FIRE ALARM GENERAL NOTES:

GENERAL:

1. *PROVIDE COMPLETE ADDRESSABLE, MANUAL FIRE ALARM SYSTEM. WORK SHALL INCLUDE FURNISHING OF LABOR, EQUIPMENT, MATERIALS, INSTALLATION AND PROGRAMMING OF NEW DEVICES AND WIRING. INCLUDE NAC POWER SUPPLIES (AS NECESSARY), MANUAL PULL STATIONS, AUTOMATIC SMOKE DETECTORS, NOTIFICATION APPLIANCES, WIRING, TERMINATIONS, ELECTRICAL BOXES AND ALL OTHER NECESSARY MATERIALS FOR A COMPLETE OPERATING SYSTEM. EVERY ITEM OF THE FIRE ALARM SYSTEM SHALL BE U.L. LISTED. COORDINATE LOCATIONS AND ELECTRICAL REQUIREMENTS FOR ANY ADDITIONAL POWER SUPPLIES OR NAC PANELS WITH ELECTRICAL CONTRACTOR, TO PROVIDE POWER AS REQUIRED.*
2. *INITIATION DEVICE AND NOTIFICATION APPLIANCE LOCATIONS ARE DIAGRAMMATICALLY INDICATED ON PLANS. EXACT DEVICE AND APPLIANCE QUANTITIES, LOCATIONS, SPECIFICATIONS, ETC. SHALL BE VERIFIED BY FIRE ALARM CONTRACTOR AND VENDOR TO ACCOMODATE ALL APPLICABLE CODE AND STANDARD REQUIREMENTS.*
3. *NO WORK MAY BEGIN ON ANY SEGMENT OF THIS PROJECT UNTIL THE ENGINEER HAS REVIEWED SUBMITTALS FOR CONFORMITY WITH PLANS AND SPECIFICATIONS. FIRE ALARM SYSTEM EQUIPMENT SUBMITTALS SHALL INCLUDE PRODUCT DATA SHEETS, EQUIPMENT WIRING DIAGRAMS, SEQUENCE OF OPERATIONS, VOLTAGE DROP CALCULATIONS, BATTERY CALCULATIONS, O&M MANUALS, OPERATORS MANUAL, PROGRAMMING MANUAL, ENGINEERING INSTALLATION AND MAINTENANCE MANUALS, LICENSES, GUARANTEES AND WARRANTIES.*
4. *LABOR & MATERIALS FOR FIRE ALARM SYSTEM SPECIFIED SHALL BE WARRANTED FREE FROM DEFECTS FOR A PERIOD OF TWELVE (12) MONTHS AFTER SUBSTANTIAL COMPLETION. FIRE ALARM SYSTEM FAILURES DURING THE WARRANTY PERIOD SHALL BE ADJUSTED, REPAIRED, OR REPLACED AT NO CHARGE OR DEDUCTION IN SERVICE TO THE OWNER. THE CONTRACTOR SHALL RESPOND TO THE OWNER'S REQUEST FOR WARRANTY SERVICE WITHIN 24 HOURS DURING CUSTOMARY BUSINESS HOURS.*

PRODUCTS:

1. *AUDIBLE ALARM NOTIFICATION SHALL BE BY TONE SIGNALS ON AUDIBLE ANNUNCIATION DEVICES.*
2. *MANUAL PULL STATIONS SHALL BE ADDRESSABLE, DOUBLE-ACTION TYPE WITH MOLDED, RAISED-LETTER OPERATING INSTRUCTIONS OF CONTRASTING COLOR.*
3. *VISIBLE ONLY ANNUNCIATION DEVICES (STROBES) SHALL COMPLY WITH UL 1971, CONSIST OF A XENON FLASH TUBE AND ASSOCIATED LENS/REFLECTOR SYSTEM WITH DIFFERENT FIELD SELECTABLE FLASH INTENSITIES OF 15, 75 AND 110 CD.*
4. *AUDIBLE/VISIBLE DEVICES (HORN/STROBES) SHALL COMPLY WITH UL 1971 AND AT A MINIMUM SHALL HAVE HIGH AND LOW VOLUME SETTINGS AVAILABLE. AT 1.0W TAP, THE SPEAKER SHALL HAVE MINIMUM UL RATED SOUND PRESSURE OF 84 DBA AT 10'-0".*
5. *STROBES SHALL BE SYNCHRONIZED WHERE MULTIPLE STROBES ARE LOCATED WITHIN A SINGLE ROOM, CORRIDOR, ETC.*
6. *ACTIVATION OF A SUPERVISORY DEVICE SHALL ACTIVATE AN AUDIBLE SIGNAL AND ILLUMINATE AN LED AT THE CONTROL PANEL AND ANNUNCIATIATOR AND TRANSMIT THE ALARM TO THE SUPERVISING STATION.*
7. *SMOKE DETECTORS WITHIN APARTMENTS SHALL BE EQUIVALENT TO GENTEX MODEL 9120, 120V, TANDEM WIRED, SINGLE STATION SMOKE DETECTOR WITH BATTERY BACKUP. DETECTORS IN ADA ROOMS SHALL BE EQUIVALENT TO GENTEX 7109CS-C WITH INTEGRAL VISUAL SIGNAL AND AUXILLIARY CONTACTS. AUXILLIARY VISUAL ALARMS SHALL BE EQUIVALENT TO GXS120177WW. ALL DETECTORS SHALL BE INTERLOCKED TO IGNORE ALARM IF ANY DETECTOR IS IN ALARM.*
8. *CENTRAL SYSTEM SMOKE DETECTORS SHALL BE PHOTOELECTRIC TYPE COMPATIBLE WITH FIRE ALARM CONTROL PANEL AND SHALL BE LISTED FOR RELEASING SERVICE WHERE APPLICABLE. FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTER-CONNECTION WIRING.*

EXECUTION:

1. *FIRE ALARM SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NFPA STANDARDS, MANUFACTURER'S INSTALLATION RECOMMENDATIONS BY FACTORY AUTHORIZED AND TRAINED INSTALLERS WHO ARE QUALIFIED AND EXPERIENCED IN THE INSTALLATION, INSPECTION AND TESTING OF FIRE ALARM SYSTEMS WITH A MINIMUM OF 3 YEARS EXPERIENCE.*
2. *FIRE ALARM SYSTEM INSTALLATION SHALL BE PROVIDED WITH FACTORY START-UP SERVICES. THE INSTALLING CONTRACTOR SHALL COMPLETE ALL OF THE WORK REQUIRED TO INSTALL THE EQUIPMENT AND MAKE THE REQUIRED PRE-START-UP CONNECTIONS PRIOR TO THE ARRIVAL OF THE START-UP TECHNICIAN TO THE SITE. THE INSTALLING CONTRACTOR SHALL PROVIDE THE REQUIRED LABOR AND SERVICES TO ASSIST THE FACTORY START-UP TECHNICIAN IN THE START-UP OF THIS EQUIPMENT. PERFORM OPERATIONAL SYSTEM TESTS UPON COMPLETION OF INSTALLATION. CORRECT DEFICIENCIES AND RETEST PRIOR TO OWNER OCCUPATION OF BUILDING. PROVIDE A COMPLETED NFPA 72 RECORD OF COMPLETION FORM TO THE OWNER AND AUTHORITY HAVING JURISDICTION.*
3. *PROVIDE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO DEMONSTRATE AND TRAIN OWNER'S PERSONNEL IN PROCEDURES AND SCHEDULES INVOLVED IN OPERATING, TROUBLESHOOTING, SERVICING AND PREVENTIVE MAINTENANCE OF THE SYSTEM.*
4. *INSTALLATION SHALL MEET THE REQUIREMENTS OF 2015 IBC, 2015 IFC, 2014 NFPA 70 (NEC) AND THE LATEST EDITION OF NFPA 72 AND LOCAL AUTHORITIES HAVING JURISDICTION.*
5. *ALL FIRE ALARM SYSTEM WIRING SHALL BE INSTALLED COMPLETELY IN EMT CONDUIT WHERE EXPOSED. PAINT FIRE ALARM JUNCTION BOXES RED.*
6. *COORDINATE WITH MECHANICAL CONTRACTOR FOR SMOKE DAMPER ACTUATION REQUIREMENTS*

FIRE ALARM SYMBOLS:

(P)$_{SV}$	*CEILING MOUNTED AUDIO/VISUAL FIRE ALARM ANNUNCIATING DEVICE*
(P)$_{CO}$	*WALL/CEILING MOUNTED CARBON MONOXIDE DETECTOR MONITORED BY FIRE ALARM SYSTEM*
(P)$_{HD}$	*CEILING MOUNTED HEAT DETECTOR*
(P)$_{SD}$	*CEILING MOUNTED SMOKE DETECTOR*
(P)$_{SHD}$	*CEILING MOUNTED COMBINATION SMOKE/HEAT DETECTOR*
(P)$_{DD}$	*DUCT MOUNTED SMOKE DETECTOR WITH SAMPLING TUBE. INSTALL AT RETURN DUCT UNLESS OTHERWISE NOTED*
(P)$^{DD}_{FS}$	*DUCT MOUNTED SMOKE DETECTOR WITH SAMPLING TUBE, FOR CONTROL OF FIRE/SMOKE DAMPER. REFER TO PLAN NOTE FOR DETAILS*
FACP	*FIRE ALARM SYSTEM CONTROL PANEL*
(F)$_{AV}$	*WALL MOUNTED AUDIO/VISUAL FIRE ALARM ANNUNCIATING DEVICE*
(F)$_{DH}$	*FIRE ALARM DOOR HOLDER*
(F)$_{FA}$	*REMOTE ANNUNCIATOR PANEL*
(F)$_{FB}$	*FIRE ALARM BELL*
(F)$_{FS}$	*FLOW SWITCH*
(F)$_{PE}$	*FIRE ALARM SYSTEM POWER EXTENDER*
(F)$_{PS}$	*MANUAL PULL STATION*
(F)$_{RT}$	*DUCT SMOKE DETECTOR REMOTE TEST SWITCH*
(F)$_{TS}$	*TAMPER SWITCH*
(F)$_{V}$	*WALL MOUNTED VISUAL FIRE ALARM ANNUNCIATING DEVICE*

GENERAL ELECTRICAL NOTES:

1. *THESE GENERAL ELECTRICAL NOTES APPLY TO ALL ELECTRICAL SHEETS.*
2. *CONTRACTOR SHALL OBTAIN COPY OF STAYBRIDGE STANDARDS. ALL WORK SHALL COMPLY WITH HOTEL STANDARDS AND SPECIFICATIONS, UNLESS APPROVED OTHERWISE BY OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE. CONTRACTOR SHALL NOTIFY ARCHITECT AND DESIGN ENGINEER IF DISCREPANCIES ARE FOUND BETWEEN HOTEL STANDARDS AND CONSTRUCTION DOCUMENTS.*
3. *ALL WORK SHALL COMPLY WITH 2018 IECC AND 2020 NATIONAL ELECTRICAL CODE WITH ALL AMENDMENTS, PER LOCAL AUTHORITY HAVING JURISDICTION.*
4. *PLANS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS FOR DIMENSIONS. FIELD VERIFY DIMENSIONS.*
5. *COOPERATE CLOSELY WITH ALL OTHER TRADES TO EXPEDITE CONSTRUCTION AND AVOID INTERFERENCES AND CONFLICTS. COORDINATE LOCATIONS OF CONDUITS, RACEWAYS, SUPPORTS, ETC. WITH ALL TRADES PRIOR TO ROUGH-IN. YIELD RIGHT OF WAY TO SYSTEMS REQUIRED TO BE INSTALLED AT A SLOPE.*
6. *PROVIDE METAL INSULATION BARRIER AROUND ALL RECESSED LIGHT FIXTURES INSTALLED IN CEILINGS WITH INSULATION THAT COULD BE IN DIRECT CONTACT WITH LIGHT FIXTURE. BARRIER SHALL BE EQUAL TO PRODUCT MANUFACTURED BY E.Z. BARRIER. BARRIER SHALL MAINTAIN 3" CLEARANCE BETWEEN INSULATION AND THE LIGHT FIXTURE.*
7. *COORDINATE REQUIRED CLEARANCES ABOUT AND ABOVE ELECTRICAL EQUIPMENT WITH PLUMBING, HVAC AND OTHER TRADES TO KEEP DUCTWORK, PIPING, ETC. FROM BEING INSTALLED ABOVE ELECTRICAL EQUIPMENT.*
8. *COORDINATE LIGHT FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS. COORDINATE LOCATIONS OF WALL MOUNTED LIGHT FIXTURES WITH ARCHITECTURAL INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.*
9. *COORDINATE WALL MOUNTED SWITCH, RECEPTACLE, TELEPHONE, DATA, AND OTHER ELECTRICAL SYSTEM DEVICE LOCATIONS WITH ARCHITECTURAL INTERIOR AND MILLWORK ELEVATION DRAWINGS PRIOR TO ROUGH-IN. ALL ROUGH-IN LOCATIONS SHALL BE APPROVED BY ARCHITECT.*
10. *COMMUNICATIONS OUTLETS/DEVICES (DATA AND TELEPHONE), WALL PLATES, AND ASSOCIATED PLENUM RATED WIRING SHALL BE SUPPLIED AND INSTALLED BY OTHERS UNDER A SEPARATE CONTRACT WITH THE OWNER UNLESS NOTED OTHERWISE. BOX AND CONDUIT SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR.*
11. *ALL HVAC EQUIPMENT THERMOSTATS AND SENSORS AND ASSOCIATED WIRING SHALL BE FURNISHED AND INSTALLED BY THE HVAC CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE JUNCTION BOX WITH 0.75" CONDUIT TO ACCESSIBLE CEILING SPACE AT FINISHED AREAS, OR IN STRUCTURE AT UNFINISHED AREAS. REFER TO MECHANICAL DRAWINGS AND COORDINATE WITH HVAC CONTRACTOR FOR LOCATIONS. CONDUIT STUBS SHALL BE TERMINATED WITH INSULATING BUSHINGS.*
13. *INSTALL RECEPTACLES ADJACENT TO PHONE, DATA, TV, ETC. OUTLETS WHERE SHOWN IN SAME LOCATION.*
14. *ALL BRANCH CIRCUITS OR FEEDERS SHALL BE INSTALLED WITH AN EQUIPMENT GROUNDING CONDUCTOR ROUTED WITH THEM.*
15. *PROVIDE PIPING CURBS AT ALL CONDUIT PENETRATIONS OF ROOF. INSTALL IN ACCORDANCE WITH ROOFING SYSTEM MANUFACTURER'S REQUIREMENTS.*
16. *ALL LIGHT SWITCHES, FIRE ALARM SYSTEM PULL STATIONS, THERMOSTATS SHALL BE INSTALLED WITHIN 12" OF THE END OF A WALL OR DOOR OPENING. DO NOT INSTALL IN HIGHLY VISIBLE AREAS, I.I.E. CENTERS OF WALLS, PRIOR TO INSTALLATION AT QUESTIONABLE LOCATIONS, CONTACT THE ARCHITECT TO OBTAIN EXACT INSTALLATION LOCATIONS. ALL ROUGH-IN LOCATIONS SHALL BE APPROVED BY ARCHITECT.*
17. *COORDINATE WITH TELEPHONE, DATA, CABLE TELEVISION, AND OTHER ASSOCIATED VENDORS TO ESTABLISH EXACT ROUGH-IN LOCATIONS FOR ALL DEVICES.*
18. *PROVIDE ALL ACCESSORIES, COMPONENTS, ETC. REQUIRED FOR COMPLETE INSTALLATION OF SPECIFIED EQUIPMENT.*
19. *ALL CONDUCTORS SHALL BE COPPER UNLESS SPECIFICALLY NOTED OTHERWISE.*
20. *MAINTAIN ALL CLEARANCES REQUIRED FOR EQUIPMENT. COORDINATE WITH ALL CONTRACTORS, SUCH THAT NO ROUTE PIPING, DUCTWORK, ETC. IS INSTALLED ABOVE ELECTRICAL PANELS.*
21. *DRAWINGS REPRESENT FINAL RESULT. REMOVE, RELOCATE, MODIFY EXISTING EQUIPMENT, FIXTURES, WIRING, CONDUIT, ETC. AS REQUIRED. FIELD VERIFY EXISTING CONDITIONS AND EXACT REQUIREMENTS.*
22. *THE CONTRACTOR SHALL INCLUDE IN BID THE COSTS TO CUT, PATCH AND REPAIR EXISTING WALLS, FLOORS AND CEILING CONSTRUCTION AS REQUIRED TO INSTALL EQUIPMENT, CONDUIT, ETC.*
23. *SEAL ALL PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES AS NECESSARY TO RESTORE FIRE-RESISTANCE RATING OF ASSEMBLY. REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR RATED ASSEMBLIES, FIRESTOPPING MATERIALS AND REQUIREMENTS.*
24. *REFER TO ARCHITECTURAL PLANS FOR WALLS/PARTITIONS WITH STC RATING AND FIRE-RATINGS. ALL FIRE-RATED PARTITIONS AND/OR ROOMS REQUIRED TO HAVE AN STC RATING (IE MEETING ROOMS, GUEST ROOMS AND ETC.) SHALL HAVE ELECTRICAL BOX PADS ON ALL ELECTRICAL BOXES AS FOLLOWS:*
   - *A) AT ALL NON-RATED WALLS WITH STC RATING, PROVIDE LOWRY'S ELECTRICAL BOX PAD AS MANUFACTURED BY HARRY A. LOWRY & ASSOCIATES; SUN VALLEY, CA.*
   - *B) AT FIRE-RATED WALLS PROVIDE:*
     1. *FIRE RATED FSP FIRESTOP PUTTY PADS AS MANUFACTURED BY HEVI-DUTI NELSON; TULSA, OK. PHONE: 510-672-7523.*
     2. *FIRESTOPPING GASKET MOUNTED TO THE BACK SIDE OF COVERPLATES UNDER THE NAME OF BIO FIRESHIELD AS MANUFACTURED BY RECTORSEAL; HOUSTON, TX. PHONE: 800-231-3345.*
   - *C) APPLY PADS TO BACK AND SIDES OF BOXES FOR TOTAL ENCAPSULATION OF THE BOX.*
   - *D) ELECTRICAL BOXES IN OPPOSITE SIDES OF WALLS SHALL NOT BE INSTALLED BACK TO BACK, AND SHALL NOT BE INSTALLED IN SAME STUD CAVITY. IN ALL INSTANCES, BOXES SHALL BE A MINIMUM OF 8" APART. WHERE NECESSARY TO MEET THIS REQUIREMENT, INSTALL ADDITIONAL STUD AND/OR BLOCKING BETWEEN STANDARD STUDS.*
25. *CONTRACTOR SHALL SUBMIT ALL FIRE-STOPPING MATERIALS FOR REVIEW AND APPROVAL. PROVIDE COMPLETE WITH ALL LITERATURE AND SPECIFICATION INFORMATION TO CLEARLY SHOW COMPLIANCE WITH SPECIFICATIONS AND BUILDING CODES FOR INTENDED APPLICATION. REFER TO SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS.*
26. *REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.*

ELEC. EQUIPMENT SYMBOLS:

	DISTRIBUTION, FEEDER, OR POWER PANEL
	LIGHTING AND POWER PANELBOARD
	ELECTRICAL EQUIPMENT, SEE SCHEDULES FOR TAGGED EQUIPMENT
	DISCONNECT SWITCH

RECEPTACLE SYMBOLS:

	SIMPLEX RECEPTACLE; 2P, 3W, 20A, 125V
	DUPLEX RECEPTACLE; 2P, 3W, 20A, 125V
42"	*DUPLEX RECEPTACLE; MOUNTED @ 42" ABOVE FINISH FLOOR*
C	*DUPLEX RECEPTACLE; INSTALLED FLUSH WITH CEILING*
AC	*DUPLEX RECEPTACLE; MOUNTED 6" ABOVE COUNTERTOP BACKSPLASH*
GFI	*DUPLEX RECEPTACLE W/ GROUND FAULT INTERRUPTER*
WP	*DUPLEX RECEPTACLE; WEATHERPROOF*
	DOUBLE DUPLEX RECEPTACLE WITH COMMON FACEPLATE
	RECEPTACLE MOUNTED IN FLUSH FLOOR BOX
	RECEPTACLE MOUNTED IN FS TYPE BOX ON RIGID CONDUIT
NEMA	*SIMPLEX RECEPTACLE; NEMA CONFIGURATION AS INDICATED*

TELECOM NOTES:

- ▽ **TELEPHONE OR DATA OUTLET*
- ▽$_{WAP}$ **WIRELESS ACCESS POINT*

**THESE DEVICES REQUIRE 4" SQUARE JUNCTION BOX WITH 1" CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE. WHERE CABLE TRAY IS INSTALLED, INSTALL CONDUIT TO NEAR CABLE TRAY. PROVIDE PULL STRING AND INSULATING BUSHING UNLESS INDICATED OTHERWISE IN PLANS OR SPECIFICATIONS.*

TELECOM NOTES:

1. *ELECTRICAL DRAWINGS REFLECT ROUGH-IN REQUIREMENTS FOR TELECOMMUNICATIONS, AUDIO/VISUAL, AND SECURITY SYSTEMS. REFER TO TECHNICAL SPECIFICATIONS FOR ACTUAL SYSTEM REQUIREMENTS.*
2. *IN GENERAL, CABLING FOR THESE SYSTEMS SHALL BE INSTALLED AS AN OPEN SYSTEM WITH CONDUIT REQUIRED BETWEEN DEVICES AND CORRIDOR CEILINGS.*
3. *UNLESS NOTED OTHERWISE, DEVICES/COMPONENTS RECESSED IN WALLS SHALL EACH BE INSTALLED IN A SINGLE-GANG BOX WITH 0.75" CONDUIT. CONDUIT SHALL TERMINATE ABOVE NEAREST ACCESSIBLE CEILING OR INACCESSIBLE CORRIDOR CEILING AS APPLICABLE.*
4. *UNLESS NOTED OTHERWISE, DEVICES RECESSED IN CEILINGS OR INSTALLED AT EXPOSED STRUCTURE SHALL NOT REQUIRE ROUGH-IN.*
5. *PROVIDE SLEEVES THROUGH WALL CONSTRUCTION AS INDICATED ON PLANS AND AS REQUIRED FOR COMPLETE AND CONTINUOUS PATH FROM ALL DEVICES/COMPONENTS TO ASSOCIATED MDF, IDF, AND/OR HEAD-END EQUIPMENT LOCATION.*
6. *COORDINATE WITH SYSTEM INSTALLERS FOR INSTALLATION OF SYSTEM COMPONENTS PRIOR INSTALLATION OF INACCESSIBLE CEILING CONSTRUCTION.*
7. *ELECTRICAL CONTRACTOR SHALL PROVIDE ROUGH-IN BOXES AND CONDUITS TO ALLOW FOR INSTALLATION OF DEVICES, CABLING, EQUIPMENT, ETC. BY COMMUNICATIONS CONTRACTOR.*
8. *CONDUIT REQUIREMENTS FOR GUEST ROOMS ONLY:*
   - *A. PROVIDE DEDICATED CONDUIT FROM DEVICE ROUGH-IN BOX TO ACCESSIBLE CEILING SPACE PRIOR TO INSTALLATION OF GYPSUM BOARD, ETC. CONDUIT IS NOT REQUIRED TO ROUTE TO MDF, IDF, OR ACCOUSTICAL CEILING SPACE.*
   - *B. PROVIDE ALL CONDUITS AND SLEEVES EXCEEDING 6' IN LENGTH OR CONTAINING ONE OR MORE BENDS WITH PULL STRING.*
   - *C. PROVIDE CONDUIT SLEEVES THROUGH WALL ASSEMBLIES AS INDICATED ON PLANS.*
   - *D. IN ADDITION TO CONDUIT SLEEVES INDICATED ON PLANS, PROVIDE QUANTITY (10) 2" CONDUIT SLEEVES FOR INSTALLATION, AS REQUIRED, UNDER DIRECTION OF COMMUNICATIONS CONTRACTOR.*
   - *E. PROVIDE WATERTIGHT SLEEVES, AS REQUIRED, FOR ALL CONDUITS AND CONDUIT SLEEVES.*
9. *UNLESS NOTED OTHERWISE, DEVICES LISTED BELOW ARE SHOWN FOR REFERENCE ONLY AND SHALL RECEIVE NO ROUGH-IN WITH ALL WORK PROVIDED BY COMMUNICATIONS CONTRACTOR:*
   - *A. INTERIOR, CEILING-MOUNTED SPEAKERS*
   - *B. INTERIOR SECURITY CAMERAS*
   - *C. WIRELESS ACCESS POINTS*
11. *THE FOLLOWING DEVICES ARE SHOWN FOR REFERENCE ONLY AND SHALL RECEIVE NO ROUGH-IN PROVIDE ALL VOICE, DATA, CABLE TELEVISION, AND AUDIO/VISUAL DEVICES WITH SINGLE-GANG BOX AND 0.75" CONDUIT TO CEILING SPACE, EXCEPT AS LISTED BELOW:*
   - *A. COMMUNICATION DEVICES: TELEPHONE, DATA, CABLE TELEVISION*
   - *B. EXTERIOR: SURFACE-MOUNTED SPEAKERS - TERMINATE CONDUITS ABOVE ADJACENT CEILING*
   - *C. SURFACE-MOUNTED SPEAKERS AT POOL - TERMINATE CONDUITS AT FITNESS ROOM*
   - *D. STAIRWELL CAMERAS - TERMINATE CONDUITS ABOVE NEAREST CEILING (OUTSIDE OF STAIRWELL)*
   - *E. EXTERIOR ACCESS CONTROL DEVICES - TERMINATE CONDUITS ABOVE ADJACENT CEILING*
12. *PROVIDE ROUGH-IN FOR ALL DEVICES AS SINGLE-GANG BOX WITH 0.75" CONDUIT TO CEILING SPACE, EXCEPT AS LISTED BELOW:*
   - *A. RECEPTION DESK DATA DEVICES (EACH OF QTY. 4) - PROVIDE 2-GANG BOX WITH 1.25" CONDUIT.*
13. *PROVIDE PULL-STRING FOR ANY SLEEVES WITH BENDS/ELBOWS OR EXCEEDING 6" IN LENGTH.*

ELECTRICAL STUDIES AND CALCULATION GENERAL NOTES:

1. *CONTRACTOR AND EQUIPMENT SUPPLIER SHALL PERFORM COORDINATION STUDY AND SHORT CIRCUIT ANALYSIS CALCULATIONS FOR PORTIONS OF NORMAL AND EMERGENCY/STANDBY POWER SYSTEM COMPRISED OF FEEDERS SERVED BY CIRCUIT BREAKERS WITH 60-AMP RATING OR LARGER.*
2. *SUBMIT DOCUMENTATION OF STUDY AND CALCULATIONS WITH ELECTRICAL SUBMITTALS.*
3. *CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ACTUAL AVAILABLE FAULT CURRENT FROM UTILITY COMPANY.*
4. *WHERE STUDY AND/OR CALCULATIONS RESULT IN DIFFERENT AND/OR HIGHER RATINGS THAN SPECIFIED, SAID RATING ADJUSTMENTS SHALL BE PROVIDED AT NO ADDITIONAL COST.*

EMERGENCY RESPONDER RADIO COVERAGE SYSTEM GENERAL NOTES:

1. *CONTRACTOR SHALL PROVIDE DESIGN-BUILD EMERGENCY RESPONDER RADIO COVERAGE SYSTEM PER FBC 403.4.5. AND PER REQUIREMENTS OF LOCAL AHJ.*
2. *REFER TO ARCHITECTURAL DOCUMENTS FOR DEFINITION OF ALLOWANCES THAT SHALL BE CARRIED FOR TESTING AND FOR COMPLETE SYSTEM COSTS.*
3. *EXACT SYSTEM REQUIREMENTS SHALL BE DETERMINED VIA TESTING WHEN BUILDING APPROACHES COMPLETION. INSTALLING VENDOR SHALL COORDINATE WITH OTHER TRADES FOR ANY REQUIRED POWER, CABLING PATCHWAYS, ETC. THAT MAY BE REQUIRED.*
4. *SYSTEM SHALL INCLUDE BI-DIRECTIONAL AMPLIFIER AND DISTRIBUTED ANTENNA SYSTEMS. DESIGN SHALL INCLUDE ALL DESIGN DOCUMENTS, CALCULATIONS, DRAWINGS, ETC. REQUIRED FOR DOCUMENTATION OF SYSTEM INTENT FOR REVIEW BY ENGINEER AND AUTHORITIES HAVING JURISDICTION.*
5. *PROVIDE SYSTEM COMPLETE WITH ALL EQUIPMENT, COMPONENTS, WIRING, ETC. REQUIRED FOR COMPLETE AND OPERATIONAL SYSTEM.*
6. *SYSTEM SHALL COMPLY WITH REQUIREMENTS OF ASSOCIATED CODES ADOPTED BY LOCAL GOVERNING BODY AND AUTHORITIES HAVING JURISDICTION.*
7. *ALL SYSTEM WIRING/CABLING SHALL BE IN CONDUIT. CONDUIT SHALL BE PROVIDED WITH FIRE WRAPPING EQUAL TO STI E-WRAP. WRAP SHALL BE PROVIDED FOR 2-HOUR RATING AS REQUIRED PER CODE AND MANUFACTURER'S GUIDELINES.*
8. *BI-DIRECTIONAL AMPLIFIER AND DISTRIBUTED ANTENNA SYSTEMS SUBMITTALS SHALL INCLUDE PRODUCT DATA SHEETS, SYSTEM PLANS, EQUIPMENT WIRING DIAGRAMS, SEQUENCE OF OPERATIONS, CALCULATIONS, ETC. IN ADDITION TO SUBMITTALS BEING SUBMITTED TO AHJ, SUBMITTALS SHALL BE SUBMITTED TO AUTHORITY HAVING JURISDICTION(AHJ) FOR REVIEW AND APPROVAL. AN APPROVED COPY AS SUBMITTED TO AHJ SHALL ALSO BE SUBMITTED TO A/E.*
9. *BI-DIRECTIONAL AMPLIFIER AND DISTRIBUTED ANTENNA SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND SHALL BE INSTALLED BY PERSONS WHO ARE QUALIFIED AND EXPERIENCED IN THE INSTALLATION, INSPECTION AND TESTING OF SAID SYSTEMS. INSTALLER SHALL HAVE A MINIMUM OF 3 YEARS OF EXPERIENCE. PERFORM OPERATIONAL SYSTEM TESTS UPON COMPLETION OF INSTALLATION. CORRECT DEFICIENCIES AND RETEST PRIOR TO OWNER OCCUPATION OF BUILDING. PROVIDE A COMPLETED NFPA 72 RECORD OF COMPLETION FORM TO THE OWNER AND AUTHORITY HAVING JURISDICTION.*

TWO-WAY COMMUNICATION SYSTEM GENERAL NOTES:

1. *CONTRACTOR SHALL PROVIDE DESIGN-BUILD TWO-WAY COMMUNICATION SYSTEM FOR AREAS OF REFUGE/RESCUE ASSISTANCE. DESIGN SHALL INCLUDE ALL DESIGN DOCUMENTS, CALCULATIONS, DRAWINGS, ETC. REQUIRED FOR DOCUMENTATION OF SYSTEM INTENT FOR REVIEW BY ENGINEER AND AUTHORITIES HAVING JURISDICTION.*
2. *PROVIDE SYSTEM COMPLETE WITH ALL EQUIPMENT, COMPONENTS, SECURITY, CABLING, ETC. REQUIRED FOR COMPLETE AND OPERATIONAL SYSTEM.*
3. *SYSTEM SHALL COMPLY WITH REQUIREMENTS OF SECTION 1009.8 OF THE FBC AND ANY APPLICABLE AMENDMENTS AS ADOPTED BY AUTHORITIES HAVING JURISDICTION.*
4. *ALL SYSTEM WIRING/CABLING SHALL BE IN CONDUIT. CONDUIT SHALL BE PROVIDED WITH FIRE WRAPPING EQUAL TO STI E-WRAP. WRAP SHALL BE PROVIDED FOR 2-HOUR RATING PER MANUFACTURER'S GUIDELINES.*
5. *TWO-WAY COMMUNICATION SYSTEM SUBMITTALS SHALL INCLUDE PRODUCT DATA SHEETS, SYSTEM PLANS, EQUIPMENT WIRING DIAGRAMS, SEQUENCE OF OPERATIONS, CALCULATIONS, ETC. IN ADDITION TO SUBMITTALS BEING SUBMITTED TO A/E, SUBMITTALS SHALL BE SUBMITTED TO AUTHORITY HAVING JURISDICTION(AHJ) FOR REVIEW AND APPROVAL. AN APPROVED COPY AS SUBMITTED TO AHJ SHALL ALSO BE SUBMITTED TO A/E.*
6. *TWO-WAY COMMUNICATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND SHALL BE INSTALLED BY PERSONS WHO ARE QUALIFIED AND EXPERIENCED IN THE INSTALLATION, INSPECTION AND TESTING OF THESE SYSTEMS. INSTALLER SHALL HAVE A MINIMUM OF 3 YEARS OF EXPERIENCE. PERFORM OPERATIONAL SYSTEM TESTS UPON COMPLETION OF INSTALLATION. CORRECT DEFICIENCIES AND RETEST PRIOR TO OWNER OCCUPATION OF BUILDING. PROVIDE A COMPLETED NFPA 72 RECORD OF COMPLETION FORM TO THE OWNER AND AUTHORITY HAVING JURISDICTION.*

LIGHTING CONTROL SYMBOLS:

(OS)$_{OS}$	*CEILING MOUNTED OCCUPANCY SENSOR*
(OS)$_{OS}$	*WALL MOUNTED OCCUPANCY SENSOR*
(D)$_{DL}$	*CEILING MOUNTED DAYLIGHTING CONTROLLER*

LIGHTING SYMBOLS:

	ILLUMINATED EXIT SIGN
	RECESSED CAN LIGHT FIXTURE
	FLUORESCENT LIGHT FIXTURE
NL	*INDICATES UNSWITCHED "NIGHT LIGHT" FIXTURE*
	EMERGENCY LIGHT FIXTURE
X	*FIXTURE TAG. REFER TO CORRESPONDING SCHEDULE FOR TAGGED EQUIPMENT*

SWITCHING DEVICE SYMBOLS:

S	*SINGLE POLE SWITCH*
S_2	*DOUBLE POLE SWITCH*
S_3	*THREE-WAY SWITCH*
S_4	*FOUR-WAY SWITCH*
S_D	*120V DIMMER SWITCH*
S_{ET}	*120V ELECTRONIC TIMER SWITCH*
S_{HOA}	*HAND-OFF-AUTO SELECTOR SWITCH*
S_K	*20AMP, SINGLE POLE, 120/277V, KEY OPERATED SWITCH*
S_{LV}	*LOW VOLTAGE SWITCH*
S_M	*20AMP, MOMENTARY CONTACT, 120/277V SWITCH*
S_{OS}	*20AMP, SINGLE POLE OCCUPANCY SENSOR*

PLUMBING SYMBOLS:

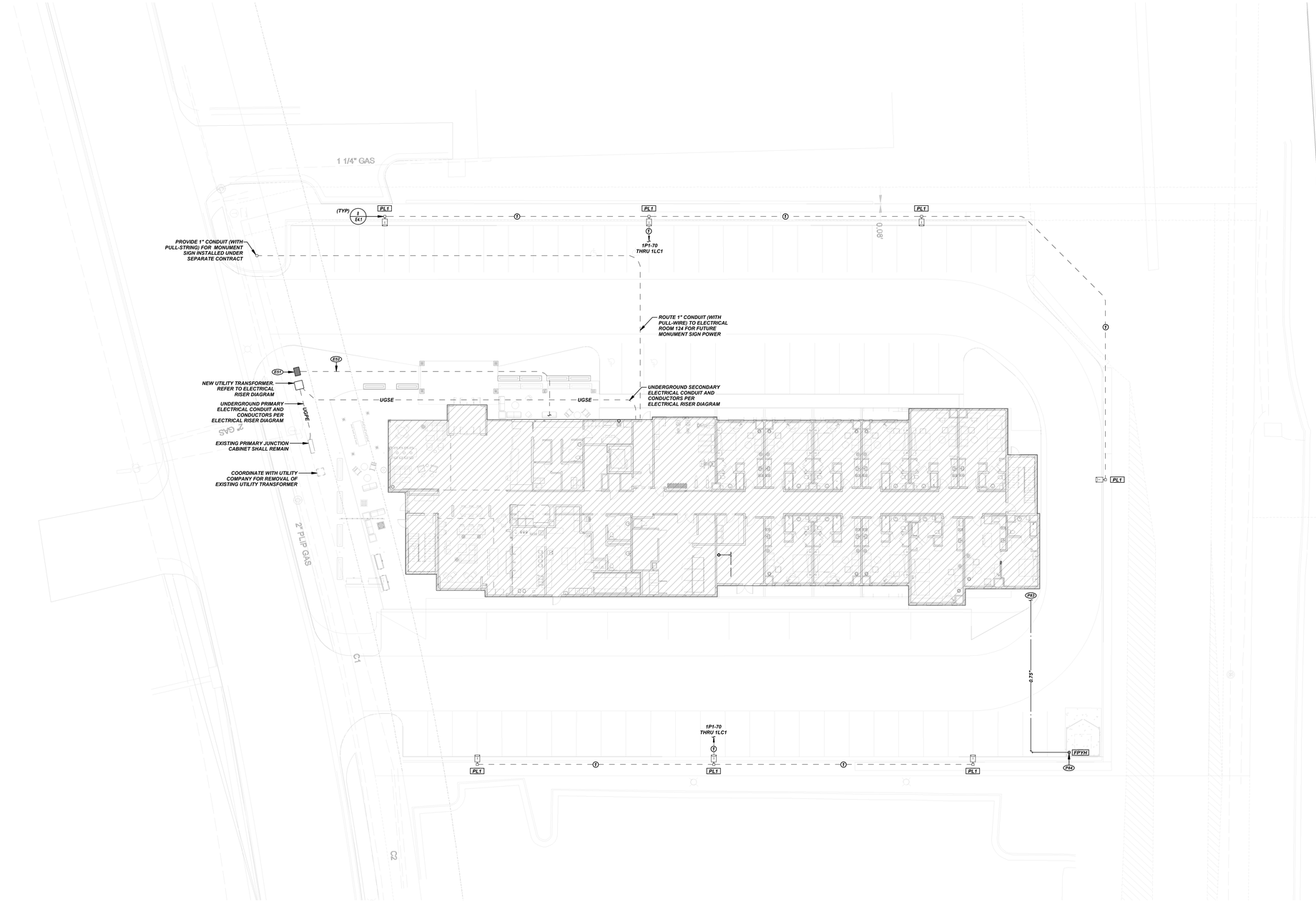
—V—	*PLUMBING VENT PIPING*
-	*DOMESTIC COLD WATER PIPING*
- -	*DOMESTIC HOT WATER PIPING*
- - -	*DOMESTIC HOT WATER RETURN PIPING*
-140° HW- - -	*DOMESTIC 140° HOT WATER PIPING*
- - -	*FIRE SPRINKLER PIPING*
RD	*PRIMARY ROOF DRAIN PIPING*
ORD	*OVERFLOW ROOF DRAIN PIPING*
SAN	*SANITARY SEWER PIPING BELOW GRADE*
SAN	*SANITARY SEWER PIPING ABOVE GRADE*
G	*GAS PIPING*
D	*CONDENSATE PIPING*
CA	*COMPRESSED AIR PIPING*
AV	*ACID VENT PIPING*
AW	*ACID WASTE PIPING*
CO2	*CARBON DIOXIDE PIPING*
C	*COMBUSTION PIPING*
RL/RS	*REFRIGERANT LIQUID AND SUCTION PIPING*
	TEE DOWN PIPE
	TEE UP PIPE
	ELBOW DOWN PIPE
	ELBOW UP PIPE
	ELBOW DOWN PIPE WITH VALVE
	ELBOW UP PIPE WITH VALVE
	BACKFLOW PREVENTER VALVE
	PRESSURE REDUCING VALVE
	SHUT-OFF VALVE
	REDUCER
FFCO	*FINISH FLO

KEYNOTES: (X)

E51	PROVIDE 24X36 2-BOLT, OPEN BOTTOM, HEAVY DUTY PULL BOX EQUIVALENT TO HUBBELL-QUAZITE MODEL PG2436BA24. "COMMUNICATIONS" SHALL BE INSCRIBED ON THE LID. INSTALL TOP OF BOX FLUSH WITH FINISH GRADE. PROVIDE EXTENSION AS REQUIRED TO MATCH CONDUIT BURIAL DEPTH. VERIFY EXACT LOCATION AND COORDINATE ALL REQUIREMENTS WITH SERVICE PROVIDER.
E52	(2) 4" CONDUITS (WITH PULL-WIRE) FROM COMMUNICATIONS BOX TO TELECOM ROOM. REFER TO 1/E2.1 FOR CONTINUATION.
P83	REFER TO M1.1 FOR CONTINUATION.
P84	0.75" COLD WATER UP TO FREEZEPROOF YARD HYDRANT.

CONDUIT & CONDUCTOR SCHEDULE:

1	(2) #10 AND (1) #10 GROUND IN 0.75" CONDUIT



1 MECHANICAL AND ELECTRICAL SITE PLAN
1/16" = 1'-0"

NORTH

5/22/2023 1:25:33 PM

ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record

STATE OF MISSOURI
EDWARD ALLEN DAVIS
NUMBER PE-2004017155
05/22/23
PROFESSIONAL ENGINEER

Certificate of Authority

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SPRINGFIELD, MO 65804

Revisions

No.	Description	Date

ME1.1
MECHANICAL AND ELECTRICAL SITE PLAN

project #: 22-169

date: 5/22/2023 1:25:33 PM

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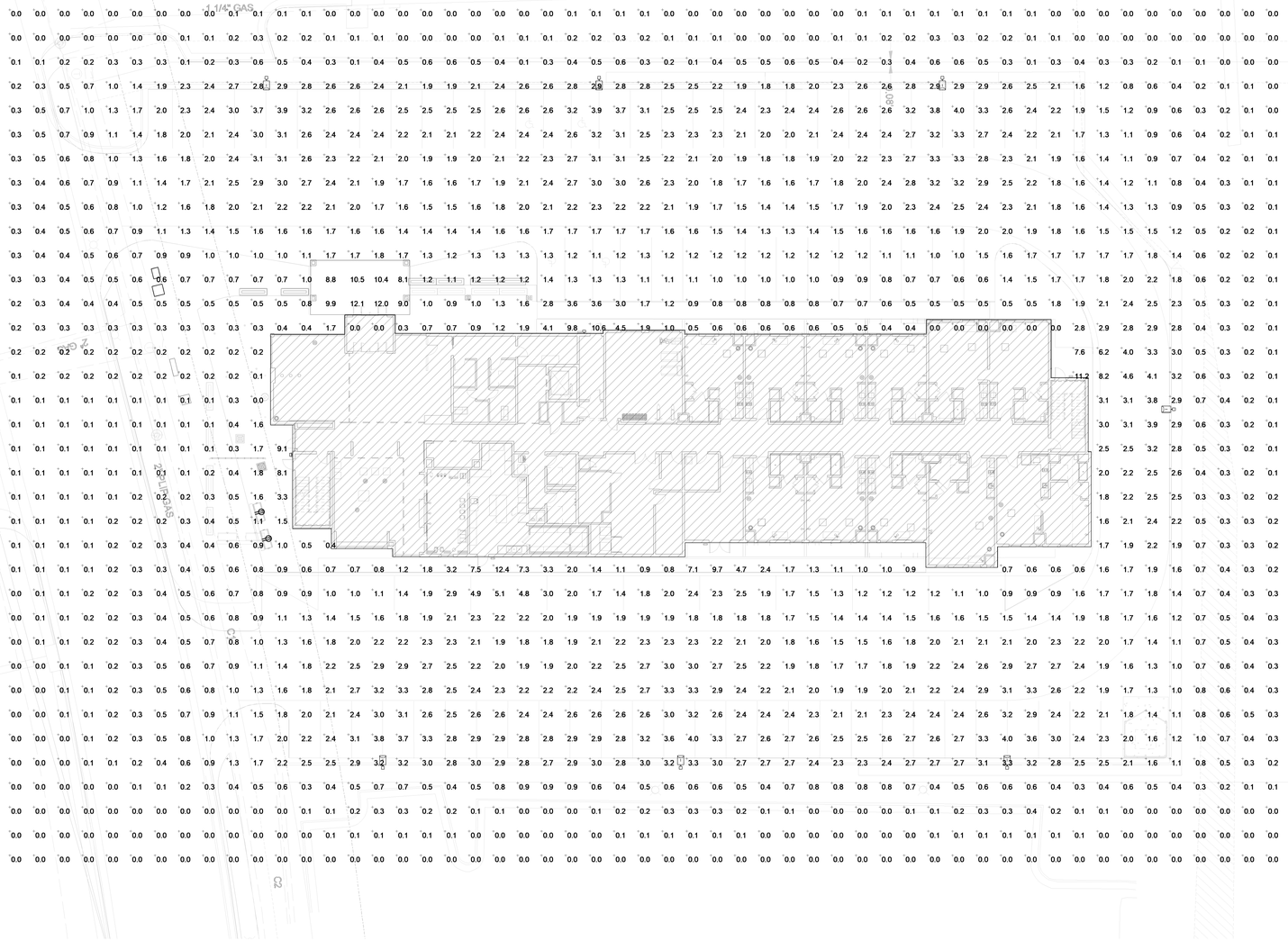

1 SITE PHOTOMETRIC PLAN
1/16" = 1'-0"

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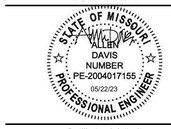

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ME1.2

SITE PHOTOMETRIC PLAN

project #: 22-169

date: 5/22/2023 1:25:38 PM

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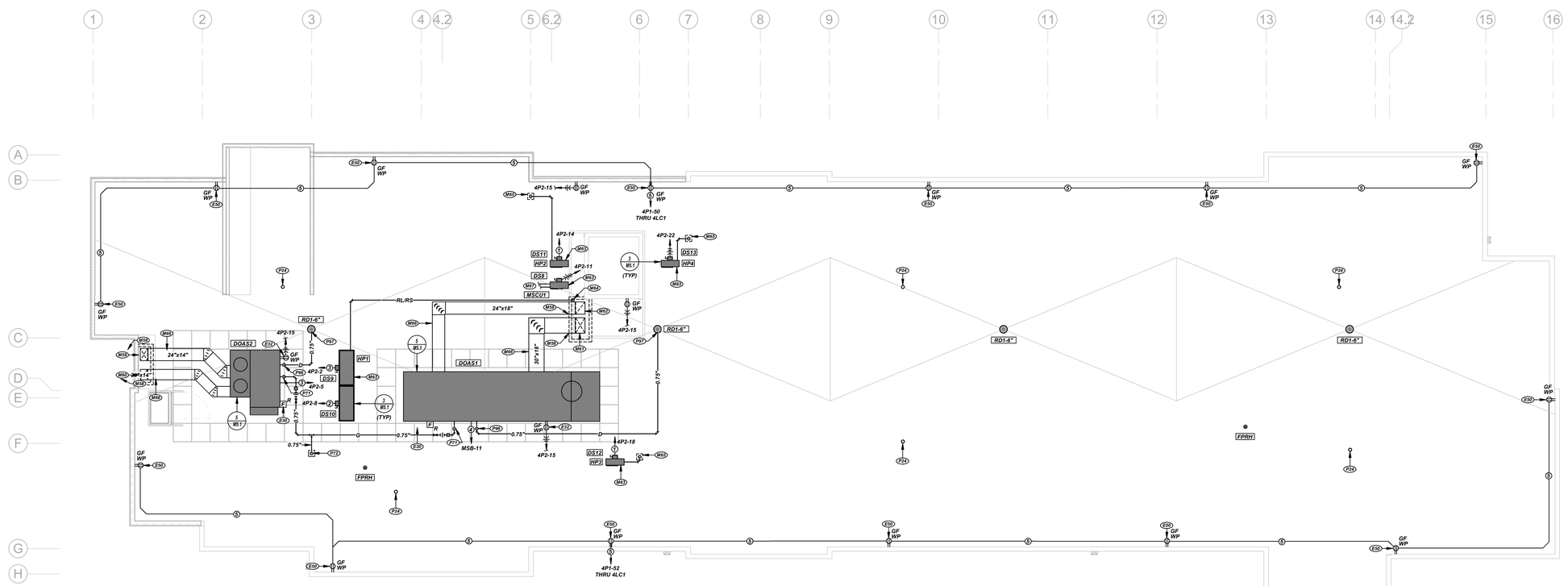
KEYNOTES:

E30	PROVIDE FIRE ALARM RELAY AND ASSOCIATED CIRCUITRY FOR UNIT SHUT DOWN UPON DETECTION OF SMOKE BY ANY SMOKE DETECTOR IN BUILDING. COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR.
E32	FACTORY INSTALLED, FIELD POWERED RECEPTACLE. COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR.
E50	HOLIDAY LIGHT RECEPTACLE.
M58	ROUTE DUCT THROUGH SIDE OF DOGHOUSE, REFER TO CURB DETAIL.
M59	18x18 SUPPLY AIR DUCT DOWN THROUGH ROOF.
M60	16x16 EXHAUST DUCT DOWN THROUGH ROOF.
M61	30x18 SUPPLY AIR DUCT DOWN THROUGH ROOF.
M62	24x18 EXHAUST DUCT DOWN THROUGH ROOF.
M63	INSTALL HEAT PUMP/CONDENSING UNIT ON "BIG FOOT SYSTEMS" OR EQUIVALENT MANUFACTURED GALVANIZED FRAMEWORK SYSTEM TO MAINTAIN BOTTOM OF HEAT PUMP/CONDENSING UNIT AT 12" MINIMUM ABOVE ROOF.
M64	REFRIGERANT PIPING DOWN IN SHAFT.
M65	ROUTE REFRIGERANT LINES DOWN PIPE CURB TO ASSOCIATED AIR HANDLER. PIPE CURB SHALL BE EQUAL TO FAST CURB PC-3 WITH SIDE PENETRATION INTO CURB. PROVIDE SPARE CURB OPENING FOR POWER AND CONTROLS AS REQUIRED.
M66	FIELD VERIFY DUCT ROUTING WITH STRUCTURAL IN THIS AREA. DUCT DIMENSIONS MAY NEED TO BE MODIFIED BASED ON FINAL STRUCTURAL MEMBER SIZE AND LOCATIONS.
M67	ROUTE REFRIGERANT LINES TO ASSOCIATED MINI SPLIT AIR HANDLER.
P24	4" VENT THROUGH ROOF.
P71	0.75" NATURAL GAS TO DOAS UNIT. PROVIDE SHUT-OFF VALVE, UNION, 2.0-PSI TO 7" W.C. PRESSURE REGULATOR, AND DIRT-LEG.
P72	0.75" NATURAL GAS DOWN THROUGH ROOF. PROVIDE 12" HIGH ROOF PIPE CURB ASSEMBLY WITH PIPE CAP. "PATE" #PCA OR EQUIVALENT WITH #PCC CUSTOM CAP AND GRADUATED STEP BOOTS. COORDINATE CURB AND CAP SIZE FOR QUANTITY OF PENETRATIONS REQUIRED TO ACCOMMODATE MECHANICAL PIPING, ELECTRICAL POWER AND CONTROL WIRING CONDUITS.
P96	0.75" TRAPPED CONDENSATE DRAIN TO OUTSIDE AIR UNIT. VERIFY SIZE AND INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
P97	DISCHARGE 0.75" CONDENSATE DRAIN TO ROOF DRAIN.

CONDUIT & CONDUCTOR SCHEDULE:

①	(2) #8 AND (1) #10 GROUND IN 0.75" CONDUIT
②	(3) #6 AND (1) #10 GROUND IN 1" CONDUIT
③	(3) #4 AND (1) #6 GROUND IN 1.25" CONDUIT
④	(3) #1/0 AND (1) #6 GROUND IN 2" CONDUIT
⑤	(2) #10 AND (1) #10 GROUND IN 0.75" CONDUIT



1 MECHANICAL AND ELECTRICAL ROOF PLAN
1/8" = 1'-0"

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Revisions

No.	Description	Date

ME2.1

MECHANICAL AND ELECTRICAL ROOF PLAN

project #: 22-169

date: 5/22/2023 1:25:40 PM

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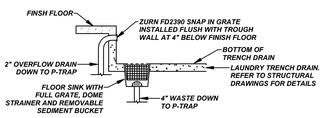
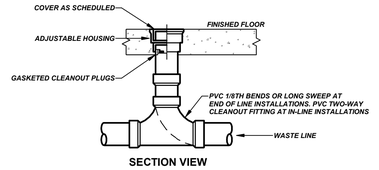
KEYNOTES:

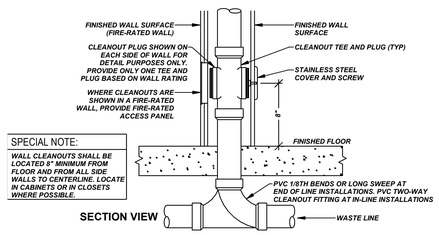
P2	4" WASTE UP TO FINISH GRADE CLEANOUT.
P3	4" WASTE UP TO WATER CLOSET.
P4	2" TRAPPED WASTE UP TO FLOOR DRAIN.
P5	3" TRAPPED WASTE UP TO FLOOR DRAIN.
P6	FIRE SPRINKLER SERVICE UP. DESIGN AND DETAILING BY FIRE SPRINKLER CONTRACTOR/ENGINEER.
P7	2" WASTE UP TO LAVATORY(S)/SINK(S).
P8	4" TRAPPED WASTE UP TO FLOOR SINK.
P9	2" VENT UP.
P10	4" WASTE UP.
P11	2" WASTE UP TO HYDRATION STATION.
P12	3" DOMESTIC WATER SERVICE UP.
P13	REFER TO CIVIL PLANS FOR CONTINUATION.
P15	2" WASTE UP TO LAUNDRY SUPPLY BOX.
P17	3" SUMP PUMP DISCHARGE UP WITH CHECK VALVE.
P18	3" SUMP PUMP DISCHARGE DOWN TO SUMP PUMP.
P19	24" DIAMETER, 36" DEEP PRE-FORMED BASIN.
P20	3" WASTE UP.
P47	6" PRIMARY ROOF DRAIN LEADER UP.
P48	4" WASTE UP TO FINISH FLOOR CLEANOUT.
P50	4" WASTE UP TO FINISH WALL CLEANOUT.
P57	2" WASTE UP TO DISH MACHINE.
P58	1.5" VENT UP.
P68	NATURAL GAS SERVICE UP BY UTILITY COMPANY.
P76	0.75" NATURAL GAS UP.
P81	0.75" COLD WATER UP.
P82	REFER TO ME1.1 FOR CONTINUATION.



5 LAUNDRY TROUGH DETAIL
NO SCALE

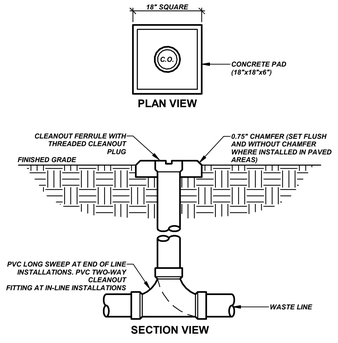


3 FINISH FLOOR CLEANOUT DETAIL
NO SCALE

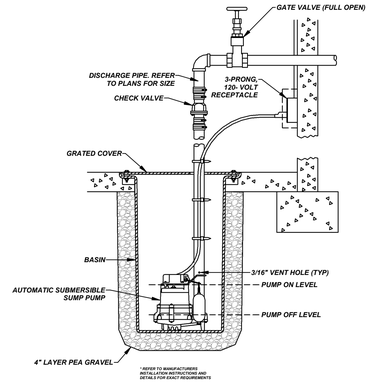


SPECIAL NOTE:
WALL CLEANOUTS SHALL BE LOCATED 8" MINIMUM FROM FLOOR AND FROM ALL SIDE WALLS TO CENTERLINE. LOCATE IN CABINETS OR IN CLOSETS WHERE POSSIBLE.

6 FINISH WALL CLEANOUT DETAIL
NO SCALE



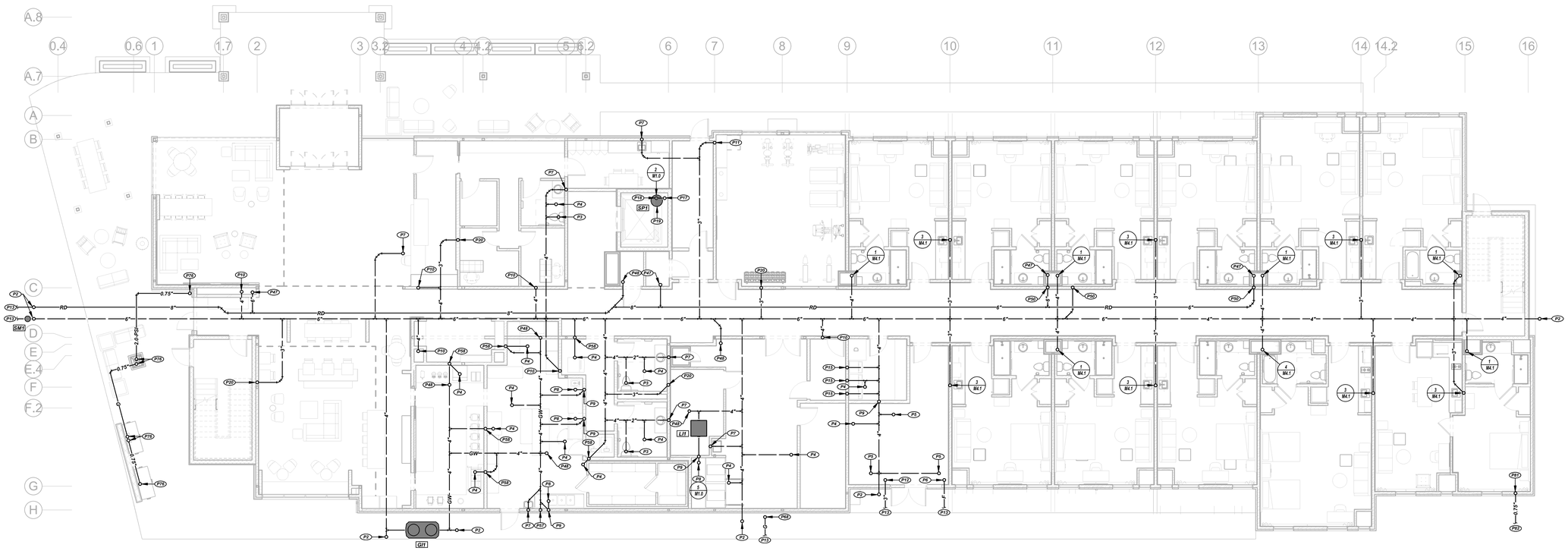
4 FINISH GRADE CLEANOUT DETAIL
NO SCALE



2 SUMP PUMP DETAIL
NO SCALE

SPECIAL NOTE:

WASTE AND ROOF DRAIN PIPING IS DIAGRAMMATIC. COORDINATE WASTE AND ROOF DRAIN PIPE ROUTING WITH FOOTINGS, FOUNDATIONS, OTHER UTILITIES AND EACH OTHER. FIELD COORDINATE ADJUSTMENTS TO PIPING CONFIGURATIONS AND PROVIDE SLEEVES THROUGH FOOTINGS AS REQUIRED.



1 UNDERSLAB PLUMBING PLAN
1/8" = 1'-0"

NORTH

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No.	Description	Date

M1.0
UNDERSLAB PLUMBING PLAN

project #: 22-169

date: 5/22/2023 1:24:33 PM

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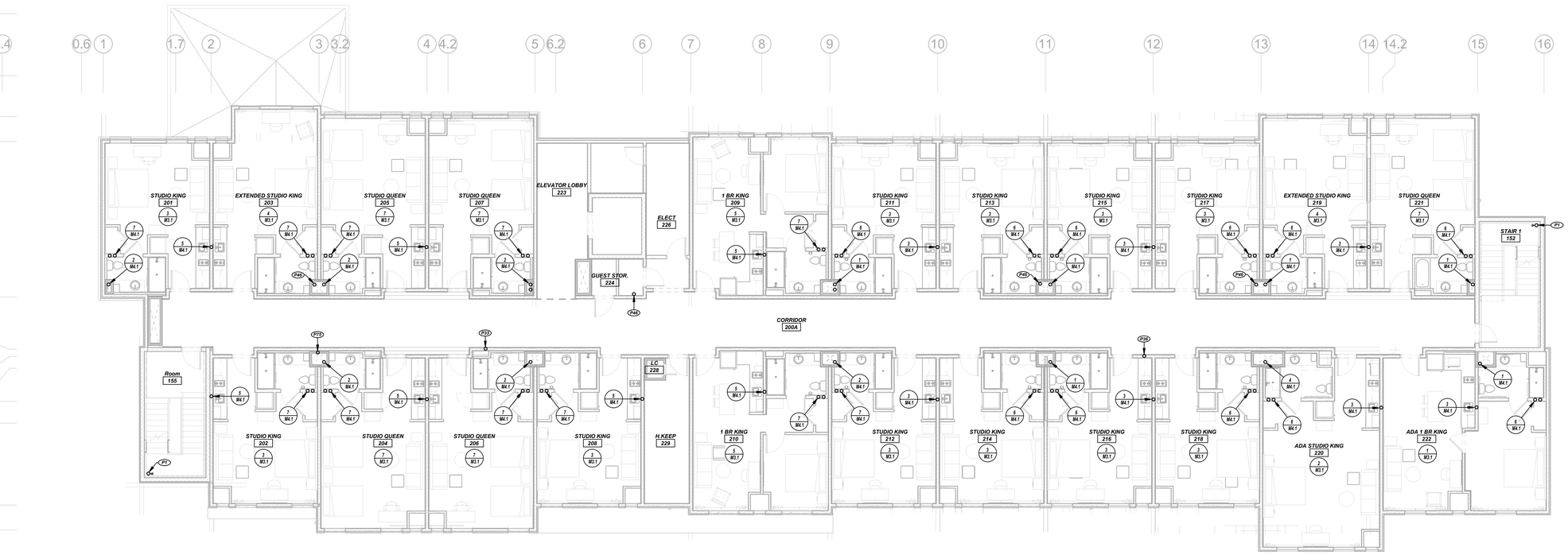

2 SECOND FLOOR PLUMBING PLAN

1/8" = 1'-0"

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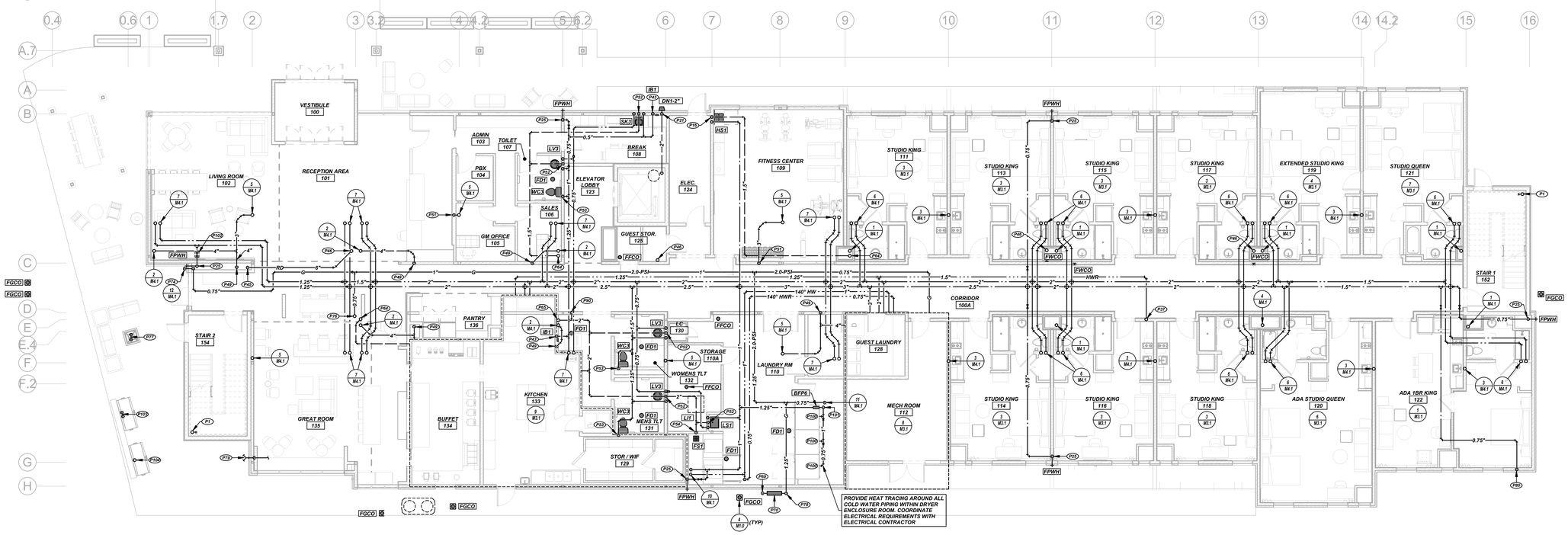

1 FIRST FLOOR PLUMBING PLAN

1/8" = 1'-0"

NORTH

KEYNOTES:

- P1 FIRE DEPARTMENT STANDPIPE PER SPECIFICATIONS. SHOWN FOR REFERENCE ONLY. DESIGN AND DETAILING BY FIRE SPRINKLER CONTRACTOR/ENGINEER.
- P16 1.5" VENT AND 0.5" COLD WATER DOWN TO HYDRATION STATION.
- P21 3" SUMP PUMP DISCHARGE DOWN TO DOWNSPOUT NOZZLE.
- P25 0.75" COLD WATER DOWN TO FREEZEPROOF WALL HYDRANT.
- P33 1.25" HOT WATER RETURN UP AND DOWN.
- P36 1.5" HOT WATER RETURN UP AND DOWN.
- P37 1.5" HOT WATER RETURN UP.
- P43 0.5" COLD WATER DOWN TO ICE MAKER SUPPLY BOX.
- P45 6" PRIMARY ROOF DRAIN LEADER DOWN.
- P46 6" PRIMARY ROOF DRAIN LEADER UP AND DOWN.
- P49 4" WASTE DOWN.
- P51 3" WASTE DOWN.
- P52 1.5" VENT, 0.5" COLD AND HOT WATER DOWN TO LAVATORY/SINK.
- P53 1.25" COLD WATER DOWN TO WATER CLOSET.
- P54 2" VENT DOWN.
- P64 1.5" VENT UP. CONNECT TO VENT RISER ABOVE.
- P65 2" VENT UP. CONNECT TO VENT RISER ABOVE.
- P69 NATURAL GAS SERVICE DOWN BY UTILITY COMPANY.
- P70 NATURAL GAS SERVICE METER AND 2.0-PSI PRESSURE REGULATOR. REFER TO NATURAL GAS LOAD TABLE FOR APPROXIMATE TOTAL CONNECTED LOAD.
- P74 0.75" NATURAL GAS DOWN.
- P75 0.75" NATURAL GAS UP AND DOWN.
- P76 0.75" NATURAL GAS UP.
- P77 0.75" NATURAL GAS UP FROM BELOW, TEE 0.75" NATURAL GAS TO FIRE PIT. PROVIDE SHUT-OFF VALVE, UNION, 2.0-PSI TO 7" W.C. PRESSURE REGULATOR AND DIRT-LEG. COORDINATE WITH ELECTRICAL CONTRACTOR FOR EMERGENCY OFF PUSH BUTTON. 0.75" NATURAL GAS BACK DOWN UNDERGROUND.
- P78 1.25" NATURAL GAS DOWN TO SERVICE METER AND PRESSURE REGULATOR.
- P79 PROPOSED LOCATION FOR FIRE DEPARTMENT CONNECTION. PROVIDE 2.5" SIAMESE CONNECTION. VERIFY LOCATION AND CONNECTION TYPE WITH LOCAL FIRE MARSHAL. SHOWN FOR REFERENCE ONLY.
- P80 0.75" COLD WATER DOWN.
- P90 1.5" VENT DOWN.
- P100 0.75" COLD WATER TO DRYER FIRE SUPPRESSION SYSTEM. PROVIDE FLEXIBLE CONNECTION. VERIFY EXACT CONNECTION REQUIREMENTS WITH DRYER MANUFACTURER.
- P101 1.25" COLD WATER DOWN.
- P102 PROVIDE ACCESS PANEL EQUAL TO OATEY MODEL 34045.
- P103 0.75" NATURAL GAS UP FROM BELOW, TEE 0.75" NATURAL GAS TO BBQ GRILL. PROVIDE SHUT-OFF VALVE, UNION, 2.0-PSI TO 7" W.C. PRESSURE REGULATOR AND DIRT-LEG. COORDINATE WITH ELECTRICAL CONTRACTOR FOR EMERGENCY OFF PUSH BUTTON. 0.75" NATURAL GAS BACK DOWN UNDERGROUND.
- P104 0.75" NATURAL GAS TO BBQ GRILL. PROVIDE SHUT-OFF VALVE, UNION, 2.0-PSI TO 7" W.C. PRESSURE REGULATOR AND DIRT-LEG. COORDINATE WITH ELECTRICAL CONTRACTOR FOR EMERGENCY OFF PUSH BUTTON.

