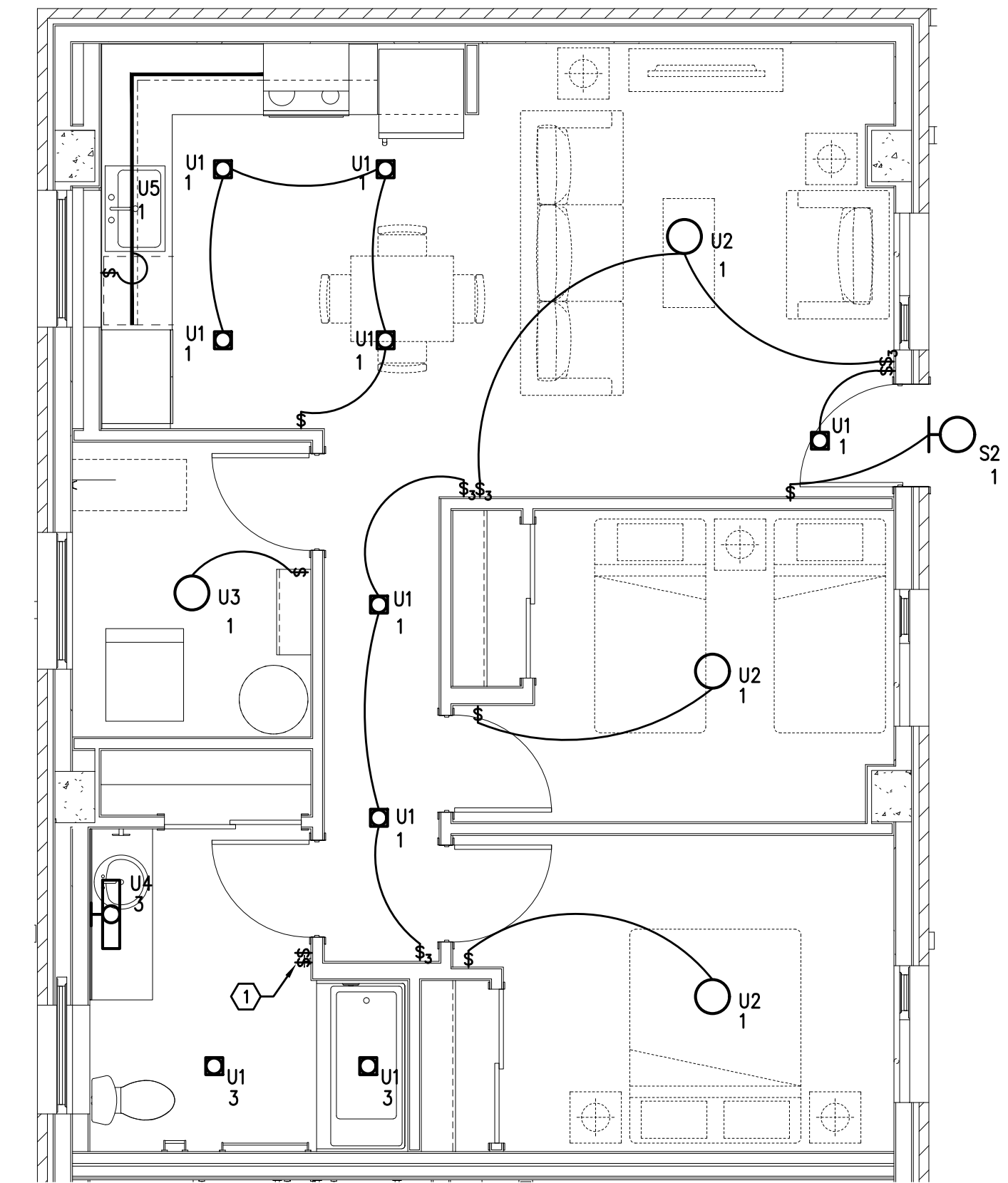
1 UNIT TYPE 1A(ADA) – LIGHTING PLAN
E4.01 SCALE: 1/4" = 1'-0"



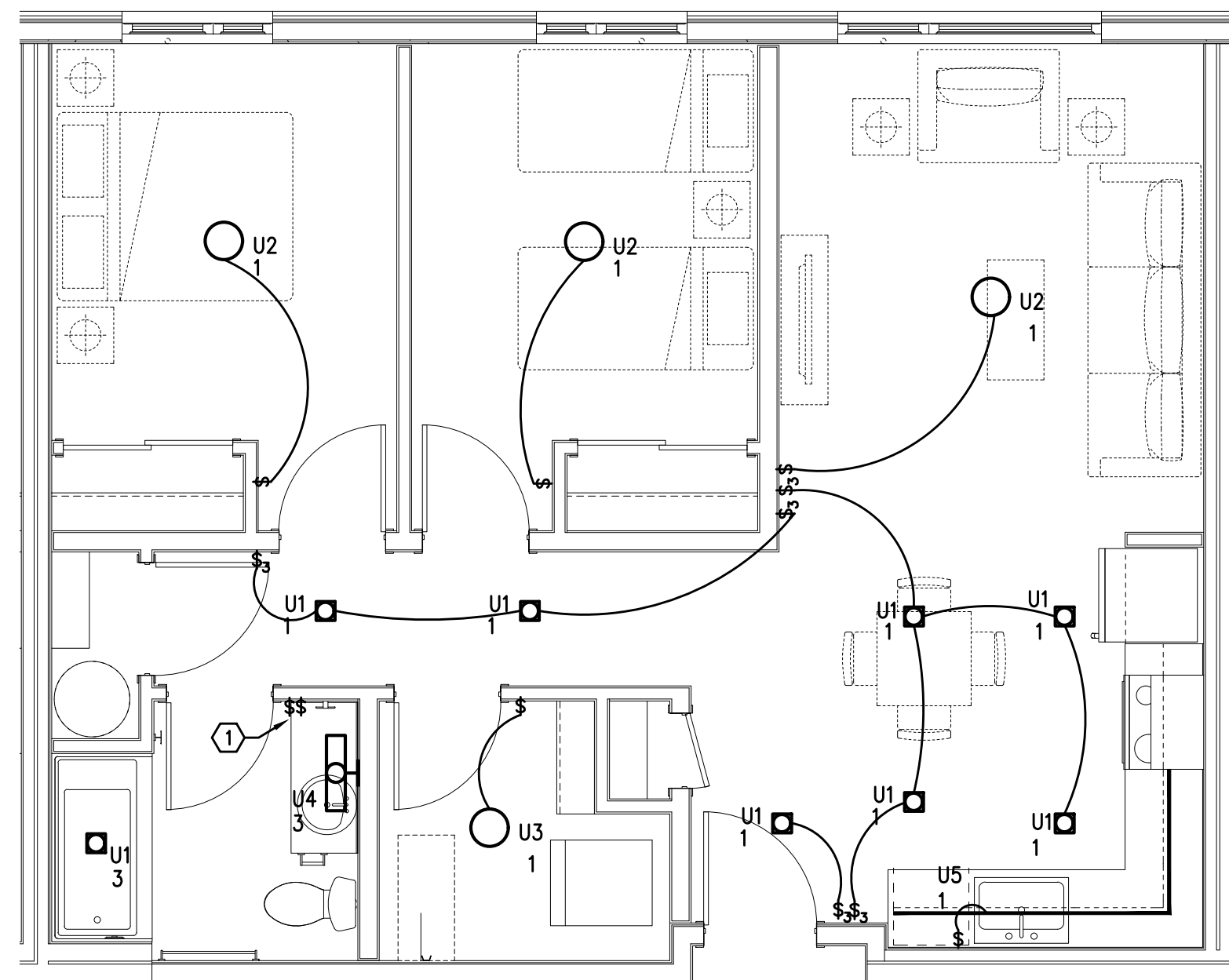
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E4.01 SCALE: 1/4" = 1'-0"



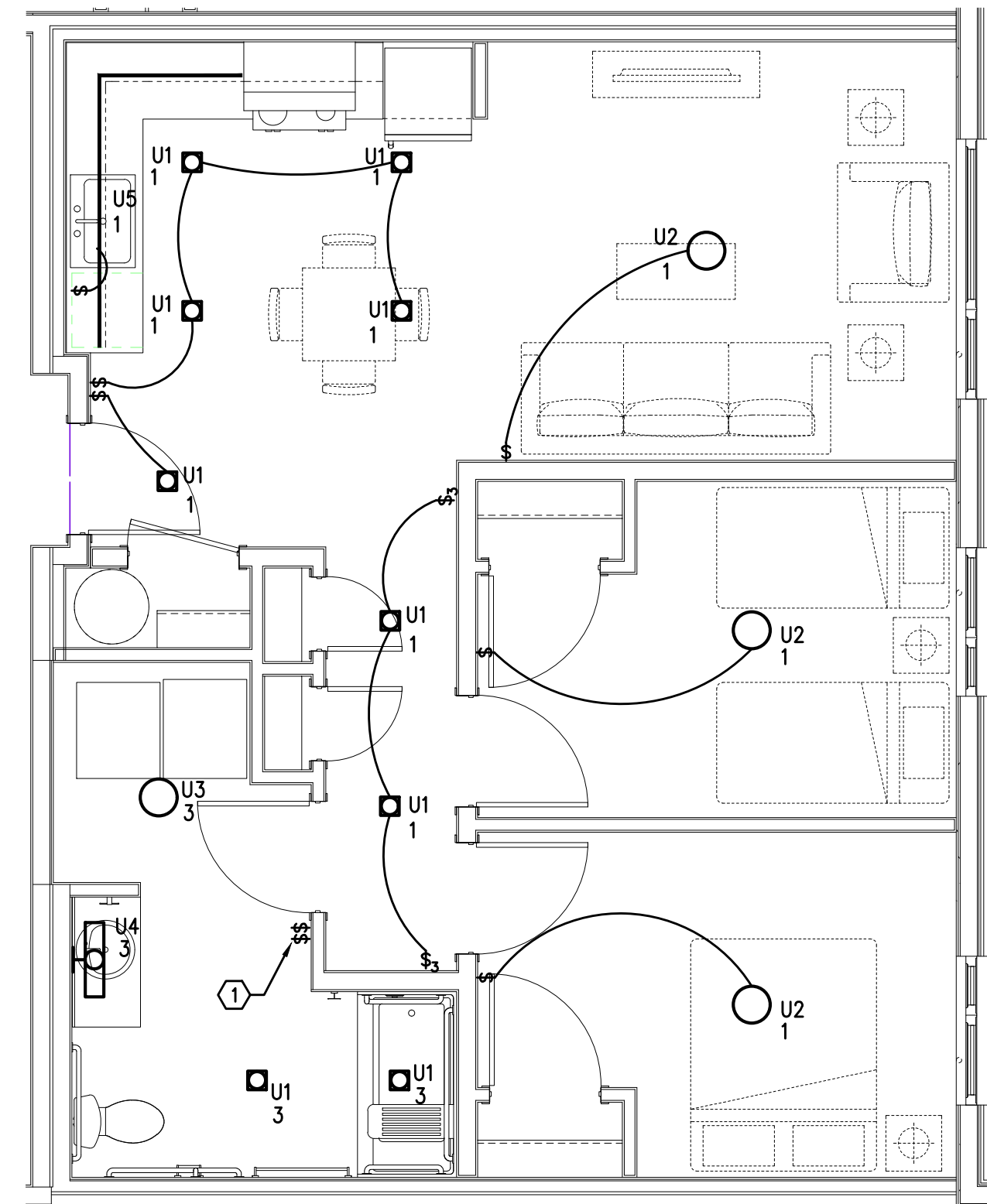
3 UNIT TYPE 2A – LIGHTING PLAN
E4.01 SCALE: 1/4" = 1'-0"



