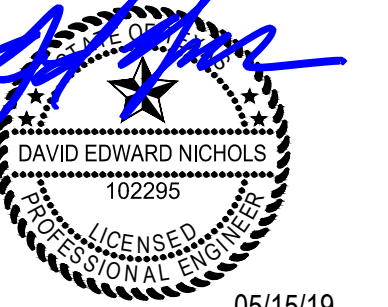




CHOLS
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CAMERON COMMERCIAL

AUSTIN, TEXAS

DRAWING / ISSUE SCHEDULE						
SHEET NUMBER		SHEET TITLE	ISSUE SETS			
			PERMIT SET 03/14/19	CITY COMMENT RESPONSE 05/15/19		
-		COVER	X	X		
MEP-1.0		SITE - MECHANICAL, PLUMBING AND ELECTRICAL	X			
M-2.0	MECHANICAL -	BUILDING - 1ST AND 2ND FLOOR	X	X		
M-3.0	MECHANICAL -	SCHEDULES & DIAGRAMS	X	X		
P-2.0		PLUMBING - BUILDING - 1ST AND 2ND FLOOR	X	X		
P-3.0		PLUMBING - SCHEDULES & DIAGRAMS	X	X		
E-2.0		POWER - BUILDING - 1ST AND 2ND FLOOR - POWER	X	X		
E-2.1		LIGHTING - BUILDING - 1ST AND 2ND FLOOR - LIGHTING	X	X		
E-3.0		ELECTRICAL - PANEL SCHEDULES & RISER	X	X		
E-3.1		ELECTRICAL - SCHEDULES & DIAGRAMS	X			

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DRAWING INFORMATION

OBJECT NO: 18158
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CODE COMPLIANCE	
MECHANICAL	2012 UNIFORM MECHANICAL CODE
ELECTRICAL	2012 NATIONAL ELECTRIC CODE
PLUMBING	2015 UNIFORM PLUMBING CODE
ENERGY	2015 INTERNATIONAL ENERGY CODE
ALL WORK SHALL BE IN ACCORDANCE WITH ALL IN-FORCE LOCAL AND NATIONAL CODES	

COVER

1. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO SECURE AND PAY FOR ALL PERMITS, PAT FEES, TAXES, ROYALTIES, LICENSES AND INSPECTIONS IN CONNECTION WITH THE MECHANICAL WORK. CONTRACTOR SHALL OBTAIN THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS.
2. DESIGN OF SYSTEMS IS BASED ON INFORMATION FURNISHED BY OTHERS WITH NO GUARANTEE AS TO ACCURACY. PRIOR TO BID DATE, CONTRACTORS SHALL EXAMINE THE SITE, CONTACT LOCAL UTILITIES TO VERIFY SERVICE REQUIREMENTS, AND SHALL INCLUDE IN THE BASE BID ALL COSTS FOR REQUIREMENTS, FEES, CONDUITS AND MATERIALS. CONTRACTORS SHALL CONSIDER IN ACCORDANCE WITH GOVERNING CODES AND ORDINANCES.
3. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, SERVICES AND EQUIPMENT NOT PROVIDED BY THE UTILITY COMPANIES FOR COMPLETE AND FULLY OPERATING SYSTEMS.
4. PROVIDE FIRE STOPPING MATERIAL AND SYSTEMS AS LISTED IN THE U.L. FIRE RESISTANCE DIRECTORY EQUAL TO THE FIRE RESISTANCE RATING OF THE RESPECTIVE WALL OR FLOOR ASSEMBLY FOR ALL PENETRATIONS OF PIPING, DUCTWORK AND OTHER PENETRATIONS. PROVIDE ALL MATERIALS AND EQUIPMENT REFER TO ARCHITECTURAL PLANS FOR ASSEMBLY RATINGS.
5. PROVIDE AND INSTALL ALL MATERIALS AND EQUIPMENT AS REQUIRED BY PLUMBING CODE, MECHANICAL CODE, ELECTRICAL CODE, NFPA, LIFE SAFETY CODE, GAS CODE, AND ALL OTHER LOCAL CODES AND ORDINANCES THAT APPLY WHETHER SHOWN ON THE DRAWINGS OR NOT. WHERE THERE IS A DISCREPANCY BETWEEN THE CODES AND THE DRAWINGS, THE DRAWINGS, THE MORE STRINGENT APPLICATION SHALL APPLY.

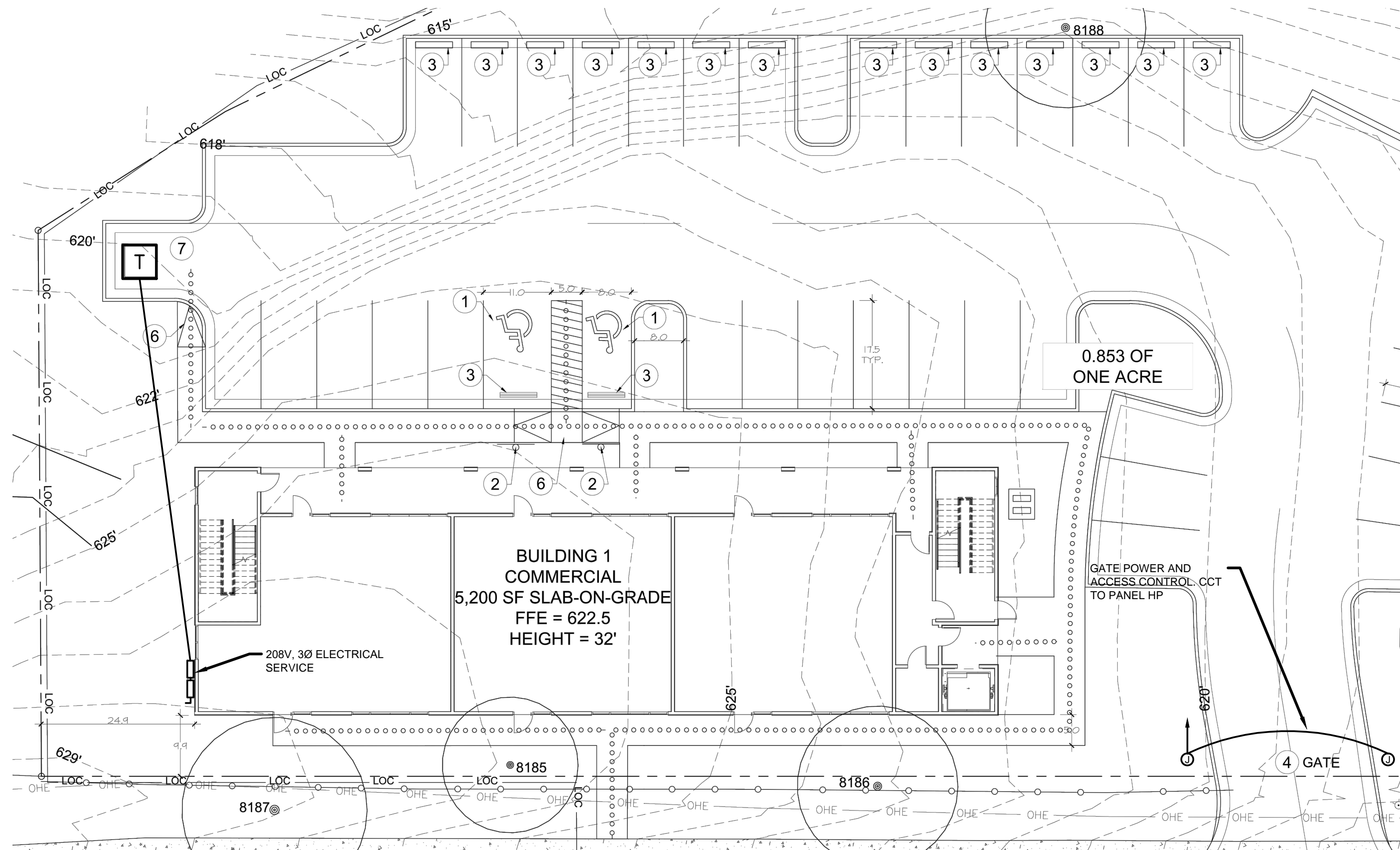
6. PRIOR TO INSTALLATION OF UNDERGROUND UTILITIES, GENERAL AND TRADE CONTRACTORS SHALL MEET WITH THE LOCAL UTILITY REPRESENTATIVE FOR A PRE-CONSTRUCTION MEETING. WITHIN THIS MEETING CONTRACTORS AND UTILITY REPRESENTATIVES SHALL VERIFY SERVICE REQUIREMENTS AND RESOLVE ISSUES THAT MAY EXIST. ANY DEVIATION FROM CONSTRUCTION DOCUMENTS RESULTING FROM THIS MEETING SHALL BE PROVIDED TO THE ARCHITECT AND OWNER FOR APPROVAL PRIOR TO INSTALLATION.
7. PROVIDE BALANCING DAMPER AT EACH BRANCH TAKE-OFF TO SERVE DIFFUSER OR GRILLE AS WELL AS WHERE INDICATED.
8. BRANCH DUCTWORK SHALL BE SIZED TO MATCH THE NECK SIZE OF THE DIFFUSER, REGISTER OR GRILLE IT SERVES UNLESS NOTED OTHERWISE, TYPICAL.
9. INSTALL ALL HARD ELBOWS AS SHOWN, HARD ELBOWS ARE REQUIRED FOR SOUND ATTENUATION.
10. INSTALL EQUIPMENT WITH CLEARANCE PER MANUFACTURERS RECOMMENDATIONS, MAINTAIN PROPER SPACE FOR COIL PULL, CONTROLS, AND MAINTENANCE ACCESS.
11. COORDINATE ALL FINAL CONNECTIONS TO FIRE SMOKE DAMPERS WITH ELECTRICAL AND DESIGN BUILD TEAM ON ALL SYSTEMS
12. ALL FIRE/SMOKE DAMPERS SHALL BE CONNECTED FOR A CIRCUITS OPERATIONAL ALARM SIGNALING 120V POWER, FIRE ALARM INTERLOCK AND WIRING, TEST SWITCHES, ETC. NOT ALL FIRE/SMOKE DAMPERS MAY BE SHOWN ON THE ELECTRICAL PLANS AND THEREFORE, THE CONTRACTOR SHALL VERIFY LOCATIONS AND QUANTITIES WITH THE MECHANICAL DRAWINGS. THE MECHANICAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE ELECTRICAL DRAWINGS.