SPECIAL NOTES:

1. PROVIDE ACCESS PANELS FOR VALVES INSTALLED ABOVE INACCESSIBE CEILINGS. CONFIGURE PIPING TO GROUP VALVES WHERE POSSIBLE. ACCESS PANEL SIZES AND LOCATIONS SUBJECT TO APPROVAL BY ARCHITECT.
2. COORDINATE CLOSELY WITH HVAC CONTRACTOR FOR INSTALLATION OF WASTE AND ROOF DRAIN RISERS AND EXHAUST DUCT RISERS WITHIN CORRIDOR CEILING SPACE.
3. PROVIDE FIRE SPRINKLERS AND/OR CONNECTIONS TO INTEGRAL FIRE PROTECTION SYSTEM AT LINEN CHUTE. FIELD COORDINATE EXACT DETAILING AND REQUIREMENTS WITH LINEN CHUTE VENDOR/SUPPLIER.
4. PROVIDE DRY TYPE FIRE PROTECTION AT DRYER ROOM ENCLOSURE.
5. PROVIDE FINISH WALL CLEANOUT AT BASE OF ALL WASTE RISERS/STACKS. LOCATIONS SUBJUECT TO APPROVAL BY ARCHITECT.
6. SANITARY WASTE AND VENT PIPING INSTALLED IN RETURN AIR PLENUMS SHALL BE CAST IRON PER PIPING MATERIAL SCHEDULE.
7. PROVIDE VENTING TO OUTDOORS FOR ALL EQUIPMENT REQUIING NATURAL GAS PRESSURE REGULATORS.
8. IN BUILDINGS REQUIRED TO HAVE STANDPIPES, NOT LESS THAN ONE STANDPIPE SHALL BE PROVIDED FOR USE DURING CONSTRUCTIONS. AS CONSTRUCTION PROGRESSES, IT SHALL BE EXTENDED TO WITHIN ONE FLOOR OF THE HIGHEST CONSTRUCTION HAVING SECURED FLOORING OR DECKING.

ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record
STATE OF MISSOURI
EDWARD W. ALLEN DAVIS
NUMBER PE-2004017155
05/22/23
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Revisions

No.	Description	Date

M1.1

FIRST AND SECOND FLOOR PLUMBING PLANS

project #: 22-169

date: 5/22/2023 1:24:40 PM

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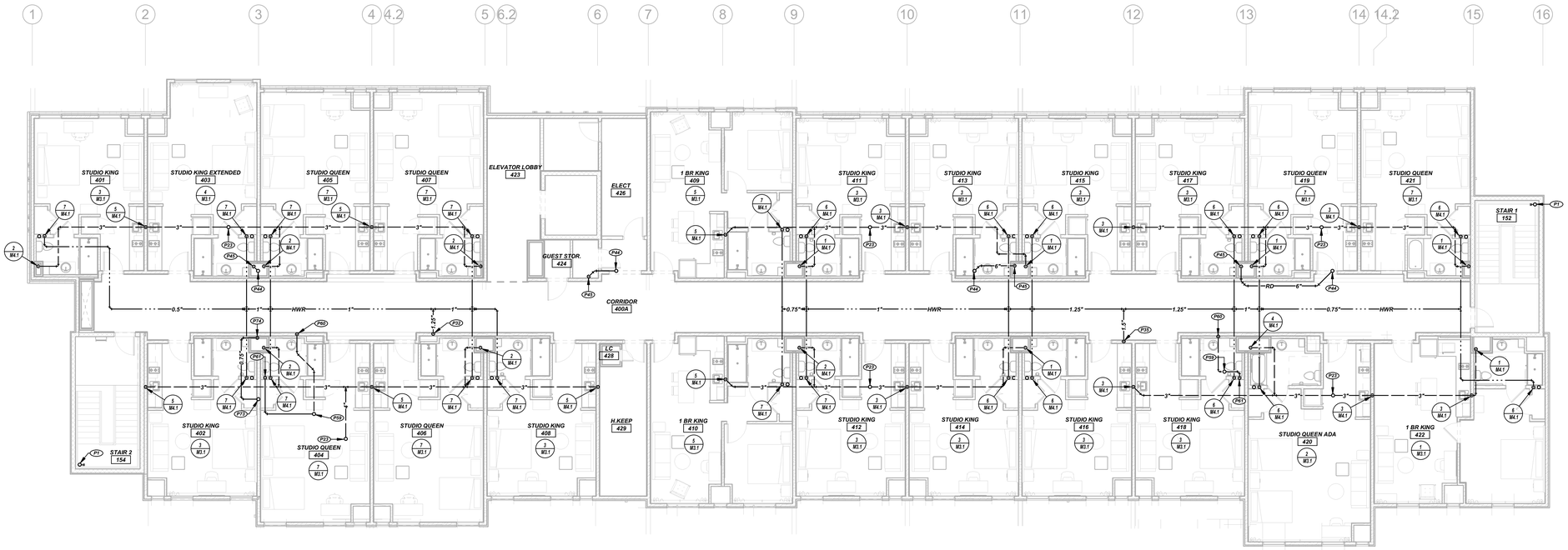
KEYNOTES:

P1	FIRE DEPARTMENT STANDPIPE PER SPECIFICATIONS. SHOWN FOR REFERENCE ONLY. DESIGN AND DETAILING BY FIRE SPRINKLER CONTRACTOR/ENGINEER.
P23	4" VENT UP THROUGH ROOF.
P32	1.25" HOT WATER RETURN DOWN.
P33	1.25" HOT WATER RETURN UP AND DOWN.
P35	1.5" HOT WATER RETURN DOWN.
P36	1.5" HOT WATER RETURN UP AND DOWN.
P44	6" PRIMARY ROOF DRAIN LEADER UP TO ROOF DRAIN.
P45	6" PRIMARY ROOF DRAIN LEADER DOWN.
P46	6" PRIMARY ROOF DRAIN LEADER UP AND DOWN.
P59	0.75" COLD WATER UP TO FREEZEPROOF ROOF HYDRANT.
P60	DISCHARGE DRAIN FROM FREEZEPROOF ROOF HYDRANT DOWN TO TAILPIECE OF LAVATORY.
P61	CONNECT 0.75" COLD WATER TO GUESTROOM SUPPLY RISER. PROVIDE SHUT-OFF VALVE WITHIN GUESTROOM ACCESS PANEL.
P73	0.75" NATURAL GAS UP THROUGH ROOF.
P74	0.75" NATURAL GAS DOWN.
P75	0.75" NATURAL GAS UP AND DOWN.



2 FOURTH FLOOR PLUMBING PLAN
1/8" = 1'-0"
NORTH

1 THIRD FLOOR PLUMBING PLAN
1/8" = 1'-0"
NORTH

ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record
STATE OF MISSOURI
ALLEN DAVIS
NUMBER PE-2004017155
05/22/23
PROFESSIONAL ENGINEER

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STAYBRIDGE SUITES

1301 EAST LARK ST
SPRINGFIELD, MO 65804

Revisions

No.	Description	Date

M1.2

THIRD AND FOURTH FLOOR PLUMBING PLANS

project #: 22-169

date: 5/22/2023 1:24:46 PM

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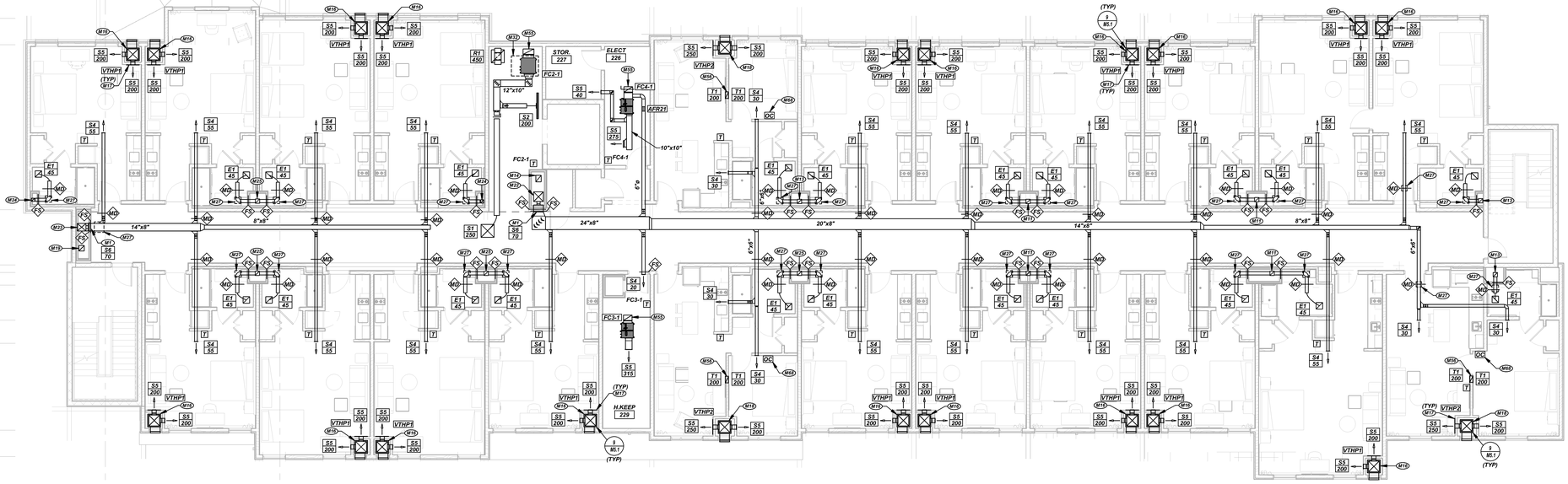
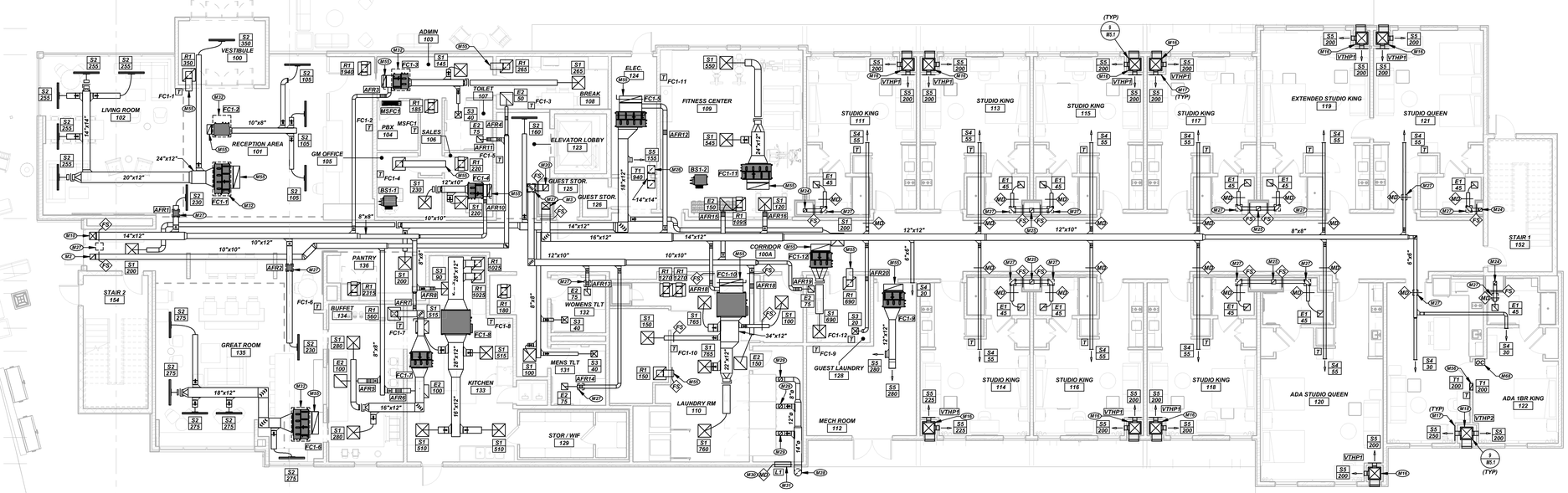


2 SECOND FLOOR HVAC PLAN

1/8" = 1'-0"

NORTH



1 FIRST FLOOR HVAC PLAN

1/8" = 1'-0"

NORTH

KEYNOTES:

- M1 6x6 OUTSIDE AIR DUCT FROM RISER IN SHAFT TO SIDEWALL REGISTER JUST BELOW CEILING, PROVIDE COMBINATION FIRE/SMOKE DAMPER AT SHAFT PENETRATION.
- M2 12x12 EXHAUST DUCT UP.
- M3 16x12 OUTSIDE AIR DUCT UP INTO SHAFT.
- M10 14x12 OUTSIDE AIR DUCT UP INTO SHAFT.
- M11 8x8 EXHAUST DUCT UP AND DOWN.
- M13 8x8 EXHAUST DUCT UP AND 6x6 EXHAUST DUCT DOWN.'
- M14 12x10 EXHAUST DUCT UP AND DOWN.
- M16 INSTALL VERTICAL HEAT PUMP UNIT AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SECURE WALL SLEEVE TO WALL FOR THE BOTTOM OF THE EXTERIOR LOUVER TO BE AT A HEIGHT AS INDICATED ON ARCHITECTURAL DRAWINGS. FABRICATE A 12x12 MINIMUM SIZE INTERNALLY LINED SUPPLY PLENUM WITH FLEXIBLE DUCT CONNECTOR ON TOP/DISCHARGE SIDE OF UNIT. ROUTE HORIZONTAL DUCT FULL SIZE OF SUPPLY REGISTER THRU WALL TO (2) 5S SUPPLY REGISTERS BALANCED TO 300 CFM EACH. ADJUST VANES ON SUPPLY GRILLE IN BEDROOM TO DISCHARGE AWAY FROM BED WHEN POSSIBLE.
- M17 INSTALL ACCESS/RETURN AIR PANEL ACCESORY IN WALL WITH THE BOTTOM OF THE PANEL AT 4" BELOW THE BOTTOM OF THE UNIT, TYPICAL.
- M18 INSTALL VERTICAL HEAT PUMP UNIT AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SECURE WALL SLEEVE TO WALL FOR THE BOTTOM OF THE EXTERIOR LOUVER TO BE AT A HEIGHT AS INDICATED ON ARCHITECTURAL DRAWINGS. FABRICATE A 12x12 MINIMUM SIZE INTERNALLY LINED SUPPLY PLENUM WITH FLEXIBLE DUCT CONNECTOR ON TOP/DISCHARGE SIDE OF UNIT. ROUTE HORIZONTAL DUCT FULL SIZE OF SUPPLY REGISTER THRU WALL TO (2) 5S SUPPLY REGISTERS BALANCED TO 250 CFM ON LIVING ROOM SIDE AND 200 CFM ON BEDROOM SIDE. ADJUST VANES ON SUPPLY GRILLE IN BEDROOM TO DISCHARGE AWAY FROM BED WHEN POSSIBLE.
- M19 10x10 EXHAUST DUCT UP AND DOWN.
- M20 12x10 EXHAUST DUCT UP.
- M22 18x18 OUTSIDE AIR DUCT UP AND 12x16 OUTSIDE AIR DOWN INTO SHAFT.
- M23 14x16 OUTSIDE AIR DUCT UP AND 14x12 OUTSIDE AIR DOWN INTO SHAFT.
- M24 6x6 EXHAUST DUCT UP.
- M25 8x8 EXHAUST DUCT UP.
- M26 TRANSFER AIR BOOT IN WALL ABOVE CEILING, DUCT OPEN TO PLENUM. REFER TO PLAN FOR SIZE.
- M27 PROVIDE CEILING ACCESS PANEL IN GYPSUM BOARD CEILING FOR FIRE/SMOKE DAMPERS, MOTORIZED DAMPERS, AND/OR AIRFLOW REGULATING DEVICES. ACCESS PANEL SHALL BE "BAUCO" PLUS II OR EQUIVALENT, DRYWALL ACCESS PANEL WITH CONCEALED HARDWARE. COORDINATE PLACEMENT OF PANEL WITH ALL TRADES.
- M28 14"Ø DRYER VENT THROUGH WALL, TERMINATE WITH 90 DEGREE ELBOW DOWN WITH BIRD SCREEN AT TERMINATION. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS.
- M29 8"Ø EXHAUST DUCT DOWN AND TRANSITION TO DRYER VENT CONNECTION. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS.
- M30 120-VOLT, 3-POSITION DAMPER PER LOUVER SCHEDULE. COORDINATE TO INTERLOCK WITH DRYER CONTROLS TO OPEN DURING DRYER OPERATION. REFER TO ELECTRICAL DRAWINGS FOR CONTROL CIRCUITRY.
- M31 REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATION OF LOUVER IN WALL.
- M32 PROVIDE CEILING ACCESS PANEL IN GYPSUM BOARD CEILING FOR FAN COIL UNIT. ACCESS PANEL SHALL BE "BAUCO" PLUS II OR EQUIVALENT, DRYWALL ACCESS PANEL WITH CONCEALED HARDWARE. COORDINATE SIZE WITH FCU MANUFACTURER/SUPPLIER. COORDINATE PLACEMENT OF PANEL WITH ALL TRADES.
- M55 RETURN AIR DUCT OPEN TO PLENUM.
- M56 INSTALL BEDROOM SIDE TRANSFER GRILLE AT 12" ABOVE FINISHED FLOOR AND LIVING ROOM SIDE WITHIN 2" OF CEILING. TRANSFER GRILLES SHALL BE IN THE SAME STUD CAVITY. LINE CAVITY WITH SHEET METAL. COORDINATE WITH WALL FRAMING AND FIELD VERIFY EXACT LOCATION AND REQUIREMENTS.
- M68 PROVIDE REMOTE OCCUPANCY SENSOR AT THIS LOCATION. SENSOR SHALL BE WIRED BACK TO THERMOSTAT. COORDINATE EXACT MOUNTING AND INSTALLATION REQUIREMENTS WITH MANUFACTURER. COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX AND CONDUIT AS REQUIRED.

GUESTROOM CONTROL NOTES:

1. PROVIDE COMPLETE AND OPERATIONAL GUESTROOM HVAC LIGHTING AND CONTROLS. MANUFACTURER SHALL BE INCOMM. EQUIVALENTS WITH PRIOR APPROVAL ONLY. SYSTEM SHALL INCLUDE THE FOLLOWING COMPONENTS:
   - A. INNCOM E7 THERMOSTAT (WHITE OR BLACK, SELECTED BY INTERIOR DESIGN) WITH RF AND BLE RADIOS AND BUILT-IN PIR SENSOR.
     1) THERMOSTAT SHALL WIRELESSLY INTERFACE WITH ENTRY DOOR ACCESS CONTROL SYSTEM (COMPATIBLE WITH INNCOM).
     2) THERMOSTAT SHALL BE WIRED TO VTAC UNIT
   - B. INNCOM X09 30 AMP MASTER LIGHT CONTROL RELAY SHALL BE WIRED TO THERMOSTAT. RELAY SHALL BE INSTALLED IN VTAC MECHANICAL CLOSET. REFER TO ELECTRICAL DRAWINGS FOR LOCATION.
   - C. PROVIDE (2) 2-POSITION MOTORIZED DAMPERS. ONE FOR EXHAUST AND ONE FOR OUTSIDE AIR SERVING EACH GUESTROOM. EACH DAMPER SHALL OPEN WHEN ROOM IS OCCUPIED AND CLOSE WHEN ROOM IS UNOCCUPIED. DAMPERS SHALL FAIL TO THE OPEN POSITION. REFER TO HVAC DRAWINGS FOR LOCATION.
2. GUESTROOM SUITES SHALL ALSO INCLUDE INNCOM SPACE OCCUPANCY SENSOR(S)WIRED TO THE THERMOSTAT. REFER TO PLANS FOR LOCATION.
3. THE NETWORKED CENTRAL SYSTEM SHALL INCLUDE THE FOLLOWING:
   - A. INNCOM B578 NETWORK ROUTERS (INSTALLED IN ELECTRICAL/STORAGE ROOMS ON EACH FLOOR).
   - B. INNCOM IC5 SOFTWARE AND CONTROL SYSTEM.
     1) ALL CENTRAL HARDWARE SHALL BE INSTALLED IN THE MAIN SERVER ROOM ON THE FIRST FLOOR.

CONTACT BILL RUSSELL @ INNCOM (PH# 972-235-0299) FOR QUOTES AND ADDITIONAL INFORMATION.

ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record
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ALLEN DAVIS
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Revisions

No.	Description	Date

M2.1
FIRST AND SECOND FLOOR HVAC PLANS

project #: 22-169

date: 5/22/2023 1:24:52 PM

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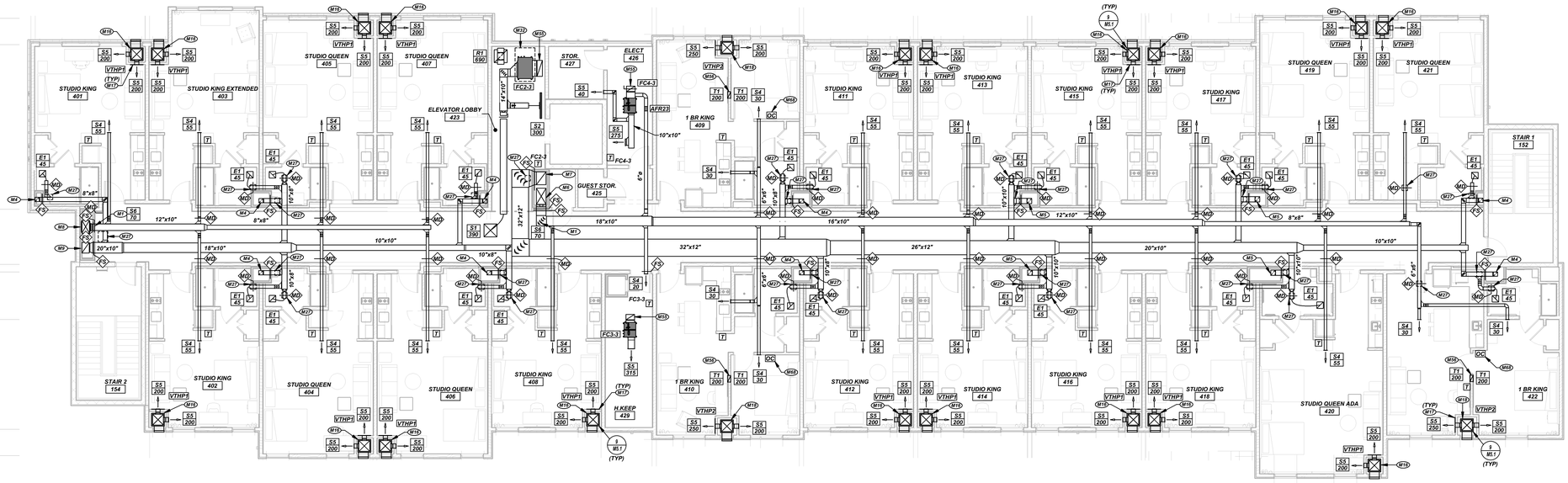
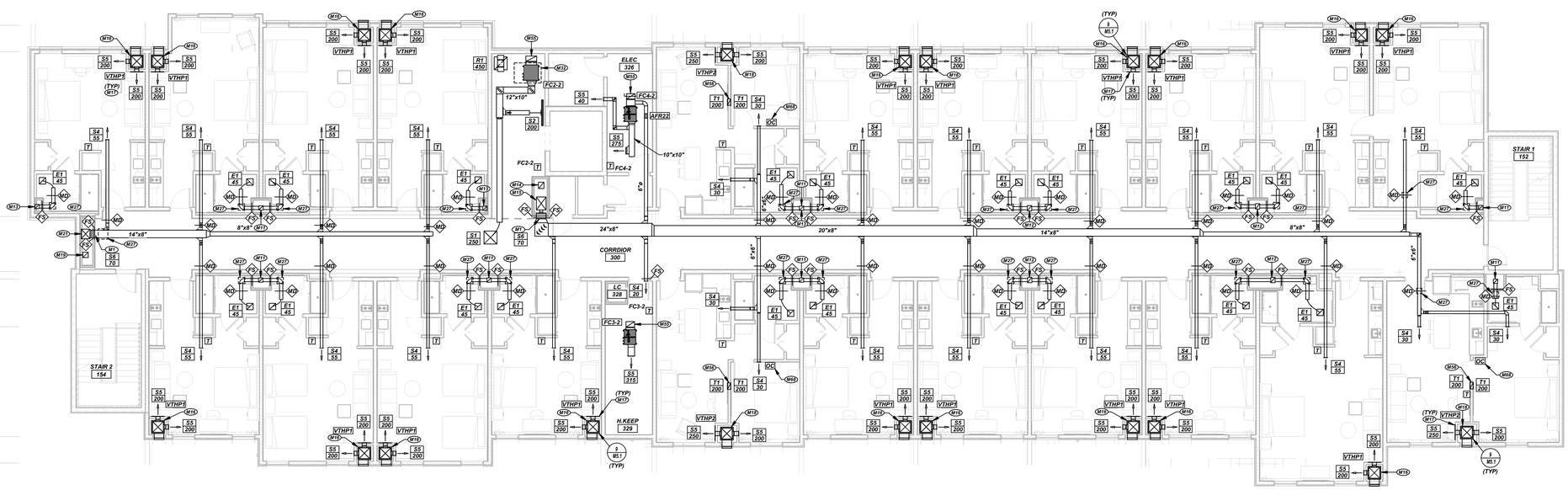


2 FOURTH FLOOR HVAC PLAN
1/8" = 1'-0"

NORTH



1 THIRD FLOOR HVAC PLAN
1/8" = 1'-0"

NORTH

KEYNOTES:

- M1 6x6 OUTSIDE AIR DUCT FROM RISER IN SHAFT TO SIDEWALL REGISTER JUST BELOW CEILING, PROVIDE COMBINATION FIRE/SMOKE DAMPER AT SHAFT PENETRATION.
- M4 8x8 EXHAUST DUCT DOWN.
- M5 10x8 EXHAUST DUCT DOWN.
- M6 30x18 OUTSIDE AIR DUCT UP AND 24x18 OUTSIDE AIR DOWN INTO SHAFT.
- M7 24x18 EXHAUST DUCT UP AND 12x10 EXHAUST DOWN INTO SHAFT.
- M8 18x18 OUTSIDE AIR DUCT UP AND 18x16 OUTSIDE AIR DOWN INTO SHAFT.
- M9 16x16 EXHAUST DUCT UP AND 10x10 EXHAUST DOWN INTO SHAFT.
- M11 8x8 EXHAUST DUCT UP AND DOWN.
- M12 10x8 EXHAUST DUCT UP AND 8x8 EXHAUST DUCT DOWN.
- M13 8x8 EXHAUST DUCT UP AND 6x6 EXHAUST DUCT DOWN.'
- M14 12x10 EXHAUST DUCT UP AND DOWN.
- M15 24x18 OUTSIDE AIR DUCT UP AND 18x18 OUTSIDE AIR DOWN INTO SHAFT.
- M16 INSTALL VERTICAL HEAT PUMP UNIT AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SECURE WALL SLEEVE TO WALL FOR THE BOTTOM OF THE EXTERIOR LOUVER TO BE AT A HEIGHT AS INDICATED ON ARCHITECTURAL DRAWINGS. FABRICATE A 12x12 MINIMUM SIZE INTERNALLY LINED SUPPLY PLENUM WITH FLEXIBLE DUCT CONNECTOR ON TOP/DISCHARGE SIDE OF UNIT. ROUTE HORIZONTAL DUCT FULL SIZE OF SUPPLY REGISTER THRU WALL TO (2) SS SUPPLY REGISTERS BALANCED TO 200 CFM EACH. ADJUST VANES ON SUPPLY GRILLE IN BEDROOM TO DISCHARGE AWAY FROM BED WHEN POSSIBLE.
- M17 INSTALL ACCESS/RETURN AIR PANEL ACCESSORY IN WALL WITH THE BOTTOM OF THE PANEL AT 4' BELOW THE BOTTOM OF THE UNIT, TYPICAL.
- M18 INSTALL VERTICAL HEAT PUMP UNIT AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SECURE WALL SLEEVE TO WALL FOR THE BOTTOM OF THE EXTERIOR LOUVER TO BE AT A HEIGHT AS INDICATED ON ARCHITECTURAL DRAWINGS. FABRICATE A 12x12 MINIMUM SIZE INTERNALLY LINED SUPPLY PLENUM WITH FLEXIBLE DUCT CONNECTOR ON TOP/DISCHARGE SIDE OF UNIT. ROUTE HORIZONTAL DUCT FULL SIZE OF SUPPLY REGISTER THRU WALL TO (2) SS SUPPLY REGISTERS BALANCED TO 250 CFM ON LIVING ROOM SIDE AND 200 CFM ON BEDROOM SIDE. ADJUST VANES ON SUPPLY GRILLE IN BEDROOM TO DISCHARGE AWAY FROM BED WHEN POSSIBLE.
- M19 10x10 EXHAUST DUCT UP AND DOWN.
- M21 18x16 OUTSIDE AIR DUCT UP AND 14x16 OUTSIDE AIR DOWN INTO SHAFT.
- M27 PROVIDE CEILING ACCESS PANEL IN GYPSUM BOARD CEILING FOR FIRE/SMOKE DAMPERS. MOTORIZED DAMPERS, AND/OR AIRFLOW REGULATING DEVICES. ACCESS PANEL SHALL BE "BAUCO" PLUS II OR EQUIVALENT, DRYWALL ACCESS PANEL WITH CONCEALED HARDWARE. COORDINATE PLACEMENT OF PANEL WITH ALL TRADES.
- M32 PROVIDE CEILING ACCESS PANEL IN GYPSUM BOARD CEILING FOR FAN COIL UNIT. ACCESS PANEL SHALL BE "BAUCO" PLUS II OR EQUIVALENT, DRYWALL ACCESS PANEL WITH CONCEALED HARDWARE. COORDINATE SIZE WITH FCU MANUFACTURER/SUPPLIER. COORDINATE PLACEMENT OF PANEL WITH ALL TRADES.
- M55 RETURN AIR DUCT OPEN TO PLENUM.
- M56 INSTALL BEDROOM SIDE TRANSFER GRILLE AT 12" ABOVE FINISHED FLOOR AND LIVING ROOM SIDE WITHIN 2" OF CEILING. TRANSFER GRILLES SHALL BE IN THE SAME STUD CAVITY. LINE CAVITY WITH SHEET METAL. COORDINATE WITH WALL FRAMING AND FIELD VERIFY EXACT LOCATION AND REQUIREMENTS.
- M68 PROVIDE REMOTE OCCUPANCY SENSOR AT THIS LOCATION. SENSOR SHALL BE WIRED BACK TO THERMOSTAT. COORDINATE EXACT MOUNTING AND INSTALLATION REQUIREMENTS WITH MANUFACTURER. COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX AND CONDUIT AS REQUIRED.

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     2) THERMOSTAT SHALL BE WIRED TO VTAC UNIT
   - B. INNCOM X09 30 AMP MASTER LIGHT CONTROL RELAY SHALL BE WIRED TO THERMOSTAT. RELAY SHALL BE INSTALLED IN VTAC MECHANICAL CLOSET. REFER TO ELECTRICAL DRAWINGS FOR LOCATION.
   - C. PROVIDE (2) 2-POSITION MOTORIZED DAMPERS. ONE FOR EXHAUST AND ONE FOR OUTSIDE AIR SERVING EACH GUESTROOM. EACH DAMPER SHALL OPEN WHEN ROOM IS OCCUPIED AND CLOSE WHEN ROOM IS UNOCCUPIED. DAMPERS SHALL FAIL TO THE OPEN POSITION. REFER TO HVAC DRAWINGS FOR LOCATION.
2. GUESTROOM SUITES SHALL ALSO INCLUDE INNCOM SPACE OCCUPANCY SENSOR(S)WIRED TO THE THERMOSTAT. REFER TO PLANS FOR LOCATION.
3. THE NETWORKED CENTRAL SYSTEM SHALL INCLUDE THE FOLLOWING:
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   - B. INNCOM IC5 SOFTWARE AND CONTROL SYSTEM.
     1) ALL CENTRAL HARDWARE SHALL BE INSTALLED IN THE MAIN SERVER ROOM ON THE FIRST FLOOR.

CONTACT BILL RUSSELL @ INNCOM (PHN 972-235-0299) FOR QUOTES AND ADDITIONAL INFORMATION.

ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record

STATE OF MISSOURI
CHRISTOPHER ALLEN DAVIS
NUMBER PE-2004017155
05/22/23
PROFESSIONAL ENGINEER

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Revisions

No.	Description	Date

M2.2
THIRD AND FOURTH FLOOR HVAC PLANS

project #: 22-169

date: 5/22/2023 1:24:59 PM

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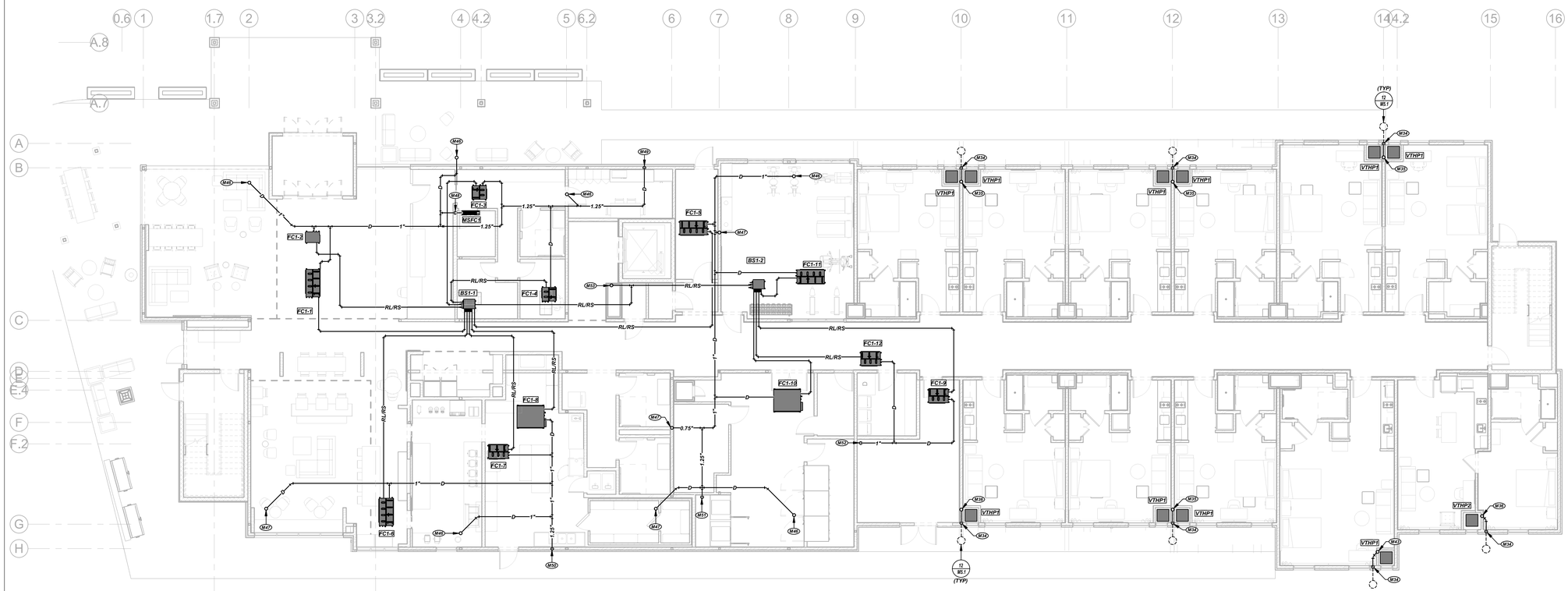
2 SECOND FLOOR HVAC PIPING PLAN
1/8" = 1'-0"
NORTH



1 FIRST FLOOR HVAC PIPING PLAN
1/8" = 1'-0"
NORTH

KEYNOTES:

M34	1" CONDENSATE DRAIN DOWN. TRANSITION TO 1.5" MINIMUM DRAIN PIPING BELOW GRADE AND ROUTE TO DRY WELL AT EXTERIOR TO BUILDING.
M35	1" CONDENSATE DRAIN UP. TEE 0.75" CONDENSATE DRAIN TO EACH UNIT.
M36	1" CONDENSATE DRAIN UP IN WALL FROM UNIT.
M38	0.75" CONDENSATE DRAIN UP AND DOWN FROM UNIT.
M41	1" CONDENSATE DRAIN UP AND DOWN. TEE 0.75" CONDENSATE DRAIN TO EACH UNIT.
M42	0.75" CONDENSATE DRAIN UP AND 1" CONDENSATE DRAIN DOWN FROM UNIT.
M43	0.75" CONDENSATE DRAIN UP IN WALL FROM UNIT.
M44	0.75" CONDENSATE DRAIN UP AND DOWN.
M45	0.75" CONDENSATE DRAIN UP AND 1" CONDENSATE DRAIN DOWN.
M46	1" CONDENSATE DRAIN UP.
M47	0.75" CONDENSATE DRAIN UP.
M48	0.75" CONDENSATE DRAIN DOWN TO MINI-SPLIT FAN COIL UNIT.
M49	1.25" CONDENSATE DRAIN DOWN IN WALL AND CONNECT TO P-TRAP AT SINK. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS.
M50	1.25" CONDENSATE DRAIN DOWN IN WALL AND OUT OF WALL AT APPROXIMATELY 4" ABOVE FLOOR. TURN DOWN INTO FLOOR SINK BELOW 3-COMPARTMENT SINK.
M51	1.25" CONDENSATE DRAIN DOWN IN WALL AND OUT OF WALL AT APPROXIMATELY 8" ABOVE FLOOR. TURN DOWN INTO LAUNDRY TRENCH DRAIN.
M52	1" CONDENSATE DRAIN DOWN IN WALL AND OUT OF WALL AT APPROXIMATELY 4" ABOVE FLOOR. TURN DOWN INTO FLOOR DRAIN IN MECHANICAL ROOM.
M53	REFRIGERANT PIPING UP.
M54	REFRIGERANT PIPING UP AND DOWN.