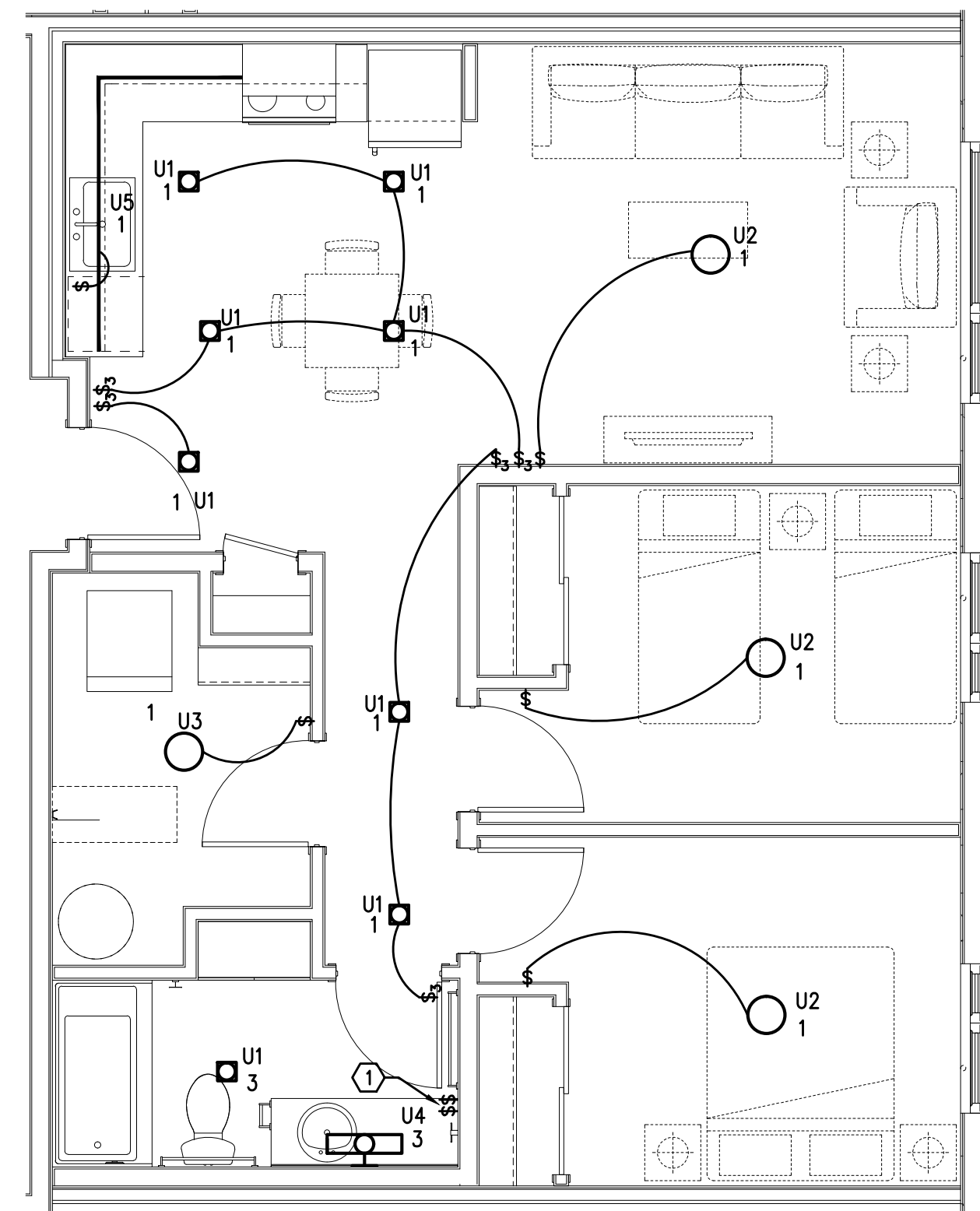
4 UNIT TYPE 2B – LIGHTING PLAN
E4.01 SCALE: 1/4" = 1'-0"



5 UNIT TYPE 2C – LIGHTING PLAN
E4.01 SCALE: 1/4" = 1'-0"



6 UNIT TYPE 2D (ADA) – LIGHTING PLAN
E4.01 SCALE: 1/4" = 1'-0"



7 UNIT TYPE 2E – LIGHTING PLAN
E4.01 SCALE: 1/4" = 1'-0"

GENERAL NOTES:

- ALL PLANS ARE DIAGRAMMATICAL. CONSULT ARCHITECTURAL PLANS FOR EXACT LOCATION OF ALL DEVICES AND FIXTURES.
- REFER TO SHEET E1.12 FOR TYPICAL UNIT LOAD CENTER DIRECTORIES.
- ALL LIGHT SWITCHES SHALL BE ROCKER STYLE, SUCH AS LEVITON DECORA, OR APPROVED EQUAL.
- REFER TO SHEETS E4.11 – E4.12 FOR TYPICAL UNIT POWER PLANS.

KEYED NOTES:

- REFER TO E1.21 FOR TYPICAL BATHROOM SWITCHING DIAGRAM.



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CONFORMANCE SET

TYPICAL UNIT
LIGHTING
PLANS

PROJECT NO.
17020

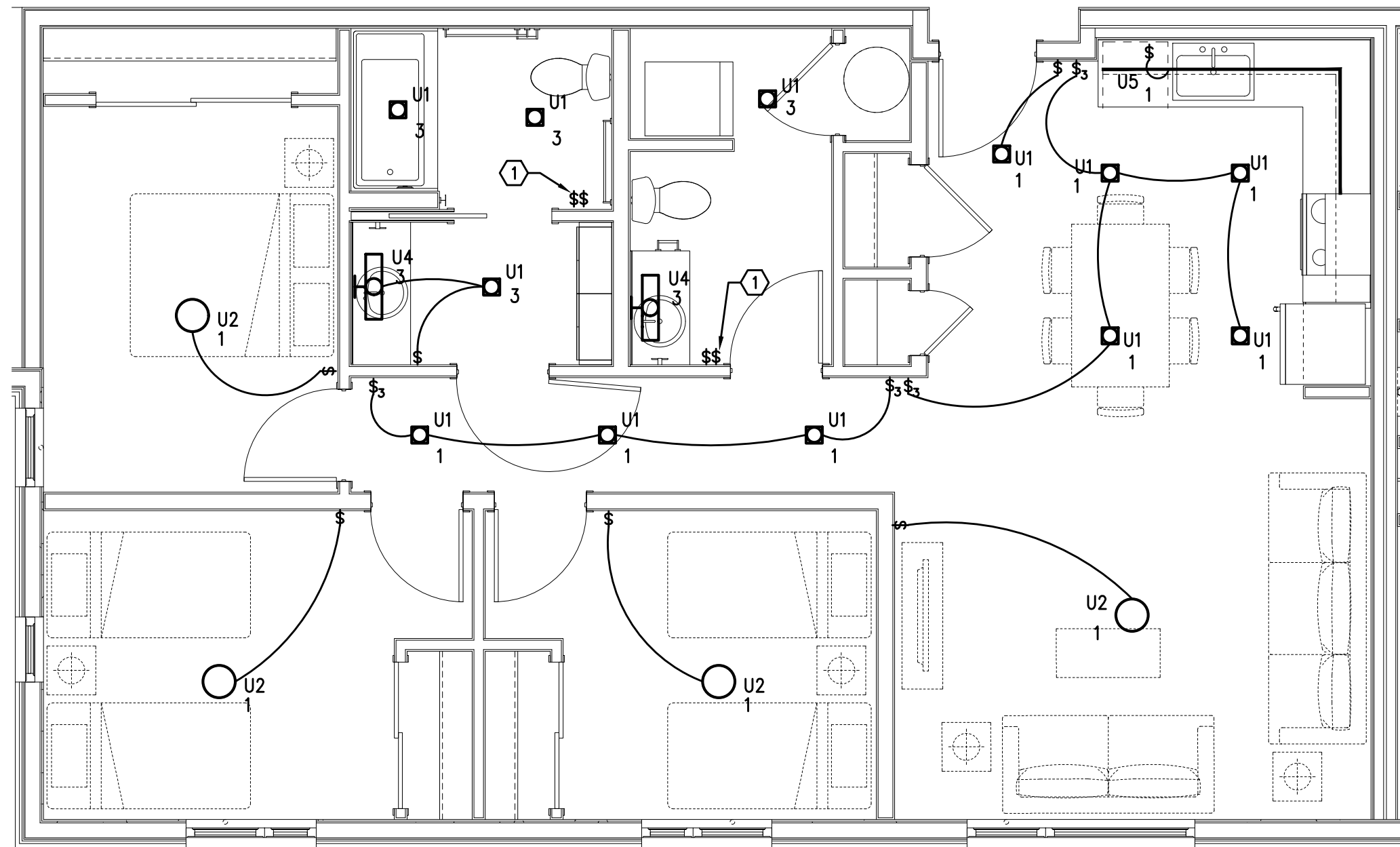
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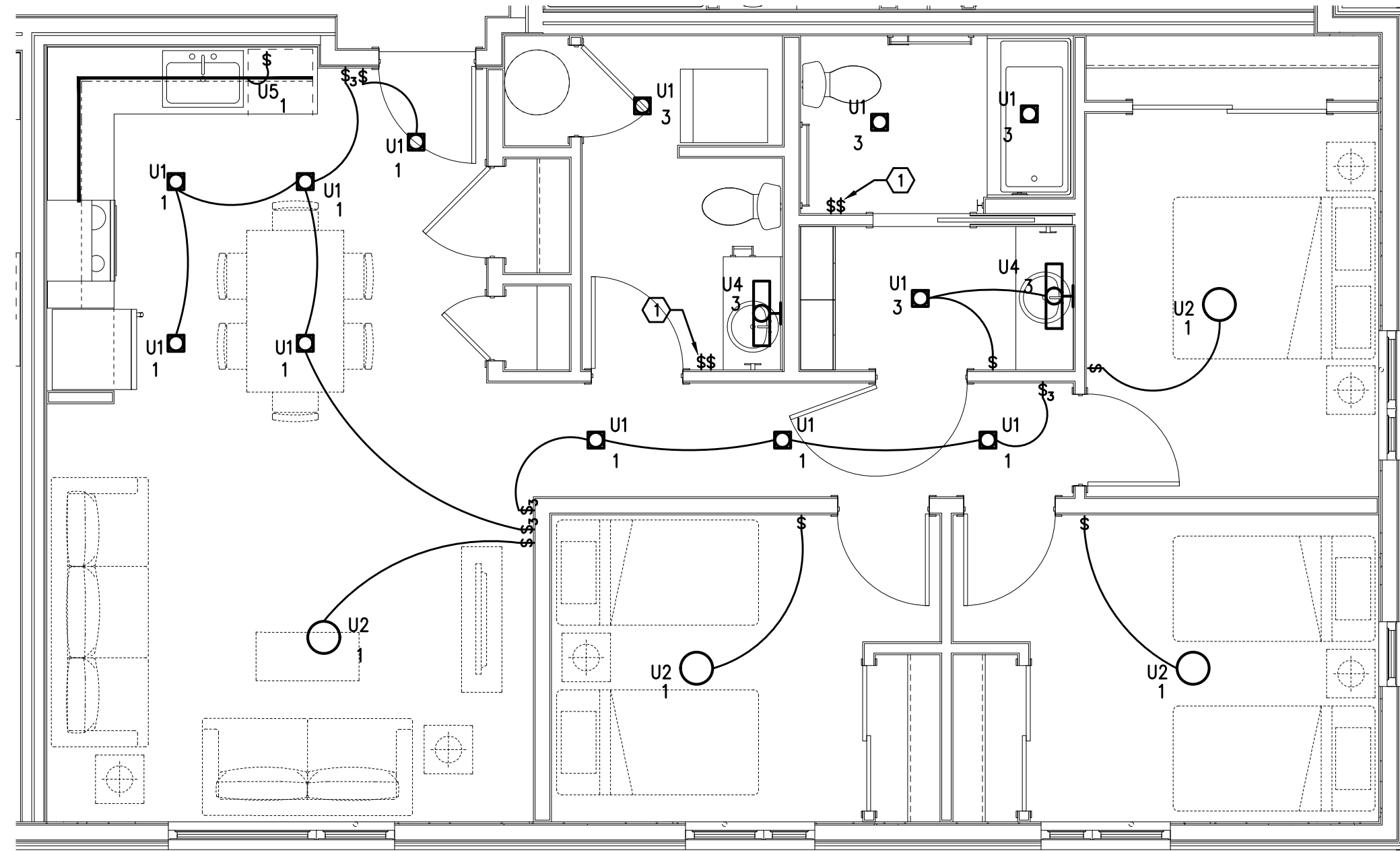