14. PROVIDE ACCESS PANELS FOR FIRE DAMPERS AND DIRE SMOKE DAMPERS AS NECESSARY AT ALL REQUIRED LOCATIONS. RATED ACCESS PANELS SHALL BE USED IN RATED ASSEMBLIES; REFER TO ARCHITECTURAL PLANS FOR RATING. ALL RATINGS SHALL BE MAINTAINED.
15. PROVIDE AND INSTALL ALL DUCT WORK CONNECTIONS AND TRANSITIONS AT GRILLES, DIFFUSERS, REGISTERS, FILTERS, COILS, AND OTHER LOCATIONS WHERE REQUIRED. CONSTRUCT ALL DUCT SYSTEMS AND CONNECTIONS ACCORDING TO SMACNA STANDARDS.
16. PROVIDE A TESTING AND BALANCING (TAB) AGENCY FOR MECHANICAL SYSTEMS. THE TAB AGENCY SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING SENSORS, BALANCING DAMPERS, AND ALL EQUIPMENT NECESSARY TO PROVIDE PLUS OR MINUS 10% OF THE CFM REQUIRED AT EACH DISCHARGE. NO DISCOUNT SHALL BE ALLOWED AS A RESULT OF THE CONTRACTOR'S FAILURE TO PROVIDE EQUIPMENT NECESSARY FOR TEST AND BALANCE WHETHER SHOWN ON THE DRAWINGS OR NOT.
17. PROVIDE VIBRATION ISOLATION DUCTWORK CONNECTION AT SUPPLY AND RETURN FOR ALL AIR HANDING UNITS EXCEEDING 5-TONS IN CAPACITY COOLING CAPACITY.
18. NO COMBUSTIBLES SHALL BE INSTALLED WITHIN THE RETURN AIR PLENUMS. MATERIAL INSTALLED WITHIN THE PLENUMS SHALL BE RATED 25/50 FLAME/SMOKE SPREAD RATING.
19. ALL BUILDING ENVELOPE PENETRATIONS SHALL BE SEALED WATER TIGHT. PROVIDE FLASHINGS AND COUNTER FLASHING AS DIRECTED. COORDINATE ROOFING, CLADDING AND OTHER NECESSARY TRADE WORK WITH GENERAL CONTRACTOR.

20. FAILURE TO EXAMINE AND BE FAMILIAR THE DRAWINGS, SPECIFICATIONS AND/OR EXISTING CONDITIONS SHALL NOT BE USED AS A BASIS OF ADDITIONAL SERVICES. SHOULD ANY DISCREPANCIES OCCUR BETWEEN THE PLANS, ARCHITECT AND ENGINEER SHALL BE NOTIFIED IN WRITING.
21. ALL DUCTWORK SHALL BE SEALED DURING CONSTRUCTION TO PREVENT CONSTRUCTION DEBRIS AND DUST FOR ENTERING THE DUCTWORK SYSTEM.
22. PROVIDE FIRE-STOPPING MATERIAL AND SYSTEMS AS LISTED IN THE U.L. FIRE RESISTANCE DIRECTORY EQUAL TO THE FIRE RESISTANCE RATING OF THE RESPECTIVE WALL OR FLOOR ASSEMBLY FOR ALL PENETRATIONS OF PIPING, DUCTWORK AND OTHER MECHANICAL ITEMS THROUGH FIRE-RATED ASSEMBLIES.

1. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE TO SECURE AND PAY FOR ALL PERMITS, TAP FEES, TAXES, ROYALTIES, LICENSES AND INSPECTIONS IN CONNECTION WITH THE PLUMBING WORK DEPICTED ON THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS.
2. DESIGN OF SYSTEMS IS BASED ON INFORMATION FURNISHED BY OTHERS WITH NO GUARANTEE AS TO ACCURACY. PRIOR TO BID DATE, CONTRACTORS SHALL EXAMINE THE SITE, CONTACT LOCAL UTILITIES TO VERIFY SERVICE REQUIREMENTS, AND SHALL INCLUDE IN THE BASE BID ALL COSTS FOR REPAIRS TO EXISTING FEES, CONDITIONS AND METERING FOR COMPLETE SYSTEMS IN ACCORDANCE WITH GOVERNING CODES AND ORDINANCES.
3. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NOT PROVIDED BY THE UTILITY COMPANIES FOR COMPLETE AND FULLY OPERATING SYSTEMS.
4. PROVIDE FIRE-STOPPING MATERIAL AND SYSTEMS AS LISTED IN THE U. L. FIRE RESISTANCE DIRECTORY EQUAL TO THE FIRE RESISTANCE RATING OF THE RESPECTIVE WALL OR FLOOR ASSEMBLY FOR ALL PENETRATIONS OF PIPING AND OTHER PLUMBING ITEMS THROUGH THE CODES OR ORDINANCES. REFER TO ARCHITECTURAL PLANS FOR ASSEMBLY RATINGS.
5. PROVIDE AND INSTALL ALL MATERIAL AND EQUIPMENT AS REQUIRED BY PLUMBING CODE, MECHANICAL CODE, ELECTRICAL CODE, NFPA, LIFE SAFETY CODE, GAS CODE, AND ALL OTHER LOCAL CODES AND ORDINANCES THAT APPLY WHETHER SHOWN ON THE DRAWINGS OR NOT. WHERE THERE IS A DISCREPANCY BETWEEN THE CODES OR ORDINANCES AND THE DRAWINGS, THE MORE STRINGENT APPLICATION SHALL APPLY.
6. PRIOR TO INSTALLATION OF UNDERGROUND UTILITIES, GENERAL AND TRADE CONTRACTORS SHALL MEET WITH THE LOCAL UTILITY REPRESENTATIVES FOR A PRE-CONSTRUCTION MEETING. WITHIN THIS MEETING CONTRACTORS AND UTILITY REPRESENTATIVES SHALL VERIFY SERVICE REQUIREMENTS AND RESOLVE ISSUES THAT MAY EXIST. ANY DEVIATION FROM CONSTRUCTION DOCUMENTS RESULTING FROM THIS MEETING SHALL BE PROVIDED TO THE ARCHITECT AND OWNER FOR APPROVAL PRIOR TO INSTALLATION.
7. FAILURE TO EXAMINE AND BE FAMILIAR THE DRAWINGS, SPECIFICATIONS AND/OR EXISTING CONDITIONS SHALL NOT BE THE BASIS OF A CLAIM FOR DAMAGES. SHOULD ANY DISCREPANCIES OCCUR BETWEEN THE PLANS, ARCHITECT AND ENGINEER SHALL BE NOTIFIED IN WRITING.
8. REFER TO CIVIL PLANS FOR PRR LOCATION. BUILDING STATIC PRESSURE SHALL NOT EXCEED 80 PSIG.

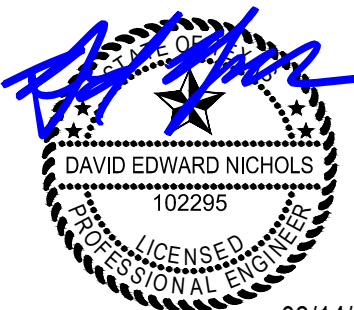
1. ELECTRICAL CONTRACTOR SHALL COMPENSATE FOR ALL VOLTAGE DROPS PER NEC RECOMMENDATION / FPN ON ALL FEEDERS AND BRANCH CIRCUITS.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE A TYPED CIRCUIT INDEX CARD FOR ALL PANELS FOR ENGINEERS REVIEW AT COMPLETION.
3. ALL 20A, 120V. CIRCUITS SHALL NOT EXCEED 1500W.
4. COORDINATE WORK WITH ALL TRADES.
5. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION AND/OR ADJUSTMENTS IN MAXIMUM OVERCURRENT PROTECTION FOR CONDENSING UNITS PER MECHANICAL CONTRACTOR EQUIPMENT SUBMITTALS.
6. ELECTRICAL CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SITE LIGHTING WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
7. ELECTRICAL CONTRACTOR SHALL PROVIDE SHIELDING ON ALL WALL PACKS AND POLE LIGHTS WITHIN 540'-0" OF THE PROPERTY LINE. ALL LIGHTING TRESPASS SHALL COMPLY WITH LOCAL CODE.
8. ALL MATERIALS, WORKMANSHIP AND THE ENTIRE INSTALLATION SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE AND ALL OTHER LOCAL CODES AND ORDINANCES.
9. VERIFY EXACT LOCATION AND CONSTRUCTION REQUIREMENTS OF ALL VAULTS, PAD MOUNT TRANSFORMERS, PRIMARY ROUTING AND OVERHEAD SERVICE DROPS (ALL ITEMS PRIOR TO THE POINT OF SERVICE) WITH POWER COMPANY PRIOR TO THE START OF CONSTRUCTION.
10. CIRCUIT ALL EXTERIOR LIGHTING THROUGH PHOTOCELL TO NEAREST HOUSE PANEL.
11. REFER TO ID PLANS OR ARCHITECTURAL PLANS FOR LIGHTING AND FLOOR OUTLET / RECEPTACLE DIMENSIONS.
12. SMOKE AND HEAT DETECTORS SHALL BE INSTALLED 3'-0" MINIMUM FROM SUPPLY OR RETURN AIR REGISTERS.



SCALE: 1/16" = 1'-0"

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SHEET

MEP-1.0

EXHAUST FAN SCHEDULE										
Mark	Location / Service	Type	Manufacturer	Model No.	CFM	Discharge Duct Size	ESP	V / PH	Options / Accessories	Remarks
TXF-1	Restrooms	Ceiling	Greenheck	CSP-B-110	80	7"	0.1	120V / 1P	1, 2	-
TXF-2	Restrooms	Ceiling	Greenheck	CSP-B-110	80	7"	0.1	120V / 1P	1, 2	-
Notes:										
1. Flash and counter flash exterior penetrations water tight.										
2. Provide backdraft dampers on all exhaust systems.										
Options / Accessories:										
1. Radiation Damper										
2. Internal Electronic Speed Control										
3. 15 Minute Intermittent Time Control										
4. In-Line Adapter										
5. 6" Automatic Make-Up Air Damper										
6. Dehumidistat Wall Control										

OUTSIDE AIR CALCULATIONS								
2015 Uniform Mechanical Code - Table 402.1								
Space	Space Type 403.3	A2 Net Occupiable Floor Area	P2 Number of People In Zone or Space	Ra Required Air Flow Rate Per Unit Floor Area	Rp OA flow rate per person	Vbz Outside Air required for Breathing Zone	E2 Distribution Effectiveness	Vot Outside Air Flow Rate Required
RETAIL 1	Office Spaces	1100	6	0.06	5	96	0.8	120
RETAIL 2	Office Spaces	1100	6	0.06	5	96	0.8	120
RETAIL 3	Office Spaces	1100	6	0.06	5	96	0.8	120
ASSET MNG	Office Spaces	285	2	0.06	5	27	0.8	34
BREAK ROOM	Office Spaces	107	1	0.06	5	11	0.8	14
CONFERENCE 1	Conference Rooms	260	13	0.06	5	81	0.8	102
CONFERENCE 2	Conference Rooms	250	13	0.06	5	80	0.8	100
CORRIDOR	Corridors	265	0	0.06	0	16	0.8	20
DEVELOPMENT	Office Spaces	345	2	0.06	5	31	0.8	39
RECEPTION/FOYER	Reception Areas	205	7	0.06	5	47	0.8	59
OFFICE 1	Office Spaces	107	1	0.06	5	11	0.8	14
OFFICE 2	Office Spaces	107	1	0.06	5	11	0.8	14
OFFICE 3	Office Spaces	107	1	0.06	5	11	0.8	14
OFFICE 4	Office Spaces	95	1	0.06	5	11	0.8	14
OFFICE 5	Office Spaces	95	1	0.06	5	11	0.8	14
OFFICE 6	Office Spaces	107	1	0.06	5	11	0.8	14
OFFICE 7	Office Spaces	107	1	0.06	5	11	0.8	14
OFFICE 8	Office Spaces	107	1	0.06	5	11	0.8	14
OFFICE 9	Office Spaces	95	1	0.06	5	11	0.8	14
OFFICE 10	Office Spaces	95	1	0.06	5	11	0.8	14
OFFICE 11	Office Spaces	140	1	0.06	5	13	0.8	17
RR 1	Office Spaces	70	0	0	5	0	0.8	0
RR 2	Office Spaces	70	0	0	5	0	0.8	0
WORK AREA	Office Spaces	75	1	0.06	5	10	0.8	13
							AHU Mark	CFM
							AHU-1	118
							AHU-2	83
							AHU-3	102
							AHU-4	159

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NOTES

1. Provide with field mounted condensate pump (equivalent to Aspen mini-white (< 30 MBH) or Aspen maxi-line (> 30 mbh), low ambient to 14 degrees, and inverter compressor.
2. Provide with wired programmable thermostat.
3. Electrical MCA/MOCP for condenser include Nema-9 power requirements. Indoor unit is powered through outdoor unit. Electrical contractor to provide 18 gauge 4 conductor wiring and conduit between.
4. Electrical Contractor shall provide remote Evaporator 38 disconnect switch. Disconnect shall not be mounted on unit.
5. Contractor shall flag and bring to attention during submittal process any line lengths that exceed scheduled conditions above.
6. Capacities are provided at design conditions and not nominal ARI conditions.
7. Provide with 2 year parts warranty and 5 year compressor parts warranty.
8. Insulate all refrigerant lines with code minimum.
9. Electrical contractor to provide 18 gauge 4 conductor wiring and conduit between indoor and outdoor units.
10. Systems are able to run in cooling-only mode.