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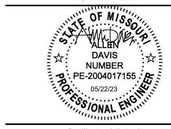

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Revisions

No.	Description	Date

M2.3

FIRST AND SECOND FLOOR HVAC PIPING PLANS

project #: 22-169

date: 5/22/2023 1:25:05 PM

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2225 West Chesterfield Boulevard, Suite 200, Springfield, MO 65807
P: 417.877.1700 F: 417.324.7735 www.cjd-eng.com
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KEYNOTES:

M33	0.75" CONDENSATE DRAIN DOWN. TEE 0.75" CONDENSATE DRAIN TO EACH UNIT.
M37	0.75" CONDENSATE DRAIN DOWN FROM UNIT.
M38	0.75" CONDENSATE DRAIN UP AND DOWN FROM UNIT.
M39	0.75" CONDENSATE DRAIN DOWN.
M40	0.75" CONDENSATE DRAIN UP AND 1" CONDENSATE DRAIN DOWN. TEE 0.75" CONDENSATE DRAIN TO EACH UNIT.
M44	0.75" CONDENSATE DRAIN UP AND DOWN.
M54	REFRIGERANT PIPING UP AND DOWN.
M57	REFRIGERANT PIPING UP TO ROOF AND DOWN.

2 FOURTH FLOOR HVAC PIPING PLAN
1/8" = 1'-0"

NORTH

1 THIRD FLOOR HVAC PIPING PLAN
1/8" = 1'-0"

NORTH

ARKIFEX STUDIOS

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Engineer of Record

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EDWARD W. ALLEN DAVIS
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Revisions

No.	Description	Date

M2.4

THIRD AND FOURTH FLOOR HVAC PIPING PLANS

project #: 22-169

date: 5/22/2023 1:25:10 PM

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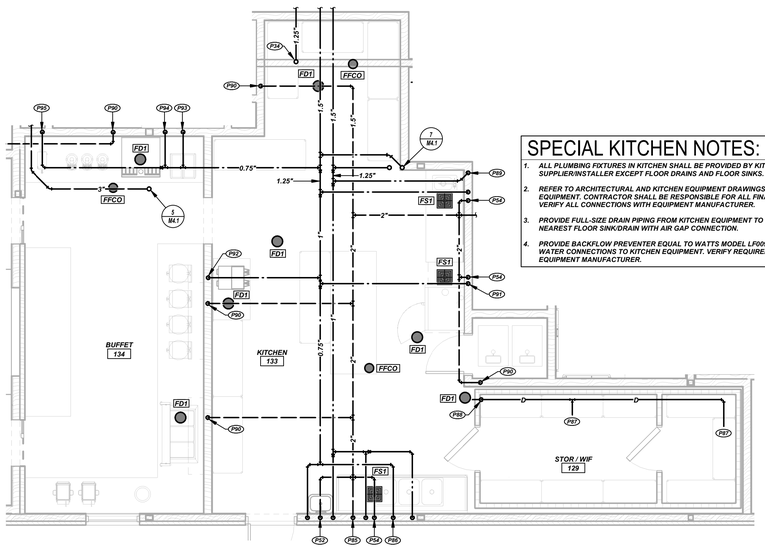
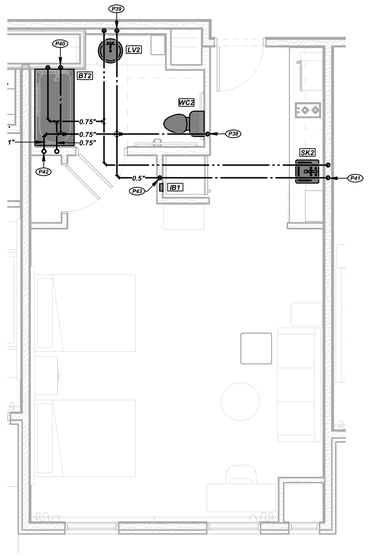


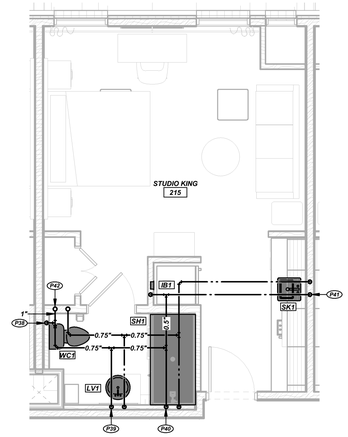
SPECIAL KITCHEN NOTES:

1. ALL PLUMBING FIXTURES IN KITCHEN SHALL BE PROVIDED BY KITCHEN EQUIPMENT SUPPLIER/INSTALLER EXCEPT FLOOR DRAINS AND FLOOR SINKS.
2. REFER TO ARCHITECTURAL AND KITCHEN EQUIPMENT DRAWINGS FOR EXACT KITCHEN EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS. VERIFY ALL CONNECTIONS WITH EQUIPMENT MANUFACTURER.
3. PROVIDE FULL-SIZE DRAIN PIPING FROM KITCHEN EQUIPMENT TO DISCHARGE AT NEAREST FLOOR SINK/DRAIN WITH AIR GAP CONNECTION.
4. PROVIDE BACKFLOW PREVENTER EQUAL TO WATTS MODEL LF009 ON ALL DOMESTIC WATER CONNECTIONS TO KITCHEN EQUIPMENT. VERIFY REQUIREMENTS WITH KITCHEN EQUIPMENT MANUFACTURER.

9 KITCHEN 133 ENLARGED PLUMBING PLAN
1/4" = 1'-0"



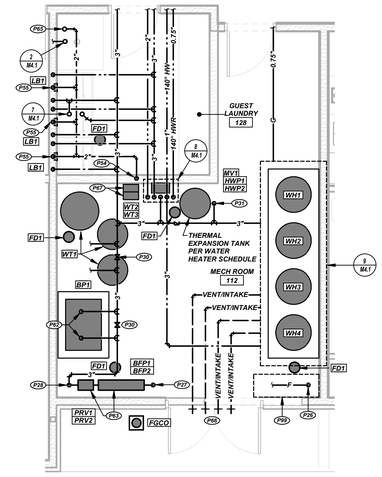
6 STUDIO QUEEN ADA ENLARGED PLUMBING PLAN
NO SCALE



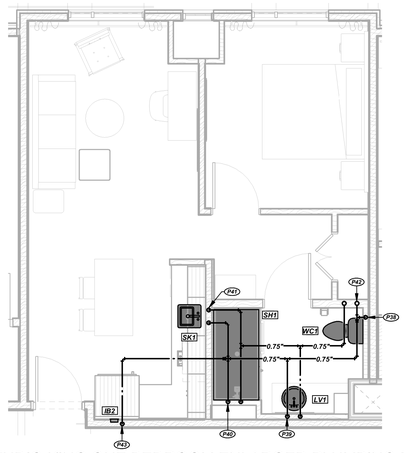
3 STUDIO KING ENLARGED PLUMBING PLAN
NO SCALE

KEYNOTES:

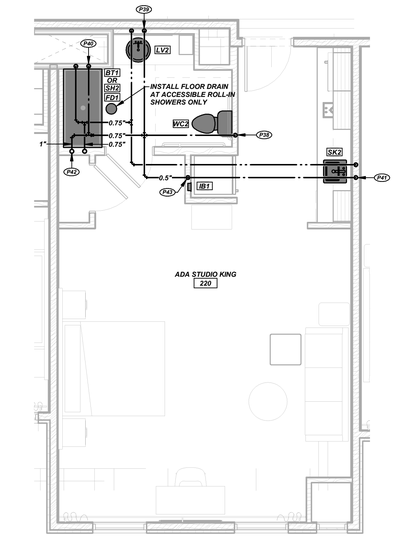
P26	FIRE SPRINKLER SERVICE DOWN. SIZING AND DETAILING BY FIRE SPRINKLER CONTRACTOR/ENGINEER.
P27	3" DOMESTIC WATER SERVICE DOWN WITH SHUT-OFF VALVE.
P28	3" COLD WATER DOWN WITH SHUT-OFF VALVE.
P30	NORMALLY CLOSED BYPASS VALVE.
P31	2" COLD WATER DOWN TO THERMAL EXPANSION TANK WITH SHUT-OFF VALVE. REFER TO WATER HEATER SCHEDULE FOR THERMAL EXPANSION TANK FOR SPECIFICATIONS.
P34	1.25" HOT WATER RETURN UP.
P38	0.5" COLD WATER DOWN TO WATER CLOSET.
P39	0.5" COLD AND HOT WATER DOWN TO LAVATORY.
P40	0.5" COLD AND HOT WATER DOWN TO SHOWER. PROVIDE 0.5" TEMPERED WATER FROM VALVE TO SHOWER HEAD.
P41	0.5" COLD AND HOT WATER DOWN TO SINK. PROVIDE FLEXIBLE SUPPLY AND DRAIN CONNECTIONS TO ADJACENT DISHWASHER. COORDINATE ROUTING WITH MILLWORK PROVIDER.
P42	CONNECT COLD AND HOT WATER TO GUESTROOM SUPPLY RISER PER OVERALL PLANS.
P43	0.5" COLD WATER DOWN TO ICE MAKER SUPPLY BOX.
P52	1.5" VENT, 0.5" COLD AND HOT WATER DOWN TO LAVATORY/SINK.
P54	2" VENT DOWN.
P55	1.5" VENT, 0.5" COLD AND HOT WATER DOWN TO LAUNDRY SUPPLY BOX.
P62	3" COLD WATER DOWN TO AND UP FROM BOOSTER PUMP WITH SHUT-OFF VALVES. PROVIDE ALL ACCESSORIES AS RECOMMENDED BY MANUFACTURER.
P63	INSTALL BACKFLOW PREVENTERS AND PRESSURE REDUCING VALVES IN PARALLEL.
P65	2" VENT UP. CONNECT TO VENT RISER ABOVE.
P66	PVC WATER HEATER VENT AND INTAKE PIPING. SIZE AND INSTALL PER WATER HEATER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
P67	WATER TREATMENT SYSTEM. REFER TO PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
P85	1.5" VENT AND 0.75" HOT WATER DOWN TO DISHMACHINE.
P86	0.5" COLD AND HOT WATER DOWN TO 3-COMPARTMENT SINK.
P87	CONDENSATE DRAIN CONNECTION TO COOLER/FREEZER EVAPORATOR. SIZE AND INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
P88	DISCHARGE COOLER/FREEZER EVAPORATOR CONDENSATE TO FLOOR DRAIN WITH AIR GAP. COORDINATE SIZE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
P89	0.5" COLD AND HOT WATER DOWN TO FAUCET.
P90	1.5" VENT DOWN.
P91	0.5" COLD WATER DOWN TO COMBI OVEN FILTER SYSTEM. 0.75" COLD WATER FROM FILTER SYSTEM TO COMBI OVEN.
P92	0.5" COLD WATER DOWN TO COFFEE BREWER.
P93	0.5" COLD WATER DOWN TO JUICE DISPENSER.
P94	0.5" COLD WATER DOWN TO ICE/DRINK DISPENSER FILTER. 0.5" COLD WATER FROM FILTER TO ICE/DRINK DISPENSER.
P95	0.5" COLD WATER DOWN TO HOT WATER DISPENSER.
P99	SPACE DEDICATE FOR FIRE SPRINKLER PIPING, EQUIPMENT, CONTROLS, ETC.



8 MECH ROOM 112/GUEST LAUNDRY 126 ENLARGED PLUMBING PLAN
1/4" = 1'-0"



5 STUDIO KING ONE BEDROOM ENLARGED PLUMBING PLAN
NO SCALE



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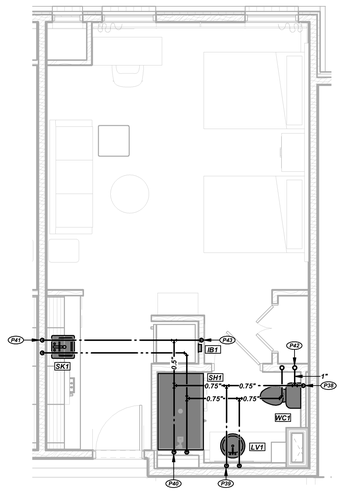

7 STUDIO QUEEN ENLARGED PLUMBING PLAN
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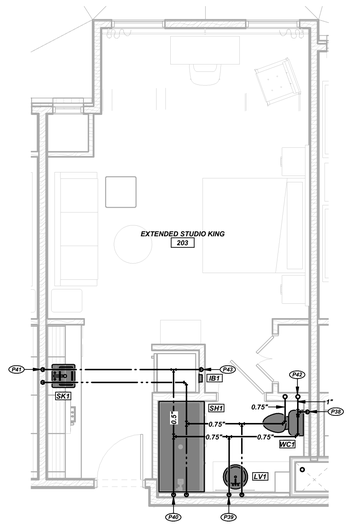

4 STUDIO KING EXTENDED ENLARGED PLUMBING PLAN
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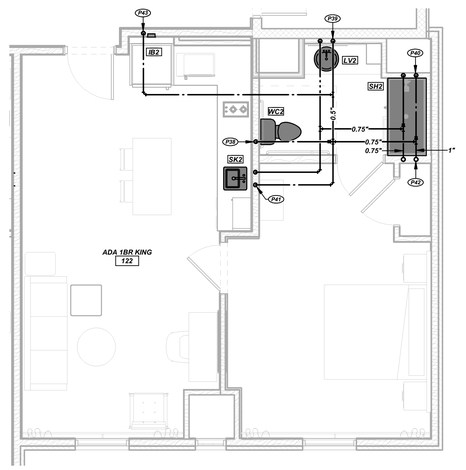

1 STUDIO KING 1BR ADA ENLARGED PLUMBING PLAN
NO SCALE

CJD
Engineering | Energy | Innovation
2225 West Chesterfield Boulevard, Suite 200, Springfield, MO 65807
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ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record
STATE OF MISSOURI
EDWARD ALLEN DAVIS
NUMBER PE-2004017155
05/22/23
PROFESSIONAL ENGINEER
Certificate of Authority

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1301 EAST LARK ST
SPRINGFIELD, MO 65804

Revisions

No.	Description	Date

M3.1
ENLARGED PLUMBING PLANS

project #: 22-169
date: 5/22/2023 1:25:20 PM

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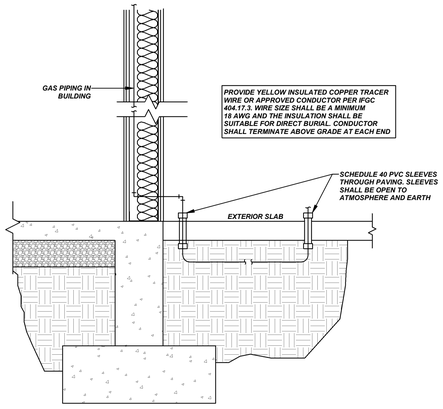
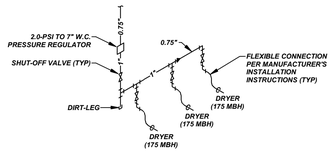


12 UNDERGROUND GAS SLEEVE DETAIL
NO SCALE



11 NATURAL GAS DRYER SUPPLY ISOMETRIC
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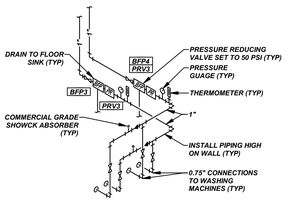
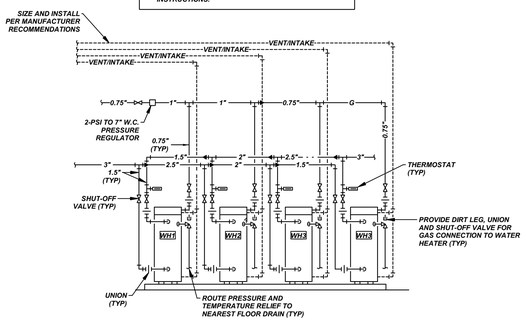


10 LAUNDRY SUPPLY ISOMETRIC
NO SCALE

SPECIAL NOTES:

1. PIPING AND EQUIPMENT ARRANGEMENT IS SCHEMATIC. ADJUST TO MEET FIELD CONDITIONS. CONFIGURE PIPING FOR EQUIVALENT FLOW THROUGH PARALLEL WATER HEATERS.
2. MAINTAIN ALL REQUIRED CLEARANCES AS RECOMMENDED BY EQUIPMENT MANUFACTURER.
3. PROVIDE VENTING TO OUTDOORS ON ALL EQUIPMENT REQUIRING NATURAL GAS VENT LIMITING PRESSURE REGULATORS. INSTALL PER MANUFACTURER'S INSTRUCTIONS.



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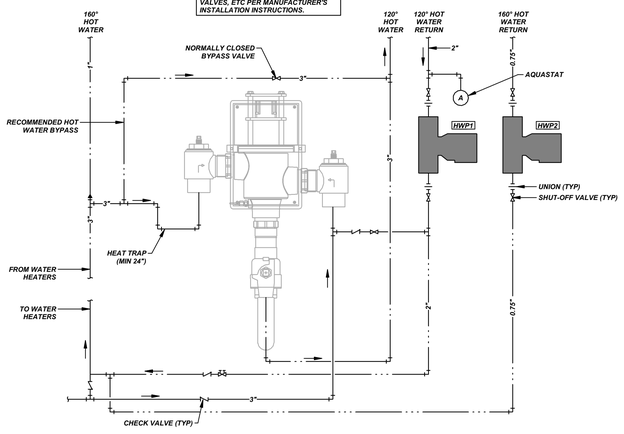

8 MIXING VALVE PIPING DIAGRAM
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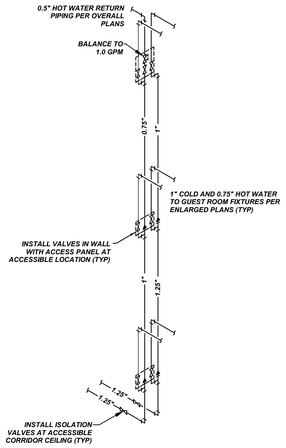
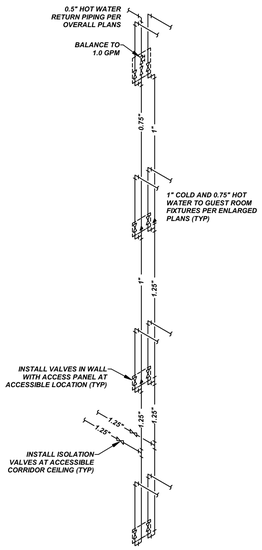


7 GUESTROOM SUPPLY ISOMETRIC
NO SCALE



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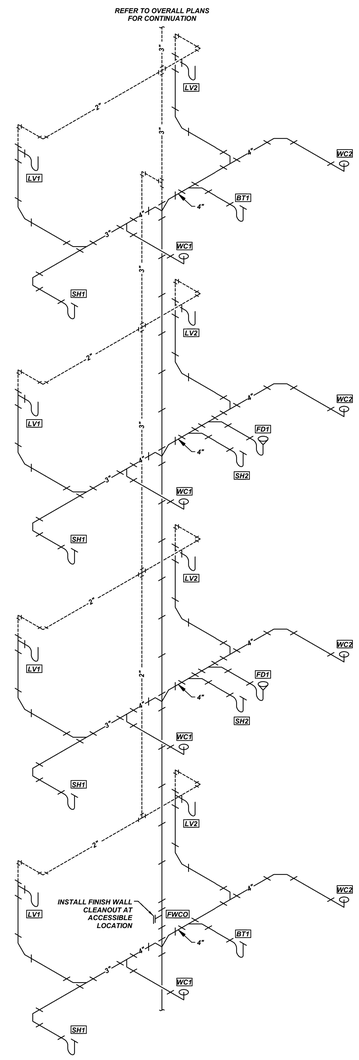

4 WASTE/VENT ISOMETRIC
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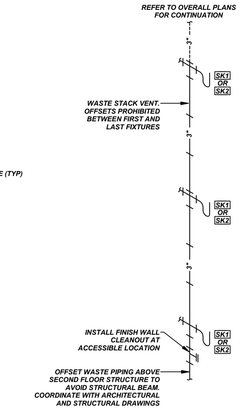

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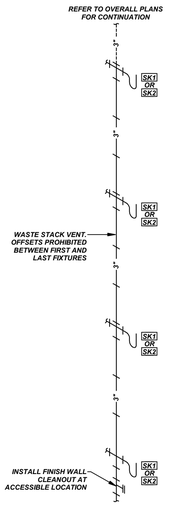
NO SCALE



3 WASTE/VENT ISOMETRIC
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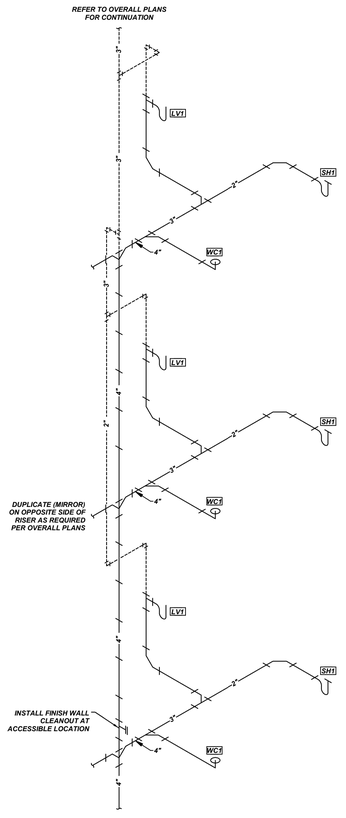
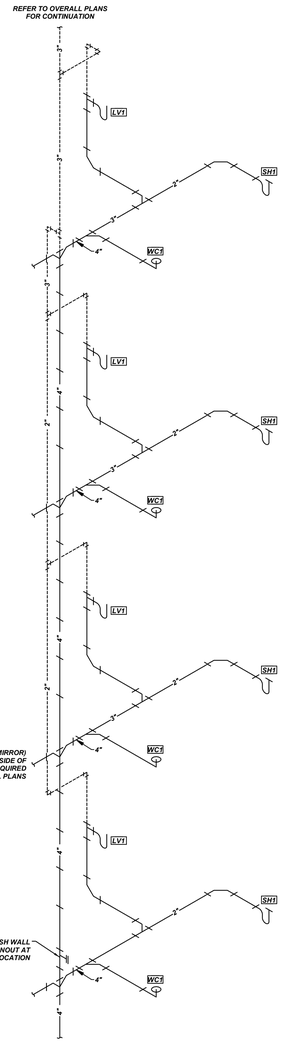


2 WASTE/VENT ISOMETRIC
NO SCALE



1 WASTE/VENT ISOMETRIC
NO SCALE

ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record

STATE OF MISSOURI
ALLEN DAVIS
NUMBER PE-2004017155
05/22/23
PROFESSIONAL ENGINEER

Certificate of Authority

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Revisions

No.	Description	Date

M4.1

PLUMBING DETAILS

project #: 22-169
date: 5/22/2023 1:25:22 PM

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GAS LOAD TABLE

EQUIPMENT	MBH LOAD	QUANTITY	TOTAL EQUIPMENT GAS LOAD (MBH)
WATER HEATER	199	4	796
DEDICATED OUTSIDE AIR UNIT 1	300	1	300
DEDICATED OUTSIDE AIR UNIT 2	200	1	200
COMMERCIAL DRYER	175	3	525
OUTDOOR FIRE PIT	150	1	150
BBQ GRILL	150	2	300
TOTAL GAS LOAD			**2271**

NOTES:
1. NATURAL GAS SERVICE IS REGULATED DOWN TO 2 PSI AT METER AND REGULATED DOWN TO 7" W.C. AT EACH PIECE OF EQUIPMENT UNLESS NOTED OTHERWISE.
2. CONTRACTOR SHALL VERIFY MINIMUM PRESSURE REQUIREMENTS FOR ALL EQUIPMENT REQUIRING NATURAL GAS.

WATER HEATER SCHEDULE

MARK	MANUFACTURER	MODEL #	TYPE	GALLON CAPACITY	RECOVERY, (GPH @ 100 F RISE)	INPUT (MBH)	OUTPUT (MBH)	MCA	VOLTAGE/ PHASE	NOTES/ ACCESSORIES
WH1	LOCHINVAR	SWR200N	GAS	90	232	199	191	15.0	120/1	1,2,3,4,5,6,7,8,9
WH2	LOCHINVAR	SWR200N	GAS	90	232	199	191	15.0	120/1	1,2,4,5,6,7,8,9
WH3	LOCHINVAR	SWR200N	GAS	90	232	199	191	15.0	120/1	1,2,4,5,6,7,8,9
WH4	LOCHINVAR	SWR200N	GAS	90	232	199	191	15.0	120/1	1,2,4,5,6,7,8,9

NOTES:
1. PROVIDE ALL ACCESSORIES REQUIRED TO PARALLEL WATER HEATERS WH1 THROUGH WH4.
2. SET OUTLET TEMPERATURE TO 160 DEG F.
3. PROVIDE THERMAL EXPANSION TANK EQUAL TO AMTROL ST-447-C, 53 GALLON TANK.
4. PROVIDE "SMART SYSTEM" FEATURES.
5. ADJUSTABLE HIGH LIMIT WITH MANUAL RESET.
6. ALARM BELL.
7. CONDENSATE NEUTRALIZATION KIT.
8. PVC/CPVC VENT/INTAKE PIPING PER MANUFACTURER.
9. PROVIDE ASME PRESSURE AND TEMPERATURE RELIEF VALVE.

PIPING INSULATION SCHEDULE

SERVICE	SIZE	TYPE	INSULATION THICKNESS	LOCATION	NOTES
COMBUSTION'S FLUE	ALL SIZES	ELASTOMERIC	0.5"	ABOVE CEILINGS	1,4,5
CONDENSATE PIPING	ALL SIZES	FIBERGLASS	0.5"	INTERIOR	2,5
CONDENSER WATER (POOL) PIPING	ALL SIZES	FIBERGLASS	1.5"	INTERIOR	2,5
DOMESTIC COLD WATER	0.5"-2"	ELASTOMERIC	1"	INTERIOR	1,5
DOMESTIC COLD WATER	2.5"-LARGER	ELASTOMERIC	1.5"	INTERIOR	1,5
DOMESTIC HOT WATER	0.5"-2"	ELASTOMERIC	1"	INTERIOR	1
DOMESTIC HOT WATER	2.5"-LARGER	ELASTOMERIC	1.5"	INTERIOR	1
DOMESTIC HOT WATER RECIRCULATION	ALL SIZES	ELASTOMERIC	1"	INTERIOR	1
REFRIGERANT SUCTION LINES	ALL SIZES	ELASTOMERIC	0.5"	INTERIOR	1,5
REFRIGERANT SUCTION LINES	ALL SIZES	ELASTOMERIC	0.5"	EXTERIOR	1,5
REFRIGERANT HOT GAS/DISCHARGE	ALL SIZES	ELASTOMERIC	0.75"	INTERIOR	1,4,5
STORM/OVERFLOW PIPING (FROM ROOF DRAIN TO EXIT OF BUILDING - FLOOR OR WALL)	ALL SIZES	FIBERGLASS	1"	INTERIOR	2,5
STORM/OVERFLOW ROOF DRAIN BODY	ALL SIZES	ELASTOMERIC	1"	INTERIOR	3,5

NOTES:
1. FLEXIBLE ELASTOMERIC FOAM/PLASTIC, PREFORMED, ASTM C534, TYPE I, "k" = 0.28 AT 75 DEG, PLENUM RATED. ARMSTRONG AP ARMAFLEX, AEROCEL EDPM, K-FLEX LS OR APPROVED EQUAL
2. FIBERGLASS INSULATION WRAP (1.0 LB) W/ FOIL-SCRIM-KRAFT FACING, PREFORMED, ASTM C547, CLASS 1, "k" = 0.23 AT 75 DEG. KNAUF, OWENS-CORNING, CERTAINTEED OR APPROVED EQUAL
3. FLEXIBLE ELASTOMERIC FOAM/PLASTIC, SHEET MATERIAL, ASTM C534, TYPE I, "k" = 0.28 AT 75 DEG, PLENUM RATED. ARMSTRONG AP ARMAFLEX SHEET, AEROCEL EDPM SHEET, K-FLEX LS SHEET OR APPROVED EQUAL.
4. VERIFY WITH EQUIPMENT MANUFACTURER'S INSTALLATION MANUAL FOR ANY ADDITIONAL INSULATION REQUIREMENTS ABOVE AS INDICATED ON THIS SCHEDULE.
5. INSULATION SHALL COVER ALL JOINTS, FITTINGS, ETC. AND SHALL BE VAPOR TIGHT.

PIPING LOCATED OUTDOORS SHALL BE PROVIDED WITH A SMOOTH ALUMINUM JACKET WITH SEAM ON TOP/SIDE OF PIPE AT 2 OR 10 O'CLOCK POSITION OF HORIZONTAL RUNS. FITTINGS SHALL HAVE FORMED ALUMINUM COVERS.

PIPING MATERIAL SCHEDULE

SYSTEM	PIPING SIZE	PIPING TYPE	PIPING SCHEDULE	PIPING GRADE	PIPING ASTM	FITTINGS MATERIAL	FITTINGS TYPE	MAXIMUM WORKING PRESSURE (PSI)	MAXIMUM WORKING TEMP (DEG. F)	FIELD TEST PRESSURE (PSI)	FIELD TEST TIME (HOURS)	NOTES
CONDENSATE DRAIN ABOVE GRADE	ALL	M	-	-	B88	COPPER	COPPER	DR / SJ	10 FT	40-70	10 FT	1	8
DOMESTIC WATER ABOVE GRADE	0.5"-2"	PEX	-	-	F877	PEX	BRONZE	MJ	120	40-180	150	1	7
DOMESTIC WATER ABOVE GRADE	2.5"-3"	L	-	-	B88	COPPER	COPPER	SJ	120	40-180	150	1	8
DOMESTIC WATER BELOW GRADE	ALL	K	-	-	B88	COPPER	COPPER	SJ	120	40-180	150	1	8
DOMESTIC WATER SERVICE BELOW GRADE	ALL	PVC	-	-	AWWA C900	PVC	DI	MJ	200	50-90	200	2	6
FIRE PROTECTION	ALL	PER NFPA 13 AND FIRE SPRINKLER DRAWINGS									200	2	2
FIRE SPRINKLER SERVICE BELOW GRADE	ALL	PER NFPA 13 AND FIRE SPRINKLER DRAWINGS									200	2	-
GREASE WASTE ABOVE GRADE	ALL	NH	SS	-	A74	CI	CI	DR / NH	10 FT	50-180	10 FT	1	1
GREASE WASTE BELOW GRADE	ALL	NH	SS	-	A74	CI	CI	DR / NH	10 FT	50-180	10 FT	1	1
NATURAL GAS BELOW GRADE	0.5" - 2.5"	CW (COATED)	40	A	A53	CS / BLK	MI	THRD	5	--	100	1 HR	-
NATURAL GAS ABOVE GRADE	0.5" - 2.5"	CW	40	A	A53	CS / BLK	MI	WELD	5	--	100	1 HR	4,5
NATURAL GAS ABOVE GRADE	3" & UP	SL / CW	40	A	A53	CS / BLK	CS	WELD	5	--	100	1 HR	4,5
REFRIGERANT PIPING	ALL	ACR	-	--	B280	CP	CP	SJ	150	40-180	200	4	-
ROOF DRAIN BELOW GRADE	ALL	DWV	40	-	2665	PVC	PVC	DR / SW	10 FT	50-180	10 FT	2	1
ROOF DRAIN ABOVE GRADE	ALL	DWV	40	-	2665	PVC	PVC	DR / SW	10 FT	50-180	10 FT	2	3
SANITARY WASTE BELOW GRADE	ALL	DWV	40	-	2665	PVC	PVC	DR / SW	10 FT	50-180	10 FT	1	1
SANITARY WASTE AND VENT - RETURN AIR PLENUMS	ALL	NH	SS	-	A74	CI	CI	DR / NH	10 FT	50-180	10 FT	1	3
SANITARY WASTE AND VENT ABOVE GRADE	ALL	DWV	40	-	2665	PVC	PVC	DR / SW	10 FT	50-180	10 FT	1	1,3
TEMPERATURE & PRESSURE RELIEF DRAIN	ALL	M	-	-	B88	COPPER	COPPER	DR / SW	10 FT	40-70	10 FT	1	8

NOTES:
1. THE USE OF CELLULAR CORE PVC WASTE AND VENT PIPING IS STRICTLY PROHIBITED.
2. THE USE OF CPVC AND POLYBUTYLENE PIPING IS STRICTLY PROHIBITED.
3. SANITARY WASTE AND VENT PIPING LOCATED WITHIN RETURN AIR PLENUMS SHALL BE CAST IRON OR SHALL BE ENCLOSED IN A GYPSUM BOARD SOFFIT.
4. NATURAL GAS PIPING INSTALLED IN RETURN AIR PLENUMS AND CONCEALED SPACES SHALL HAVE APPROVED FITTINGS ONLY. VALVES, UNIONS, THREADED FITTINGS, ETC. ARE NOT PERMITTED.
5. NATURAL GAS INSTALLED EXPOSED SHALL BE PAINTED WITH TWO COATS OF UV RESISTANT ENAMEL PAINT. COLOR TO MATCH WALL COLOR ON EXTERIOR WALL VERTICAL RUNS AND YELLOW ON THE ROOF. VERIFY PAINT COLOR WITH ARCHITECT BEFORE INSTALLATION.
6. PROVIDE PIPING MATERIAL PER LOCAL WATER COMPANY REQUIREMENTS IF DIFFERENT THAN SCHEDULED.
7. PROVIDE FULL-PORT BRASS FITTINGS.
8. COPPER PIPING SHALL BE MADE IN THE USA.