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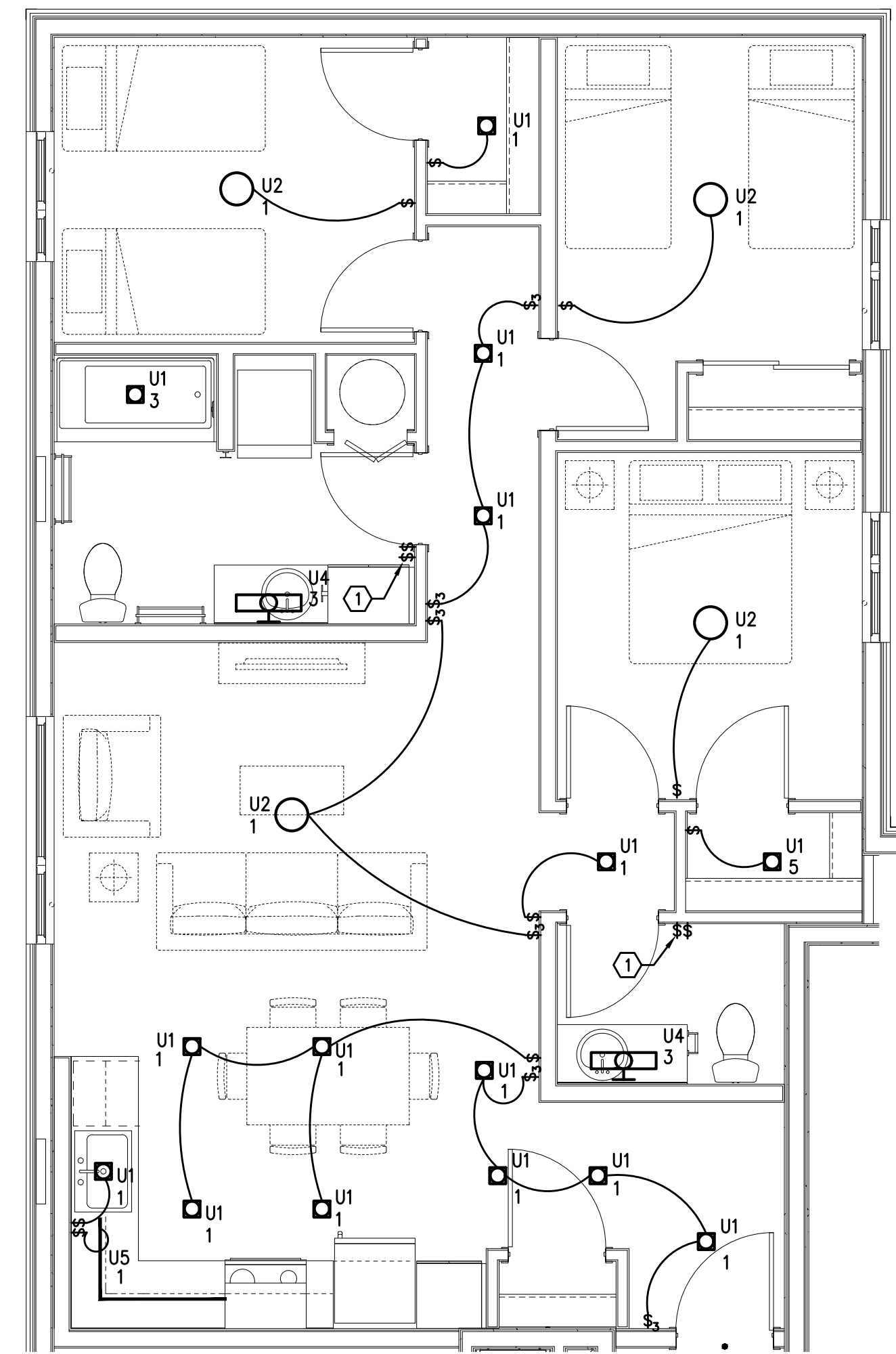
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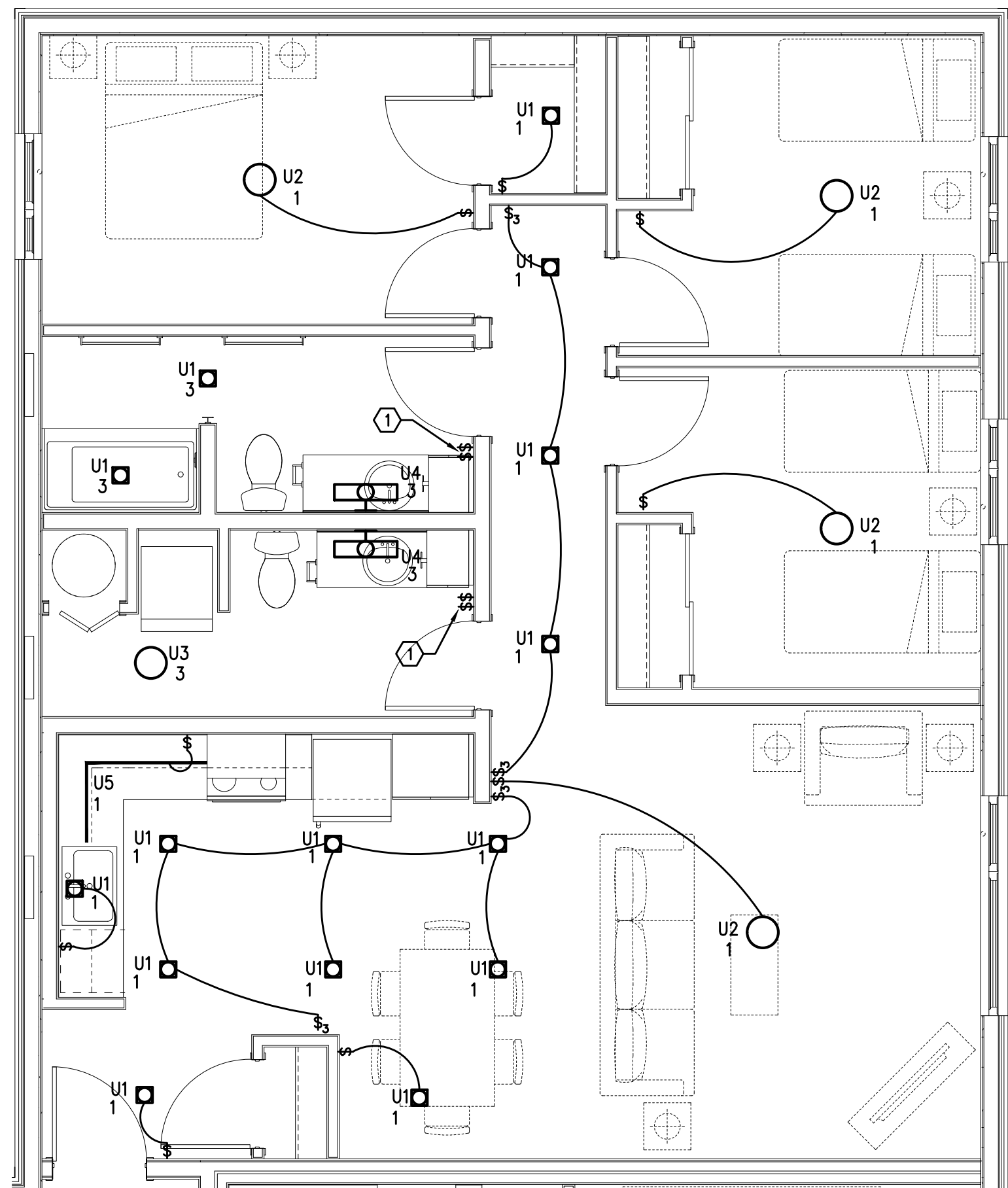
1 UNIT TYPE 3A – LIGHTING PLAN
E4.02 SCALE: 1/4" = 1'-0"