AIR HANDLING UNIT SCHEDULE																			
TAG	SERVES	DUTY	MFG	MODEL	AIRSIDE DATA			COOLING DATA				HEATING DATA			EVAPORATOR ELECTRICAL DATA				
					TOTAL AIRFLOW CFM	OA CFM	EXT. SP IN-WG	TOTAL CAPACITY (Tons)	ENTERING AIR		REFRIGERANT	COIL TYPE	HEATING TYPE / GAS/ELEC/HYD.	AUX INPUT (KW)	CAPACITY / OUTPUT (KW)	VOLTS	PHASE	MCA	MOCP
									DB (F)	WB (F)									
AHU-1	OFFICE	HEAT PUMP	GOODMAN	ARUF43B14AAHKSX20XAAA	1520	REF. CALC	0.25	42.0	80	67	R-410A	DX	HP/ELECTRIC	4.5	19.2	208	1	25.3	30
AHU-2	OFFICE	HEAT PUMP	GOODMAN	ARUF49B14AAHKSX20XAAA	1520	REF. CALC	0.25	48.0	80	67	R-410A	DX	HP/ELECTRIC	4.5	19.2	208	1	26	30
AHU-3	OFFICE	HEAT PUMP	GOODMAN	ARUF31B14AAHKSX20XAAA	1130	REF. CALC	0.25	30.0	80	67	R-410A	DX	HP/ELECTRIC	4.5	19.2	208	1	25.3	30
AHU-4	OFFICE	HEAT PUMP	GOODMAN	ARUF31B14AAHKSX20XAAA	1130	REF. CALC	0.25	30.0	80	67	R-410A	DX	HP/ELECTRIC	4.5	19.2	208	1	25.3	30
NOTES																			
Notes:																			
1. Mechanical Contractor shall verify match SEER rating prior to ordering equipment.																			
2. Mechanical Contractor shall coordinate the use of a single-point electrical connection kit with electrical contractor.																			
3. Install oil traps and line-sets per manufacturer requirements. Compensate for long line-set applications per manufacturer instructions.																			

CONDENSING UNIT SCHEDULE																		
TAG	SERVES	DUTY	MFG	MODEL	COMPRESSOR DATA			COOLING DATA				CONDENSER FAN MOTOR DATA			ELECTRICAL DATA			
					RLA	LRA	TYPE	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	REFRIGERANT	SEER/EEER	COIL TYPE	HORSEPOWER	FLA	VOLTS	PHASE	MCA	MOCp
CU-1	OFFICE	HEAT PUMP	GOODMAN	GS216421AA	16.7	109	SCROLL	42.0	-	R-410A	16 SEER	DX	1/4	1.2	208	1	22.1	35
CU-2	OFFICE	HEAT PUMP	GOODMAN	GS216421AA	16.7	109	SCROLL	42.0	-	R-410A	16 SEER	DX	1/4	1.2	208	1	22.1	35
CU-3	OFFICE	HEAT PUMP	GOODMAN	GS216361AA	13.4	72.5	SCROLL	30.0	-	R-410A	16 SEER	DX	1/4	1.1	208	1	18	30
CU-4	OFFICE	HEAT PUMP	GOODMAN	GS216361AA	13.4	72.5	SCROLL	30.0	-	R-410A	16 SEER	DX	1/6	1.1	208	1	18	30
NOTES																		
Notes:																		
1. Mechanical Contractor shall verify match SEER rating prior to ordering equipment.																		
2. Mechanical Contractor shall coordinate the use of a single-point electrical connection kit with electrical contractor.																		
3. Install oil traps and line-sizes per manufacturer requirements. Compensate for long line-set applications per manufacturer instructions.																		

ELECTRIC WALL HEATER SCHEDULE									
Tag	Location	Manufacturer	Model No.	V / PH	MCA	Heating Output (KW)	Heating Output (BTUH)	Options / Accessories	Remarks
EW-H-1	Fire Riser Rooms	King Electric	EFW1220	120 / 1	16.7	2	6826	1, 2, 3, 5	Minimum clearance: 0" to insulation, 10" AFF, 6" to adjacent wall. Set thermostat to 50°F
Options / Accessories: 1. Diamond Color 2. Recess Wall Mount Can 3. Surface Mount Can 4. Grill - Diamond Color 5. Single Pole Thermostat Kit 6. Double Pole Thermostat Kit									

DEHUMIDIFIER SCHEDULE						
Location	Manufacturer	Model No.	CFM	Weight	V / PH / FLA	Remarks
Sprinkler Closets	Innovative Dehumidifier	IW-25-1	150	35 Lbs	120V / 1P / 3.9	Wall mounted below AHU.

Notes:
 1. Install per MFG requirements.
 2. Extend condensate to hub/drain.



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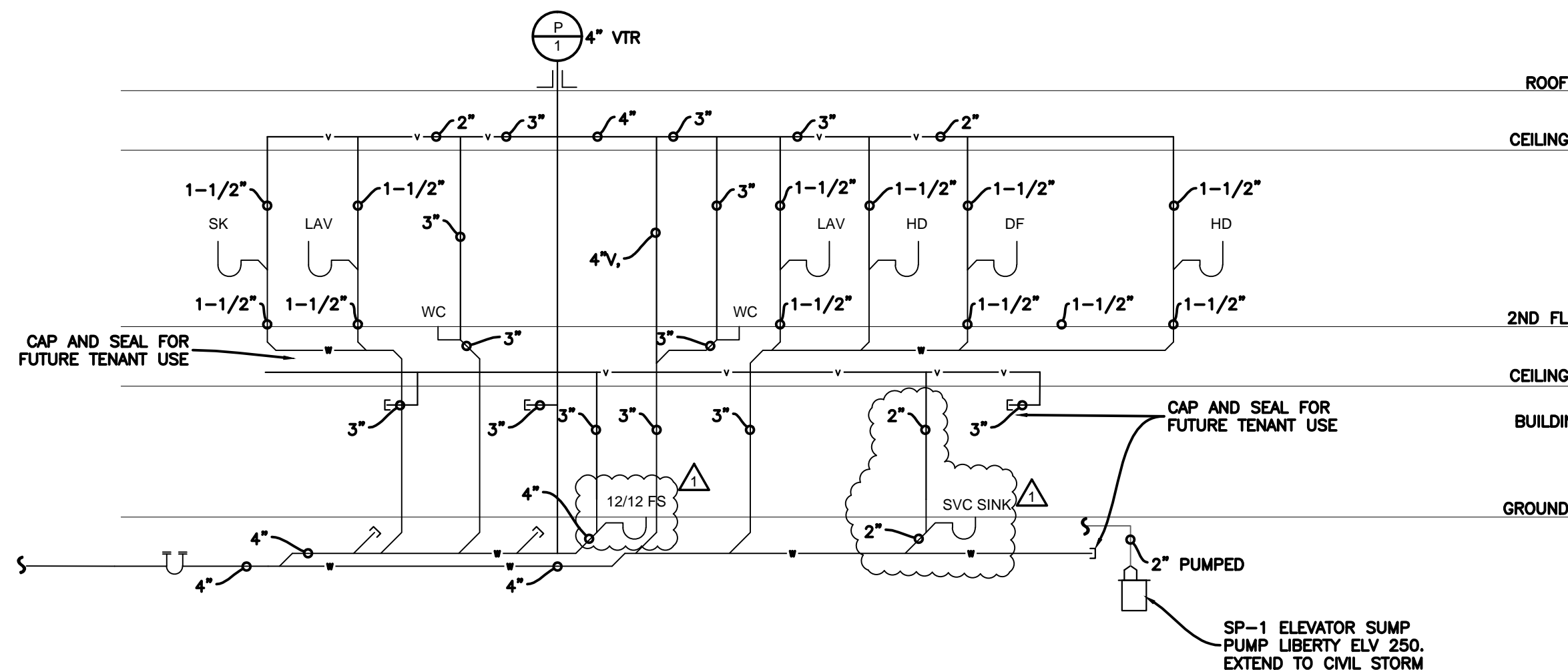
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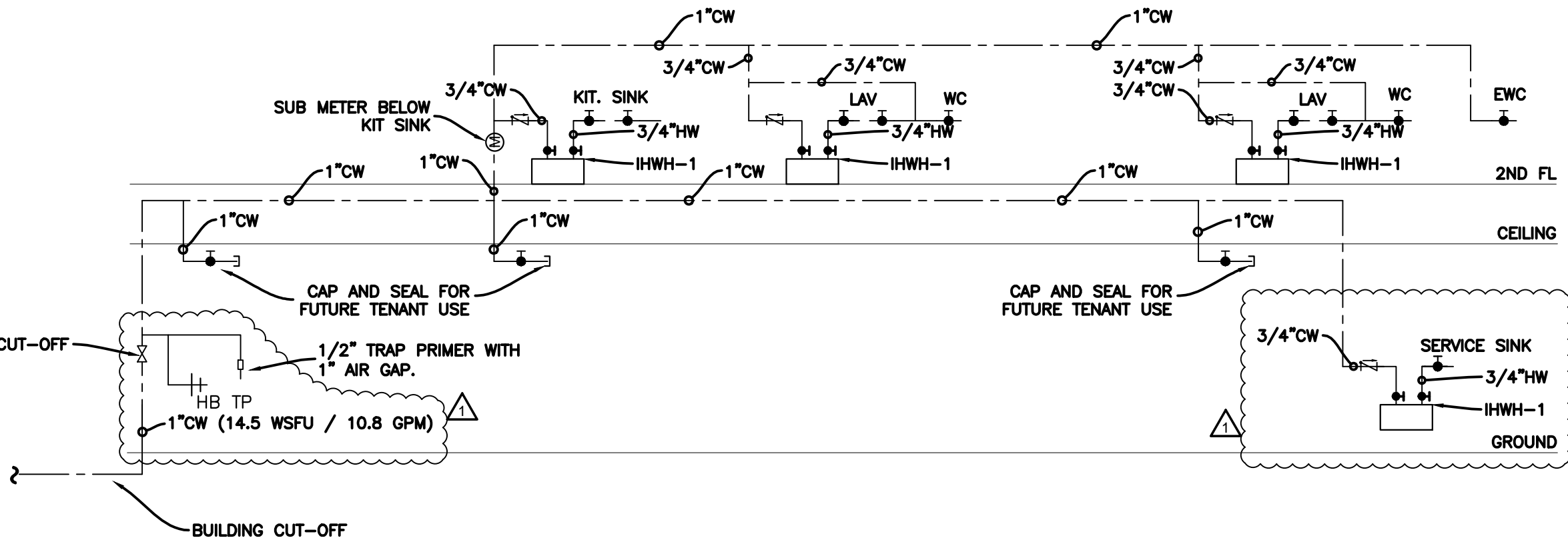
SHEET