APPROVED PIPE & FITTING MANUFACTURERS:
CAST IRON - CHARLOTTE, TYLER, CENTERAL FOUNDRY OR PRE-BID APPROVED EQUAL.
COPPER - CERRO, CHASE, MUELLER, REVERE COPPER OR PRE-BID APPROVED EQUAL.
PEX-B - WATTS, VEGA, OR PRE-BID APPROVED EQUAL.

PVC (SOLID) - CHARLOTTE, TYLER, CHEMTROL OR PRE-BID APPROVED EQUAL. PVC (PERFORATED) - CHARLOTTE, TYLER, ADS 3000 (HDPE) OR PRE-BID APPROVED EQUAL.
CARBON STEEL - ARMCO, YOUNGSTOWN, UNITED STATES STEEL OR PRE-BID APPROVED EQUAL. GROOVED FITTINGS - VICTAULIC, GRUVLOK OR PRE-BID APPROVED EQUAL.

ABBREVIATIONS:

BS	- BELL AND SPIGOT	DWV	- DRAINAGE WASTE AND VENT	NH	- NO-HUB
CI	- CAST IRON	HDPE	- HIGH DENSITY POLYETHYLENE	SJ	- 95-5 TIN ANTIMONY SOLDER JOINT
CS	- CARBON STEEL	MJ	- MECHANICAL JOINT	SW	- STANDARD STRENGTH / SERVICE WEIGHT
CW	- CONTINUOUS WELD	NG	- NEOPRENE GASKET	SW	- SOLVENT WELD
DI	- DUCTILE IRON				
DR	- DRAINAGE FITTING				

PLUMBING PUMP SCHEDULE

MARK	MANUFACTURER	SERIES	SIZE	INLET	DISCH	GPM	HEAD (FT.)	NPSH	TYPE	WORKING CLASS	H.P.	RPM	VOLTAGE/ PHASE	CONST.	FLUID TYPE	FLUID TEMP.	NOTES/ ACCESS.	EQUIVALENT MANUFACTURERS
WP1	XYLEM	HVL2L3-10SV	10SV3G530 (2)	3"	3"	127	70	12	VERT	-	3 (2)	3500	208/3	CI	WATER	40-140	2,5	GRUNDFOS, CANARIS, ARMSTRONG
HWP1	TACO	-	0013	2"	2"	23.2	12.5	-	IL	-	1/6	3250	115/1	CI	DHW	40-140	1,2	BELL & GOSSETT, ARMSTRONG
HWP2	TACO	-	003	0.75"	0.75"	1.3	4.5	-	IL	-	1/40	3250	115/1	CI	DHW	40-160	1,2	BELL & GOSSETT, ARMSTRONG
SP1	ZOELLER	161	-	-	2"	50	25	-	SUMP	-	1/2	3450	120/1	CI	WATER	40-140	2,3,4	WEIL, LIBERTY

NOTES/ACESSORIES:
1. PROVIDE TIME CLOCK AND AQUASTAT KIT.
2. PROVIDE CHECK VALVE INSTALLED ON PUMP DISCHARGE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
3. PROVIDE ALL ACCESSORIES AND COMPONENTS REQUIRED FOR INSTALLATION IN PREFORMED PIT.
4. PROVIDE SIMPLEX PUMP WITH 24" x 30" DEEP PREFORMED BASIN, FLOATS, ALARM, AND ELECTRICAL DISCONNECTING MEANS.
5. EACH OF (2) PUMPS SHALL OPERATE AS 50% LEAD/LAG SPLIT.

ABBREVIATIONS:

NPSH	- NET POSITIVE SUCTION HEAD	CDW	- CONDENSER WATER	BFCI	- BRONZE FITTED CAST IRON
CW	- CHILLED WATER	HW	- HEATING HOT WATER	AB	- ALL BRONZE
CHW	- CHILLED/HOT WATER	DHW	- DOMESTIC HOT WATER	AI	- ALL IRON

AS	- AQUASTAT KIT
BMES	- BASE MOUNTED END SUCTION
IL	- IN-LINE

PLUMBING FIXTURE & EQUIPMENT SCHEDULE

MARK	DESCRIPTION	MANUF.	MODEL #	DESCRIPTION / ACCESSORIES	PIPING CONNECTION SIZES: COLD	HOT	DRAIN	VENT	NOTES & ACCESSORIES	EQUIVALENT MANUFACTURERS
BFP1	BACKFLOW PREVENTER	WATTS	LF909	DOMESTIC WATER SERVICE	3"	-	-	-	20	FEBCO, WILKINS
BFP2	BACKFLOW PREVENTER	WATTS	LF909	DOMESTIC WATER SERVICE	3"	-	-	-	20	FEBCO, WILKINS
BFP3	BACKFLOW PREVENTER	WATTS	LF909	COMMERCIAL WASHING MACHINE	1"	-	-	-	20	FEBCO, WILKINS
BFP4	BACKFLOW PREVENTER	WATTS	LF909HW	COMMERCIAL WASHING MACHINE, RATED FOR 160 DEG F	-	1"	-	-	20	FEBCO, WILKINS
BFP6	BACKFLOW PREVENTER	WATTS	LF909	DRYER FIRE SUPPRESSION	1.25"	-	-	-	20	FEBCO, WILKINS
DN1	DOWNSPOUT NOZZLE	ZURN	Z199	VERIFY FINISH WITH ARCHITECT	-	-	SEE PLAN	-	1	JAY R. SMITH, WADE, SIOUX CHIEF, MIFAB
FD1	FLOOR DRAIN	ZURN	FD2210-CP	CHROME PLATED TOP, PRO-SET TRAP GUARD	-	-	SEE PLAN	SEE PLAN	-	JAY R. SMITH, WADE, JOSAM
FFCO	FINISH FLOOR CLEANOUT	ZURN	ZN1400	CF CARPET FLANGE COVER WHERE REQUIRED	-	-	SEE PLAN	-	-	JAY R. SMITH, WADE, JOSAM
FGCO	FINISH GRADE CLEANOUT	ZURN	ZN1400-HD	-	-	-	SEE PLAN	-	-	JAY R. SMITH, WADE, JOSAM
FWCO	FINISH WALL CLEANOUT	ZURN	Z1441	STAINLESS STEEL COVER	-	-	SEE PLAN	-	1,13	JAY R. SMITH, WADE, JOSAM
FPH1	FREEZEPROOF ROOF HYDRANT	ZURN	Z1388	NON-FREEZE, POST-TYPE ROOF HYDRANT	0.75"	-	-	-	-	JAY R. SMITH, WADE, JOSAM
FPWH	FREEZEPROOF WALL HYDRANT	ZURN	Z1321-C	1/4 TURN, NON-FREEZE WALL HYDRANT W/INTEGRAL VACUUM BREAKER LOOSE KEY	0.75"	-	-	-	1	JAY R. SMITH, WADE, JOSAM
FPYH	TRASH ENCLOSURE FREEZEPROOF HYDRANT	WOODFORD	H34	VACUUM BREAKER, INTEGRAL HEATER W/ CORD AND PLUG CONNECTION	0.75"	-	-	-	-	ZURN, SMITH
FS1	FLOOR SINK	ZURN	Z-1900-K-2	1/2 GRATE, DOME STRAINER	-	-	SEE PLAN	SEE PLAN	-	JAY R. SMITH, WADE, JOSAM
GI1	GREASE INTERCEPTOR	SCHIER	GB-250	100-GPM, 1,895 LBS. GREASE CAPACITY, TRAFFIC RATED COVER	-	-	4"	-	-	SUBMIT FOR APPROVAL
HS1	HYDRATION STATION	HAWS	2000S	TOUCH FREE BOTTLE FILLING STATION	0.5"	-	-	-	1	SUBMIT FOR APPROVAL
IB1	ICE MAKER BOX	WATER-TITE	A897020HA	QUARTER TURN VALVE, WATTS TC DUAL CHECK BACKFLOW PREVENTER, HAMMER ARRESTER, FLEXIBLE SUPPLY	0.5"	-	-	-	1	GUY GRAY, OATEY
IB2	FIRE-RATED ICE MAKER BOX	WATER-TITE	FRB912AMHA	FIRE RATED, QUARTER TURN VALVE, WATTS TC DUAL CHECK BACKFLOW PREVENTER, HAMMER ARRESTER, FLEXIBLE SUPPLY	0.5"	-	-	-	1	GUY GRAY, OATEY
LB1	LAUNDRY BOX	WATER-TITE	W27029A	QUARTER-TURN VALVES WITH HAMMER ARRESTER	0.5"	0.5"	2"	1.5"	-	GUY GRAY, OATEY
LI1	LINT INTERCEPTOR	ZURN	Z-1185	100-GPM, 1,895 LBS. GREASE CAPACITY, TRAFFIC RATED COVER	-	-	4"	-	-	SUBMIT FOR APPROVAL
LS1	SINGLE COMPARTMENT LAUNDRY SINK	FIAT	TAT1	FLOOR MOUNTED, SINGLE COMPARTMENT LAUNDRY TUB WITH A 1 FAUCET	0.5"	0.5"	2"	1.5"	1,3,16,17	E.L. MUSTEE AND SONS
LV1	UNDERMOUNT GUESTROOM LAVATORY	KOHLER	K-20000	FIXTURE COLOR SHALL BE WHITE WITH KOHLER K-99491-4 POLISHED CHROME 1.2-GPM FAUCET. PROVIDE POP-UP STOPPER. ALL FINISHES SHALL BE POLISHED CHROME.	0.5"	0.5"	2"	1.5"	1,2,3,5,7,16	SUBMIT FOR APPROVAL
LV2	ADA UNDERMOUNT GUESTROOM LAVATORY	KOHLER	K-20000	FIXTURE COLOR SHALL BE WHITE WITH KOHLER K-99491-4 POLISHED CHROME 1.2-GPM FAUCET. PROVIDE POP-UP STOPPER. ALL FINISHES SHALL BE POLISHED CHROME.	0.5"	0.5"	2"	1.5"	1,2,3,5,7,9,10,16,22	SUBMIT FOR APPROVAL
LV3	PUBLIC UNDERMOUNT LAVATORY	KOHLER	K-20000	FIXTURE COLOR SHALL BE WHITE WITH KOHLER K-99491-4 POLISHED CHROME 1.2-GPM FAUCET. PROVIDE POP-UP STOPPER. ALL FINISHES SHALL BE POLISHED CHROME.	0.5"	0.5"	2"	1.5"	1,2,3,5,7,9,10,16,22	SUBMIT FOR APPROVAL
MV1	MASTER MIXING VALVE	LEONARD	PMV-150-LF	120-DEG HOT WATER, APPROXIMATELY 65-GPM, 10 PSI MAX PRESSURE DROP	SEE PLANS	SEE PLANS	-	-	-	POWERS
PRV1	PRESSURE REDUCING VALVE	WATTS	LFN223BS	SET TO MAX DELIVERY PRESSURE OF 80-PSI.	3"	-	-	-	-	FEBCO, WILKINS
PRV2	PRESSURE REDUCING VALVE	WATTS	LFN223BS	SET TO MAX DELIVERY PRESSURE OF 80-PSI.	3"	-	-	-	-	FEBCO, WILKINS
PRV3	PRESSURE REDUCING VALVE	WATTS	LF25AUB-Z3	SET MAX DELIVERY PRESSURE AS RECOMMENDED BY MANUFACTURER	1"	-	-	-	-	FEBCO, WILKINS
PRV4	PRESSURE REDUCING VALVE	WATTS	LF25AUB-Z3	SET MAX DELIVERY PRESSURE AS RECOMMENDED BY MANUFACTURER	-	1"	-	-	-	FEBCO, WILKINS
RD1	ROOF DRAIN	ZURN	Z100	-	-	-	SEE PLANS	-	-	JAY R. SMITH, WADE, JOSAM
SH1	SHOWER	PER ARCH PLANS	PER ARCH PLANS	KOHLER K-8304-KS-NA PRESSURE BALANCING VALVE, KOHLER K-T58991-4 VALVE TRIM, K-7395 SHOWER ARM AND FLANGE, K-9V SHOWER HEAD. STAINLESS STEEL DRAIN COVER INCLUDED WITH SHOWER PAN. REFER TO ARCHITECTURAL DRAWINGS FOR SHOWER PAN SPECIFICATIONS. ALL FINISHES SHALL BE POLISHED CHROME.	0.5"	0.5"	2"	SEE PLAN	11,16,21	AMERICAN STANDARD, MINCY MARBLE
SH2	ADA SHOWER	PER ARCH PLANS	PER ARCH PLANS	KOHLER K-8304-KS-NA PRESSURE BALANCING VALVE, KOHLER K-T58991-4 VALVE TRIM, K-99999-D HANDSHOWER WITH SLIDEBAR KIT. STAINLESS STEEL DRAIN COVER INCLUDED WITH SHOWER PAN. REFER TO ARCHITECTURAL DRAWINGS FOR SHOWER PAN SPECIFICATIONS. ALL FINISHES SHALL BE POLISHED CHROME.	0.5"	0.5"	2"	SEE PLAN	9,10,11,16,21	AMERICAN STANDARD, MINCY MARBLE
SK1	SINGLE COMPARTMENT GUESTROOM UNDERMOUNT SINK	ELKAY	ELUH1113	UNDERMOUNT SINK WITH MOEN 7365 POLISHED CHROME FAUCET AND KOHLER 7466 NA STRAINER, BADGER 5 1/2 HP GARBAGE DISPOSAL	0.5"	0.5"	2"	1.5"	1,2,3,7,12,16	SYMMONS, KOHLER
SK2	SINGLE COMPARTMENT ADA GUESTROOM UNDERMOUNT SINK	ELKAY	ELUH1113	UNDERMOUNT SINK WITH MOEN 7365 POLISHED CHROME FAUCET AND KOHLER 7466 NA STRAINER, BADGER 5 1/2 HP GARBAGE DISPOSAL	0.5"	0.5"	2"	1.5"	1,2,3,7,9,10,12,16,22	SYMMONS, KOHLER
SK3	SINGLE COMPARTMENT EMPLOYEE BREAKROOM SINK	ELKAY	LRAD151755	UNDERMOUNT SINK WITH MOEN 7365 POLISHED CHROME FAUCET AND KOHLER 7466 NA STRAINER	0.5"	0.5"	2"	1.5"	1,2,3,7,9,10,16,22	SYMMONS, KOHLER
SM1	SAMPLING MANHOLE	SCHIER	SV24	POLYETHYLENE WASTEWATER SAMPLING PORT, TRAFFIC RATED COVER, PROVIDE RISER AS REQUIRED	-	-	SEE PLAN	-	-	SUBMIT FOR APPROVAL
WC1	GUEST ROOM TANK TYPE WATER CLOSET	KOHLER	K-3531	1.0 GPF, ELONGATED BOWL, K-20112 ELONGATED SEAT WITH LID	0.5"	-	4"	SEE PLAN	10	KOHLER, TOTO
WC2	ADA GUEST ROOM TANK TYPE WATER CLOSET	KOHLER	K-3519	1.0 GPF, ELONGATED BOWL, K-20112 ELONGATED SEAT WITH LID	0.5"	-	4"	SEE PLAN	8,9,10	KOHLER, TOTO
WC3	ADA FLOOR MOUNT FLUSH VALVE WATER CLOSET	KOHLER	K-96057	FIXTURE SHALL BE WHITE WITH K-10956 BATTERY OPERATED, 1.28-GPF FLUSH VALVE AND K-4731-C-0 OPEN FRONT WITH NO COVER SEAT	1.25"	-	4"	2"	1,9,10,16,17	ZURN, AMERICAN STANDARD
WT1	WATER TREATMENT SYSTEM	EASY WATER	SP-2472-2C-2	EASY WATER SIMPLYSOFT SOFTENER THAT CONSISTS OF TWO 24"x72" RESIN TANKS THAT SHALL BE PLUMBED IN PARALLEL, 2" CONTROL VALVES FOR EACH RESIN TANK AND A SINGLE 30"x48" BRINE TANK WITH SALT GRID. EACH RESIN TANK IS CAPABLE SOFTENING 73-GPM WITH A 15-PSI PRESSURE DROP. BACKWASH RATE OF 15-GPM. SYSTEM SOLD AS COMPONENTS AND PLUMBED AND WIRED ON SITE.	-	-	-	-	-	SUBMIT FOR APPROVAL
WT2	WATER TREATMENT SYSTEM	EASY WATER	EF-50-IN WITH TWS-2	EASY WATER NO-SALT CONDITIONER TREATMENT SPOOL FOR TREATMENT OF BUILDING 2" 1220* HOT WATER RETURN PIPING. PRE-ASSEMBLED TWS-2 FLANGED TREATMENT SPOOL TO BE INSTALLED ON DISCHARGE SIDE OF RECIRCULATION PUMP.	-	-	-	-	-	SUBMIT FOR APPROVAL
WT3	WATER TREATMENT SYSTEM	EASY WATER	CS400 WITH TWS-.75	EASYWATER NO-SALT CONDITIONER TO TREAT 0.75" 160* HOT WATER RETURN PIPING. PRE-ASSEMBLED TWS-.75 FLANGED TREATMENT SPOOL TO BE INSTALLED ON THE DISCHARGE SIDE OF RECIRCULATION PUMP.	-	-	-	-	-	SUBMIT FOR APPROVAL

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.
2. PROVIDE TRUEBRO HANDI-LAV-GUARD INSULATION KIT WHERE EXPOSED. COLOR SHALL BE SELECTED BY THE ARCHITECT.
3. PROVIDE 17 GA. CHROME PLATED BRASS WASTE, TAILPIECE AND P-TRAP. PROVIDE PLATED ESCUTCHEONS AT WALL PENETRATIONS.
4. PROVIDE STAINLESS STEEL DRAIN WITH CONICAL STRAINER BASKET AND RUBBER STOPPER.
5. PROVIDE WITH DRAIN ASSEMBLY WITH STAINLESS STEEL GRID STRAINER AT PUBLIC AREAS AND LEVER OPERATED STOPPER AT GUEST ROOMS.
6. PROVIDE STRUCTURAL RECTANGULAR STEEL TUBE CARRIER.
7. PROVIDE SINK WITH FAUCET HOLE OPENINGS TO MATCH FAUCET.
8. PROVIDE WITH ALTERNATE TANK AS REQUIRED FOR INSTALLATION WITH FLUSH LEVER ON OPEN SIDE OF FIXTURE FOR ADA COMPLIANCE.
9. INSTALL ACCESSORIES AS RECOMMENDED BY MANUFACTURER FOR ADA COMPLIANCE.
10. COORDINATE EXACT INSTALLATION LOCATION AND MOUNTING HEIGHTS WITH ARCHITECT AND INSTALL PER ADA AND HOTEL GUIDELINES.
11. COORDINATE SHOWER PAN HEIGHT WITH ARCHITECT.
12. PROVIDE SINK WITH IN-SINK-ERATOR BADGER 5, 1/2 H.P. FOOD WASTE GRINDER.
13. PROVIDE FIRE-RATED ACCESS PANEL IN LIEU OF STAINLESS STEEL COVER WHERE CLEANOUT IS INSTALLED IN FIRE-RATED WALL.
14. INSTALL WITH RAISED FLANGE FLUSH WITH FINISH FLOOR.
15. PROVIDE SINK WITH HOLE OPENINGS TO MATCH FAUCET AND EMERGENCY EYEWASH WHERE SPECIFIED.
16. PROVIDE PROTECTION FOR FIXTURE DURING CONSTRUCTION. UNITS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY CONTRACTOR.
17. PROVIDE SUPPORT FROM STRUCTURE AS RECOMMENDED BY MANUFACTURER.
18. PROVIDE RIGHT OR LEFT HAND CONFIGURATION AS REQUIRED BY PLAN. REFER TO ARCHITECTURAL DRAWINGS.
19. REFER TO ARCHITECTURAL DRAWINGS FOR FOLD-DOWN SEAT, GRAB BARS, SHOWER HEAD/CONTROLS LOCATIONS AND ALL OTHER ADA EQUIPMENT SPECIFICATIONS REQUIRED.
20. PROVIDE WITH STRAINER, AIR GAP FITTING AND DRAIN PIPING TO FLOOR DRAIN, FD1, OR MOP SINK.
21. SHOWER PAN FURNISHED BY OTHERS. DRAIN PIPING CONNECTION BY PLUMBING CONTRACTOR. FIELD COORDINATE EXACT REQUIREMENTS.
22. PROVIDE POINT-OF-USE MIXING VALVE EQUAL TO LEONARD MODEL 270-LF. SET TO DELIVER HOT WATER TEMPERATURE NO GREATER THAN 110* F.

NOTE: VERIFY ALL FIXTURE, FAUCET, AND ASSEMBLY FINISHES WITH ARCHITECT AND INTERIOR DESIGNER.

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ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record

STATE OF MISSOURI
DAVID W. ALLEN
DAVIS NUMBER PE-2004017155
05/22/23
PROFESSIONAL ENGINEER

Certificate of Authority

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Contractor is responsible for construction means methods and techniques, sequences or procedures or for safety precautions and programs in connection with the project.

STAYBRIDGE SUITES
1301 EAST LARK ST
SPRINGFIELD, MO 65804

Revisions

No.	Description	Date

M4.2
PLUMBING SCHEDULES

CJD Engineering | Energy | Innovation
2225 West Chesterfield Boulevard, Suite 200, Springfield, MO 65807
P: 417.877.1700 F: 417.324.7735 www.cjd-eng.com
Missouri State Certificate of Authority #2005026903 66

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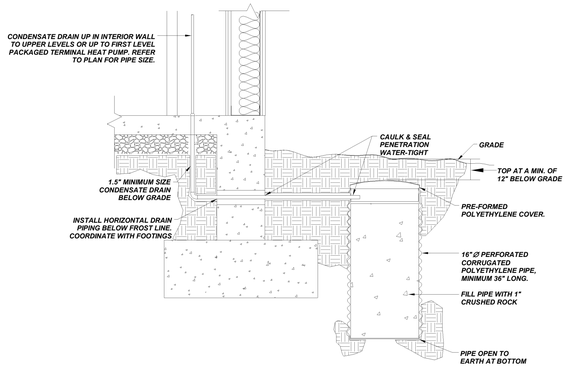

12 CONDENSATE DRYWELL DETAIL
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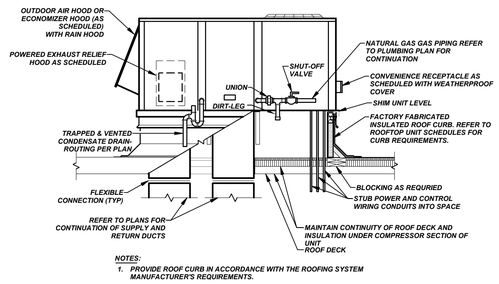
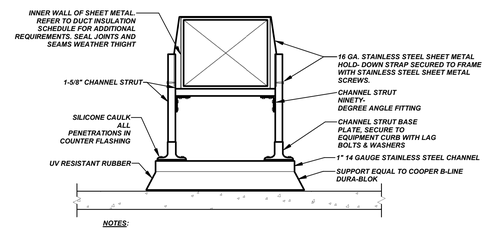


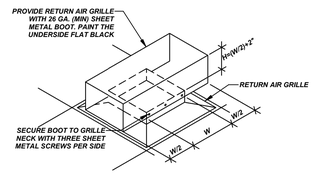
NOTES:
1. PROVIDE ROOF CURB IN ACCORDANCE WITH THE ROOFING SYSTEM MANUFACTURER'S REQUIREMENTS.

8 ROOFTOP UNIT DETAIL - HOTEL
NO SCALE



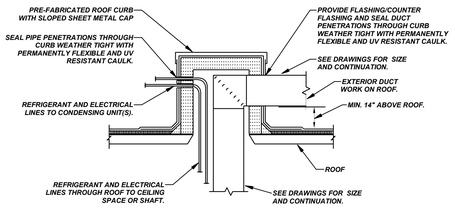
NOTES:
1. PAINT ENTIRE SUPPORT ASSEMBLY WITH (2) COATS OF OUTDOOR ACRYLIC.

4 EXTERIOR DUCT SUPPORT
NO SCALE



NOTE: WHERE RETURN AIR GRILLE NECK IS RECTANGULAR, W SHALL BE THE LARGER OF THE TWO NECK DIMENSIONS.

11 RETURN GRILLE DETAIL - CC
NO SCALE



7 DUCT AND PIPE CURB DETAIL - HOTEL
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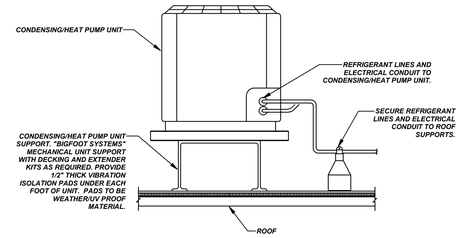

3 CONDENSING UNIT/HEAT PUMP ROOF SUPPORT DETAIL - HOTEL
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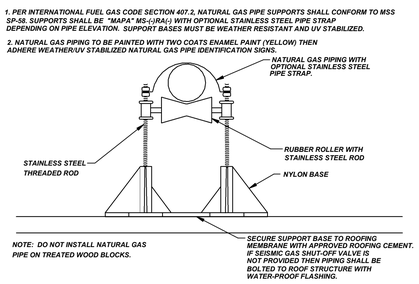

10 NAT./LP GAS PIPE SUPPORT DETAIL - HOTEL
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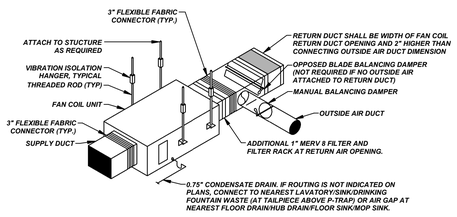

6 FAN COIL UNIT INSTALLATION DETAIL - HOTEL
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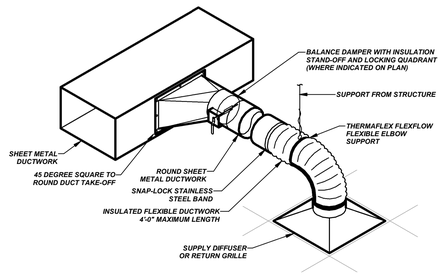
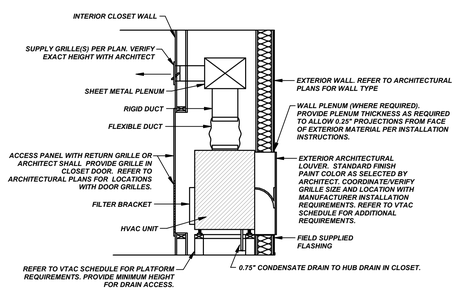


2 SUPPLY DIFFUSER INSTALLATION DETAIL
NO SCALE



9 VERTICAL HVAC UNIT - HOTEL
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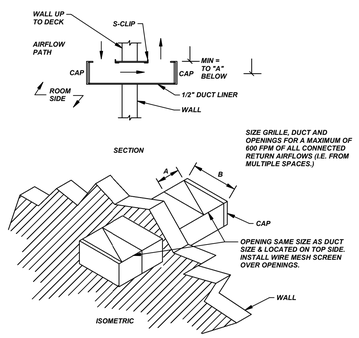
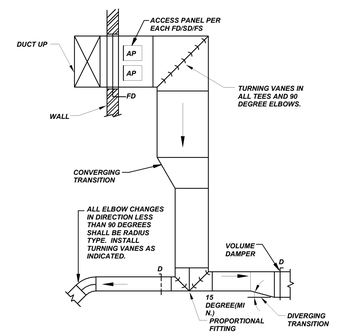


5 DUAL TOP OPENING RETURN AIR TRANSFER DUCT DETAIL - HOTEL
NO SCALE



1 DUCT FITTINGS DETAIL - HOTEL
NO SCALE

ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record

STATE OF MISSOURI
ALLEN DAVIS
NUMBER PE-2004017155
05/22/23
PROFESSIONAL ENGINEER

Certificate of Authority

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STAYBRIDGE SUITES

1301 EAST LARK ST
SPRINGFIELD, MO 65804

Revisions

No.	Description	Date

M5.1
HVAC DETAILS

project #: 22-169
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CJD
Engineering | Energy | Innovation
2225 West Chesterfield Boulevard, Suite 200, Springfield, MO 65807
P: 417.877.1700 F: 417.324.7735 www.cjd-eng.com
Missouri State Certificate of Authority #2005026903666

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AIRFLOW REGULATOR SCHEDULE

MARK	MANUFACTURER	MODEL #	SERVICE	SIZE	CFM
AFR1	ALDES	CAR3	OUTSIDE AIR	10"	230
AFR2	ALDES	CAR3	OUTSIDE AIR	10"	230
AFR3	ALDES	CAR3	OUTSIDE AIR	6"	75
AFR4	ALDES	CAR3	EXHAUST	5"	50
AFR5	ALDES	CAR3	EXHAUST	8"	100
AFR6	ALDES	CAR3	EXHAUST	8"	100
AFR7	ALDES	CAR3	OUTSIDE AIR	6"	80
AFR8	ALDES	CAR3	OUTSIDE AIR	6"	90
AFR9	ALDES	CAR3	OUTSIDE AIR	4"	20
AFR10	ALDES	CAR3	OUTSIDE AIR	4"	25
AFR11	ALDES	CAR3	EXHAUST	6"	75
AFR12	ALDES	CAR3	OUTSIDE AIR	8"	170
AFR13	ALDES	CAR3	EXHAUST	6"	75
AFR14	ALDES	CAR3	EXHAUST	6"	75
AFR15	ALDES	CAR3	EXHAUST	8"	150
AFR16	ALDES	CAR3	OUTSIDE AIR	8"	120
AFR17	ALDES	CAR3	OUTSIDE AIR	8"	100
AFR18	ALDES	CAR3	EXHAUST	8"	150
AFR19	ALDES	CAR3	EXHAUST	6"	75
AFR20	ALDES	CAR3	OUTSIDE AIR	4"	30
AFR21	ALDES	CAR3	OUTSIDE AIR	4"	30
AFR22	ALDES	CAR3	OUTSIDE AIR	4"	30

GENERAL NOTES:
1. PROVIDE TRANSITIONS AND FITTINGS REQUIRED FOR INSTALLATION.

LOUVER SCHEDULE

MARK	MANUFACTURER	MODEL #	SERVICE	CFM	DELTA P (STATIC)	WIDTH X HEIGHT (IN)	DEPTH (IN)	FREE AREA MIN (SQ.FT.)	VELOCITY (FPM)	NOTES
L1	POTTORFF	ECD-545	INTAKE	2,400	0.03"	60"x30"	5"	5.4	447	1,2,3,4,5

NOTES:
1. BIRD SCREEN
2. DRAINABLE BLADE
3. FLANGE FRAME
4. FACTORY PAINTED BAKED ENAMEL FINISH, COLOR AS SELECTED BY ARCHITECT
5. PROVIDE 120 VOLT, TWO-POSITION MOTORIZED DAMPER, INTERLOCK WITH DRYER CONTROLS TO OPEN DURING DRYER OPERATION.

PACKAGED VERTICAL HEAT PUMP UNIT SCHEDULE

MARK	MANUF	MODEL #	SA CFM	E.S.P. (IN W.G.)	OA CFM	COOLING EAT (DB/WB)	COOLING THC (MBH)	HEAT PUMP HEATING CAP. (MBH) @ 47 F. DB	ELECTRIC HEAT (KW)	VOLTAGE/ PHASE	MCA	MOCP	NOTES
VTHP1	FREEDRICH	V1A12K34RTP	400	0.20"	-	80/67	12.0	10.9	3.4	208/1	19.9	20	1,2,3,4,5,6,7,8
VTHP2	FREEDRICH	V1A18K50RTP	450	0.20"	-	80/67	18.0	16.4	5.0	208/1	28.7	30	1,2,3,4,5,6,7,8

NOTES:
1. PROVIDE INSULATED REAR WALL SLEEVE.
2. PROVIDE FACTORY EXTERIOR ARCHITECTURAL LOUVER AND OUTSIDE PLENUM. LOUVER PRIMED WITH FIELD FINISH AS DIRECTED BY ARCHITECT.
3. UNIT SHALL BE CONTROLLED BY WIRED THERMOSTAT FROM GUESTROOM CONTROL SYSTEM WITH BUILT-IN OCCUPANCY SENSOR. COORDINATE WITH MANUFACTURER FOR EXACT REQUIREMENTS.
4. PROVIDE 1" FILTER EQUAL TO FARR 30/30 WITH MINIMUM MERV 7 RATING. PROVIDE NEW FILTERS UPON TURNOVER TO OWNER.
5. PROVIDE INTERNAL CONDENSATE DRAIN WITH SECONDARY OVERFLOW THROUGH SLEEVE TO EXTERIOR OF BUILDING.
6. PROVIDE INSULATED LOUVERED ACCESS RETURN AIR PANEL WITH INTEGRAL FILTER.
7. PROVIDE INTEGRAL ELECTRICAL DISCONNECT.
8. PROVIDE DRAIN PAN.

MINI-SPLIT SYSTEM SCHEDULE

AIR HANDLING UNIT							CONDENSING UNIT							
MARK	AREA SERVED	MANUFACTURER	MODEL #	INDOOR MODEL TYPE	CFM (SA)	VOLTAGE/ PHASE	MARK	MANUFACTURER	MODEL #	SENSIBLE (MBH)	TOTAL (MBH)	VOLTAGE/ PHASE	MCA	MOCP	NOTES AND ACCESSORIES
MSFC1	PBX 138	DAIKIN	FA12AP/KJU	WALL MOUNTED	635	208/1	MSCU1	DAIKIN	RZQ12AP/KJU	180.0	24.0	208/1	16.5	20	1,2,3,4,5,6

NOTES/ACCESSORIES:
1. PROVIDE LOW AMBIENT COOLING KIT (0 DEG. F).
2. PROVIDE WALL MOUNTED REMOTE CONTROL THERMOSTAT. TIE INTO BAS.
3. PROVIDE CONDENSATE OVERFLOW SWITCH WIRED TO SHUT DOWN UNIT UPON ACTIVATION.
4. PROVIDE REFRIGERANT LINE SET SIZED PER MANUFACTURER'S RECOMMENDATIONS AND ALL ACCESSORIES AS REQUIRED FOR LINE LENGTHS INDICATED.
5. PROVIDE "ASPEN MASP-MW 115" CONDENSATE PUMP FOR WALL MOUNTED UNIT. PUMP SHALL BE WIRED TO WALL UNIT. RUN 3/4" CONDENSATE PIPE TO NEAREST FLOOR/HUB DRAIN/SINK TRAP.
6. REFER TO MECHANICAL DETAIL SHEET FOR ADDITIONAL INSTALLATION REQUIREMENTS.