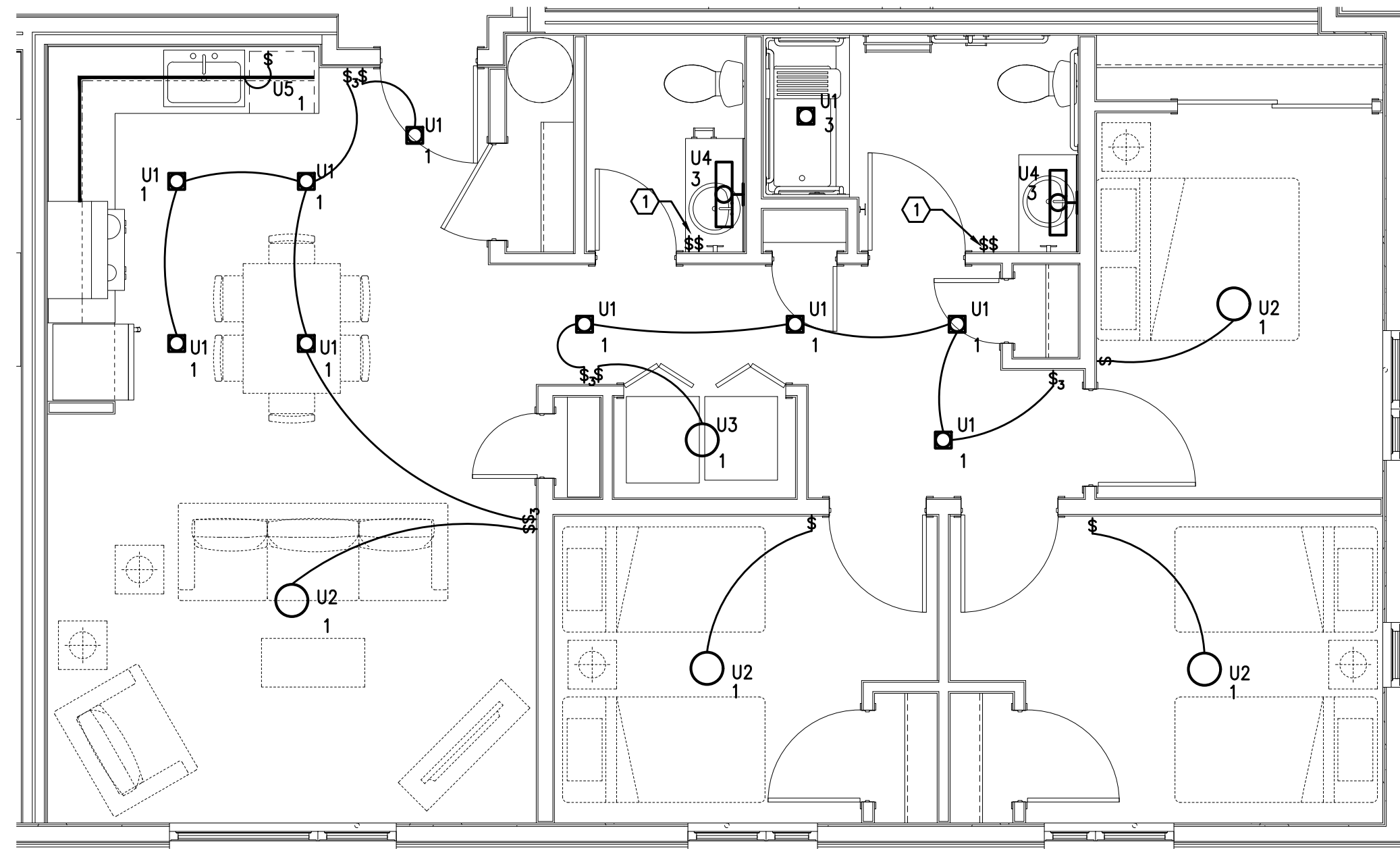
2 UNIT TYPE 3AS – LIGHTING PLAN
E4.02 SCALE: 1/4" = 1'-0"



3 UNIT TYPE 3B – LIGHTING PLAN
E4.02 SCALE: 1/4" = 1'-0"



4 UNIT TYPE 3C – LIGHTING PLAN
E4.02 SCALE: 1/4" = 1'-0"



5 UNIT TYPE 3D (ADA) – LIGHTING PLAN
E4.02 SCALE: 1/4" = 1'-0"

GENERAL NOTES:

- ALL PLANS ARE DIAGRAMMATICAL. CONSULT ARCHITECTURAL PLANS FOR EXACT LOCATION OF ALL DEVICES AND FIXTURES.
- REFER TO SHEET E1.12 FOR TYPICAL UNIT LOAD CENTER DIRECTORIES.
- ALL LIGHT SWITCHES SHALL BE ROCKER STYLE, SUCH AS LEVITON DECORA, OR APPROVED EQUAL.
- REFER TO SHEETS E4.11 – E4.12 FOR TYPICAL UNIT POWER PLANS.

KEYED NOTES:

- REFER TO E1.21 FOR TYPICAL BATHROOM SWITCHING DIAGRAM.