M-3.0



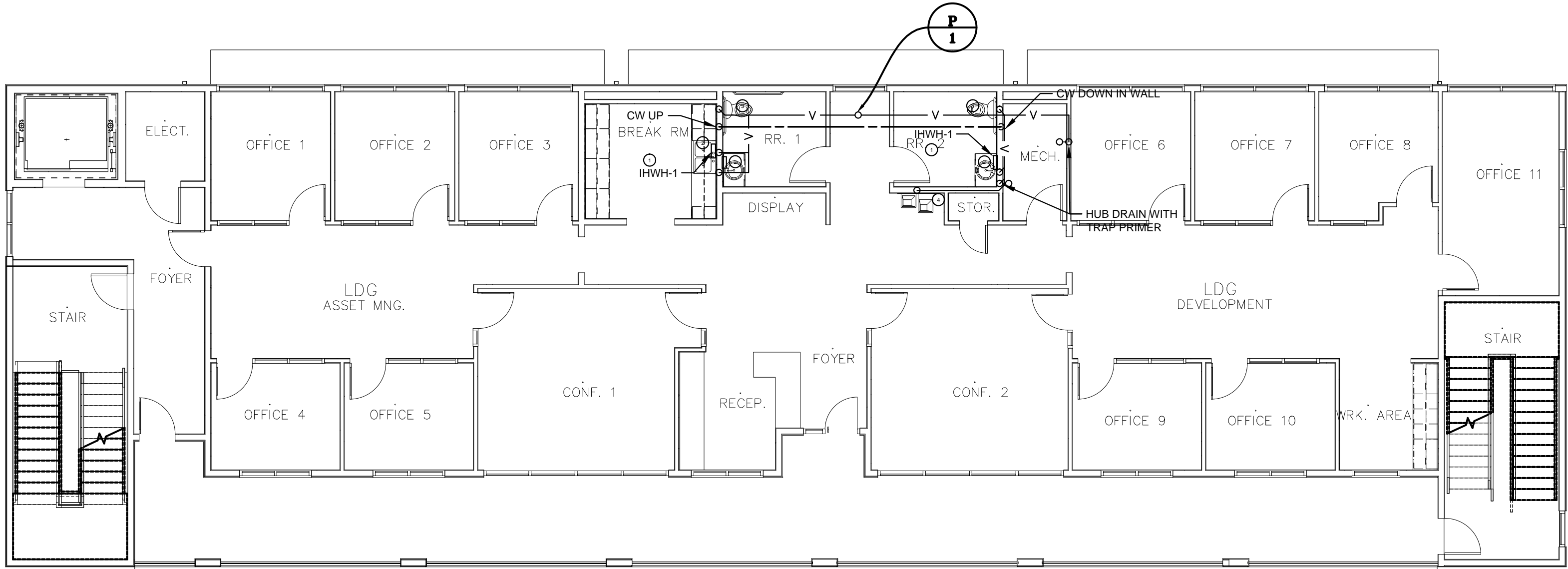
BUILDING - WASTEWATER RISER

SCALE: NTS



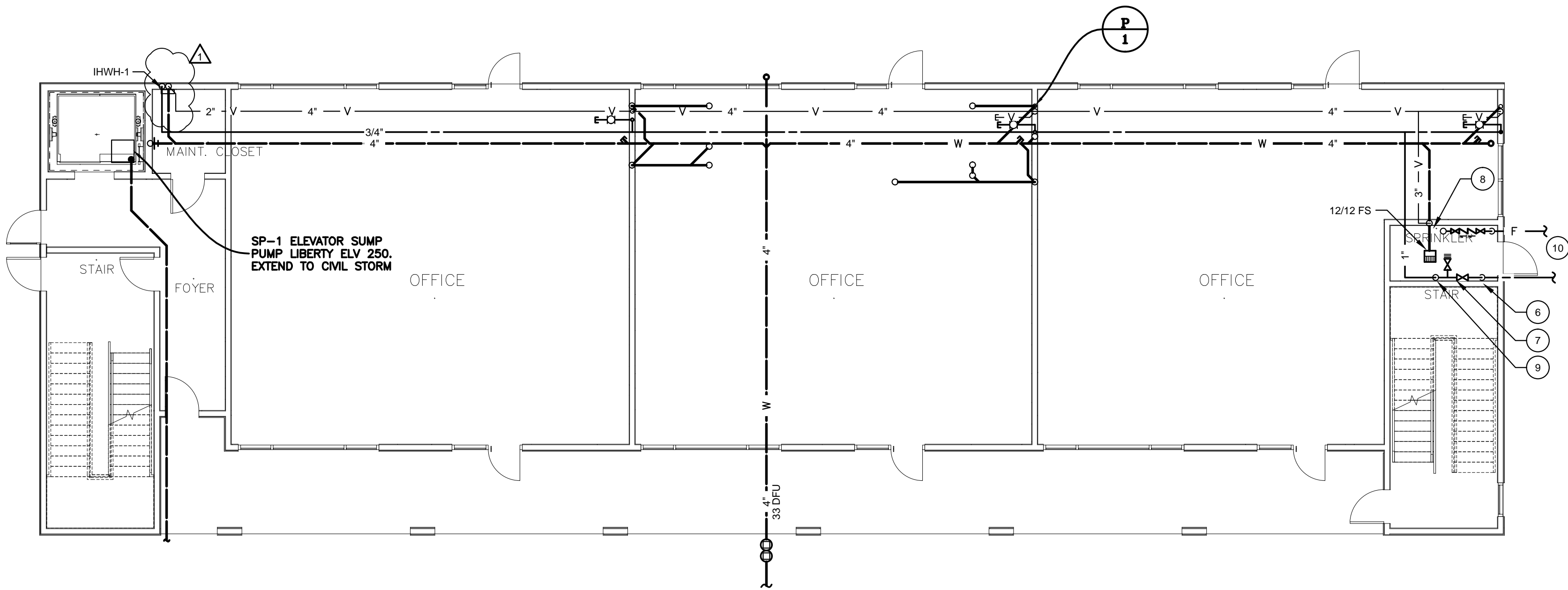
BUILDING - DOMESTIC WATER RISER

SCALE: NTS



BUILDING - 2ND FLOOR - PLUMBING

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



BUILDING - 1ST FLOOR - PLUMBING

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

GENERAL PLUMBING NOTES

1. PROVIDE WATER HAMMER ARRESTERS ON CW AND HW CONNECTIONS AT ALL FAST-CLOSING VALVES.
2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO BIDDING. NOTIFY ENGINEER OF RECORD IN WRITING OF ANY DISCREPANCIES AND AWAIT FURTHER DIRECTION.
3. PROVIDE 1/4 TURN DW CUT-OFFS AT EACH FIXTURE.
4. PROVIDE INSULATION ON ALL EXPOSED PLUMBING PIPING WITHIN ADA KNEE SPACE.
5. ALL WASTEWATER PIPING SHALL BE SLOPED AT 1/4" PER FOOT UNLESS OTHERWISE NOTED.
6. NO WASTEWATER PIPING BELOW SLAB-ON-GRADE SHALL BE LESS THAN 2".
7. PLUMBING CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PIPING CONNECTIONS, FLOW LINES AND INVERT ELEVATIONS WITH EXISTING CONDITIONS PRIOR TO THE START OF WORK.
8. REFER TO STRUCTURAL PLANS FOR NOTCHING AND CUTTING DETAILS.
9. PLUMBING SYSTEM VENTS SHALL MAINTAIN 10'-0" CLEAR FROM ANY BUILDING SYSTEM INTAKES.

PLUMBING KEY NOTES:

- 1 INSTANT WATER HEATER, EEMAX EX4208. LOCATE BELOW LAV OR KIT. SINK.
- 2 1/2" CW AND HW TAP TO LAV/BREAK SINK.
- 3 1/2" CW TAP TO FLUSH TANK WATER CLOSET.
- 4 1/2" CW TAP TO DRINKING FOUNTAIN.
- 5 HUB DRAIN WITH TRAP PRIMER WITHIN MECHANICAL CLOSET. HUB DRAINS SHALL BE READILY VISIBLE.
- 6 BUILDING DOMESTIC WATER ENTRY. RISE FROM UNDERGROUND. REFER TO CIVIL PLAN FOR CONTINUATION.
- 7 BUILDING CUT-OFF VALVE. REFER TO PLANS FOR SIZE. PROVIDE IN-LINE HOSE BIB FOR BUILDING DRAIN DOWN.
- 8 FIRE SYSTEM SERVICE CONNECTION. SPRINKLER CONTRACTOR TO PROVIDE CITY APPROVED DOUBLE-CHECK BACKFLOW ASSEMBLY PRIOR TO CONNECTION. REFER TO FIRE PLANS BY OTHERS.
- 9 RISE TO ABOVE CEILING.
- 10 REFER TO CIVIL FOR CONTINUATION.

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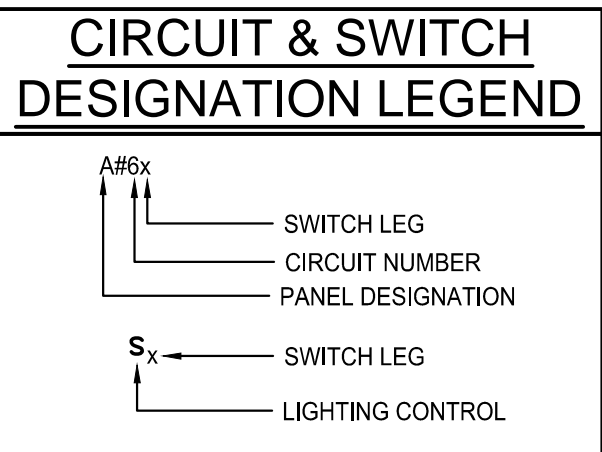
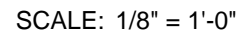
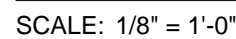
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REVISIONS	DATE	DESCRIPTION
REV	03/14/19	PERMIT SET
1	05/15/19	CITY COMMENT RESPONSE