DUCT INSULATION SCHEDULE

SYSTEM	SERVICE	CONFIGURATION	INSULATION THICKNESS	LOCATION	NOTES
VRF FCUs	SUPPLY MAIN/BRANCHES	RECTANGULAR/ROUND	1.5" WRAP	ALL CONCEALED INDOOR SPACES	1
"	SUPPLY MAIN/BRANCHES	RECTANGULAR/ROUND	1" LINER	ALL EXPOSED INDOOR SPACES	2,4,7
"	RETURN MAINS	RECTANGULAR/ROUND	1" LINER	ALL INDOOR SPACES	2,7
EXHAUST DUCT (EXCEPT GREASE)	EXHAUST MAIN/BRANCHES	RECTANGULAR/ROUND	NONE	ALL LOCATIONS INDOORS	-
"	EXHAUST AIR MAIN/BRANCHES	RECTANGULAR/ROUND	1" LINER/2" WRAP	OUTDOORS	2,5,6
DOAS UNIT (OUTSIDE/VENTILATION AIR)	OUTSIDE AIR MAINS	RECTANGULAR	1" LINER	ALL LOCATIONS EXCEPT SHAFTS	2
"	OUTSIDE AIR BRANCHES	ROUND	NONE	ALL LOCATIONS INDOORS	-
"	OUTSIDE AIR MAIN/BRANCHES	RECTANGULAR/ROUND	1" LINER/2" WRAP	OUTDOORS	2,5,6

NOTES:
1. EXTERNAL FIBERGLASS INSULATION WRAP (1.0 LB) W/ FOIL SCRIM-KRAFT FACING.
2. INTERNAL RECTANGULAR DUCT LINER ARAMCELL APICOR FLEX FIBER-FREE DUCT LINER WITH MIN. R-VALUE OF 4.2, ASTM C 1534 COMPLIANT.
3. INTERNAL DUCT LINER (2.0 LB) INSULATION WITH ANTI-MICROBIAL COATING THAT COMPLIES WITH ASTM C1071.
4. VERIFY WITH ARCHITECT WHERE EXPOSED DUCT SHALL BE PAINTED. PAINTED EXPOSED DUCT SHALL HAVE PAINT GRIP FINISH. NON-PAINTED EXPOSED DUCT SHALL BE CLEANED OF ALL LABELS AND OIL.
5. EXTERNAL INSULATION BOARD (2.0 LB) W/ FOIL-SCRIM KRAFT FACING
6. PROVIDE POLYGUARD "ELIMAGUARD ALL WEATHER" DUCT WEATHER PROOF CLADDING APPLIED TO EXTERIOR DUCT INSULATION SURFACE.
7. PROVIDE LINER FOR FIRST 10'-0" OF DUCT UPSTREAM OR DOWNSTREAM OF HVAC UNIT.

GENERAL NOTES:
1. SIZES OF ALL METAL DUCTWORK INDICATED ON PLAN IS CLEAR DIMENSION AND EXCLUDES INTERIOR THERMAL OR ACCOUSTICAL LINER, ADD HEIGHT AND WIDTH TO DUCTWORK TO ACCOMMODATE THICKNESS OF INSULATION AS INDICATED IN THE SCHEDULE ABOVE.
2. APPROVED INSULATION MANUFACTURERS: KNAUF, OWENS-CORNING, JOHNS-MANSVILLE, ARMACELL AP ARMAFLEX. MINIMUM R-6 2IN/CH. NOT TO EXCEED 25/50 FLAME/SMOKE DEVELOPMENT TESTING.

AIR DEVICE SCHEDULE

MARK	MANUFACTURER	MODEL	DUCT CONNECTION SIZE	SERVICE	MODULE SIZE	FRAME	FINISH	DAMPER	MAX. NC	DELTA P (STATIC)	NOTES
E1	ALDES	CER3-R	5" DIAMETER	EXHAUST	8x8	SURFACE	PER ARCH	REGULATOR	30	0.25"	1,3,4,9
E2	KRUEGER	5669D	6": 0-85 CFM 8": 90-165 CFM 10": 170-240 CFM 12": 245-350CFM 14": 355-490CFM	EXHAUST	24x24	LAY-IN/ SURFACE	WHITE	-	30	0.07"	1,2,3,8,9,10
E3	KRUEGER	5669D	6": 0-85 CFM	EXHAUST	12x12	LAY-IN/ SURFACE	WHITE	-	32	0.06"	1,4,8,10
S1	KRUEGER	PLQ	6": 0-100 CFM 8": 105-215 CFM 10": 220-360 CFM 12": 365-550 CFM 14": 555-800 CFM	SUPPLY	24x24	LAY-IN/ SURFACE	WHITE	-	30	0.08"	1,3,4,8,10
S2	KRUEGER	1910BOOT (3) 1" SLOTS	6": 0-90 CFM 8": 100-200 CFM 10": 201-370 CFM	SUPPLY	48x6	FLOWBAR	WHITE	OBD	30	0.08"	1,2,3,4,7,10
S3	KRUEGER	PLQ	6": 0-100 CFM 8": 105-215 CFM	SUPPLY	12x12	LAY-IN/ SURFACE	WHITE	-	30	0.08"	1,3,7,11
S4	ALDES	CSR3-R	5" DIAMETER	SUPPLY	8x8	SURFACE	PER ARCH	REGULATOR	30	0.25	1,2,3,4,8,10
S5	KRUEGER	880H	6x6: 0-110 CFM 8x8: 115-290 CFM 12x8: 255-350 CFM 18x10: 355-650 CFM 20x14: 1000-1330 CFM	SUPPLY	-	SURFACE	WHITE	O.B.D.	30	0.08"	1
S6	ALDES	CSR3-S	6x6 DUCT	SUPPLY	8x8	SURFACE	PER ARCH	REGULATOR	30	0.25	1,3,4
R1	KRUEGER	6490	12x12: 0-1025 CFM 18x18: 1026-1750 CFM 22x22: 1751-2315 CFM	RETURN	24x24	LAY-IN/ SURFACE	WHITE	-	30	0.06"	1,4,5,10
T1	KRUEGER	580H	8x8: 100-175 CFM 12x10: 180-360 CFM 14x12: 365-550 CFM	TRANSFER	-	SURFACE	WHITE	-	25	0.04"	1

NOTES:
1. GRILLE/DIFFUSER NECK SHALL BE SAME SIZE AS BRANCH DUCTWORK UNLESS NOTED OTHERWISE ON PLAN.
2. DIFFUSER DISCHARGE/INTAKE AIR PATTERN SHALL BE 4-WAY UNLESS INDICATED OTHERWISE ON PLANS. PROVIDE DIRECTIONAL BLOW TABS TO ACHIEVE BLOW PATTERN WHERE REQUIRED.
3. GRILLE/DIFFUSER SHALL MATCH ADJACENT FINISHES WITH CUSTOM COLOR UNLESS NOTED OTHERWISE. COORDINATE TO PAINT DIFFUSER AS REQUIRED WITH INTERIOR DESIGNER IN LIEU OF CUSTOM COLOR IF REQUIRED.
4. PROVIDE BORDER FOR SURFACE MOUNT INSTALLATION WHEN INSTALLED IN HARD CEILINGS WHICH ALLOWS DIFFUSER/GRILLE TO BE LIFTED UP FOR ABOVE CEILING ACCESS.
5. SEE RETURN AIR GRILLE DETAIL ON HVAC DETAIL SHEET FOR ADDITIONAL SOUND ATTENTUATION CONSTRUCTION REQUIREMENTS.
6. MOUNT GRILLE WITH BLADES ANGLED UP.
7. PROVIDE YOUNG REGULATOR MODEL 800AWO OVAL CABLE CONTROLLED DAMPER OR EQUIVALENT AT NECK OF DIFFUSER WHEN DAMPER IS NOT ACCESSIBLE.
8. PROVIDE YOUNG REGULATOR MODEL 800AWR ROUND CABLE CONTROLLED DAMPER OR EQUIVALENT AT NECK OF DIFFUSER WHEN DAMPER IS NOT ACCESSIBLE.
9. ALL ALUMINUM CONSTRUCTION.
10. PROVIDE PLASTER FRAME FOR GYP. CEILING INSTALLATION.

VRF - FAN COIL UNIT/HEAT PUMP SCHEDULE

FAN COIL UNIT														BRANCH SELECTOR UNIT				
MARK	ROOM SERVED	MANUFACTURER	MODEL #	ASSOCIATED HEAT PUMP	SA (CFM)	*OA (CFM)	ESP (IN. W.G.)	COOLING (BTUH) SENS. MBH	COOLING (BTUH) TOT. MBH	HEATING MBH	VOLTAGE/ PHASE	MCA (AMPS)	MOCP (AMPS)	MARK	MODEL #	VOLTAGE/ PHASE	MCA (AMPS)	MOCP (AMPS)	NOTES & ACCESSORIES
FC1-1	LIVING RM 102	DAIKIN	FXMQ54PBVJU	HP1	1,625	**	0.40"	29.4	33.4	26.0	208/1	3.4	15	BS1	BS10QS47AVJ	208/1	1	15	1,2,3,4,5
FC1-2	RECEPTION 101	DAIKIN	FXMQ07PBVJU	HP1	315	**	0.40"	4.9	5.5	6.5	208/1	0.6	15	BS1	-	-	-	-	1,2,3,4,5
FC1-3	ADMIN 103	DAIKIN	FXMQ12PBVJU	HP1	450	75	0.40"	6.7	7.8	6.5	208/1	1.4	15	BS1	-	-	-	-	1,2,3,4,5
FC1-4	GM OFFICE 106	DAIKIN	FXMQ12PBVJU	HP1	450	25	0.40"	2.3	2.8	6.5	208/1	1.4	15	BS1	-	-	-	-	1,2,3,4,5
FC1-5	ELEVATOR LOBBY 123	DAIKIN	FXMQ30PBVJU	HP1	1,095	170	0.40"	14.6	14.6	13.0	208/1	2.8	15	BS1	-	-	-	-	1,2,3,4,5
FC1-6	GREAT RM 135	DAIKIN	FXMQ48PBVJU	HP1	1,375	**	0.40"	24.9	29.9	21.7	208/1	3.4	15	BS1	-	-	-	-	1,2,3,4,5
FC1-7	BUFFET 134	DAIKIN	FXMQ15PBVJU	HP1	560	80	0.40"	8.7	9.5	8.7	208/1	1.5	15	BS1	-	-	-	-	1,2,3,4,5
FC1-8	KITCHEN 133	DAIKIN	FXMQ72MVJU	HP1	2,050	90	0.40"	39.3	40.4	30.4	208/1	9.0	15	BS1	-	-	-	-	1,2,3,4,5
FC1-9	MECH RM 112	DAIKIN	FXMQ15PBVJU	HP1	560	20	0.40"	8.5	8.5	6.5	208/1	1.5	15	BS2	BS8QS47VJ	208/1	0.8	15	1,2,3,4,5
FC1-10	LAUNDRY RM 110	DAIKIN	FXMQ63MVJU	HP1	1,095	20	0.40"	50.8	51.6	39.1	208/1	10.1	15	BS2	-	-	-	-	1,2,3,4,5
FC1-11	FITNESS CENTER 109	DAIKIN	FXMQ30PBVJU	HP1	1,095	120	0.40"	15.4	16.5	13.0	208/1	2.8	15	BS2	-	-	-	-	1,2,3,4,5
FC1-12	GUEST LAUNDRY 126	DAIKIN	FXMQ24PBVJU	HP1	560	**	0.40"	12.6	12.9	13.0	208/1	1.8	15	BS2	-	-	-	-	1,2,3,4,5
FC2-1	2ND GUESTROOM CORRIDOR	DAIKIN	FXMQ12PBVJU	HP2	450	**	0.40"	7.2	7.2	6.5	208/1	1.4	15	-	-	-	-	-	1,2,3,4,5
FC2-2	3RD GUESTROOM CORRIDOR	DAIKIN	FXMQ12PBVJU	HP2	450	**	0.40"	7.2	7.2	6.5	208/1	1.4	15	-	-	-	-	-	1,2,3,4,5
FC2-3	4TH GUESTROOM CORRIDOR	DAIKIN	FXMQ24PBVJU	HP2	690	**	0.40"	12.2	12.2	8.7	208/1	1.8	15	-	-	-	-	-	1,2,3,4,5
FC3-1	2ND HOUSEKEEPING	DAIKIN	FXMQ07PBVJU	HP3	315	20	0.40"	0.7	0.7	3.0	208/1	0.6	15	-	-	-	-	-	1,2,3,4,5
FC3-2	3RD HOUSEKEEPING	DAIKIN	FXMQ07PBVJU	HP3	315	20	0.40"	0.7	0.7	3.0	208/1	0.6	15	-	-	-	-	-	1,2,3,4,5
FC3-3	4TH HOUSEKEEPING	DAIKIN	FXMQ07PBVJU	HP3	315	20	0.40"	0.7	0.7	3.0	208/1	0.6	15	-	-	-	-	-	1,2,3,4,5
FC4-1	2ND ELECTRICAL	DAIKIN	FXMQ07PBVJU	HP4	315	30	0.40"	1.5	1.5	3.0	208/1	0.6	15	-	-	-	-	-	1,2,3,4,5
FC4-2	3RD ELECTRICAL	DAIKIN	FXMQ07PBVJU	HP4	315	30	0.40"	1.5	1.5	3.0	208/1	0.6	15	-	-	-	-	-	1,2,3,4,5
FC4-3	4TH ELECTRICAL	DAIKIN	FXMQ07PBVJU	HP4	315	30	0.40"	2.1	2.1	3.0	208/1	0.6	15	-	-	-	-	-	1,2,3,4,5

NOTES & ACCESSORIES:
1. PROVIDE MERV-13 FILTER AND FILTER RACK.
2. SUSPEND FROM STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE VIBRATION ISOLATION KIT.
3. PROVIDE VRF SYSTEM MANUFACTURER'S PROGRAMMABLE WALL-MOUNT 7 DAY CONTROLLER/THERMOSTAT.
4. CONDENSATE PUMP POWERED THROUGH UNIT.
5. DRAIN PAN WITH CONDENSATE SENSOR AND SHUTDOWN RELAY.

OUTSIDE AIR NOTES:
*10 MVHS ED OUTSIDE AIR IS PROVIDED VIA DEDICATED OUTSIDE AIR UNIT. BALANCE THE DUCTED OUTSIDE AIR SYSTEM TO EACH INDIVIDUAL FAN COIL UNIT TO THE AIR QUANTITY NOTED IN THIS SCHEDULE.
**OUTSIDE AIR FOR THIS UNIT IS DUCTED TO DIFFUSER DIRECTLY INTO SPACE FOR THIS UNIT/ZONE, REFER TO HVAC PLAN.

OUTDOOR HEAT PUMP

MARK	BUILDING AREA/ZONE	MANUFACTURER	HEAT PUMP UNIT MODEL #	AMBIENT TEMPERATURE (F) SUMMER DB / WINTER DB	TOTAL COOLING MBH	HEATING MBH	VOLTAGE/ PHASE	MCA CKT#1	MOCP CKT#1	MCA CKT#2	MOCP CKT#2	MCA CKT#3	MOCP CKT#3	NOTES
HP1	1ST FLR. COMMON AREAS	DAIKIN	REYQ456AA7JA	95 / 0	329.9	249.7	208/3	67.2	70	59.3	60	-	-	1,2,3,4,5,6
HP2	2ND THRU 4TH FLOORS GUESTROOM CORRIDORS	DAIKIN	RXTQ48TAVJUA	95 / 0	40.2	35.2	208/1	29.1	35	-	-	-	-	1,2,3,4,5,6
HP3	2ND THRU 4TH FLOORS HOUSEKEEPING	DAIKIN	RXTQ36TAVJBA	95 / 0	28.7	28.4	208/1	29.1	35	-	-	-	-	1,2,3,4,5,6
HP4	1ST AND 4TH FLOORS ELECTRICAL ROOM	DAIKIN	RXTQ36TAVJBA	95 / 0	28.7	28.4	208/1	16.5	20	-	-	-	-	1,2,3,4,5,6

CONDENSING UNIT NOTES:
1. PROVIDE REFRIGERANT LINE SET(S) SIZED PER MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE ALL REFRIGERATION SYSTEM ACCESSORIES REQUIRED BY MANUFACTURER FOR GIVEN LINE SET ROUTING.
3. PROVIDE REFRIGERANT TWINNING KIT AS REQUIRED.
4. PROVIDE ACCESSORIES FOR LOW AMBIENT OPERATION.
5. PROVIDE "SIG FOOT SYSTEMS" OR EQUIVALENT MANUFACTURED GALVANIZED FRAME/WORK SYSTEM TO MAINTAIN BOTTOM OF HEAT PUMP AT 12" MINIMUM ABOVE ROOF.
6. PROVIDE METAL LOUVERED HAIL GUARDS.

NOTE:
SCHEDULED HEATING AND COOLING CAPACITIES AT THE SCHEDULED TEMPERATURES ARE THE MINIMUM ACCEPTABLE CAPACITIES. ANY DEVIATIONS TO MEET THE MINIMUMS, INCLUDING UPSIZING THE EQUIPMENT AND ASSOCIATED ELECTRICAL AND STRUCTURAL REQUIREMENTS ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.

OUTDOOR AIR UNIT SCHEDULE

MARK	MFGR.	MODEL #	SUPPLY FAN CFM	SUPPLY FAN E.S.P.	SUPPLY FAN FAN H.P.	EXHAUST FAN CFM	EXHAUST FAN E.S.P.	EXHAUST FAN FAN H.P.	TOTAL ENERGY RECOVERY WHEEL: COOLING OA (DB/WB)	COOLING RA (DB/WB)	COOLING SA (DB/WB)	HEATING OA (DB/WB)	HEATING RA (DB/WB)	HEATING SA (DB/WB)	COOLING COIL EAT (DB/WB)	COOLING COIL LAT (DB/WB)	COOLING COIL SHC (MBH)	COOLING COIL THC (MBH)	HOT GAS REHEAT THC (MBH)	HOT GAS REHEAT LAT (DB)	GAS HEATING COIL EAT (DB)	GAS HEATING COIL LAT (DB)	GAS HEATING COIL INPUT/OUTPUT	VOLTAGE/ PHASE	MCA	MOCP	NOTES/ACCESSORIES
DOAS1	DAIKIN	DPSA020	3,920	1.25"	(2) 2 HP	2,910	1.25"	2.2 HP	84.0 / 77.0	72.0 / 61.0	76.9 / 68.4	0.0 / 0.0	75.0 / 65.0	45.2 / 45.2	76.9 / 68.4	47.5 / 47.5	125.9	241.3	95.5	70	45.2	80.5	200 / 162	208/3	129.1	150	1,2,3,4,5,6,7,8,9,11,12,13,14,15
DOAS2	DAIKIN	DSP012A	2,260	1.25	4 HP	1,430	1.25"	4 HP	84.0 / 77.0	72.0 / 61.0	78.0 / 70.2	0.0 / 0.0	75.0 / 65.0	38.3 / 38.3	78.0 / 70.2	50.3 / 50.3	68.5	139.6	53.2	72.0	38.3	103.5	200 / 160	208/3	62.4	70	1,2,3,4,5,6,7,8,9,10,12,13,14,15

NOTES/ACCESSORIES:
1. FACTORY DISCONNECT SWITCH
2. EXTERNAL STATIC PRESSURE EXCLUDES COIL AND FILTER LOSS.
3. DIRTY FILTER SENSOR.
4. REFER TO TEMPERATURE CONTROL SPECIFICATIONS FOR CONTROL OF UNIT.
5. SUPPLY FAN SHALL BE SIZED TO HANDLE 110% OF SCHEDULED AIRFLOW.
6. PROVIDE MERV-8 PRE-FILTER AND MERV-13 FINAL FILTER WITH SYNTHETIC FRAMES.
7. MICROPROCESSOR CONTROL BOARD FOR INTERFACE WITH THE VRF CONTROL SYSTEM.
8. MODULATING GAS VALVE.
9. PROVIDE FACTORY INSTALLED, FIELD POWERED 120-VOLT, 20-AMP GF RECEPTACLE.
10. PROVIDE 2" SPRING ISOLATION, 42" HIGH INSULATED ROOF CURB WITH MINIMUM OF 6" SOUND ABSORPTION MATERIAL INSIDE OF CURB. CURB SHALL BE TALL ENOUGH FOR HORIZONTAL DISCHARGE OF THE SUPPLY AND EXHAUST DUCTS. COORDINATE REQUIREMENTS WITH MANUFACTURER.
11. PROVIDE 2" SPRING ISOLATION, 20" HIGH INSULATED ROOF CURB WITH MINIMUM OF 6" SOUND ABSORPTION MATERIAL INSIDE OF CURB. CURB SHALL BE TALL ENOUGH TO PROVIDE 14" CLEAR. COORDINATE REQUIREMENTS WITH MANUFACTURER.
12. LISTED CAPACITIES MEET OR EXCEED THE ASHRAE 0.4% DRY BULB/MCWB AND 0.4% WET BULB/MCDB.
13. SUPPLY AND EXHAUST FANS SHALL BE SIZED TO PROVIDE 110% OF SCHEDULED AIRFLOW.
14. INCLUDE R-13 DOUBLE WALL CONSTRUCTION.
15. PROVIDE OPTIONAL 5-YEAR SERVICE CONTRACT. SCOPE OF SERVICES SHALL INCLUDE ALL MAINTENANCE ACTIVITIES AS RECOMMENDED BY MANUFACTURER.

ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record
STATE OF MISSOURI
DAVID W. ALLEN
DAVIS NUMBER PE-2004017155
05/22/23
PROFESSIONAL ENGINEER
Certificate of Authority

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1301 EAST LARK ST
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Revisions

No.	Description	Date

M5.2
HVAC SCHEDULES

project #: 22-169
date: 5/22/2023 1:25:28 PM

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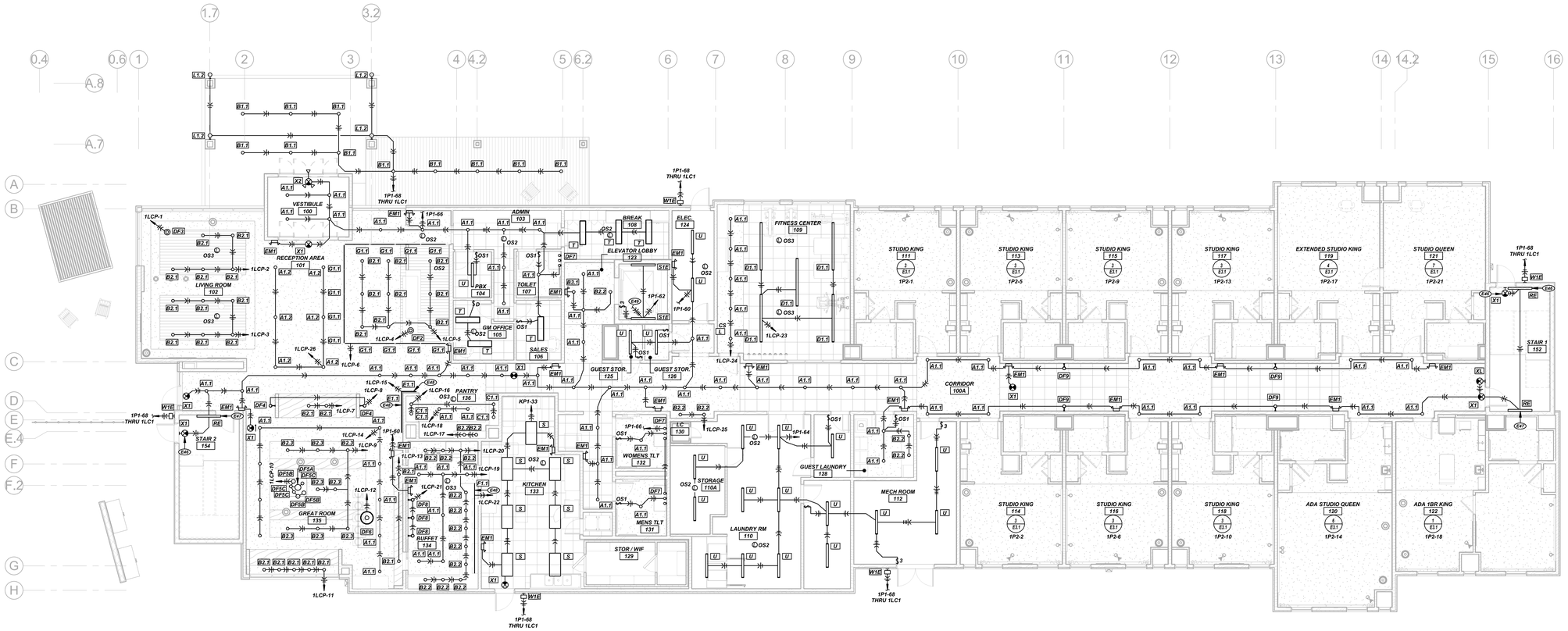
KEYNOTES:

E46 INSTALL LIGHT FIXTURE ABOVE TOP OF DOOR.
E47 INSTALL LIGHT FIXTURE 8'-0" ABOVE LANDING.
E48 COORDINATE EXACT LOCATION AND MOUNTING REQUIREMENTS WITH MILLWORK CONTRACTOR.
E49 CIRCUIT WITH LIGHT FIXTURE ABOVE.



1 FIRST FLOOR LIGHTING PLAN
1/8" = 1'-0"

NORTH

STAYBRIDGE SUITES

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ARKIFEX STUDIOS

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STATE OF MISSOURI
EDWARD ALLEN DAVIS
NUMBER PE-2004017155
05/22/23
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Revisions

No.	Description	Date

E1.1
FIRST FLOOR LIGHTING PLAN

project #: 22-169
date: 5/22/2023 1:23:58 PM

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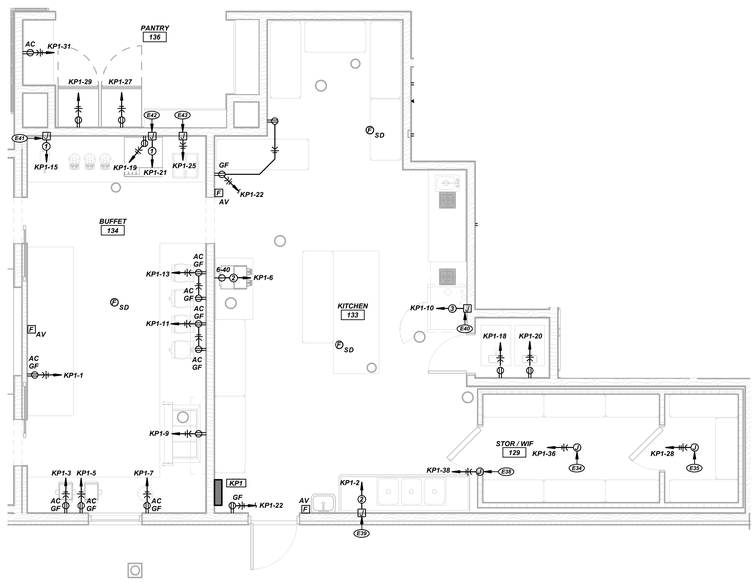
FOOD SERVICE SPECIAL NOTES:

1. *PRIOR TO ANY ELECTRICAL ROUGH-IN FOR KITCHEN, BUFFET OR PANTRY AREA EQUIPMENT, ELECTRICAL CONTRACTOR SHALL REVIEW KITCHEN EQUIPMENT SUPPLIER'S ROUGH-IN DRAWINGS, TO CONFIRM ALL ELECTRICAL REQUIREMENTS.*
2. *ALL ROUGH-IN HEIGHTS SHALL BE AS DIRECTED BY KITCHEN EQUIPMENT SUPPLIER/INSTALLER. HEIGHT MAY NOT BE SHOWN ON ELECTRICAL PLANS. REFER TO KITCHEN EQUIPMENT SUPPLIER'S ROUGH-IN DRAWINGS FOR HEIGHTS AND DIMENSIONED LOCATIONS.*
3. *ALL 120-VOLT, 15-AMP AND 20-AMP RECEPTACLES SHALL BE GFCI PROTECTED PER 2014 NEC 210.8(B)(2).*
4. *REFERENCE KITCHEN EQUIPMENT SUPPLIER/INSTALLER ROUGH-IN DRAWINGS FOR ADDITIONAL ELECTRICAL CONTRACTOR REQUIREMENTS*
5. *ALL DEVICE COVER PLATES AT KITCHEN SHALL BE STAINLESS STEEL (WITH GROUND).*
6. *COORDINATE RECEPTACCLE NEMA CONFIGURATIONS WITH EQUIPMENTS SUPPLIER PRIOR TO ROUGH-IN.*

ELEVATOR EQUIPMENT NOTES:

1. *MACHINE-ROOMLESS ELEVATOR SYSTEM REQUIREMENTS DIFFER FROM CONVENTIONAL HYDRAULIC ELEVATORS. PRIOR TO ANY ELEVATOR EQUIPMENT INSTALLATION, REFER TO ELEVATOR EQUIPMENT SUPPLIER'S EQUIPMENT LAYOUT FOR DETAILED EQUIPMENT LOCATIONS.*
2. *REVIEW ELEVATOR EQUIPMENT MANUFACTURER REQUIREMENTS/SHOP DRAWINGS, AND CONFIRM ALL ELECTRICAL REQUIREMENTS PRIOR TO ANY INSTALLATION. COORDINATE CLOSELY WITH ELEVATOR SUPPLIER/INSTALLER FOR ROUGH-IN REQUIREMENTS AND LOCATIONS.*
3. *PROVIDE ALL RACEWAYS, CONDUITS, ETC. AS REQUIRED.*
4. *EXTEND ELEVATOR POWER FROM POWER MODULE TO DISCONNECT AT BOTTOM OF SHAFT.*
5. *EXTEND ELEVATOR CAB LIGHTS, ACCESSORIES POWER FROM DISCONNECT SWITCH TO SHAFT.*
6. *EXTEND COMMUNICATIONS ROUGH-IN FROM LOCATION ADJACENT TO POWER MODULE TO ELEVATOR SHAFT.*



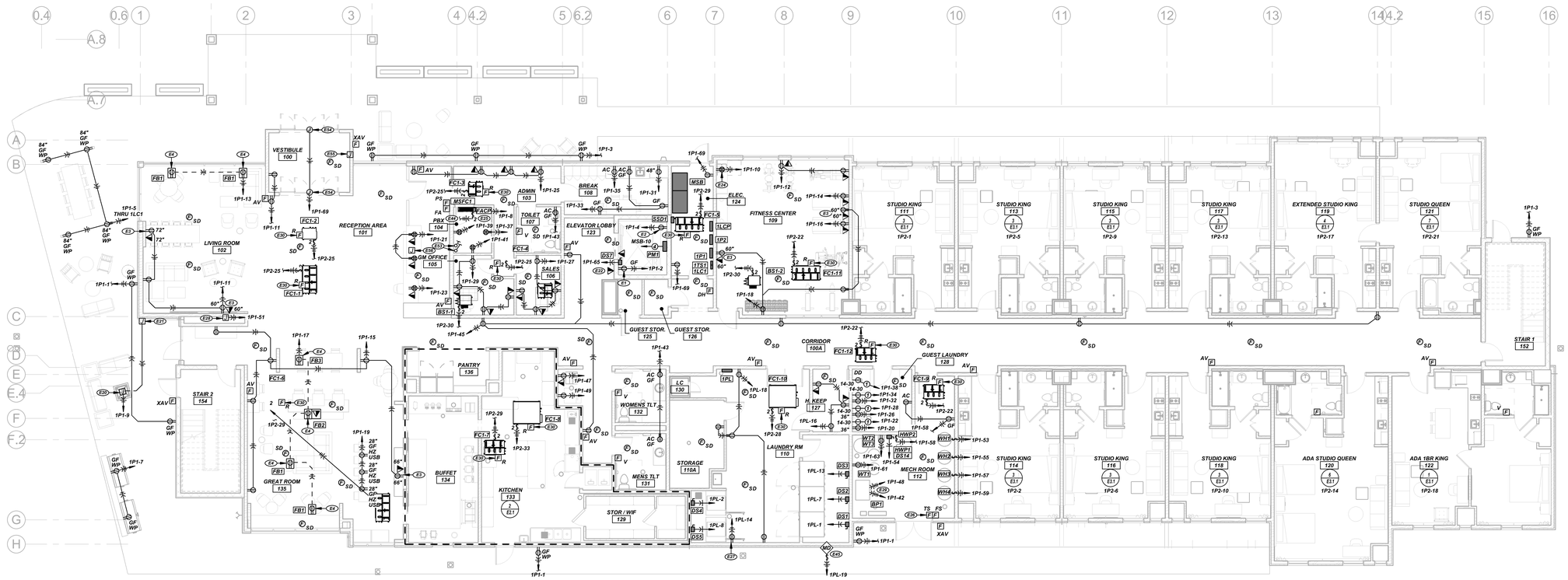
2 KITCHEN 133 ENLARGED ELECTRICAL PLAN
1/4" = 1'-0"
NORTH

KEYNOTES:

E1	*PROVIDE ELEVATOR PIT MAINTENANCE RECEPTACLE. FIELD DETERMINE EXACT LOCATION.*
E2	*PROVIDE SUMP PUMP RECEPTACLE AT PIT. SUMP PUMP RECEPTACLE SHALL NOT BE WIRED FOR GROUND FAULT PROTECTION. FIELD COORDINATE LOCATION WITH PLUMBING CONTRACTOR.*
E3	*INSTALL RECEPTACLE AND COMMUNICATIONS DEVICE BEHIND TELEVISION. VERIFY/COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.*
E4	*FIELD COORDINATE EXACT LOCATION OF FLOOR BOX PRIOR TO ROUGH-IN.*
E20	*POWER CONNECTION FOR GAS FIRE PIT IGNITER/BLOWER. VERIFY EXACT REQUIREMENTS WITH EQUIPMENT SUPPLIER.*
E21	*PROVIDE EMERGENCY OFF PUSH-BUTTON FOR GAS FIRE PIT WITH HINGED, NON-LOCKABLE COVER, AND LABEL PER STATE OF MISSOURI REQUIREMENTS. VERIFY EXACT LOCATION AND INSTALLATION HEIGHT WITH ARCHITECT PRIOR TO INSTALLING.*
E22	*HOUSE PHONE SHALL BE CAPABLE OF EMERGENCY TWO-WAY COMMUNICATION.*
E24	*INSTALL RECEPTACLE CONCEALED BEHIND DRINKING FOUNTAIN ENCLOSURE PER MANUFACTURERS INSTRUCTIONS.*
E25	*HOTEL FIRE ALARM CONTROL PANEL WITH VOICE EVACUATION, FIRE DEPARTMENT COMMUNICATIONS SYSTEM, FIRE DETECTION AND SIGNALING SYSTEM, SPRINKLER VALVE, WATER FLOW, FIRE PUMP AND DETECTOR ANNUNCIATOR. FIRE ALARM SYSTEM SHALL ALSO BE PROVIDED WITH RELAYS/CONTACTS FOR CONNECTION AND MONITORING BY THE BUILDING SECURITY SYSTEM. CONTRACTOR SHALL PROVIDE TWO HARD-WIRED TELEPHONE CONNECTIONS TO THE FIRE ALARM SYSTEM FOR DIGITAL COMMUNICATION. COORDINATE REQUIREMENTS WITH OWNER FOR CONNECTION TO SYSTEM AND LINE SEIZE CAPABILITY.*
E26	*COORDINATE INSTALLATION OF FLOW AND TAMPER SWITCHES WITH FIRE SPRINKLER CONTRACTOR.*
E27	*RECEPTACLE FOR COMMERCIAL WASHER SOAP DISPENSER. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH WASHER SUPPLIER PRIOR TO ROUGH-IN.*
E28	*POWER CONNECTION FOR ELECTRIC FIREPLACE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH EQUIPMENT MANUFACTURER / INSTALLER.*
E29	*VERIFY BOOSTER PUMP IS SUPPLIED WITH DISCONNECT SWITCH*
E30	*PROVIDE FIRE ALARM RELAY AND ASSOCIATED CIRCUITRY FOR UNIT SHUT DOWN UPON DETECTION OF SMOKE BY ANY SMOKE DETECTOR IN BUILDING. COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR.*
E34	*COOLER EVAPORATOR POWER CONNECTION. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH KITCHEN EQUIPMENT SUPPLIER.*
E35	*FREEZER EVAPORATOR POWER CONNECTION. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH KITCHEN EQUIPMENT SUPPLIER.*
E38	*COOLER LIGHTS AND CONTROLS. VERIFY EXACT LOCATION AND REQUIREMENTS WITH KITCHEN EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.*
E39	*POWER CONNECTION FOR UNDERCOUNTER WAREWASHER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH KITCHEN EQUIPMENT SUPPLIER.*
E40	*POWER CONNECTION FOR COMBI OVEN. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH KITCHEN EQUIPMENT SUPPLIER.*
E41	*POWER CONNECTION FOR HOT WATER DISPENSER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH KITCHEN EQUIPMENT SUPPLIER.*
E42	*POWER CONNECTION FOR ICE MAKER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH KITCHEN EQUIPMENT SUPPLIER.*
E43	*POWER CONNECTION FOR JUICE DISPENSER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH KITCHEN EQUIPMENT SUPPLIER.*
E44	*CIRCUIT TO MINI-SPLIT CONDENSING UNIT LOCATED ON ROOF.*
E45	*CIRCUIT THRU CONTACTS AT EACH DRYER. REFERENCE DETAIL 9/E4.1.*
E53	*(2) 4" COMMUNICATION CONDUITS CONDUIT (WITH PULL-WIRE) STUBBED INTO TELECOM ROOM. VERIFY EXACT TERMINATION LOCATION WITH OWNER.*
E54	*POWER CONNECTION FOR MOTORIZED DOOR. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DOOR HARDWARE SUPPLIER/INSTALLER.*
E55	*PROVIDE ROUGH-IN FOR INTERCOM.*
E56	*PROVIDE ROUGH-IN FOR INTERCOM WITH 1.25" CONDUIT ROUTED TO ROUGH-IN AT ENTRY VESTIBULE.*

CONDUIT & CONDUCTOR SCHEDULE:

1	*(2) #10 AND (1) #10 GROUND IN 0.75" CONDUIT*
2	*(2) #8 AND (1) #10 GROUND IN 0.75" CONDUIT*
3	*(3) #8 AND (1) #10 GROUND IN 0.75" CONDUIT*
4	*(3) 350MCM AND (1) #4 GROUND IN 3" CONDUIT*



1 FIRST FLOOR POWER PLAN
1/8" = 1'-0"
NORTH

ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record

STATE OF MISSOURI
WILLIAM ALLEN DAVIS
NUMBER PE-2004017155
05/22/23
PROFESSIONAL ENGINEER

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Revisions

No.	Description	Date

E2.1
FIRST FLOOR POWER PLAN

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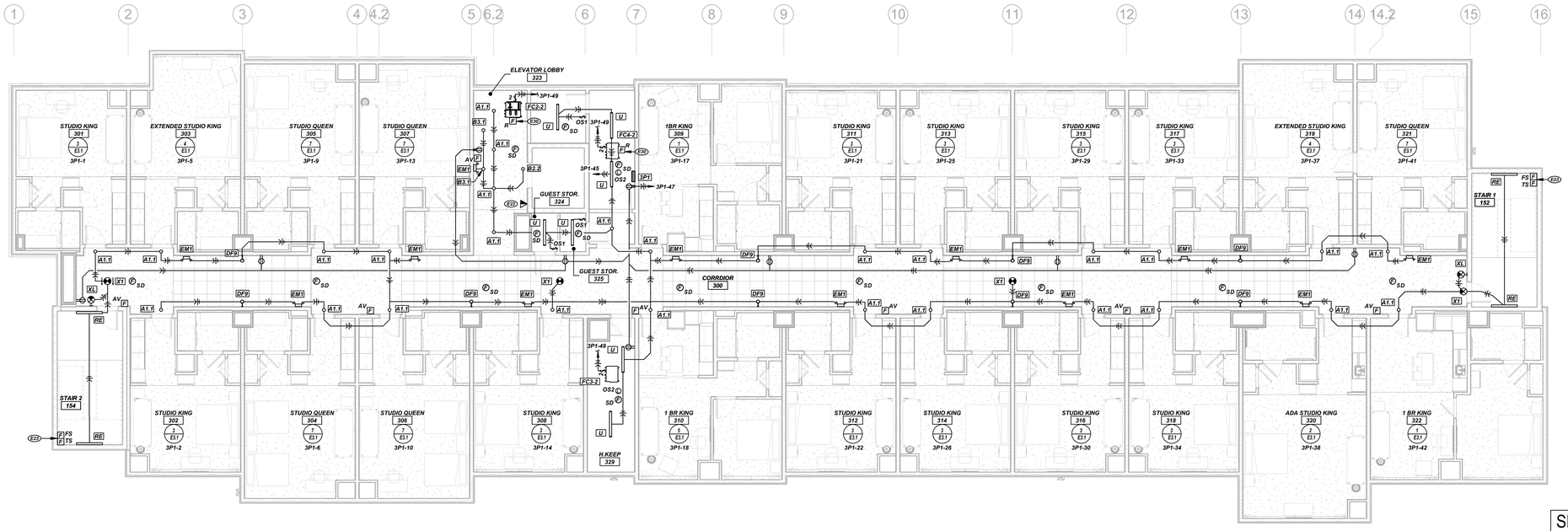
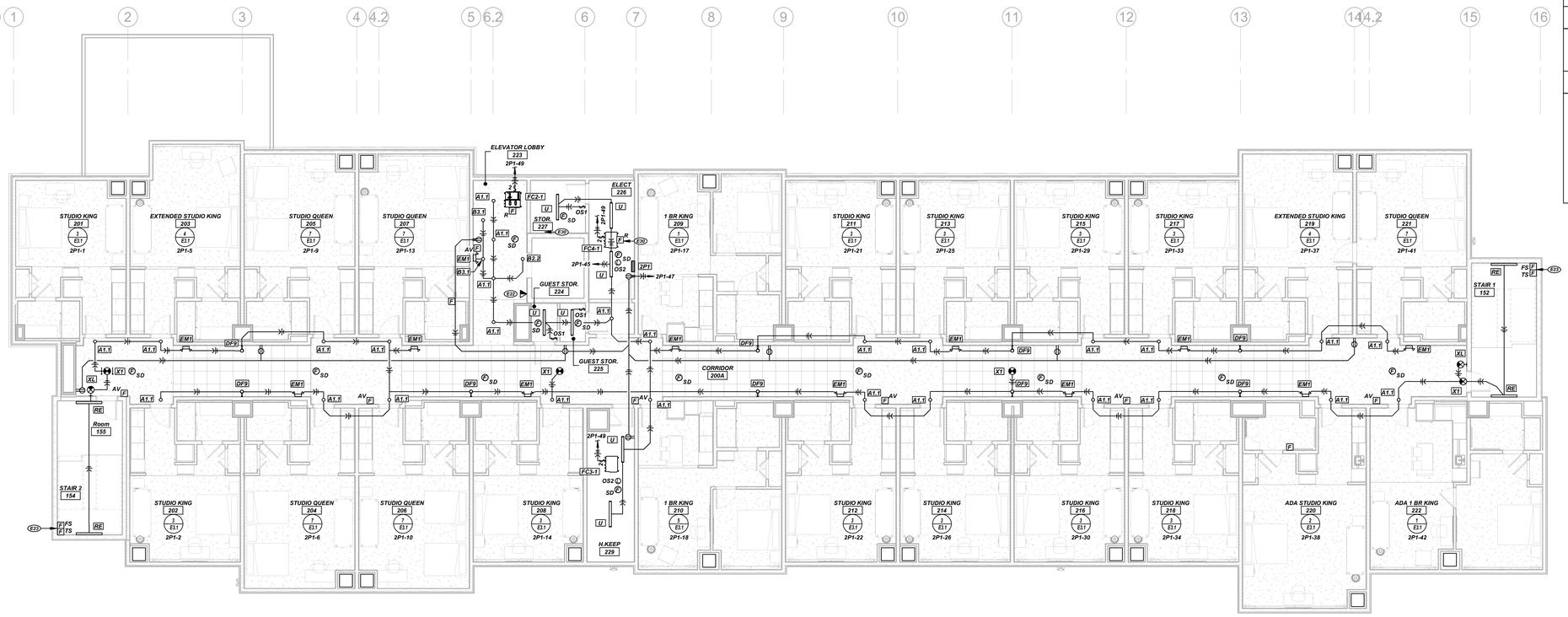


2 THIRD FLOOR ELECTRICAL PLAN

1/8" = 1'-0"

NORTH



1 SECOND FLOOR ELECTRICAL PLAN

1/8" = 1'-0"

NORTH

KEYNOTES:

- E22 HOUSE PHONE SHALL BE CAPABLE OF EMERGENCY TWO-WAY COMMUNICATION.
- E23 PROVIDE FIRE ALARM SYSTEM INDIVIDUAL ADDRESSABLE MODULES AND FIRE ALARM SYSTEM WIRING FOR MONITORING FLOW SWITCH AND TAMPER SWITCH FOR FIRE SPRINKLER SYSTEM STAND PIPE. COORDINATE WITH FIRE SPRINKLER SYSTEM CONTRACTOR FOR LOCATIONS.
- E30 PROVIDE FIRE ALARM RELAY AND ASSOCIATED CIRCUITRY FOR UNIT SHUT DOWN UPON DETECTION OF SMOKE BY ANY SMOKE DETECTOR IN BUILDING. COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR.

SPECIAL NOTE:

1. REFER TO GUESTROOM ENLARGED ELECTRICAL PLANS FOR FIRE ALARM DEVICES WITHIN GUESTROOMS.
2. REFER TO ARCHITECTURAL PLANS FOR IDENTIFICATION OF HEARING IMPAIRED AND ADA/ACCESSIBLE ROOMS.
3. EMERGENCY OCCUPANCY NOTIFICATION SHALL BE THREE-PULSE TEMPORAL PATTERN.
4. FIRE ALARM SYSTEM A/V DEVICES SHALL ACTIVATE UPON FIRE SPRINKLER SYSTEM ACTIVATION.
5. PROVIDE PULL STRING IN ALL CONDUITS INSTALLED FOR USE BY OTHER TRADES OR VENDORS.

CIRCUIT HOMERUN NOTE:

BRANCH CIRCUIT WIRING, INCLUDING GUESTROOM CIRCUITS, SHALL BE #12 AWG MINIMUM. HOMERUNS FOR BRANCH CIRCUITS OVER 75 FEET LONG SHALL BE #10 AWG; OVER 100 FEET LONG SHALL BE #8 AWG.

LOW LEVEL EXIT SIGNS:

1. LOW LEVEL EXIT SIGNS (TYPE XL) SHALL BE INSTALLED TO MEET IBC CODE-REQUIRED INSTALLATION HEIGHTS AND EXACT LOCATION ADJACENT TO EGRESS DOOR.
2. PROVIDE FIRESTOPPING MATERIAL AS REQUIRED TO MAINTAIN FIRE RATING OF WALL ASSEMBLY, AROUND RECESSED LOW-LEVEL EXIT SIGN

FIRE/SMOKE DAMPER NOTE:

1. REFER TO ALL HVAC PLANS FOR ALL FIRE/SMOKE DAMPER LOCATIONS. THIS INCLUDES FIRE/SMOKE DAMPERS AT GUEST ROOMS/SUITES.
2. PROVIDE TOGGLE-TYPE DISCONNECTING MEANS FOR EACH FIRE/SMOKE DAMPER AND PROVIDE A FIRE ALARM SYSTEM CONTROLLED 120V CIRCUIT (NORMAL POWER) TO THE "POWER-OPEN" ACTUATOR. PROVIDE FIRE ALARM SYSTEM RELAYS, CONTROL MODULES AND CONTROL WIRING AS REQUIRED TO PROVIDE CONTROL SUCH THAT:
   A. THE SMOKE DAMPER CLOSES UPON SMOKE DETECTION BY NEAREST SMOKE DETECTOR WITHIN ROOM OR SPACE. DAMPER SHALL FAIL CLOSED. SMOKE DETECTOR LOCATION SHALL MEET NFPA REQUIREMENTS.
   B. CORRESPONDING OUTDOOR AIR UNIT OR AIR HANDLING UNIT WILL BE SHUT DOWN, WHEN MULTIPLE DAMPERS IN ASSOCIATED SHAFT OR SPACE HAVE CLOSED.
3. PROVIDE A DEDICATED CIRCUIT FOR FIRE/SMOKE DAMPERS. CIRCUIT FOR A MAXIMUM OF (40) FIRE/SMOKE DAMPERS PER CIRCUIT.

ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record

STATE OF MISSOURI
ALLEN DAVIS
NUMBER PE-2004017155
05/22/23
PROFESSIONAL ENGINEER

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Revisions

No.	Description	Date

E2.2

SECOND AND THIRD FLOOR ELECTRICAL PLANS

project #: 22-169

date: 5/22/2023 1:24:13 PM

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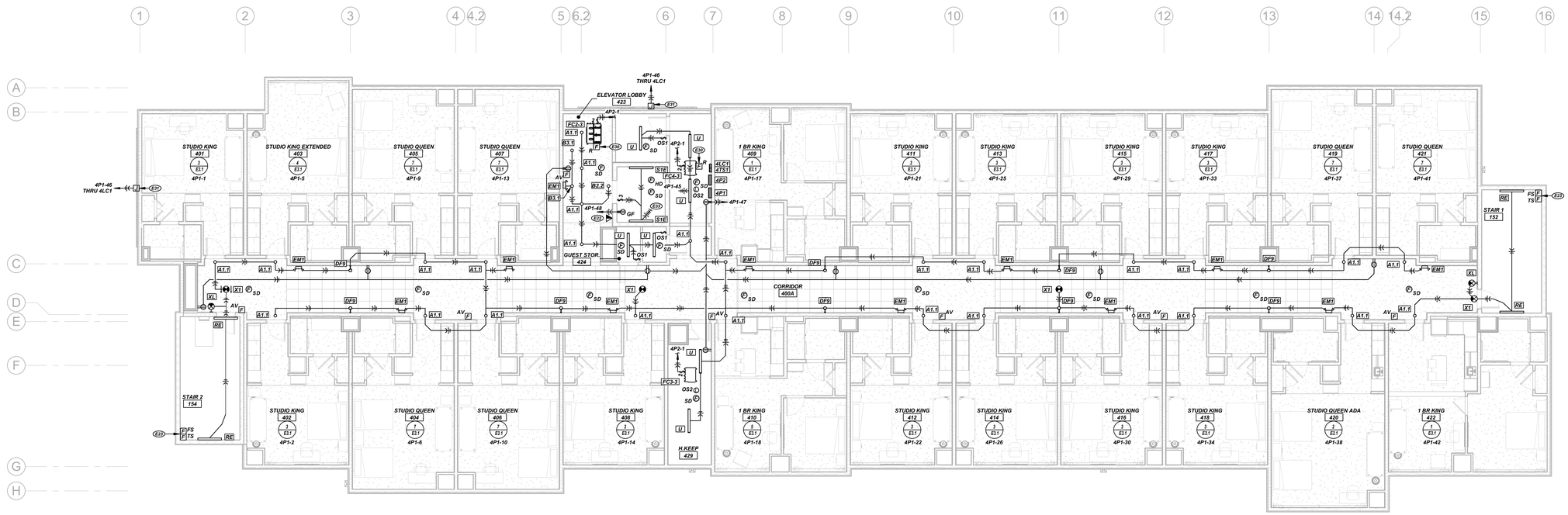
KEYNOTES:

E22	HOUSE PHONE SHALL BE CAPABLE OF EMERGENCY TWO-WAY COMMUNICATION.
E23	PROVIDE FIRE ALARM SYSTEM INDIVIDUAL ADDRESSABLE MODULES AND FIRE ALARM SYSTEM WIRING FOR MONITORING FLOW SWITCH AND TAMPER SWITCH FOR FIRE SPRINKLER SYSTEM STAND PIPE. COORDINATE WITH FIRE SPRINKLER SYSTEM CONTRACTOR FOR LOCATIONS.
E30	PROVIDE FIRE ALARM RELAY AND ASSOCIATED CIRCUITRY FOR UNIT SHUT DOWN UPON DETECTION OF SMOKE BY ANY SMOKE DETECTOR IN BUILDING. COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR.
E31	POWER CONNECTION FOR BUILDING SIGNAGE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH SIGNAGE INSTALLER.
E33	CIRCUIT TO LIGHT FIXTURE BELOW.



1 FOURTH FLOOR ELECTRICAL PLAN
1/8" = 1'-0"

NORTH

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Engineer of Record

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EDWARD ALLEN DAVIS
NUMBER PE-2004017155
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Revisions

No.	Description	Date

E2.3

FOURTH FLOOR ELECTRICAL PLAN

project #: 22-169

date: 5/22/2023 1:24:17 PM

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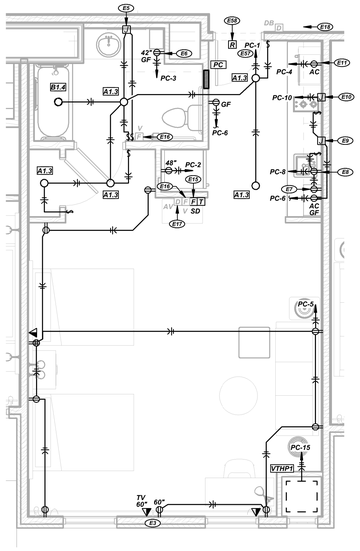
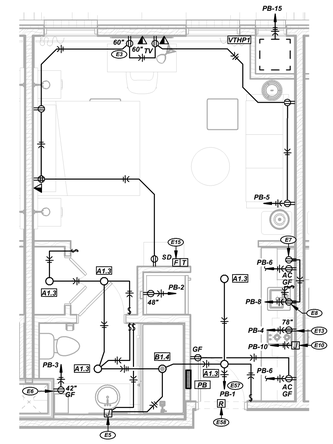


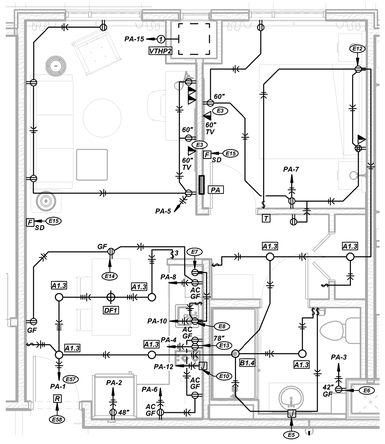
6 STUDIO QUEEN ADA ENLARGED ELECTRICAL PLAN

1/4" = 1'-0"



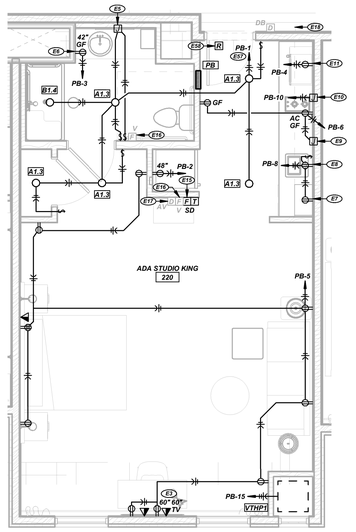
3 STUDIO KING ENLARGED ELECTRICAL PLAN

1/4" = 1'-0"



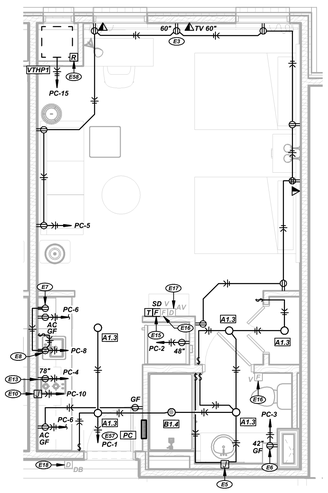
5 STUDIO KING ONE BEDROOM ENLARGED ELECTRICAL PLAN

1/4" = 1'-0"



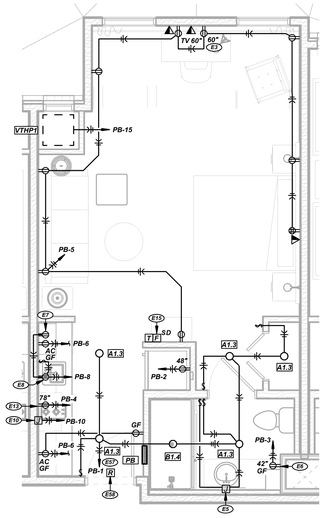
2 STUDIO KING ADA ENLARGED ELECTRICAL PLAN

1/4" = 1'-0"



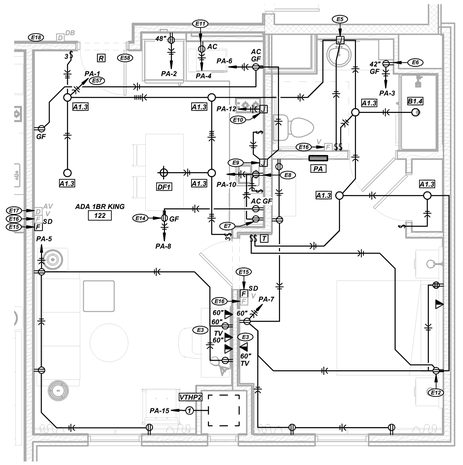
7 STUDIO QUEEN ENLARGED ELECTRICAL PLAN

1/4" = 1'-0"



4 STUDIO KING EXTENDED ENLARGED ELECTRICAL PLAN

1/4" = 1'-0"



1 STUDIO KING 1BR ADA ENLARGED ELECTRICAL PLAN

1/4" = 1'-0"

KEYNOTES:

E3	INSTALL RECEPTACLE AND COMMUNICATIONS DEVICE BEHIND TELEVISION. VERIFY/COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
E5	POWER CONNECTION FOR ILLUMINATED MIRROR. COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH EQUIPMENT PROVIDER.
E6	PROVIDE HUBBELL #2097NTLTR RECEPTACLE WITH NIGHTLIGHT. COORDINATE COLOR WITH INTERIOR DESIGNER.
E7	RECEPTACLE BELOW COUNTER FOR DISHWASHER. PROVIDE CORD AND PLUG CONNECTION.
E8	SWITCHED RECEPTACLE LOCATED BELOW COUNTER FOR DISPOSAL.
E9	PROVIDE POWER FOR RECIRCULATION-TYPE RANGE HOOD. FOR ADA UNITS, WIRE HOOD LIGHT AND FAN TO SWITCHES LOCATED ABOVE ACCESSIBLE COUNTERTOP.
E10	POWER CONNECTION TO ELECTRICAL COOKTOP. COORDINATE ROUGH-IN REQUIREMENTS WITH EQUIPMENTS SUPPLIER.
E11	RECEPTACLE FOR MICROWAVE. COORDINATE/VERIFY EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
E12	SWITCHED RECEPTACLE. CIRCUIT TOP SWITCHED PORTION OF RECEPTACLE TO LIGHTING CIRCUIT AND BOTTOM UNSWITCHED PORTION WITH RECEPTACLE CIRCUIT.
E13	RECEPTACLE IN UPPER CABINET FOR MICROWAVE/HOOD. VERIFY EXACT LOCATION AND INSTALLATION HEIGHT WITH ARCHITECT.
E14	COORDINATE EXACT LOCATION WITH MILLWORK CONTRACTOR.
E15	PROVIDE WALL-MOUNT FIRE ALARM SYSTEM PHOTOELECTRIC, ADDRESSABLE SMOKE DETECTOR WITH SOUNDER BASE. SOUNDER BASE SHALL PROVIDE A MINIMUM OF 85DBA AT 10ft(10FT); MINIMUM OF 75DBA "AT THE PILLOW". INSTALL FOR THE TOP OF THE SMOKE DETECTOR TO BE NO CLOSER THAN 4" TO THE CEILING AND THE BOTTOM OF THE SMOKE DETECTOR SHALL BE NO LOWER THAN 12" BELOW THE CEILING.
E16	PROVIDE FIRE ALARM SYSTEM STROBE AT ROOMS DESIGNATED FOR HEARING-IMPAIRED. INSTALL FIRE ALARM STROBE AT 6'-10" AFF. STROBE LIGHTS SHALL HAVE MINIMUM VISUAL INTENSITY OF 177 CANDELA, IF INSTALLED LESS THAN 24" BELOW CEILING, AND 110 CANDELA, IF INSTALLED GREATER THAN OR EQUAL TO 24" BELOW CEILING. IN ADDITION TO BEING ACTIVATED UPON GUESTROOM SMOKE DETECTION, A/V DEVICES AT ADA ACCESSIBLE AND HEARING-IMPAIRED ROOMS SHALL BE ACTIVATED WHEN BUILDING FIRE ALARM DEVICES ARE ACTIVATED.
E17	PROVIDE HOTEL ROOM ANNUNCIATOR SYSTEM AUDIBLE/VISUAL DEVICE (EQUAL TO 'EDWARDS' #6536-GS) AT ALL ADA/ACCESSIBLE ROOMS AND ROOMS DESIGNATED FOR HEARING-IMPAIRED GUESTS. INSTALL ANNUNCIATOR SYSTEM TRANSFORMER (RATING AS REQUIRED) IN TWO-GANG JUNCTION BOX, WITH BLANK COVER AT CLOSET OR AT ANOTHER APPROVED LOCATION. WHERE SHOWN NEXT TO FIRE ALARM A/V DEVICE, INSTALL DOOR A/V DEVICE AT SAME ELEVATION. CIRCUIT SYSTEM FROM ROOM LIGHTING AND RECEPTACLE CIRCUIT AND PROVIDE LOW VOLTAGE CONTROL CIRCUITRY NOT SHOWN. PROVIDE ENGRAVED LETTERING (BY MANUFACTURER) ON THE HORN AUDIBLE/VISUAL DEVICE TO INDICATE "DOOR"
E18	PROVIDE PUSH BUTTON (EQUAL TO 'EDWARDS' #620 & #147-10 MOUNTING PLATE) FOR ANNUNCIATOR SYSTEM WHERE SHOWN AND AT ALL ROOMS DESIGNATED FOR HEARING-IMPAIRED GUESTS. INSTALL PUSHBUTTON AT 48" AFF.
E57	CIRCUIT LIGHTING THROUGH MASTER LIGHTING CONTROL RELAY.
E58	MASTER LIGHTING CONTROL RELAY PROVIDED BY GUESTROOM MANAGEMENT SYSTEM (INNCOM). RELAY SHALL CONTROL ALL LIGHTING IN GUESTROOM. PROVIDE JUNCTION BOX AND MOUNT ABOVE LAY-IN CEILING IN CORRIDOR. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS.

CONDUIT & CONDUCTOR SCHEDULE:

(1)	(2) #10 AND (1) #10 GROUND IN 0.75" CONDUIT

SPECIAL NOTES:

1. PER KEYNOTES E16, E17, AND E18, PROVIDE HEARING-IMPAIRED DEVICES AT ALL ROOMS DESIGNATED AS HEARING-IMPAIRED ROOMS. REFER ALSO TO ARCHITECTURAL PLANS FOR ROOM COUNTS AND LOCATIONS OF HEARING IMPAIRED AND ACCESSIBLE/ADA ROOMS.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT DEVICE LOCATIONS AND INSTALLATION ELEVATIONS. CONTRACTOR SHALL NOTIFY ARCHITECT AND/OR DESIGN ENGINEER OF DISCREPANCIES.
3. GUESTROOM POWER, DATA, PHONE AND/OR TV OUTLETS WILL NOT BE ALLOWED INSTALLED BACK-TO-BACK, OR IN SAME STUD SPACE. THIS REQUIREMENT IS TO MAINTAIN FIRE RATING AND PREVENT SOUND TRANSMISSION BETWEEN GUESTROOMS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADJUST LAYOUT AS NECESSARY FOR DIFFERENT ROOM ORIENTATIONS TO ENSURE 8" MINIMUM CLEAR BETWEEN ELECTRICAL BOXES AND FOR BOX INSTALLATIONS TO BE IN DIFFERENT STUD SPACES. IE: WHERE SAME ROOM TYPES ARE SIDE-BY-SIDE, WITH LAYOUT MIRRORED, CONTRACTOR SHALL ADJUST DEVICE LOCATIONS TO MEET THESE REQUIREMENTS, WHILE ENSURING THAT DEVICES ARE STILL ACCESSIBLE FOR INTENDED EQUIPMENT CONNECTION. REFER ALSO TO GENERAL ELECTRICAL NOTES ON SHEET E4.1 FOR FIRE-RATING REQUIREMENTS.
4. CONTRACTOR SHALL PROVIDE ROUGH-IN ONLY FOR GUESTROOM/SUITE COMMUNICATION DEVICES PER VOICE, DATA, CABLE SPECIFICATIONS.
5. UNDER BASE BID, PROVIDE ROCKER-TYPE, COMMERCIAL GRADE SWITCHES FOR ALL GUESTROOM ADA SUITES LIGHT FIXTURES. UNDER ALTERNATE BID, PROVIDE ALL BATHROOM GFCI RECEPTACLES AND ALL SWITCHES AS LEGRAND ADORNE TYPE. SWITCHES SHALL BE PADDLE TYPE. COLOR OF RECEPTACLES, SWITCHES, AND FACEPLATE AS SELECTED BY INTERIOR DESIGNER.
6. ALL GUEST ROOM RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT.
7. PROVIDE FIRESTOPPING MATERIAL AS REQUIRED TO MAINTAIN FIRE RATING OF WALL ASSEMBLY, AROUND RECESSED LIGHTING FIXTURES.
8. CONTRACTOR SHALL COORDINATE DEVICE AND COVER PLATE COLORS WITH ARCHITECT AND INTERIOR DESIGNER PRIOR TO ORDERING.
9. HVAC CONTROL WIRING SHALL BE INSTALLED IN CONDUIT AND/OR AS OPEN INSTALL ABOVE ACCESSIBLE CEILINGS. ROUGH-IN BY ELECTRICAL CONTRACTOR. WIRING AND DEVICES BY MECHANICAL CONTRACTOR. REFER TO HVAC DRAWINGS AND FIELD COORDINATE EXACT LOCATION AND REQUIREMENTS.