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PLANS

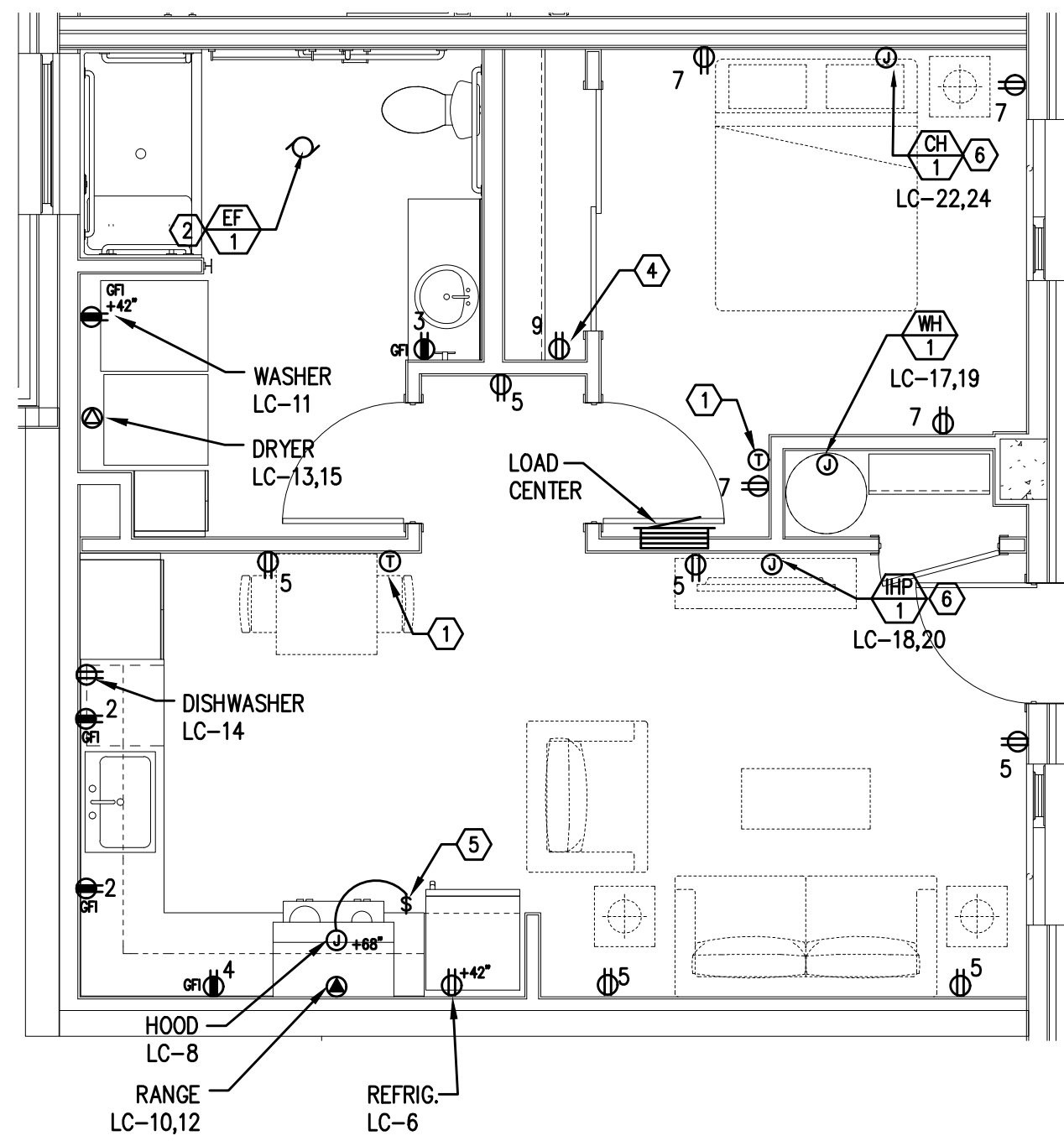
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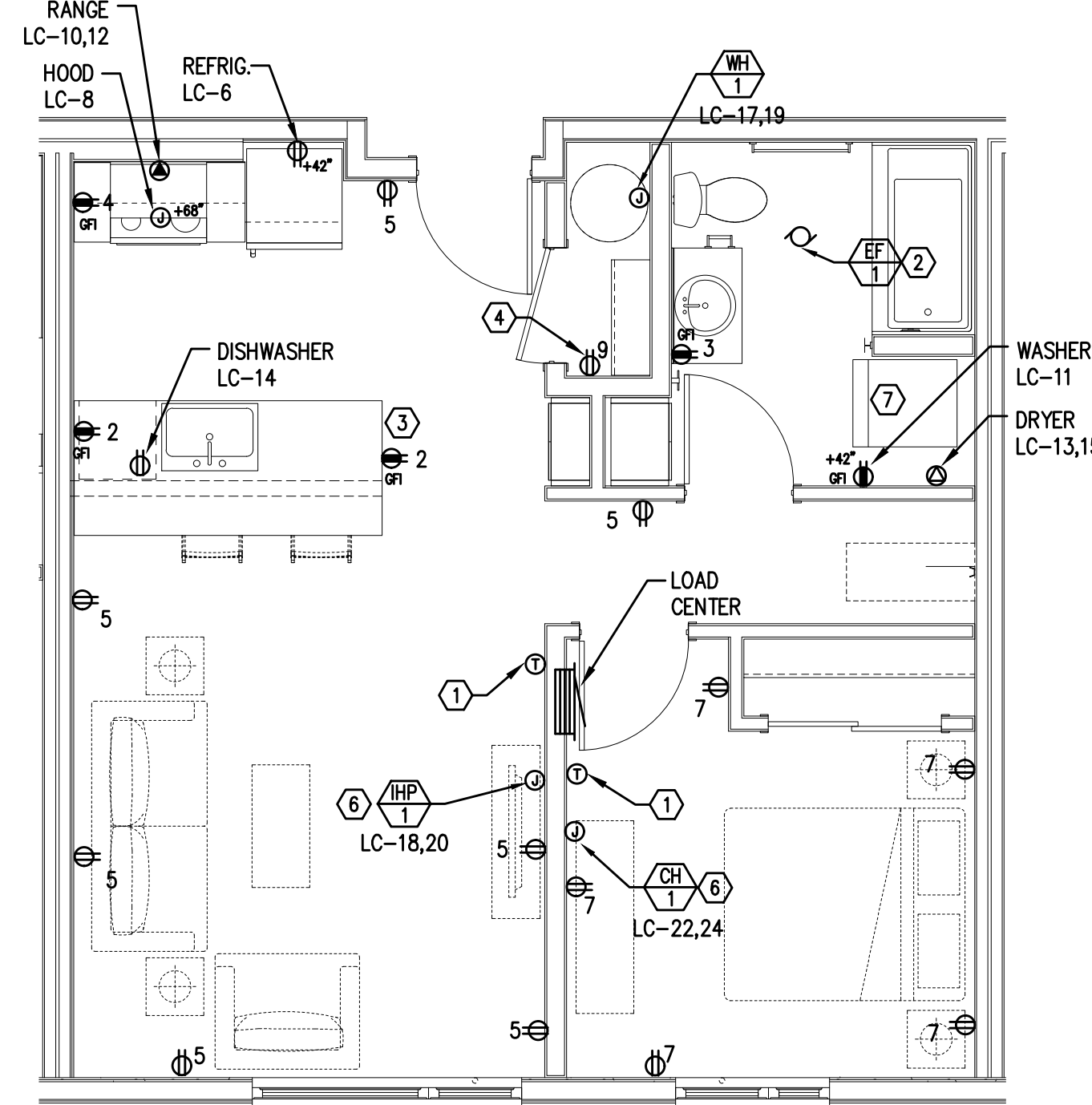
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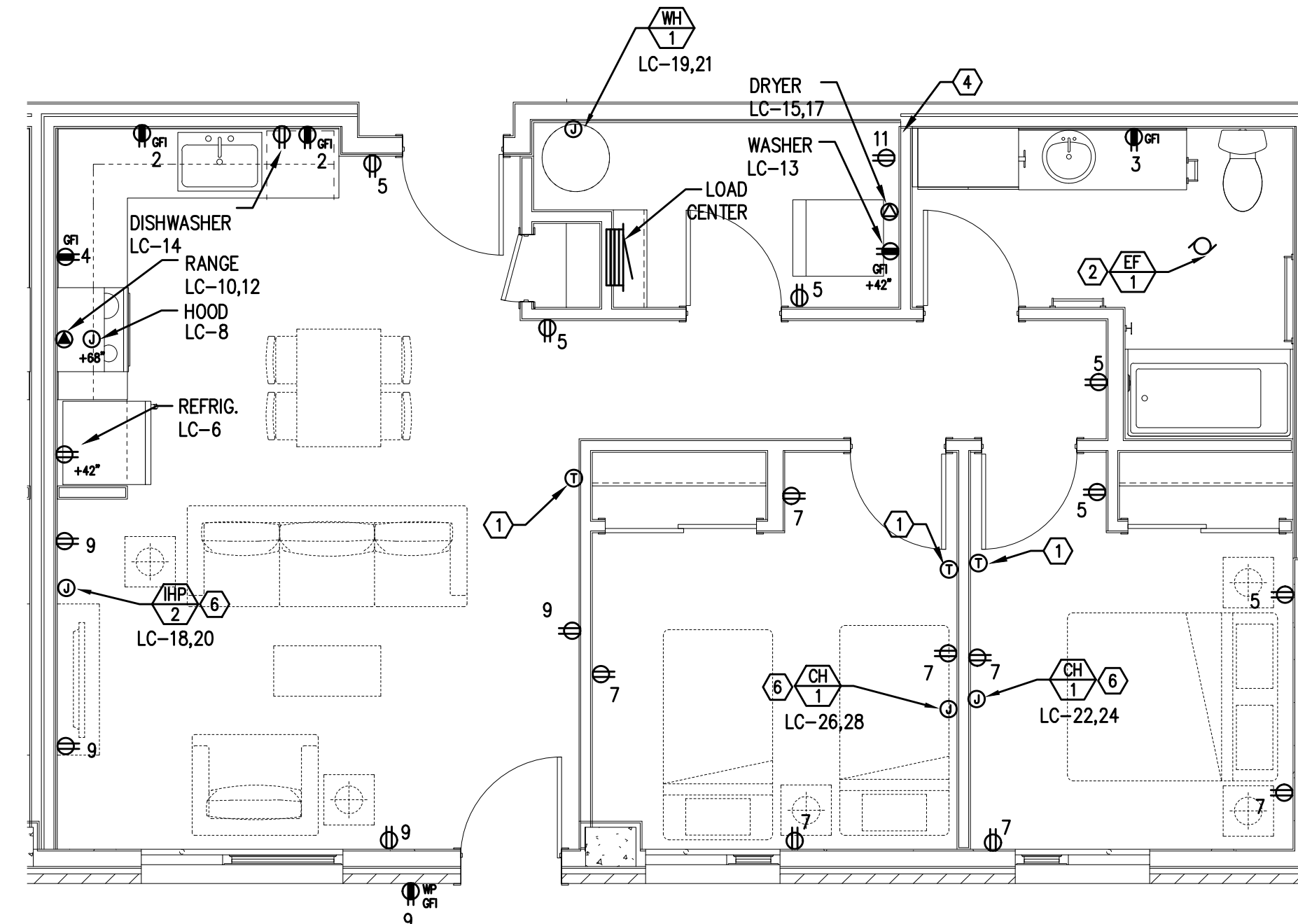
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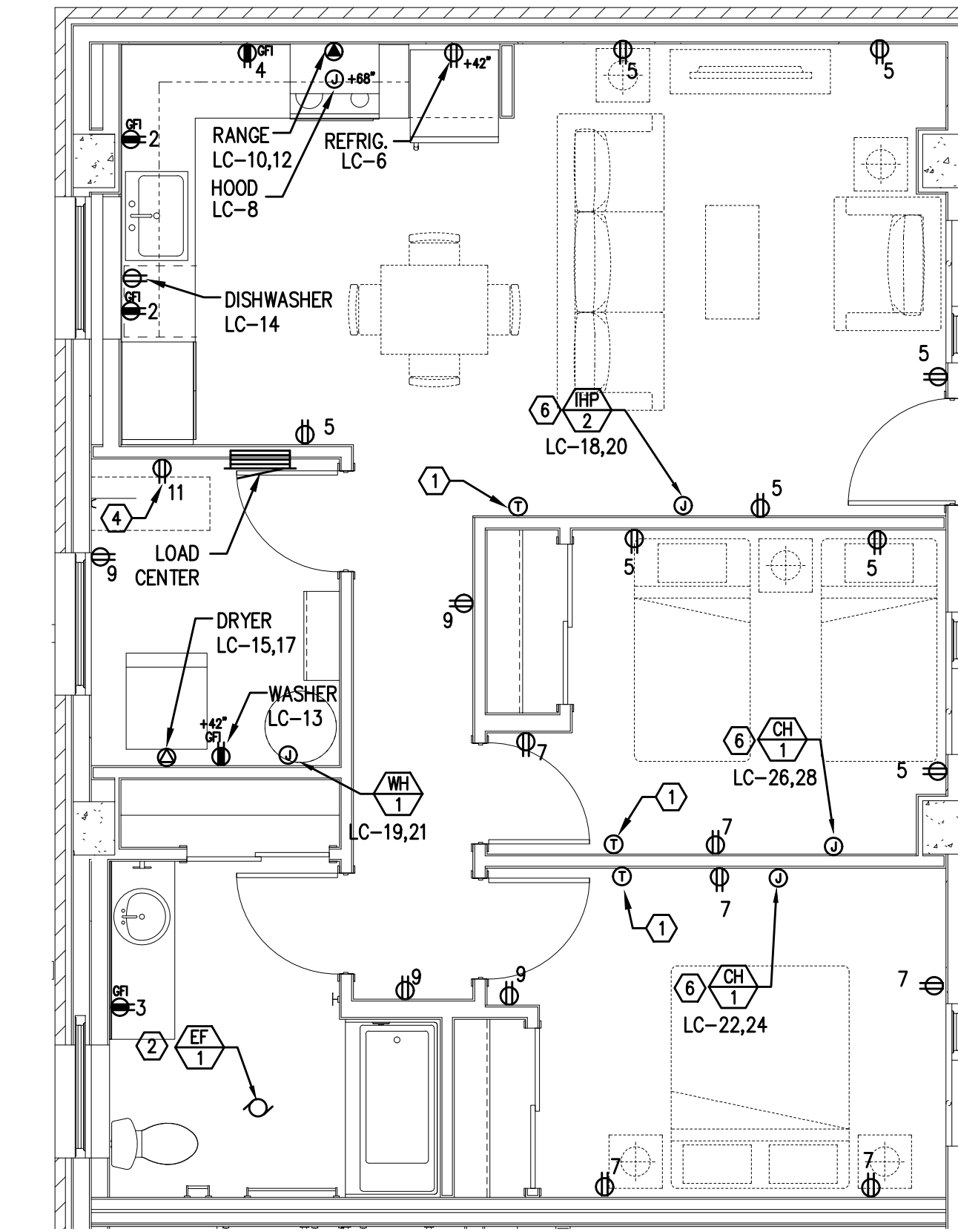
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E4.11 SCALE: 1/4" = 1'-0"



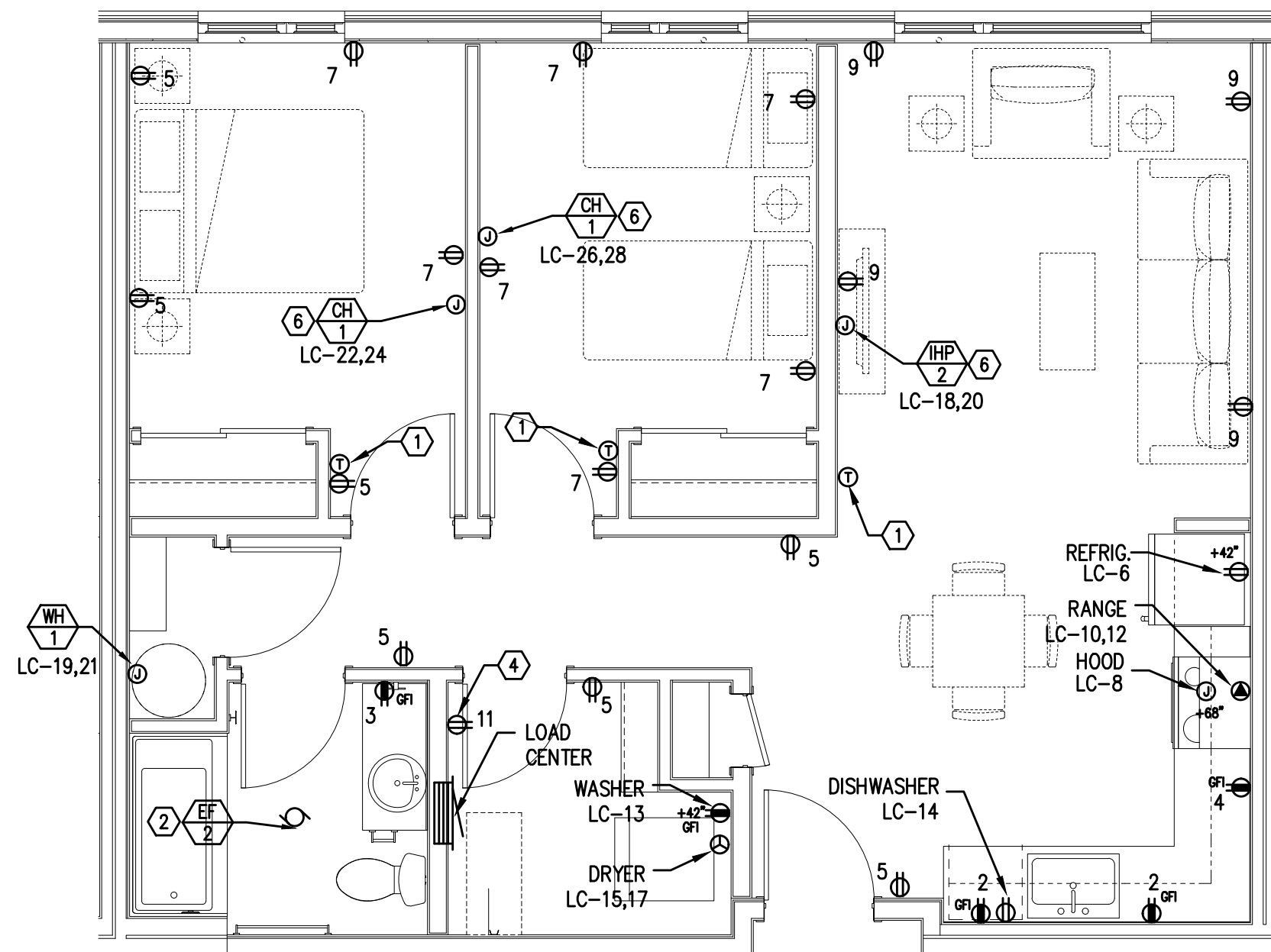
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E4.11 SCALE: 1/4" = 1'-0"