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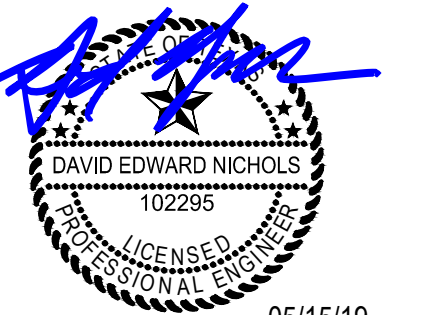
3. ALL ELECTRICAL EQUIPMENT SHALL MAINTAIN WORKING CLEARANCE PER NEC ARTICLE 110.26.
2. ALL BUILDING WIRING SHALL BE IN TYPE MC OR CITY APPROVED WIRE AND RACEWAY.
3. ELECTRICAL CONTRACTOR SHALL COMPENSATE FOR ALL VOLTAGE DROPS PER NEC RECOMMENDATION / FPN ON ALL FEEDERS AND BRANCH CIRCUITS.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE A TYPED CIRCUIT INDEX CARD FOR ALL PANELS FOR ENGINEERS REVIEW AT COMPLETION.
5. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION AND/OR ADJUSTMENTS IN MAXIMUM OVERCURRENT PROTECTION FOR CONDENSING UNITS PER MECHANICAL CONTRACTOR EQUIPMENT SUBMITTALS.
6. ALL DEDICATED RECEPTACLES SHALL BE SIMPLE RECEPTACLES. ALL SWITCHES AND RECEPTACLES SHALL BE RATED FOR 20A MIN.
7. ELECTRICAL CONTRACTOR SHALL PROVIDE LISTED "HACR TYPE" OVERCURRENT PROTECTIVE DEVICES FOR ALL HERMETIC REFRIGERANT MOTOR-COMPRESSORS PER NEC ARTICLE 440 SECTIONS II & III.
8. ALL MATERIALS, WORKMANSHIP AND THE ENTIRE INSTALLATION SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE AND ALL OTHER LOCAL CODES AND ORDINANCES.
9. COORDINATE WORK WITH ALL OTHER TRADES.
10. VERIFY EXACT LOCATION AND CONSTRUCTION REQUIREMENTS OF ALL VAULTS, PAD MOUNT TRANSFORMERS, PRIMARY ROUTING AND OVERHEAD SERVICE DROPS (ALL ITEMS PRIOR TO THE POINT OF SERVICE) WITH POWER COMPANY PRIOR TO THE START OF CONSTRUCTION.
11. CIRCUIT ALL EXTERIOR LIGHTING THROUGH PHOTOCELL WITH ASTRONOMICAL TIME CLOCK TO NEAREST HOUSE PANEL.
12. ALL EXTERIOR FIXTURES SHALL BE FULLY CUT-OFF AND FULLY SHIELDED.
13. ALL EXTERIOR RECEPTACLES SHALL BE WEATHER RESISTANT RECEPTACLES WITH WEATHER PROOF COVER.
14. ALL MECHANICAL EQUIPMENT DISCONNECTS SHALL BE BE MOUNTED WITHIN 25'-0" AND WITHIN SIGHT OF THE MECHANICAL EQUIPMENT. DISCONNECTS SHALL NOT BE INTEGRAL OR MOUNTED TO EQUIPMENT.
15. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY EXISTING BUILDING ELECTRICAL SERVICE CAPACITY. NOTIFY ENGINEER OF RECORD IN WRITING OF ANY DISCREPANCIES AND AWAIT FURTHER INSTRUCTION.
16. PROVIDE EXTERIOR EMERGENCY LIGHTING AT TENANT MAIN ENTRY IF NOT PRESENT.

1 IT/DATA CONDUIT: PROVIDE 4" C WITH PULL LINE FROM ELECTRICAL ROOM TO EACH SPACE AS SHOWN. COORDINATE EXACT ROUTING WITH BUILDING MANAGEMENT.



CKT DESIGNATION LEGEND		
PREFIX	PANEL DESIGNATION	VOLTAGE
A	HOUSE	120/208
B	OFFICE	120/208

1 ADDED RISER ROOM EQ, AND INST WH-AT SERVICE SINK.



REVIEWS			DATE
REV	DESCRIPTION	PERMIT SET	
1	CITY COMMENT RESPONSE <td></td> <td>03/14/19</td>		03/14/19
			02/15/19

LIGHTING NOTES:

- FOR EXACT LOCATION, MOUNTING HEIGHTS AND SPECIFICATION OF ALL LIGHTING FIXTURES, SWITCHES AND JUNCTION BOXES. SEE ARCHITECTURAL DRAWINGS.
- CIRCUITS ARE DESIGNATED BY THE NUMBER SHOWN ADJACENT TO EACH LIGHTING FIXTURE OR JUNCTION BOX. WIRING IS SHOWN ONLY UNDER SPECIAL CIRCUMSTANCES. PROVIDE ALL CONDUIT, WIRE AND BOXES AS WELL AS CEILING OUTLETS AND WHIPS REQUIRED TO ENERGIZE LIGHTING FIXTURES AS SHOWN.
- ALL BRANCH CIRCUIT WIRING SHALL BE RUN CONCEALED IN WALLS AND ABOVE HUNG CEILING, U.O.N. OR WHERE REQUIRED, FINAL CONNECTIONS TO LIGHTING FIXTURES SHALL BE MADE WITH WIRING HAVING 90°C RATED INSULATION.
- LIGHTING FIXTURES DESIGNATED WITH 'EM' INDICATES EMERGENCY FIXTURE. PROVIDE BATTERY PACK AS REQUIRED (CONSTANT POWER SUPPLY).
- LIGHTING FIXTURES DESIGNATED WITH 'NL' INDICATES UNSWITCHED NIGHT LIGHT FIXTURE. (CONSTANT POWER SUPPLY).
- SWITCHING DESIGNATIONS ARE SHOWN BY THE LOWER CASE LETTER NEXT TO THE LIGHT FIXTURE. FOR EXACT SWITCHING ARRANGEMENTS REFER TO ARCHITECTURAL DRAWINGS.
- ALL PENETRATIONS AND OPENINGS SHALL BE FIRE STOPPED WITH BUILDING APPROVED FIRE STOPPING MATERIALS.
- ALL FLUORESCENT BI-PIN BALLASTED FIXTURES SHALL BE PROVIDED WITH A BALLAST DISCONNECTING MEANS (INTERNAL OR EXTERNAL).
- PROVIDE ELECTRONIC ENERGY SAVING BALLASTS & ENERGY SAVING LAMPS.
- COORDINATE EXACT CEILING MOUNTED AND WALL MOUNTED VACANCY SENSOR PLACEMENT WITH MANUFACTURER FOR OPTIMAL USE.
- LIGHTING CIRCUITING SHOWN HERE IS FOR INFORMATIONAL PURPOSES ONLY. UTILIZE SPARE AND EXISTING CIRCUITS MADE AVAILABLE THRU DEMOLITION IN EXISTING ELECTRICAL PANELS FOR NEW LIGHTING CIRCUITING.
- ELECTRICAL CONTRACTOR TO ENSURE WALL MOUNTED SWITCHES ARE NOT BLOCKED BY DOOR OPENING. COORDINATE WITH ARCH DOOR SCHEDULES.
- ALL NEW OPEN AREA AND CORRIDOR LIGHTING SHALL BE CONTROLLED BY TIMECLOCK.
- REFER TO E-501 DRAWING FOR ADDITIONAL LIGHTING CONTROL DETAILS.
- UNLESS OTHERWISE NOTED, NEW LIGHTING CIRCUITS ON THIS DRAWING SHALL BE CONNECTED TO EXISTING LIGHTING PANELS. REFER TO DRAWING E-701 FOR INFO.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AN ADDITIONAL UNSWITCHED HOT LEG FROM THE OPEN AREA LIGHTING CIRCUIT TO FEED ALL 'EM/NL' FIXTURES AND EXIT SIGNS. EC SHALL ENSURE UNSWITCHED HOT LEG CONNECTION IS UPSTREAM OF THE TIMECLOCK AND CONTACTOR.

DAYLIGHT HARVESTING NOTES:

- PROVIDE DAYLIGHT HARVESTING CONTROL SYSTEM FOR THE SPECIFIED DAY LIGHT HARVESTING CONTROL ZONES. PROVIDE DAYLIGHT HARVESTING SENSOR AS SHOWN.
- LIGHT FIXTURES LOCATED IN THE DESIGNATED DAYLIGHT HARVESTING ZONES SHALL EMPLOY CONTINUOUSLY VARYING DIMMING FROM 100 TO 25 PERCENT OF FULL RATED LIGHTING POWER.
- DAYLIGHT HARVESTING SENSORS SHALL HAVE THE ABILITY TO BE ADJUSTED BY BUILDING MANAGEMENT.
- ENSURE COMPATIBILITY OF ALL FIXTURES, BALLASTS/POWER SUPPLIES AND DIMMERS.
- ALL LIGHTING CONTROL FUNCTIONALITY REQUIRED BY 2015 IECC.
- ALL LIGHT FIXTURES WITHIN A DAYLIGHT HARVESTING DIMMING ZONE SHALL BE CONTROLLED BY THE DAYLIGHT HARVESTING PHOTOCELL SHOWN WITHIN THE ZONE. IF NO ZONE IS SHOWN, THEN ALL LIGHT FIXTURES WITHIN THE ROOM SHALL BE CONTROLLED BY THE DAYLIGHT HARVESTING PHOTOCELL.

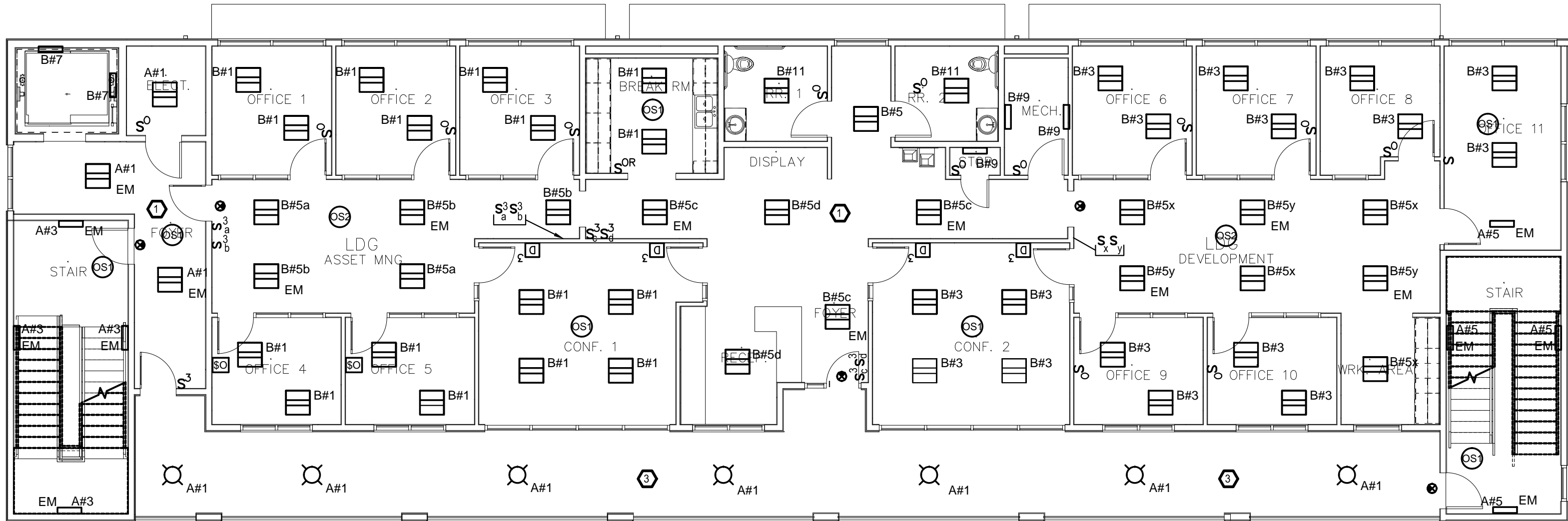
KEY NOTES:

- Ⓜ AREA TO BE CONTROLLED BY OCCUPANCY SENSOR.
- Ⓜ PROVIDE TEMPORARY LIGHTING CONTROLLED BY CEILING MOUNTED OCCUPANCY SENSOR AS SHOWN.
- Ⓜ AREA TO BE CONTROLLED BY PHOTOCELL

LIGHTING CONTROL LEGEND:

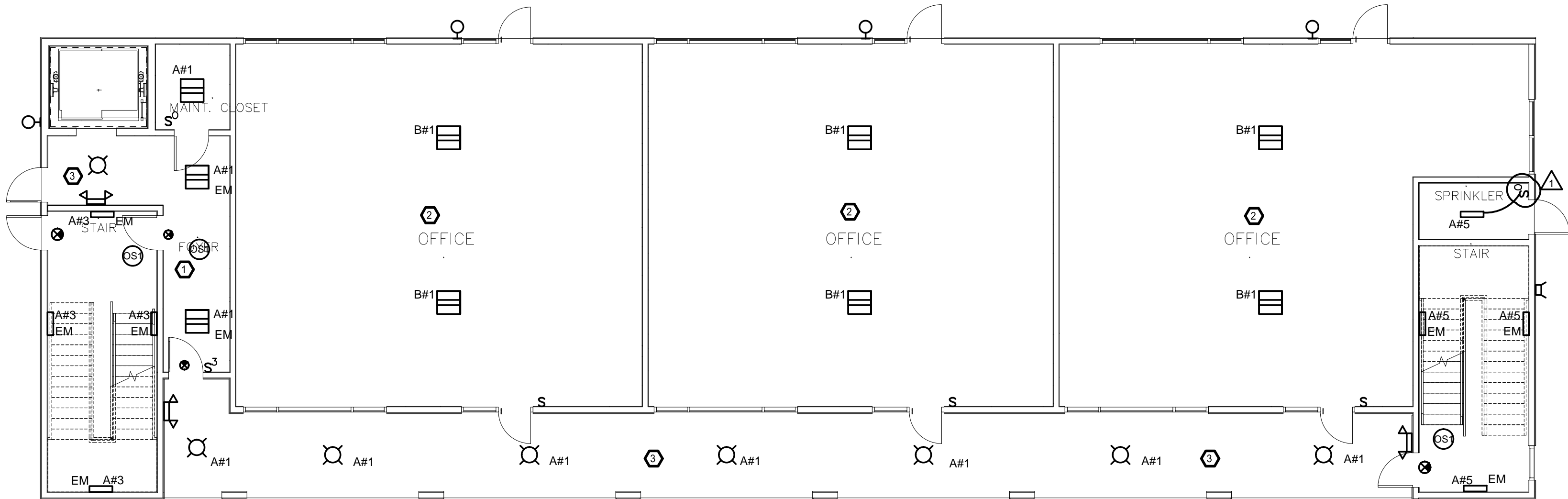
- Ⓜ WSX PDT SA XX WALL SWITCH SENSOR, PASSIVE DUAL TECHNOLOGY SET TO VACANCY MODE
- Ⓜ NP0DDM DX XX LOW VOLTAGE PUSH-BUTTON WALLPAD, RAISE/LOWER DIMMING WITHOUT WIRES
- Ⓜ NPP16 D EFP SA POWER/RELAY PACK, OCCUPANCY CONTROLLED DIMMING, EXTERNAL FAULT PROTECTION, VACANCY (default) OR AUTO-ON
- Ⓜ NPP16 D EFP SA POWER/RELAY PACK, OCCUPANCY CONTROLLED DIMMING, EXTERNAL FAULT PROTECTION
- Ⓜ WSX PDT SA XX WALL SWITCH SENSOR, PASSIVE DUAL TECHNOLOGY, OCCUPANCY CONTROLLED DIMMING, VACANCY (default) OR AUTO-ON
- Ⓜ NCM PDT 9 LOW VOLTAGE CEILING MOUNT SENSOR, PASSIVE DUAL TECHNOLOGY, SMALL MOTION/EXTENDED RANGE 360° LENS
- Ⓜ NCM PDT 10 LOW VOLTAGE CEILING MOUNT SENSOR, PASSIVE DUAL TECHNOLOGY, LARGE MOTION/EXTENDED RANGE 360° LENS
- Ⓜ DAYLIGHT HARVESTING PHOTOCELL [N LIGHT]
- Ⓜ 3 WAY DIMMING PUSHBUTTON WALLPAD [N LIGHT]
- Ⓜ TOGGLE SWITCH, NUMBER DENOTES 3 WAY OR 4 WAY, LETTER DENOTES SWITCH LEG

LIGHT FIXTURE SCHEDULE			
SYMBOL	DESCRIPTION	LAMPING	VOLTAGE
Ⓜ	2X2 LED FIXTURE [LITHONIA LIGHTING 2VTL2-33L-MVOLT OR APPROVED EQUAL]	29.5W	120V
Ⓜ	4' WALL MOUNTED LINEAR LED LIGHT [LITHONIA LIGHTING MNSL-L46 OR APPROVED EQUAL]	25W	120V
Ⓜ	SURFACE MOUNTED RECESSED LOOK LED, DAMP LOCATION RATED	11W	120V
Ⓜ	WALL MOUNTED CYLINDER DOWNLIGHT, FULLY CUTOFF/SHIELDED, VALUE LIGHTING B2005-7-28K	7W	120V
Ⓜ	WALL PACK FULLY CUTOFF/SHIELDED, LITHONIA WSQ-LED-1-3000K-SR2 PROVIDE 90-MIN BATTERY BACKUP WHERE INDICATED	24W	120V



BUILDING - 2ND FLOOR - LIGHTING

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



BUILDING - 1ST FLOOR - LIGHTING

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

6836 BEE CAVE RD
Building 1, SUITE 208
AUSTIN, TEXAS 78746
p. 512.593.5616
f. 888.812.2539



05/15/19
NICHOLS ENGINEERING, LLC
515502

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CAMERON COMMERCIAL
AUSTIN, TEXAS

DRAWING INFORMATION
PROJECT NO: 18158
DRAWN BY: JF/DEN
CHECKED BY: DEN

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☐ Issued for construction

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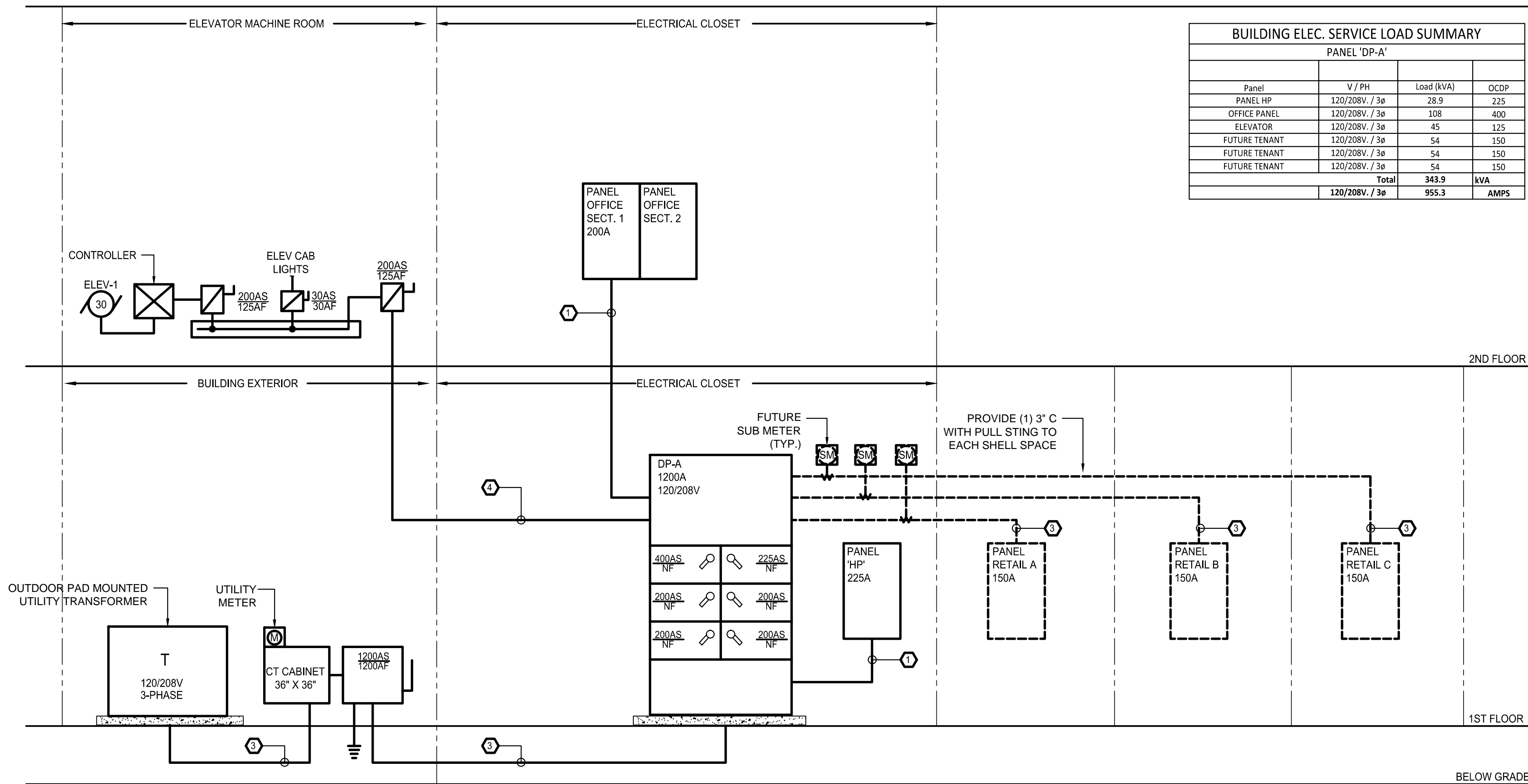
SHEET