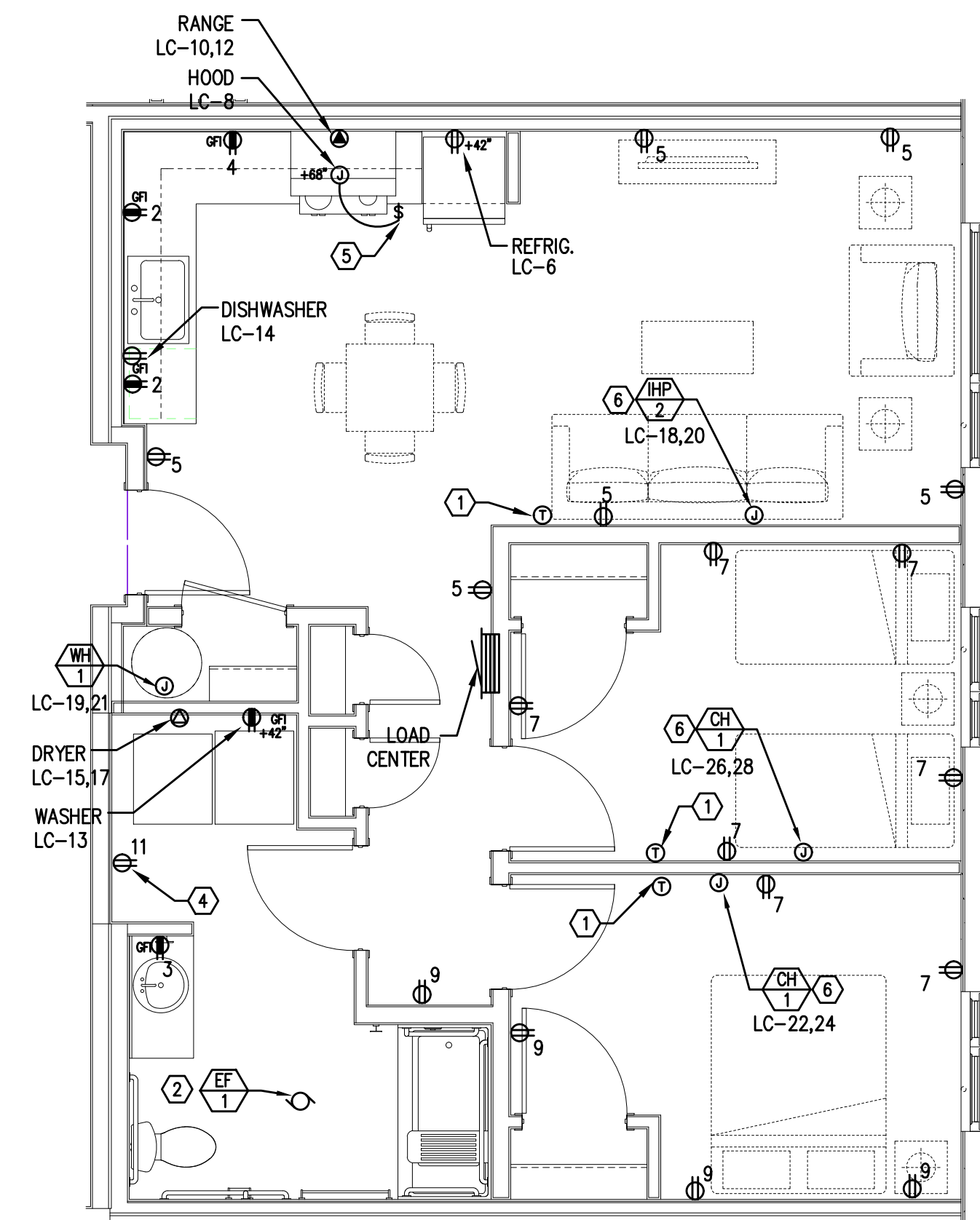
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E4.11 SCALE: 1/4" = 1'-0"



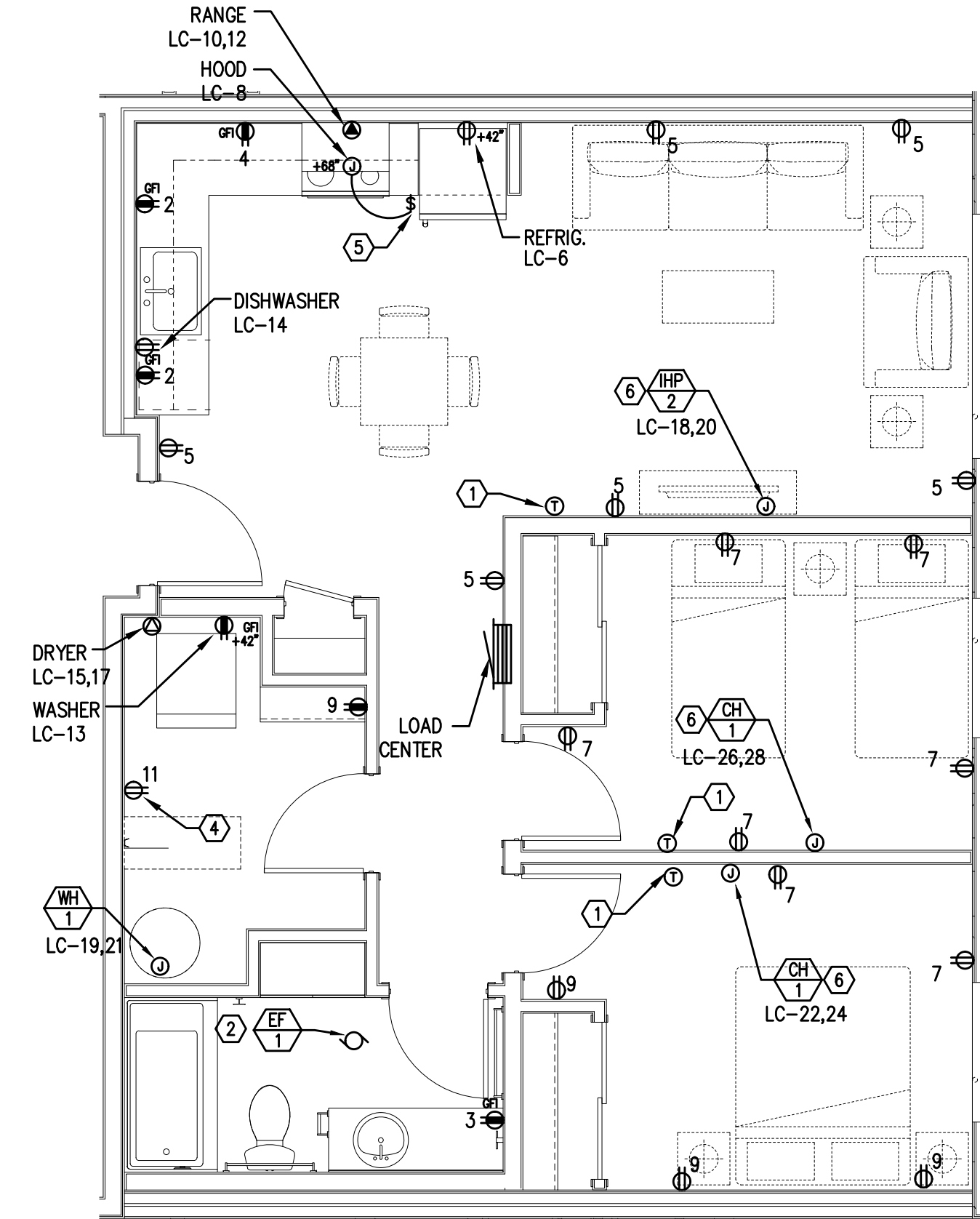
4 UNIT TYPE 2B – POWER PLAN
E4.11 SCALE: 1/4" = 1'-0"



5 UNIT TYPE 2C – POWER PLAN
E4.11 SCALE: 1/4" = 1'-0"



6 UNIT TYPE 2D (ADA) – POWER PLAN
E4.11 SCALE: 1/4" = 1'-0"



7 UNIT TYPE 2E – POWER PLAN
E4.11 SCALE: 1/4" = 1'-0"

GENERAL NOTES:

- ALL PLANS ARE DIAGRAMMATICAL. CONSULT ARCHITECTURAL PLANS FOR EXACT LOCATION OF ALL DEVICES AND FIXTURES.
- REFER TO DETAILS ON SHEET E1.21 FOR ADDITIONAL INFORMATION REGARDING ADA REACH REQUIREMENTS FOR RECEPTACLE AND SWITCH MOUNTING HEIGHT.
- STANDARD RECEPTACLE MOUNTING HEIGHT IS 18" A.F.F. UNLESS OTHERWISE SPECIFIED. RECEPTACLES LOCATED BELOW WINDOW SILLS SHALL NOT BE LESS THAN 15" A.F.F. AS REQUIRED BY CODE. DEVICES LOCATED BELOW WINDOW SILLS MAY BE ROTATED 90° IF NECESSARY. CONTRACTOR TO ADVISE ARCHITECT IMMEDIATELY IF CONFLICT BETWEEN DEVICES AND WINDOW SILLS IS APPARENT.
- REFER TO SHEET E1.12 FOR TYPICAL UNIT LOAD CENTER DIRECTORIES.
- LOW VOLTAGE DEVICES SHOWN ARE STRICTLY DIAGRAMMATIC AND SHOWN FOR REFERENCE ONLY. LOW VOLTAGE SYSTEMS ARE TO BE DESIGNED AND INSTALLED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE LOW VOLTAGE SYSTEMS DESIGNER FOR EXACT LOCATIONS AND PROVIDE ROUGH IN ONLY.
- FIRE ALARM DEVICES SHOWN ARE STRICTLY DIAGRAMMATIC AND SHOWN FOR REFERENCE ONLY. FIRE ALARM & DETECTION SYSTEMS ARE TO BE DESIGNED AND INSTALLED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE FIRE ALARM SYSTEM DESIGNER FOR EXACT LOCATIONS AND PROVIDE ROUGH IN ONLY.
- PROVIDE ALL ELECTRICAL RECEPTACLES LOCATED ON EXTERIOR WALLS WITH AN AIRTIGHT ELECTRICAL J-BOX, SUCH AS AIRFOIL, INC., OR SIMILAR OF EQUAL QUALITY AND FUNCTION.

KEYED NOTES:

- PROVIDE WIRE CONNECTION FOR THERMOSTAT(S). COORDINATE WITH MECHANICAL INSTALLER FOR EXACT LOCATION AND POWER REQUIREMENTS PRIOR TO ROUGH IN.
- BATHROOM EXHAUST FAN TO BE TIED INTO THE LIGHTING CIRCUIT FOR THE SPACE AND SWITCHED SEPARATELY FROM LIGHTS. REFER TO BATHROOM SWITCHING DETAIL ON SHEET E1.21.
- DUPLEX RECEPTACLE LOCATED AT TOP OF CABINET, JUST UNDER THE EDGE OF THE COUNTER TOP. ROTATED 90°.
- PROVIDE ONE 15A, RECEPTACLE CIRCUIT FROM TENANT LOAD CENTER FOR COMCAST SMART PANEL. COORDINATE WORK WITH SERVICE PROVIDER FOR EXACT LOCATION AND FINAL CONNECTION.
- IF REQUIRED, PROVIDE RANGE HOOD CONTROLS AT COUNTER CABINET FACE, OR AS INDICATED BY ARCHITECT, AS REQUIRED FOR ADA COMPLIANCE.
- LOCATE POWER CONNECTION NEAR TOP OF WALL. COORDINATE EXACT LOCATION WITH THE HVAC INSTALLER PRIOR TO ROUGH IN.
- REFER TO TYPICAL LAUNDRY ALCOVE DETAIL ON SHEET E1.22.



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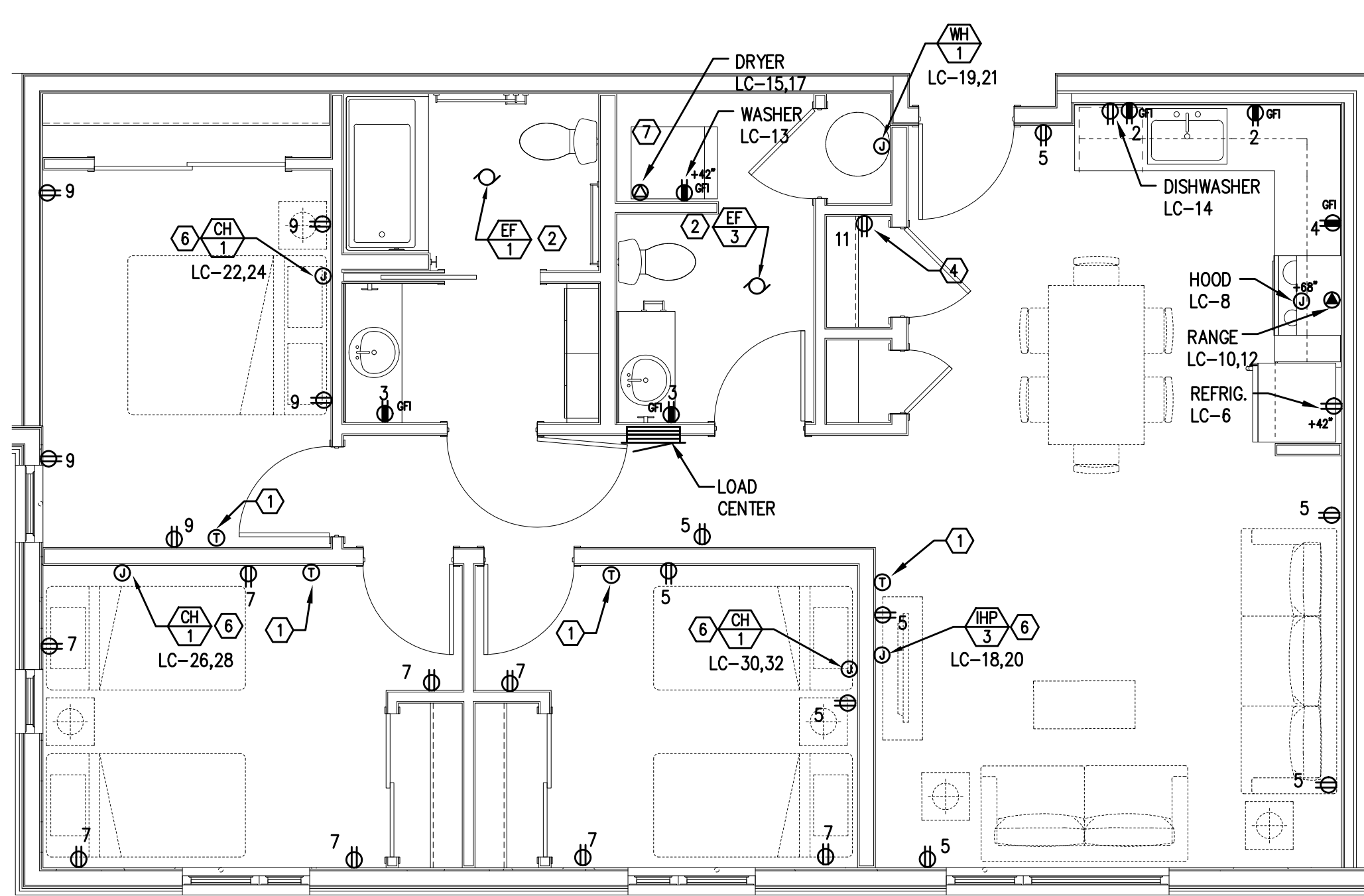
TYPICAL UNIT
POWER
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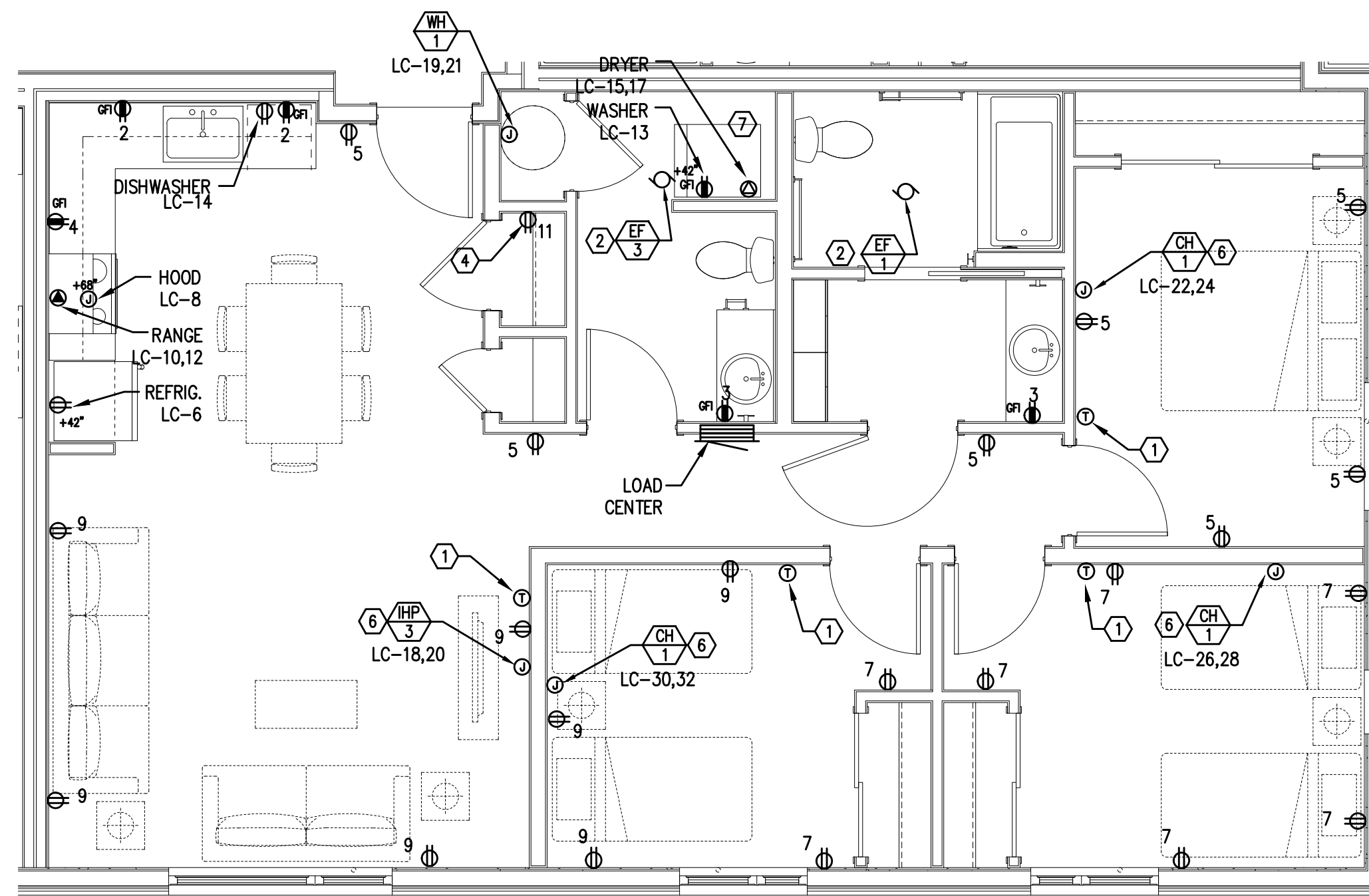
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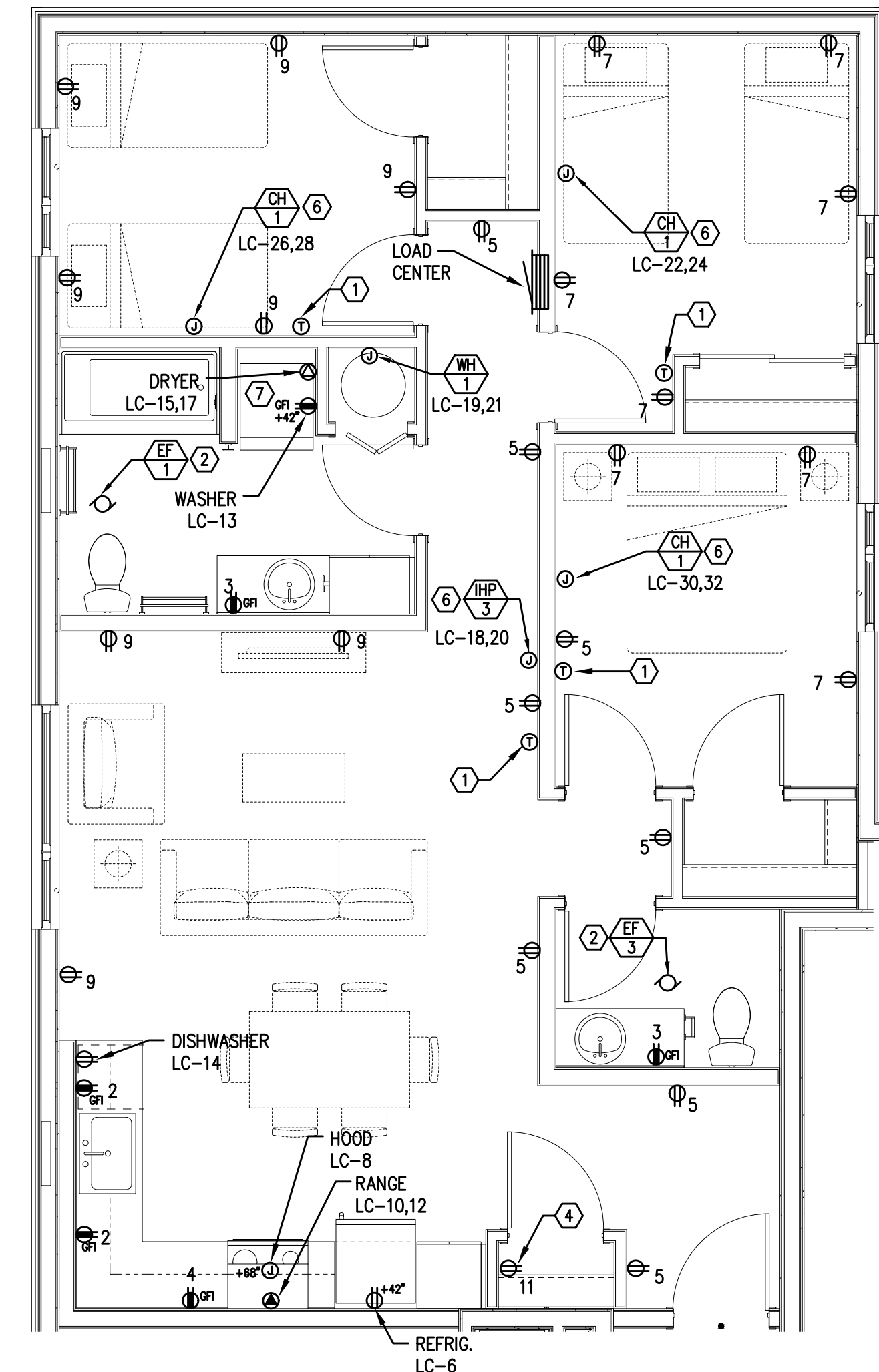
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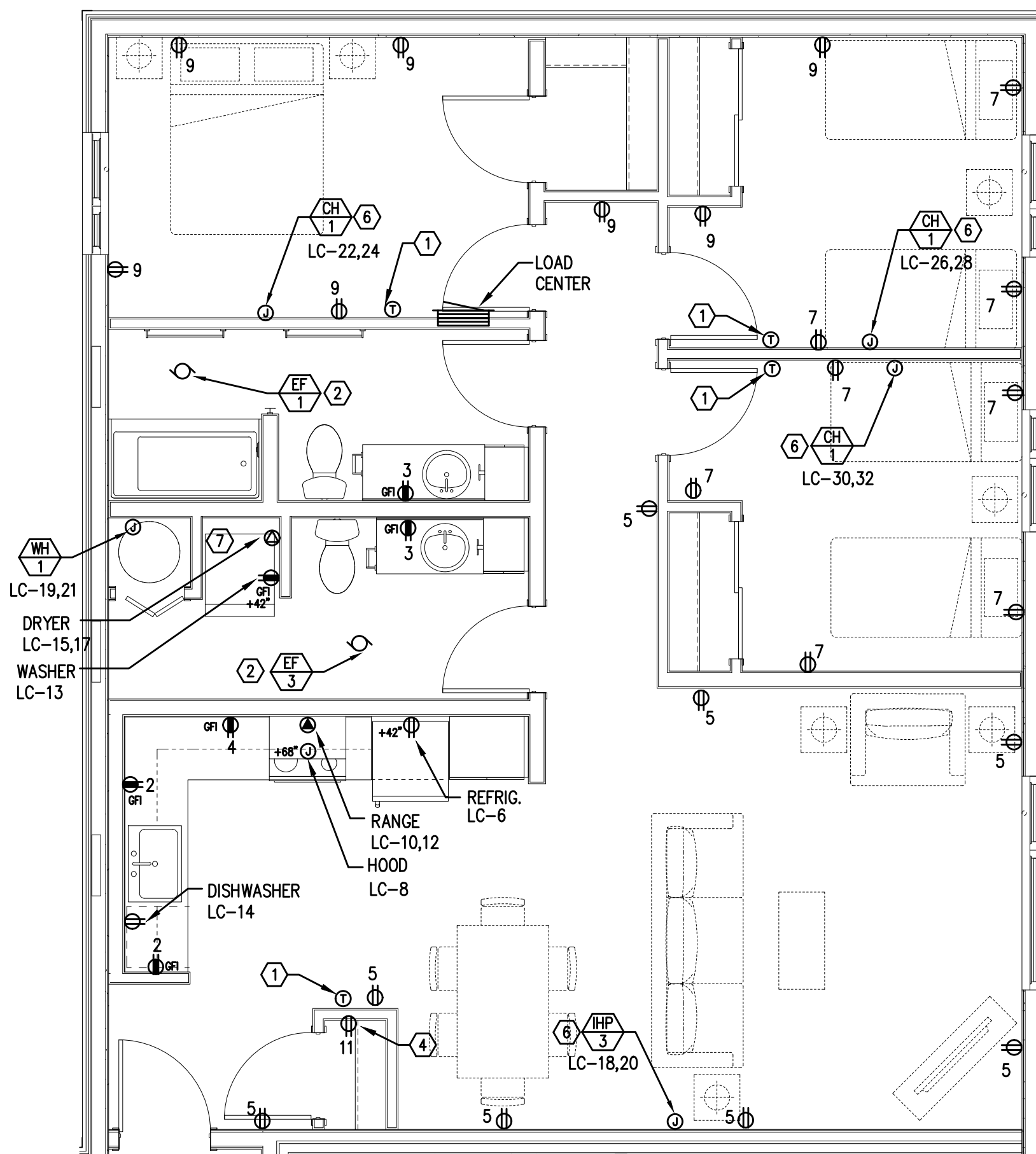
1 UNIT TYPE 3A - POWER PLAN
E4.12 SCALE: 1/4" = 1'-0"