E-3.0

PANEL SCHEDULE - "HP-OFFICE" - SECTION 1 OF 2																				
Panel Voltage Panel Phase / Wire Amp Rating SAIC Rating		120/208V 3-Phase / 4W 400 42	Fed from Panel Type Mounting Location		DC-A MC-B Surface		Panel Demand Summary Total Demand Load (KVA) 208V, 3-Phase, 4W, AMPS				Panel Feeder Total Demand Load (KVA) 108.0 300.0				2 Sets of 4 - #250 kcmil (THW) All each in 3" Conduit					
CCT No.	Description	Options	Load Type	OCPD	Poles	Wire	Conduit	Load (VA)	Phase A	Phase B	Phase C	Load (VA)	Conduit	Wire	Poles	OCPD	Load Type	Options	Description	CCT No.
1	OFFICE LIGHTING	-	Cont.	20	1	12	1/2"	472	1670			1080	1/2"	12	1	20	Non-Cont.	-	OFFICE RECEPTACLE	2
3	OFFICE LIGHTING	-	Cont.	20	1	12	1/2"	472	1670			1080	1/2"	12	1	20	Non-Cont.	-	OFFICE RECEPTACLE	4
5	OPEN AREA LIGHTING	-	Cont.	20	1	12	1/2"	531			1204	540	1/2"	12	1	20	Non-Cont.	-	CONV. RECEPT	6
7	ELEC ROOM	-	Non-Cont.	20	1	12	1/2"	75	795			720	1/2"	12	1	20	Non-Cont.	-	OFFICE RECEPTACLE	8
9	MECH ROOM / STORAGE	-	Non-Cont.	20	1	12	1/2"	59		779		720	1/2"	12	1	20	Non-Cont.	-	OFFICE RECEPTACLE	10
11	RESTROOMS	-	Non-Cont.	20	1	12	1/2"	720			1440	720	1/2"	12	1	20	Non-Cont.	-	CONF RECEPT	12
13	BREAK RM	-	Non-Cont.	20	1	12	1/2"	720	1440			720	1/2"	12	1	20	Non-Cont.	-	CONF RECEPT	14
15	BREAK RM	-	Non-Cont.	20	1	12	1/2"	1500		2220		720	1/2"	12	1	20	Non-Cont.	-	RECEPTION RECEPT	16
17	BREAK RM	-	Non-Cont.	20	1	12	1/2"	1500			2220	720	1/2"	12	1	20	Non-Cont.	-	RECEPTION RECEPT	18
19	BREAK RM	-	Non-Cont.	20	1	12	1/2"	1500	2220			720	1/2"	12	1	20	Non-Cont.	-	CONV. RECEPT	20
21	BREAK RM	-	Non-Cont.	20	1	12	1/2"	1500		2220		720	1/2"	12	1	20	Non-Cont.	-	CONF RECEPT	22
23	RESTROOM GFI	-	Non-Cont.	20	1	12	1/2"	360			1080	720	1/2"	12	1	20	Non-Cont.	-	CONV. RECEPT	24
25	WATER HEATER	-	Non-Cont.	-	-	-	-	4000	5080			1080	1/2"	12	1	20	Non-Cont.	-	OFFICE RECEPTACLE	26
27	-	-	Non-Cont.	40	2	8	1"	4000		4720		720	1/2"	12	1	20	Non-Cont.	-	OFFICE RECEPTACLE	28
29	SPARE	-	Non-Cont.	20	1	12	1/2"	1500			2580	1080	1/2"	12	1	20	Non-Cont.	-	OFFICE RECEPTACLE	30
31	OFFICE RECEPTACLE	-	Non-Cont.	20	1	12	1/2"	1080	5080			4000	-	-	-	-	Non-Cont.	-	OFFICE RECEPTACLE	32
32	OFFICE RECEPTACLE	-	Non-Cont.	20	1	12	1/2"	720		4720		4000	1"	8	1	40	Non-Cont.	-	WATER HEATER	34
35	WORK AREA	-	Non-Cont.	20	1	12	1/2"	720			2220	1500	1/2"	12	1	20	Non-Cont.	-	SPACE	36
37	WATER HEATER	-	Non-Cont.	-	-	-	-	4000	5500			1500	1/2"	12	1	20	Non-Cont.	-	SPACE	38
39	39	-	Non-Cont.	40	2	8	1"	4000		5500		1500	1/2"	12	1	20	Non-Cont.	-	SPACE	40
41	SPARE	-	Non-Cont.	20	1	12	1/2"	1500			3000	1500	1/2"	12	1	20	Non-Cont.	-	SPACE	42
Largest Motor Load (KW)		4.2		Demand Load Per Phase (VA)		21785		21829		13744		Panel Notes								
				Subtotal Load (VA)		17737		16158		15647		1. All conductor sizes are THW copper UNO.								
				Total Demand Load (KVA)		108.0		300.0				2. Refer to equipment ground table for EG sizes.								
				208V, 3-Phase, 4W, AMPS																

PANEL SCHEDULE - "HP-OFFICE" - SECTION 2 OF 2																						
Panel Voltage		120/208V		Fed From		DP-A		Panel Demand Summary						Panel Feeder								
Panel Phase / Wire		3-Phase / 4W		Panel Type		M/CB		Total Demand Load (KVA)				50.8		2 Sets of 4 - #250 kcmil (THW) All each in 3" Conduit								
Amp Rating		400		Mounting		Surface		208V: 3-Phase, 4W, AMPS				141.1										
kAIC Rating		42		Location		2ND FLOOR ELEC. ROOM																
CCT No.	Description	Options	Load Type	OCPD	Poles	Wire	Conduit	Load (VA)	Phase A	Phase B	Phase C	Load (VA)	Conduit	Wire	Poles	OCPD	Load Type	Description	CCT No.			
1	AHU-1	-	Non-Cont.	-	-	-	-	2850	2850				1/2"	12	1	20	Non-Cont.	-	LEAK DETECTION	2		
3	-	-	Non-Cont.	30	2	10	3/4"	2850		2850			1/2"	12	1	20	Non-Cont.	-	COND. PUMP	4		
5	AHU-2	-	Non-Cont.	-	-	-	-	2850				5149	2799	-	-	-	Non-Cont.	-	CU-1	6		
6	-	-	Non-Cont.	30	2	10	3/4"	2850	5149				2799	1"	8	2	40	Non-Cont.	-	8		
9	AHU-3	-	Non-Cont.	-	-	-	-	2850			5554		2704	-	-	-	Non-Cont.	-	CU-2	10		
11	-	-	Non-Cont.	30	2	10	3/4"	2850				5554	2704	1"	8	2	40	Non-Cont.	-	12		
13	AHU-4	-	Non-Cont.	-	-	-	-	2850	4794				1944	-	-	-	Non-Cont.	-	CU-3	14		
15	-	-	Non-Cont.	30	2	10	3/4"	2850		4794			1944	3/4"	10	2	30	Non-Cont.	-	16		
17	SPARE	-	Non-Cont.	20	1	12	1/2"	1500				3444	1944	-	-	-	Non-Cont.	-	CU-4	18		
19	SPARE	-	Non-Cont.	20	1	12	1/2"	1500		3444			1944	3/4"	10	2	30	Non-Cont.	-	20		
21	SPARE	-	Non-Cont.	20	1	12	1/2"	1500			3000		1944	1/2"	12	1	20	Non-Cont.	-	SPARE	22	
23	SPACE	-	Non-Cont.	-	-	-	-	-			1500	1500	1/2"	12	1	20	Non-Cont.	-	SPARE	24		
25	SPACE	-	Non-Cont.	-	-	-	-	-	1500			1500	1/2"	12	1	20	Non-Cont.	-	SPARE	26		
27	SPACE	-	Non-Cont.	-	-	-	-	-		0			-	-	-	-	Non-Cont.	-	SPACE	28		
29	SPACE	-	Non-Cont.	-	-	-	-	-			0		-	-	-	-	Non-Cont.	-	SPACE	30		
31	SPACE	-	Non-Cont.	-	-	-	-	-		0			-	-	-	-	Non-Cont.	-	SPACE	32		
33	SPACE	-	Non-Cont.	-	-	-	-	-			0		-	-	-	-	Non-Cont.	-	SPACE	34		
35	SPACE	-	Non-Cont.	-	-	-	-	-				0	-	-	-	-	Non-Cont.	-	SPACE	36		
37	SPACE	-	Non-Cont.	-	-	-	-	-		0			-	-	-	-	Non-Cont.	-	SPACE	38		
39	SPACE	-	Non-Cont.	-	-	-	-	-			0		-	-	-	-	Non-Cont.	-	SPACE	40		
41	SPACE	-	Non-Cont.	-	-	-	-	-				0	-	-	-	-	Non-Cont.	-	SPACE	42		
Largest Motor Load (kW)		4.6		Demand Load Per Phase (VA)		17737		0		16198		15647		Panel Notes								
				Subfeed Load (VA)		0		0		0		1. All conductor sizes are THW copper UNO.										
				Total Demand Load (KVA)		50.8						2. Refer to equipment ground table for EG sizes.										
				208V: 3-Phase, 4W, AMPS		141.1																

PANEL SCHEDULE - "HP"																				
Panel Voltage		120/208V		Fed From		DP-A		Panel Demand Summary				Panel Feeder								
Panel Phase / Wire		3-Phase / 4W		Panel Type		MCB		Total Demand Load (KVA)				1 Set of 4 - #1 AWG (THW) AL in 2" Conduit								
Amp Rating		100		Mounting		Surface		208V: 3-Phase, 4W, AMPS				80.3								
kVA Rating		65		Location		ELCC ROOM														
CCT No.	Description	Options	Load Type	OCPD	Poles	Wire	Conduit	Load (VA)	Phase A	Phase B	Phase C	Load (VA)	Conduit	Wire	Poles	OCPD	Load Type	Description	CCT No.	
1	EXTERIOR LIGHTING	PC	Cont.	20	1	12	1/2"	803	1724			720	1/2"	12	1	20	Non-Cont.	-	EXTERIOR RECEPTACLE	2
3	STARWELL LIGHTING	-	Cont.	20	1	12	1/2"	75		814		720	1/2"	12	1	20	Non-Cont.	-	CORRIDOR RECEPTACLE	4
5	STARWELL LIGHTING	-	Cont.	20	1	12	1/2"	75			1594	1500	1/2"	12	1	20	Non-Cont.	-	ELEV. PRT LIGHT & GFI	6
7	AHU-MS	-	Non-Cont.	-	-	-	-	0	1272			1272	1/2"	12	1	20	Non-Cont.	-	ELEC. SUMP PUMP	8
9	-	-	Non-Cont.	-	2	12	1/2"	400		1900		1500	1/2"	12	1	20	Non-Cont.	-	SPARE	10
11	CU-MS	-	Non-Cont.	-	-	-	-	0			1500	1500	1/2"	12	1	20	Non-Cont.	-	SPARE	12
13	-	-	Non-Cont.	30	2	10	3/4"	4160	5660			1500	1/2"	12	1	20	Non-Cont.	-	SPARE	14
15	TEMP. SHELL LIGHTING	-	Cont.	20	1	12	1/2"	1500		1875		0	-	-	-	-	Non-Cont.	-	SPACE	16
17	WATER HEATER	-	Non-Cont.	-	-	-	-	4000			4000	0	-	-	-	-	Non-Cont.	-	SPACE	18
19	-	-	Non-Cont.	40	2	8	1"	4000	4000			0	-	-	-	-	Non-Cont.	-	SPACE	20
21	EW-1	-	Non-Cont.	20	1	12	1/2"	2000		2000		0	-	-	-	-	Non-Cont.	-	SPACE	22
23	DEHUM.	-	Non-Cont.	20	1	12	1/2"	1500			1500	0	-	-	-	-	Non-Cont.	-	SPACE	24
25	SPACE	-	Non-Cont.	-	-	-	-	0	0			0	-	-	-	-	Non-Cont.	-	SPACE	26
27	SPACE	-	Non-Cont.	-	-	-	-	0	0			0	-	-	-	-	Non-Cont.	-	SPACE	28
29	SPACE	-	Non-Cont.	-	-	-	-	0			0	0	-	-	-	-	Non-Cont.	-	SPACE	30
31	SPACE	-	Non-Cont.	-	-	-	-	0	0			0	-	-	-	-	Non-Cont.	-	SPACE	32
33	SPACE	-	Non-Cont.	-	-	-	-	0			0	0	-	-	-	-	Non-Cont.	-	SPACE	34
35	SPACE	-	Non-Cont.	-	-	-	-	0		0		0	-	-	-	-	Non-Cont.	-	SPACE	36
37	SPACE	-	Non-Cont.	-	-	-	-	0	0			0	-	-	-	-	Non-Cont.	-	SPACE	38
39	SPACE	-	Non-Cont.	-	-	-	-	0	0			0	-	-	-	-	Non-Cont.	-	SPACE	40
41	SPACE	-	Non-Cont.	-	-	-	-	0			0	0	-	-	-	-	Non-Cont.	-	SPACE	42
Largest Motor Load (KW)		4.2		Demand Load Per Phase (KVA)		12656		6589		8594		Panel Notes								
				Subfeed Load (VA)		0		0		0		1. All conductor sizes are THW copper UNO.								
				Total Demand Load (KVA)		28.9		28.9				2. Refer to equipment ground table for EG sizes.								
				208V, 3-Phase, 4W, AMPS		80.3														