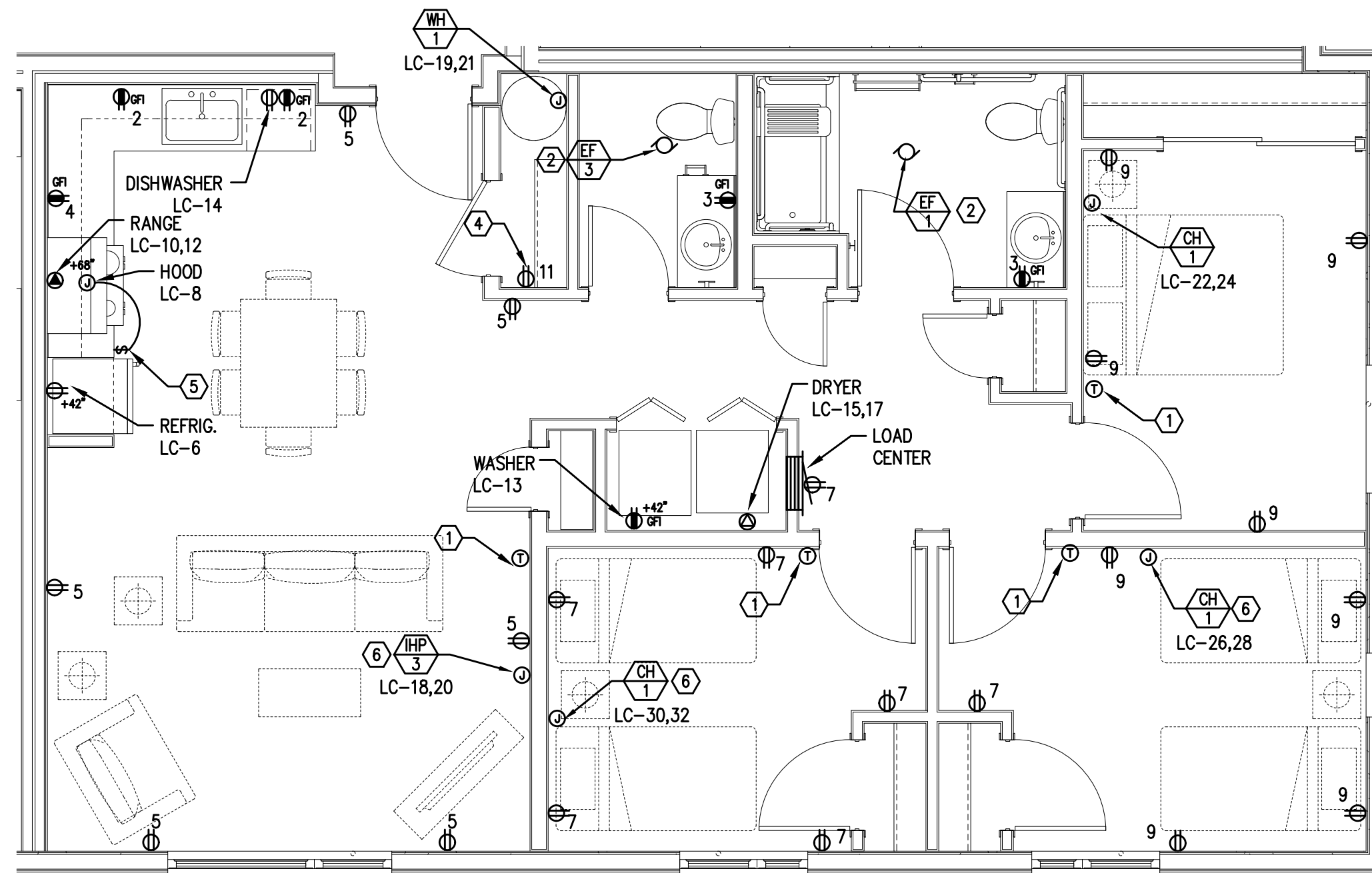
2 UNIT TYPE 3AS - POWER PLAN
E4.12 SCALE: 1/4" = 1'-0"



3 UNIT TYPE 3B - POWER PLAN
E4.12 SCALE: 1/4" = 1'-0"



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E4.12 SCALE: 1/4" = 1'-0"



5 UNIT TYPE 3D (ADA) - POWER PLAN
E4.12 SCALE: 1/4" = 1'-0"

GENERAL NOTES:

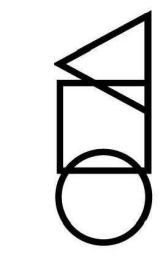
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REVISIONS:

E4.12