BUILDING - ELECTRICAL RISER DIAGRAM

SCALE: NTS

BUILDING ELEC. SERVICE LOAD SUMMARY			
PANEL 'DP-A'			
	V / PH	Load (kVA)	
PANEL HP	120/208V / 3ø	28.9	225
OFFICE PANEL	120/208V / 3ø	108	400
ELEVATOR	120/208V / 3ø	45	125
FUTURE TENANT	120/208V / 3ø	54	150
FUTURE TENANT	120/208V / 3ø	54	150
FUTURE TENANT	120/208V / 3ø	54	150
	Total	343.9	kVA
	120/208V / 3ø	955.3	AMPS

ELEC. RISER ABBREVIATIONS

AFF - ABOVE FINISHED FLOOR

AFG - ABOVE FINISHED GRADE

AS - AMP SWITCH

AF - AMP FUSE

NF - NO FUSE

ST - SHUNT TRIP

ELECTRICAL RISER NOTES

1. PROVIDE SHUT-TRIP BREAKERS AND COORDINATE EXACT LOCATION OF ELEVATOR EQUIPMENT WITH ELEVATOR CONTRACTOR. PROVIDE ALL CONDUCTORS NOT PROVIDED BY ELEVATOR CONTRACTOR.
2. PROVIDE CONDUCTORS FULLY RATED FOR DISCONNECT/SWITCH CAPACITY AT 75°C PER NEC TABLE 310.15(B)(16) WHERE NOT SPECIFICALLY IDENTIFIED.
3. ALL CONDUCTORS LESS THAN 100 AMP CAPACITY SHALL BE COPPER.
4. ALL EXTERIOR EQUIPMENT SHALL BE NEMA-3R RATED.

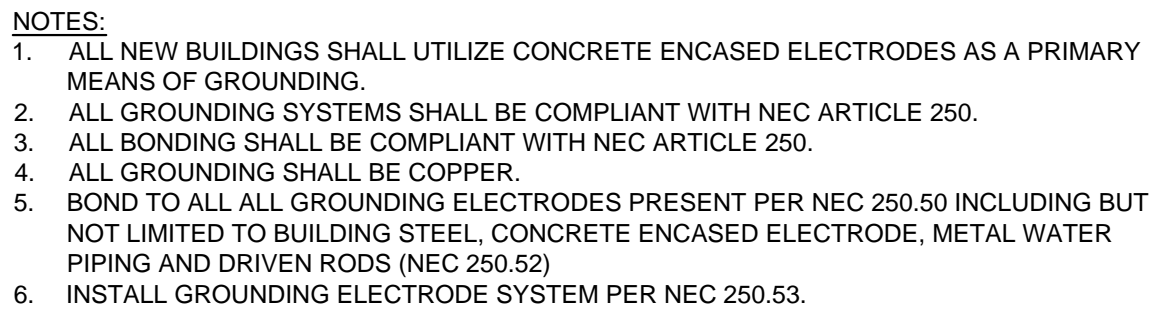
KEY NOTES:

- ① REFER TO PANEL SCHEDULE FOR WIRE SIZE.
- ② PROVIDE (1) 3" EC WITH PULL WIRE FOR FUTURE TI
- ③ (3) SETS OF 4-#400 MCM THW AL SERVICE CONDUCTORS EACH IN 4" C.
- ④ (1) SET OF 4-#2/0 MCM THW AL EACH IN 3" C.

ELECTRICAL SERVICE GROUNDING AND JUMPER SCHEDULE		
SERVICE ENTRANCE CONDUCTOR	Size - AWG or kcmil	
	GROUNDING ELECTRODE CONDUCTOR	MAIN BONDING JUMPER
1 Set of 4 - #150 kcmil	1 - #6 CU	1 - #6 CU
2 Sets of 4 - #120 kcmil	1 - #8 CU	1 - #8 CU
3 Sets of 4 - #90 kcmil	1 - #10 CU	1 - #10 CU
4 Sets of 4 - #75 kcmil	1 - #12 CU	1 - #12 CU
5 Sets of 4 - #60 kcmil	1 - #14 CU	1 - #14 CU
6 Sets of 4 - #45 kcmil	1 - #16 CU	1 - #16 CU
7 Sets of 4 - #35 kcmil	1 - #18 CU	1 - #18 CU
8 Sets of 4 - #30 kcmil	1 - #20 CU	1 - #20 CU

ELECTRICAL EQUIPMENT GROUND SCHEDULE			
Rating or Setting of Automating Devices in Circuit Ahead of Equipment, Control, etc., (Not Exceeding Amperes)		Copper Size - #AWG or kcmil	Alum or Copper Clad Alum.
15	14		
20	12		
30	10		
40	8		
50	6		
100	4		
200	2		
400	2		
600	2		
1000	1/2		
2000	4/0		
3000	5/0		
4000	5/0		
5000	5/0		
6000	5/0		
8000	5/0		
10000	5/0		
12000	5/0		
15000	5/0		
20000	5/0		
25000	5/0		
30000	5/0		
40000	5/0		
50000	5/0		
60000	5/0		
75000	5/0		
100000	5/0		
150000	5/0		
200000	5/0		
250000	5/0		
300000	5/0		
400000	5/0		
500000	5/0		
600000	5/0		
750000	5/0		
1000000	5/0		
1500000	5/0		
2000000	5/0		
2500000	5/0		
3000000	5/0		
4000000	5/0		
5000000	5/0		
6000000	5/0		
7500000	5/0		
10000000	5/0		
15000000	5/0		
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25000000	5/0		
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40000000	5/0		
50000000	5/0		
60000000	5/0		
75000000	5/0		
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1 UPDATED PANEL SCHEDULES



SCALE: NO SCALE



1. DESIGN OF SYSTEMS IS BASED ON INFORMATION FURNISHED BY OTHERS WITH NO GUARANTEE AS TO ACCURACY. PRIOR TO BID DATE, CONTRACTORS SHALL EXAMINE THE SITE, CONTACT LOCAL UTILITIES TO VERIFY SERVICE REQUIREMENTS, AND SHALL INCLUDE IN THE BASE BID ALL COSTS FOR REQUIREMENTS, FEES, CONNECTIONS AND METERING FOR COMPLETE AND TEMPORARY ELECTRICAL AND TELEPHONE SERVICES IN ACCORDANCE WITH GOVERNING CODES AND ORDINANCES.
2. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, SERVICES AND EQUIPMENT NOT PROVIDED BY THE UTILITY COMPANIES FOR COMPLETE AND FULLY OPERATING SYSTEMS.
3. ALL PENETRATIONS THROUGH RATED ASSEMBLIES SHALL BE FIRE STOPPED PER UL LISTED PENETRATION METHOD. REFER TO ARCHITECTURAL PLANS FOR ASSEMBLY RATINGS. ALL RATINGS SHALL BE MAINTAINED.
4. CONTRACTOR SHALL VERIFY EXACT QUANTITY AND LOCATION OF ALL LANDSCAPE, POLE, AND BOLLARD LIGHTS. SITE LIGHTING SHALL BE CIRCUITED TO THE NEAREST HOUSE PANEL.
5. UNLESS NOTED OTHERWISE (UNO), DWELLING UNIT PATIO LIGHTING SHALL BE CIRCUITED TO THE DWELLING UNIT ELECTRICAL PANEL. UNLESS NOTED OTHERWISE (UNO), DWELLING UNIT ENTRY LIGHTING SHALL BE CIRCUITED TO THE BUILDING HOUSE PANEL (OWNER METER).
6. ALL PHOTOCELLS & ASTRONOMICAL TIME CLOCKS SHALL BE CAPABLE OF CONTROLLING 125% OF EXTERIOR LIGHTING LOAD. PROVIDE CONTACTOR PANEL AS NECESSARY.
7. REFER TO CALCULATIONS AND PANEL SCHEDULES FOR CONDUCTOR SIZES. ALL HOUSE PANELS (HP-X) SHALL BE FED VIA CONDUCTORS CAPABLE OF CARRYING THE FULL NAMEPLATE CAPACITY OF THE PANEL.
8. ALL EXTERIOR ELECTRICAL EQUIPMENT SHALL BE PROVIDED WITH A NEMA-3R ENCLOSURE.
9. BRANCH CIRCUITS SUPPLYING MORE THAN ONE RECEPTACLE ON THE SAME YOKE SHALL BE PROVIDED WITH A MEANS TO DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE PANEL.
10. ALL DWELLING UNIT PATIOS SHALL BE PROVIDED WITH A WEATHER PROOF, WEATHER RESISTANT GF1 RECEPTACLE.
11. ALL ELECTRICAL WORK DONE ON BEHALF OF THE POWER COMPANY (PRIOR TO THE POINT OF SERVICE) SHALL BE COMPLIANT WITH ALL POWER COMPANY REQUIREMENTS.
12. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL CONNECTION TO ALL FIRE ALARM AND SPRINKLER SYSTEM EQUIPMENT. REFER TO DESIGN BUILD PLANS BY OTHERS.
13. PROVIDE AND INSTALL ALL MATERIAL AND EQUIPMENT AS REQUIRED BY PLUMBING CODE, MECHANICAL CODE, ELECTRICAL CODE, NFPA, LIFE SAFETY CODE, GAS CODE, AND ALL OTHER LOCAL CODES AND ORDINANCES THAT APPLY WHETHER SHOWN ON THE DRAWINGS OR NOT. WHERE THERE IS A DISCREPANCY BETWEEN THE CODES OR ORDINANCES AND THE DRAWINGS, THE MORE STRINGENT APPLICATION SHALL APPLY.
14. PRIOR TO INSTALLATION OF UNDERGROUND UTILITIES, GENERAL AND TRADE CONTRACTORS SHALL MEET WITH THE LOCAL UTILITY REPRESENTATIVES FOR A PRE-CONSTRUCTION MEETING. WITHIN THIS MEETING CONTRACTORS AND UTILITY REPRESENTATIVES SHALL VERIFY SERVICE REQUIREMENTS AND RESOLVE ISSUES THAT MAY EXIST. ANY DECISION FROM CONSTRUCTION DOCUMENTS RESULTING FROM THIS MEETING SHALL BE PROVIDED TO THE ARCHITECT AND OWNER FOR APPROVAL PRIOR TO INSTALLATION.
15. AT ALL ATTIC ACCESS DOORS AND SCUTTLES FOR MECHANICAL AND ELECTRICAL EQUIPMENT, PROVIDE A SINGLE POLE SWITCH, DUPLICATION RECEPTACLE AND KEYLESS PORCELAIN SOCKET WITH 100 WATT LAMP AND WIRE GUARD PER NEC REQUIREMENTS.

SCALE: NO SCALE

E-3.1