FIRE ALARM NOTES:

1. ALL GUEST ROOM SMOKE DETECTORS SHALL BE FIRE ALARM SYSTEM ADDRESSABLE TYPE.
2. SMOKE DETECTION AT ONE GUESTROOM SMOKE DETECTOR SHALL ACTIVATE ANNUNCIATION DEVICES AT ALL ROOMS WITHIN A SINGLE SUITE/STUDIO OR GUEST UNIT, BUT NOT AT ALL GUESTROOMS THROUGHOUT THE HOTEL. SMOKE DETECTION AT A GUESTROOM DETECTOR SHALL ALSO INDICATE AN ALARM AT FACP, REMOTE FIRE ALARM SYSTEM ANNUNCIATORS AND REMOTE MONITORING (AS PROGRAMMED BY CERTIFIED SYSTEM INSTALLER).
3. WHERE AUDIBLE APPLIANCES ARE PROVIDED TO PRODUCE SIGNALS FOR SLEEPING AREAS, THEY SHALL PRODUCE A LOW FREQUENCY ALARM SIGNAL THAT COMPLIES WITH THE FOLLOWING:
   - A. THE ALARM SIGNAL SHALL BE A SQUARE WAVE OR PROVIDE EQUIVALENT AWAKENING ABILITY.
   - B. THE WAVE SHALL HAVE A FUNDAMENTAL FREQUENCY OF 520HZ ±10 PERCENT

ARKIFEX STUDIOS
221 SOUTH AVE, SPRINGFIELD, MO 65806

Engineer of Record
STATE OF MISSOURI
ALLEN DAVIS
NUMBER PE-2004017155
05/22/23
PROFESSIONAL ENGINEER

Certificate of Authority

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1301 EAST LARK ST
SPRINGFIELD, MO 65804

Revisions

No.	Description	Date

E3.1
ENLARGED ELECTRICAL PLANS

project #: 22-169
date: 5/22/2023 1:24:21 PM

CJD
Engineering | Energy | Innovation
2225 West Chesterfield Boulevard, Suite 200, Springfield, MO 65807
P: 417.877.1700 F: 417.324.7735 www.cjd-eng.com
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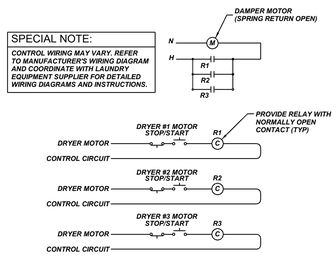
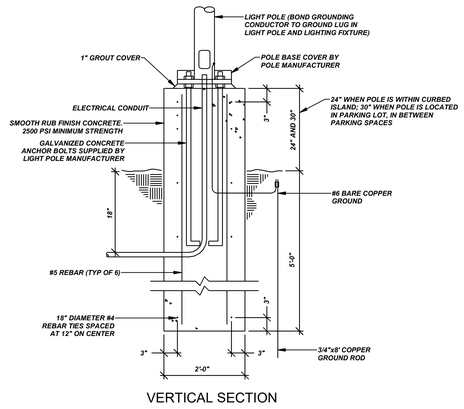


9 DRYER MAKE-UP AIR DAMPER CONTROL DIAGRAM

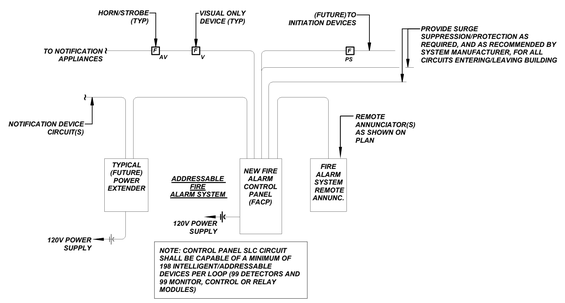
NO SCALE



VERTICAL SECTION

8 SITE LIGHTING POLE BASE

NO SCALE

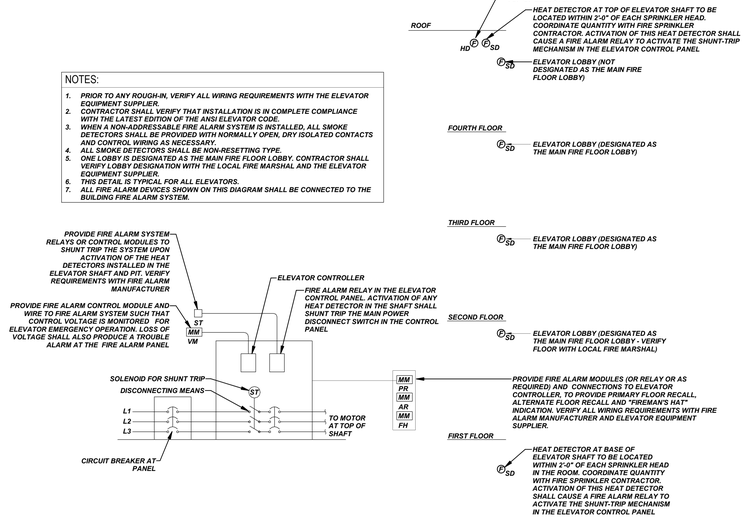


7 FIRE ALARM SYSTEM DIAGRAM

NO SCALE

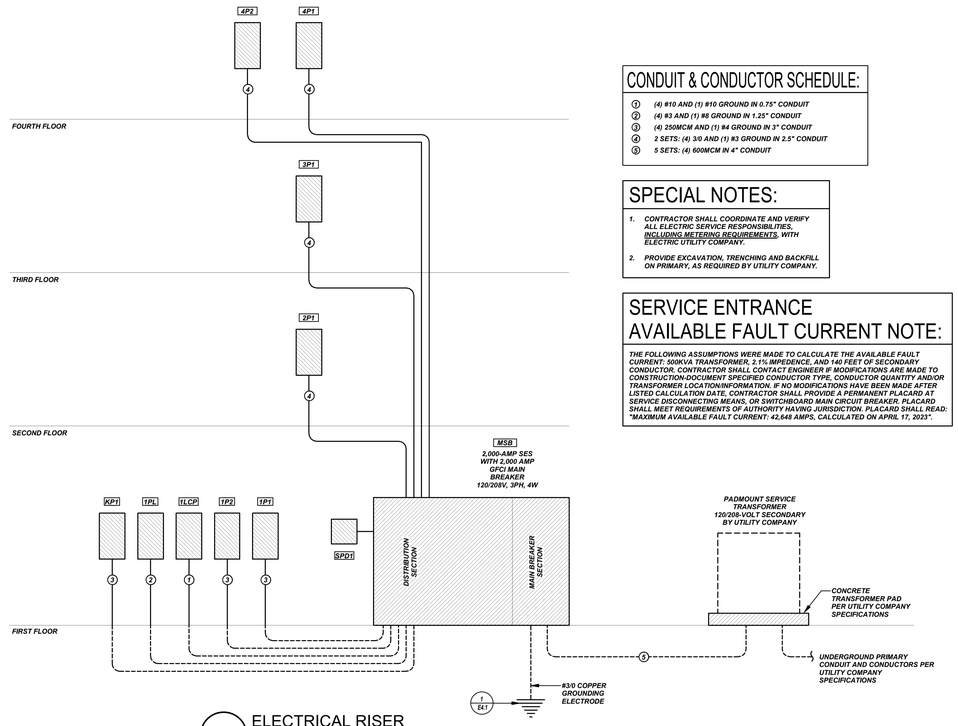
NOTES:

1. PRIOR TO ANY ROUGH-IN, VERIFY ALL WIRING REQUIREMENTS WITH THE ELEVATOR EQUIPMENT SUPPLIER.
2. CONTRACTOR SHALL VERIFY THAT INSTALLATION IS IN COMPLETE COMPLIANCE WITH THE LATEST EDITION OF THE ANSI ELEVATOR CODE.
3. WHEN A NON-ADDRESSABLE FIRE ALARM SYSTEM IS INSTALLED, ALL SMOKE DETECTORS SHALL BE PROVIDED WITH NORMALLY OPEN, DRY ISOLATED CONTACTS AND CONTROL WIRING AS NECESSARY.
4. ALL SMOKE DETECTORS SHALL BE NON-RESETTING TYPE.
5. ONE LOBBY IS DESIGNATED AS THE MAIN FIRE FLOOR LOBBY. CONTRACTOR SHALL VERIFY LOBBY DESIGNATION WITH THE LOCAL FIRE MARSHAL AND THE ELEVATOR EQUIPMENT SUPPLIER.
6. THIS DETAIL IS TYPICAL FOR ALL ELEVATORS.
7. ALL FIRE ALARM DEVICES SHOWN ON THIS DIAGRAM SHALL BE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM.



6 ELEVATOR RECALL CONTROL DIAGRAM

NO SCALE



5 ELECTRICAL RISER

NO SCALE

CONDUIT & CONDUCTOR SCHEDULE:

①	(4) #10 AND (1) #10 GROUND IN 0.75" CONDUIT
②	(4) #3 AND (1) #8 GROUND IN 1.25" CONDUIT
③	(4) 250MCM AND (1) #4 GROUND IN 3" CONDUIT
④	2 SETS: (4) 3/0 AND (1) #3 GROUND IN 2.5" CONDUIT
⑤	5 SETS: (4) 600MCM IN 4" CONDUIT

SPECIAL NOTES:

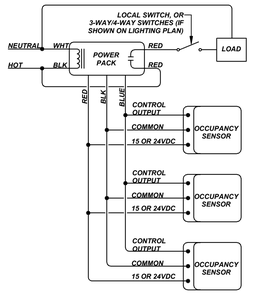
1. CONTRACTOR SHALL COORDINATE AND VERIFY ALL ELECTRIC SERVICE RESPONSIBILITIES, INCLUDING METERING REQUIREMENTS, WITH ELECTRIC UTILITY COMPANY.
2. PROVIDE EXCAVATION, TRENCHING AND BACKFILL ON PRIMARY, AS REQUIRED BY UTILITY COMPANY.

SERVICE ENTRANCE AVAILABLE FAULT CURRENT NOTE:

THE FOLLOWING ASSUMPTIONS WERE MADE TO CALCULATE THE AVAILABLE FAULT CURRENT: 500KVA TRANSFORMER, 2.1% IMPEDENCE, AND 140 FEET OF SECONDARY CONDUCTOR. CONTRACTOR SHALL CONTACT ENGINEER IF MODIFICATIONS ARE MADE TO CONSTRUCTION-DOCUMENT SPECIFIED CONDUCTOR TYPE, CONDUCTOR QUANTITY AND/OR TRANSFORMER LOCATION/INFORMATION. IF NO MODIFICATIONS HAVE BEEN MADE AFTER LISTED CALCULATION DATE, CONTRACTOR SHALL PROVIDE A PERMANENT PLACARD AT SERVICE DISCONNECTING MEANS, OR SWITCHBOARD MAIN CIRCUIT BREAKER. PLACARD SHALL MEET REQUIREMENTS OF AUTHORITY HAVING JURISDICTION. PLACARD SHALL READ: "MAXIMUM AVAILABLE FAULT CURRENT: 42,648 AMPS, CALCULATED ON APRIL 17, 2023".

NOTES:

1. OPERATION: OCCUPANCY SENSOR SWITCHES LIGHTS ON/OFF.
2. ALL WIRING SHALL BE IN CONDUIT.
3. CONTRACTOR SHALL ENSURE THAT BALLASTS ARE COMPATIBLE WITH CONTROL SYSTEM. PROGRAMMED START BALLASTS FOR OCCUPANCY SENSOR CONTROL.
4. REFER MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR EXACT WIRING, EXACT INSTALLATION LOCATIONS, MINIMUM DISTANCE FROM WINDOWS, AND ETC.
5. PROVIDE ALL COMPONENTS FOR SETUP AND OPERATION OF SYSTEM.
6. MAXIMUM NUMBER OF SENSORS PER POWER PACK DEPENDS ON THE MODEL OF SENSOR. SEE THE PRODUCT DATA SHEET TO DETERMINE THE SPECIFIC CURRENT CONSUMPTION OF EACH SENSOR.
7. INSTALL POWER PACK NEAR LOCAL SWITCHING (IF APPLICABLE).

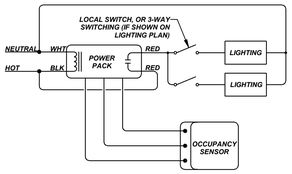


4 OCCUPANCY SENSORS IN PARALLEL

NO SCALE

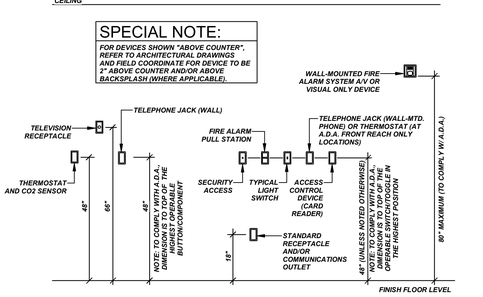
NOTES:

1. OPERATION: OCCUPANCY SENSOR SWITCHES LIGHTS ON/OFF.
2. ALL WIRING SHALL BE IN CONDUIT.
3. CONTRACTOR SHALL ENSURE THAT BALLASTS ARE COMPATIBLE WITH CONTROL SYSTEM. PROGRAMMED START BALLASTS FOR OCCUPANCY SENSOR CONTROL.
4. REFER MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR EXACT WIRING, EXACT INSTALLATION LOCATIONS, MINIMUM DISTANCE FROM WINDOWS, AND ETC.
5. PROVIDE ALL COMPONENTS FOR SETUP AND OPERATION OF SYSTEM.
6. MAXIMUM NUMBER OF SENSORS PER POWER PACK DEPENDS ON THE MODEL OF SENSOR. SEE THE PRODUCT DATA SHEET TO DETERMINE THE SPECIFIC CURRENT CONSUMPTION OF EACH SENSOR.
7. INSTALL POWER PACK NEAR LOCAL SWITCHING (IF APPLICABLE).



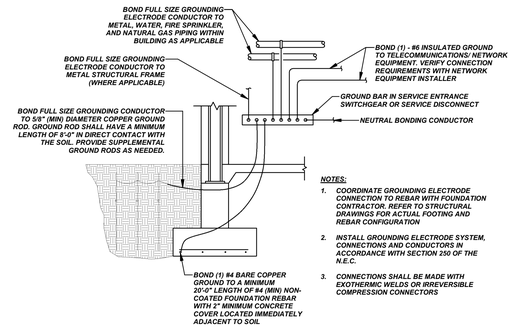
3 OCCUPANCY SENSORS WIRING DETAIL

NO SCALE



2 TYPICAL OUTLET MOUNTING HEIGHTS

NO SCALE



1 GROUNDING ELECTRODE DETAIL

NO SCALE

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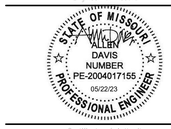
Engineer of Record



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Revisions

No.	Description	Date

E4.1
ELECTRICAL DETAILS

project #: 22-169
date: 5/22/2023 1:24:23 PM

CJD
Engineering | Energy | Innovation
2225 West Chesterfield Boulevard, Suite 200, Springfield, MO 65807
P: 417.877.1700 F: 417.324.7735 www.cjd-eng.com
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TIME SWITCH SCHEDULE

MARK	LOAD			SWITCH				
	EQUIPMENT SERVED	WATTS	VOLTAGE	MANUFACTURER	MODEL #	AMP	POLE	ENCLOSURE	ACCESSORIES
1TS1	CONTACTOR 1LC1	-	120	TORK	EW101B	30	SPDT	NEMA 1	1
4TS1	CONTACTOR 1LC4	-	120	TORK	EW101B	30	SPDT	NEMA 1	1

ACCESSORIES:
1. SUPERCAPACITOR BACKUP

LIGHTING CONTACTOR SCHEDULE

MARK	LOAD			CONTACTOR				INTERLOCK	
	EQUIPMENT SERVED	WATTS	VOLTAGE	TYPE	AMP	POLE	ENCLOSURE	ACCESSORIES	CONTROLLED BY	CONTROLS
1LC1	EXTERIOR LIGHTING	-	120	NOEH	30	6	NEMA 1	2,3,4	1TS1	-
4LC1	BUIKDING SIGNAGE	-	120	NOEH	30	6	NEMA 1	2,3,4	4TS1	-

1. COORDINATE COIL VOLTAGE WITH ENERGY MANAGEMENT SYSTEM CONTRACTOR
2. H-O-A SELECTOR SWITCH WITH PILOT LIGHT
3. GREEN PILOT LIGHT, ON WHEN LOAD IS ON
4. PROVIDE CONTROL COIL POWERED BY ASSOCIATED LIGHTING CIRCUIT.

1. ALL CONTACTORS SHALL BE CLASS 8903 CONTACTORS. POLES SHALL BE ISOLATED, SUCH THAT CIRCUITS WIRED THROUGH CONTACTOR MAY BE AT DIFFERENT VOLTAGES

ELEVATOR POWER MODULE SCHEDULE

MARK	EQUIPMENT SERVED	VOLTS	MANUFACTURER-MODEL	SWITCH		FUSE		NEMA ENCLOSURE	ACCESSORIES
				AMP	POLE	AMP	TYPE		
FM1	ELEVATOR #1	208	BUSSMAN-PS/4700XR0KQ/G/F1	400	3	300	-	NEMA 1	CT,FR,K,GF,MR,VMR

ABBREVIATIONS:
GD - GENERAL DUTY
HD - HEAVY DUTY
SN - SOLID NEUTRAL
CT - CONTROL POWER TRANSFORMER
FR - FIRE SAFETY INTERFACE RELAY
K - KEYED TEST SWITCH
GF - GREEN PILOT LIGHT
MR - MECHANICAL INTERLOCK AUXILLIARY RELAY
VMR - FIRE ALARM VOLTAGE MONITORING RELAY

GENERAL NOTES:
1. FUSE RATINGS SHALL BE CONFIRMED WITH ELEVATOR SUPPLIER. ALL FUSES SHALL BE CURRENT LIMITING EQUAL TO CLASS RK1

SURGE PROTECTION DEVICE SCHEDULE

MARK	MANUFACTURER	MODEL	SURGE RATING	VOLTAGE	MODES OF PROTECTION	MCOV	NEMA ENCLOSURE	NOTES AND OPTIONS
SPD1	CURRENT TECHNOLOGY	CG80	80kA PER MODE	120/208V 3PH, 4W	L-N,L-G,N-G,L-L	150V	NEMA 4	1,2,3,5

ACCESSORIES/NOTES:
1. INTEGRAL DISCONNECT
2. STATUS L.E.D.s
3. STANDARD MONITORING
4. ADVANCED MONITORING: PRIMARY MONITORING PLUS EVENT COUNTER DISPLAY, AUDIBLE ALARM MUED
5. STANDALONE ENCLOSURE - SURGE PROTECTION DEVICE SHALL NOT BE INTEGRAL TO SWITCHGEAR

ABBREVIATIONS:
L-N - LINE TO NEUTRAL
L-G (GND) - LINE TO GROUND
N-G - NEUTRAL TO GROUND
L-L - LINE TO LINE

DISCONNECT SWITCH SCHEDULE

MARK	LOAD		SWITCH			OVERCURRENT PROTECTION				NEMA ENCLOSURE	NOTES & ACCESS.
	EQUIPMENT SERVED	VOLTAGE	DUTY	AMP	POLE	TYPE	MFR	MODEL	AMP	KAIC	
DS1	DRYER	208	GD	30	3	NF	-	-	-	-	NEMA 1	1,5
DS2	DRYER	208	GD	30	3	NF	-	-	-	-	NEMA 1	1,5
DS3	DRYER	208	GD	30	3	NF	-	-	-	-	NEMA 1	1,5
DS4	WASHER	208	GD	30	3	NF	-	-	-	-	NEMA 1	1,5
DS5	WASHER	208	GD	30	3	NF	-	-	-	-	NEMA 1	1,5
DS7	TYP. ELEVATOR 120 VOLT POWER	120	GD	30	1	NF	-	-	-	-	NEMA 3R	1,5
DS8	MINISPLIT CONDENSING UNIT MSCU1	208	GD	30	2	NF	-	-	-	-	NEMA 3R	1,5
DS9	HEAT PUMP HP1 CRICUIT #1	208	GD	60	3	NF	-	-	-	-	NEMA 3R	1,5
DS10	HEAT PUMP HP1 CIRCUIT #2	208	GD	60	3	NF	-	-	-	-	NEMA 3R	1,5
DS11	HEAT PUMP HP2	208	GD	60	3	NF	-	-	-	-	NEMA 3R	1,5
DS12	HEAT PUMP HP3	208	GD	60	3	NF	-	-	-	-	NEMA 3R	1,5
DS13	HEAT PUMP HP4	208	GD	30	3	NF	-	-	-	-	NEMA 3R	1,5
DS14	HOT WATER PUMP HWP1	208	GD	30	3	NF	-	-	-	-	NEMA 3R	1,5

ACCESSORIES:
1. GROUND LUG KIT
2. SOLID NEUTRAL
3. NEUTRAL BONDING JUMPER
4. SERVICE ENTRANCE RATING
5. DISCONNECT SHALL BE LOCKABLE IN THE OPEN POSITION

ABBREVIATIONS:
CB - ENCLOSED CIRCUIT BREAKER
GD - GENERAL DUTY
HD - HEAVY DUTY
NF - NON FUSIBLE

OCCUPANCY SENSOR SCHEDULE

MARK	LOAD			SENSOR					
	EQUIPMENT SERVED	VOLTAGE	MANUF	MODEL #	VOLTAGE	TYPE	TIME DELAY	MOUNTING	INTERLOCK	ACCESS.
OS1	SMALL AREA LIGHTING	120	HUBBELL	AD2000	120	US/IR	15 MIN.	WALL BOX	-	3
OS2	MEDIUM AREA LIGHTING	120	HUBBELL	OMNID1000	24VDC	US/IR	15 MIN.	CEILING	-	2,4
OS3	MEDIUM AREA LIGHTING	120	HUBBELL	OMNID1000	24VDC	US/IR	15 MIN.	CEILING	-	2,4,5

NOTES/ACCESSORIES:
1. PROVIDE HUBBELL ADD-A-RELAY, SUCH THAT PARALLEL SENSORS SHALL BE CAPABLE OF CONTROLLING (7) ROOM LIGHTING CIRCUITS.
2. WHERE SWITCHING IS SHOWN, WIRE OCCUPANCY SENSOR CONTROL IN SERIES WITH LOCAL LIGHT SWITCHING.
3. WALL SWITCH SHALL BE CAPABLE OF MANUAL ON-OFF CONTROL.
4. WHERE MULIPLE SENSORS ARE SHOWN IN A SINGLE ROOM/SPACE AND ARE NOT IDENTIFIED TO BE CONTROLLED IN ZONES, WIRE IN PARALLEL.
5. OCCUPANCY SENSOR SHALL BE COMPATIBLE WITH LIGHTING CONTROL SYSTEM

ABBREVIATIONS:
PIR - PASSIVE INFRARED
US - ULTRASONIC
IR/US - DUAL TECHNOLOGY

GENERAL NOTES (APPLIES TO ALL SENSORS):
1. EACH SENSOR TYPE MAY BE SHOWN IN MULTIPLE LOCATIONS ON ELECTRICAL PLANS
2. EQUIPMENT SUBMITTAL - PRIOR TO APPROVAL WITH OCCUPANCY SENSOR SPECIFICATION INFORMATION, CONTRACTOR SHALL SUBMIT PLAN PROVIDED BY MANUFACTURER'S REPRESENTATIVE WITH OCCUPANCY SENSOR LOCATIONS, OCCUPANCY SENSOR TYPE, MOUNTING HEIGHT AND SENSOR COVERAGE FOR EACH SPACE.
3. WHERE SWITCHING IS SHOWN, WIRE OCCUPANCY SENSOR CONTROL IN SERIES WITH LOCAL LIGHT SWITCHING.
4. PROVIDE CONTROL UNIT(S)/POWER PACK(S) AS REQUIRED.
5. FINISH/COLOR SHALL MATCH ALL OTHER DEVICES.

FLOOR BOX SCHEDULE

MARK	MANUFACTURER	SERIES / MODEL #	MATERIAL	COVER / MOUTING PLATE	SERVICE TYPE	MAX. KNOCKOUT OR HUB SIZE	APPROVED MANUFACTURERS	NOTES
FB1	HUBBELL	CFB2G25RCR	STEEL	CFBS1B5CVR FINISH BY ARCHITECT	CONCRETE FLOOR	2"	LEVITON, WIREMOLD	1,2,3
FB2	HUBBELL	CFB2G25RCR	STEEL	CFBS1B5CVR FINISH BY ARCHITECT	CONCRETE FLOOR	2"	LEVITON, WIREMOLD	1,2,3,4
FB3	HUBBELL	S15PFF	STEEL	FINISH BY ARCHITECT	CONCRETE FLOOR	1.5"	LEVITON, WIREMOLD	1,2

NOTES:
1. PROOR TO ANY INSTALLATION, EXACT FLOOR BOX LOCATIONS SHALL BE CONFIRMED WITH ARCHITECT/OWNER. LOCATIONS SHOWN ON POWER PLANS ARE APPROXIMATE, WHERE APPLICABLE, COORDINATE LOCATIONS WITH FINAL FURNITURE LAYOUT.
2. WHERE FLOOR BOX COVER ALLOWS FOR INSTALLATION OF TILE CARPET OR OTHER FLOORING INSERTS, PROVIDE COMPLETE INSTALLATION ACCORDINGLY, TO MATCH SURROUNDING FLOOR COVERING.
3. PROVIDE (1) DUPLEX RECEPTACLE.
4. PROVIDE BOX WITH SEPARATE LOW VOLTAGE COMPARTMENT AS NEEDED. COORDINATE LOW VOLTAGE WIRING REQUIREMENTS WITH OWNER.
5. PROVIDE USB RECEPTACLE.

LIGHTING FIXTURE SCHEDULE

MARK	MANUFACTURER	MODEL #	BALLAST	FINISH	MOUNTING	LAMPS		FIXTURE WATTS	LUMEN OUTPUT	VOLTAGE	APPROVED MANUFACTURERS	NOTES
						TYPE	CODE	QTY.				
A1.1	SPECTRUM LIGHTING	SR4MOXT31DS101/RD04F30KWDMWSO	DIMMABLE	WHITE	RECESSED	LED	WITH FIXTURE	-	15	1,300	120	SUBMIT FOR APPROVAL	7
A1.2	SPECTRUM LIGHTING	SR4MOXT20LDS101/RD04F30KOWMWSO	DIMMABLE	WHITE	RECESSED	LED	WITH FIXTURE	-	24	2,000	120	SUBMIT FOR APPROVAL	7
A1.3	SPECTRUM LIGHTING	SR4MOXT31LE1/RD04F30KWDMWSO	STANDARD	WHITE	RECESSED	LED	WITH FIXTURE	-	15	1,300	120	SUBMIT FOR APPROVAL	
B1.1	SPECTRUM LIGHTING	SR4MOXT10LDS101/RD3F30KWDBZSOWLPRX	DIMMABLE	BRONZE	RECESSED	LED	WITH FIXTURE	-	12	1,000	120	SUBMIT FOR APPROVAL	1,7,8
B1.4	SPECTRUM LIGHTING	SR3MOXT10LE1/RD3F30KMDMWSOWL	STANDARD	WHITE	RECESSED	LED	WITH FIXTURE	-	12	1,000	120	SUBMIT FOR APPROVAL	1
B2.1	SPECTRUM LIGHTING	SR3MOXT31DLS101/RA3F30KMDBZSOPRX	DIMMABLE	BRONZE	RECESSED	LED	WITH FIXTURE	-	15	1,300	120	SUBMIT FOR APPROVAL	7
B2.2	SPECTRUM LIGHTING	SR3MOXT31DLS101/RA3F30KMDMWSO	DIMMABLE	WHITE	RECESSED	LED	WITH FIXTURE	-	15	1,300	120	SUBMIT FOR APPROVAL	7
B2.3	SPECTRUM LIGHTING	SR3MOXT31DLS101/RA3F30KMDMWLW	DIMMABLE	WHITE	RECESSED	LED	WITH FIXTURE	-	15	1,300	120	SUBMIT FOR APPROVAL	7
B3.1	SPECTRUM LIGHTING	SR3MOXT31DLS101/RW3F30KWMWLW	DIMMABLE	WHITE	RECESSED	LED	WITH FIXTURE	-	15	1,300	120	SUBMIT FOR APPROVAL	7
C1.1	WAC LIGHTING	HR-LED232R-30-WT	DIMMABLE	WHITE	RECESSED	LED	WITH FIXTURE	-	3.5	250	120	SUBMIT FOR APPROVAL	7
D1.1	FOCAL POINT	FSM4L FL 1000LF 30K 1C UNV LD1 8'	DIMMABLE	WHITE	RECESSED	LED	WITH FIXTURE	-	74	8,290	120	SUBMIT FOR APPROVAL	7
DF1	ARKANSAS LIGHTING	417BP-2	STANDARD	METAL	PENDANT	LED	(2) E26 11W LED 3000K	2	22	-	120	SUBMIT FOR APPROVAL	
DF2	OFCI	CUSTOM (STAYBRIDGE SPEC SP-400)	DIMMABLE	BLACK	PENDANT	LED	(3) E26 11W LED 3000K	3	33	1,100 MIN	120	SUBMIT FOR APPROVAL	7
DF3	OFCI	CUSTOM (STAYBRIDGE SPEC SP-402)	DIMMABLE	BLACK/WHITE	PENDANT	LED	(4) E26 24W LED 3000K	4	96	1,100 MIN	120	SUBMIT FOR APPROVAL	7
DF4	OFCI	CUSTOM (STAYBRIDGE SPEC SP-405)	STANDARD	PER ARCH	WALL	LED	(1) E26 10W LED	1	10	1,100 MIN	120	SUBMIT FOR APPROVAL	
DF5A	OFCI	CUSTOM (STAYBRIDGE SPEC SP-406A)	DIMMABLE	BLACK	PENDANT	LED	(1) E26 10W LED	1	10	1,100 MIN	120	SUBMIT FOR APPROVAL	7
DF5B	OFCI	CUSTOM (STAYBRIDGE SPEC SP-406B)	DIMMABLE	BLACK	PENDANT	LED	(1) E26 10W LED	1	10	1,100 MIN	120	SUBMIT FOR APPROVAL	7
DF5C	OFCI	CUSTOM (STAYBRIDGE SPEC SP-406C)	DIMMABLE	BLACK	PENDANT	LED	(1) E26 10W LED	1	10	1,100 MIN	120	SUBMIT FOR APPROVAL	7
DF6	OFCI	CUSTOM (STAYBRIDGE SPEC SP-407)	DIMMABLE	PER ARCH	PENDANT	LED	(10) E12 5W LED	10	50	-	120	SUBMIT FOR APPROVAL	7
DF7	OFCI	CUSTOM (STAYBRIDGE SPEC SP-410)	STANDARD	PER ARCH	WALL	LED	(3) 11W LED	3	33	1,100 MIN	120	SUBMIT FOR APPROVAL	
DF8	OFCI	CUSTOM (STAYBRIDGE SPEC SP-411)	STANDARD	PER ARCH	WALL	LED	(1) 12W LED	1	12	-	120	SUBMIT FOR APPROVAL	
DF9	OFCI	CUSTOM (STAYBRIDGE SPEC SP-412)	STANDARD	PER ARCH	WALL	LED	(1) GU24 LED	1	11	1,100 MIN	120	SUBMIT FOR APPROVAL	7
E1.1	CALIFORNIA ACCENT LIGHTING	LED8000-ST-F-3.5W-10V-LED-3.0K-WET	STANDARD	-	SURFACE	LED	WITH FIXTURE	-	3.6W/FT	342LM/FT	24	SUBMIT FOR APPROVAL	3,5,6,7
EM1	WILLIAMS	EMER/LED-WHT-SDT-D	EMERGENCY	WHITE	WALL	LED	WITH FIXTURE	-	2	-	120	SUBMIT FOR APPROVAL	9
F1.1	FEELUX	NDP-30K-C90-NDP-S-WH-FDC-120	DIMMABLE	WHITE	WALL	LED	WITH FIXTURE	-	3.5W/FT	315LM/FT	24	SUBMIT FOR APPROVAL	3,5,6,7
G1.1	MODA LIGHT	MMCI-5-5x-5-0-3H-4 W/MODA MINI MOUNTING TRACK	DIMMABLE	SILVER	COVE	LED	WITH FIXTURE	-	18	1,820	120	SUBMIT FOR APPROVAL	3,7
L1.2	LUMIERE	900Z W2 RW LED 3090 5 S BZ L1 UNV WS	STANDARD	BRONZE	WALL	LED	WITH FIXTURE	-	20	380L/380D	120	SUBMIT FOR APPROVAL	1,8
PL1	LUMARK	PRV-P-PA2B-740-U-T3-HSS-SA-GM	STANDARD	GRAPHITE	POLE	LED	WITH FIXTURE	-	151	14,500	120	SUBMIT FOR APPROVAL	1,8,10
RE	WILLIAMS	WMA 4-165/835-AF-EM/10W-OCC-OCCWS FS 50S PP4	EMERGENCY	WHITE	WALL	LED	WITH FIXTURE	-	57	6,500	120	SUBMIT FOR APPROVAL	
S	WILLIAMS	50 G-524-1/59/840-S-AF12125-DG-DIM	DIMMABLE	WHITE	RECESSED	LED	WITH FIXTURE	-	48	5,900	120	SUBMIT FOR APPROVAL	7
S1E	WILLIAMS	9G-4-162/840-DCL-EM/10W-DRV-120	EMERGENCY	WHITE	SURFACE	LED	WITH FIXTURE	-	48	6,200	120	SUBMIT FOR APPROVAL	9
T	WILLIAMS	LT-14-L28/830-AF-DIM-UNV	DIMMABLE	WHITE	RECESSED	LED	WITH FIXTURE	-	21	2,800	120	SUBMIT FOR APPROVAL	7
U	WILLIAMS	7SR-4-L50/840-DIM-UNV	DIMMABLE	WHITE	SURFACE	LED	WITH FIXTURE	-	44	5,500	120	SUBMIT FOR APPROVAL	7
W1E	WILLIAMS	VWP H-L30/740-T3-GRAY-SDGL-EM/4W-DIM-120	EMERGENCY	GRAY	WALL	LED	WITH FIXTURE	-	36	3,000	120	SUBMIT FOR APPROVAL	1,2,8,9
X1	WILLIAMS	EXIT-R-EM-WHT-D	EMERGENCY	BY ARCHITECT	SURF/WALL	LED	WITH FIXTURE	-	5	-	120	SUBMIT FOR APPROVAL	4,9
X2	WILLIAMS	EXIT/EM/LED-R-WHT-SDT-D-WETRHL-D-BLK-HL	EMERGENCY	BY ARCHITECT	SURF/WALL	LED	WITH FIXTURE	-	5	-	120	SUBMIT FOR APPROVAL	4,9
XL	WILLIAMS	EXIT/EM/LOW-R-WHT-D	EMERGENCY	BY ARCHITECT	SURF/WALL	LED	WITH FIXTURE	-	5	-	120	SUBMIT FOR APPROVAL	2,4,9

NOTES:
1. FIXTURE SHALL BE RATED FOR DAMP OR WET LOCATIONS AS REQUIRED.
2. COORDINATE HEIGHT AND/OR LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
3. INSTALL PER MANUFACTURER'S GUIDELINES.
4. REFER TO PLANS FOR MOUNTING TYPE, FACE ORIENTATION AND CHEVRON DIRECTION.
5. COORDINATE AND VERIFY OVERALL FIXTURE LENGTH WITH ARCHITECT PRIOR TO ORDERING.
6. PROVIDE ALL PARTS AND CIRCUITRY REQUIRED FOR A COMPLETE SYSTEM INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS.
7. PROVIDE WITH 0-10 VOLT DC DIMMABLE DRIVER AND CONTROL WIRING PER MANUFACTURER'S RECOMMENDATIONS.
8. FIXTURE LAMP AND/OR BALLAST/DRIVER SHALL BE CAPABLE OF OPERATING AT TEMPERATURES FROM 0 DEGREES TO 110 DEGREES F.
9. PROVIDE FIXTURE WITH EMERGENCY BATTERY BACK-UP FOR MINIMUM 90 MINUTES OPERATION.
10. PROVIDE WITH 20' TALL, 4" SQUARE STEEL POLE WITH POLE BASE COVER. ALL FINISHES SHALL MATCH FIXTURE.

ABBREVIATIONS:
OFCI - OWNER FURNISHED, CONTRACTOR INSTALLED
TBD - TO BE DETERMINED

GENERAL NOTES (APPLY TO ALL LIGHT FIXTURES):
1. U.L. LAMP CODES MAY BE SHOWN. PHILIPS AND OSRAM/SYLVANIA ARE APPROVED MFRS.
2. PROVIDE INSULATION BARRIER, WHERE NOW IC-RATED LIGHT FIXTURES ARE INSTALLED WHERE THEY MAY BE IN DIRECT CONTACT WITH INSULATION. INSULATION BARRIER SHALL BE EQUAL TO PRODUCTS BY "S.Z. BARRIER"
3. ALL FINISH AND TRIM OPTIONS SHALL BE COORDINATED WITH INTERIOR DESIGNER

LIGHTING CONTROL SYSTEM — 1LCP

SYSTEM: 120/208V, 3PH, 4W
MANUFACTURER - MODEL: LUTRON QUANTUM LP
LOCATION: ELEC 124
MAIN LUG RATING (AMPS): 30
KAIC AMPS (RMS): 10

CIRCUIT	LOAD DESCRIPTION	LOAD TYPE	LOAD (VA)	CIRC. BRKR.	NOTES
1	LIVING ROOM PENDANT (DF3)	LEDM	96	20	-
2	LIVING ROOM CAN LIGHTS (B2.1)	LEDM	75	20	-
3	LIVING ROOM CAN LIGHTS (B2.1)	LEDM	90	20	-
4	RECEPTION AREA PENDANT (DF2)	LEDM	33	20	-
5	RECEPTION AREA CAN LIGHTS (B2.1)	LEDM	45	20	-
6	RECEPTION AREA COVE LIGHT (G1.1)	LEDM	144	20	-
7	GREAT ROOM CAN LIGHTS (B2.1)	LEDM	30	20	-
8	GREAT ROOM SCONCES (DF4)	LEDM	20	20	-
9	GREAT ROOM CAN LIGHTS (B2.3)	LEDM	192	20	-
10	GREAT ROOM PENDANTS (DF5A, DF5B, & DF5C)	LEDM	70	20	-
11	GREAT ROOM CAN LIGHTS (B2.1)	LEDM	75	20	-
12	GREAT ROOM PENDANT (DF6)	LEDM	50	20	-
13	GREAT ROOM CAN LIGHTS (B2.1)	LEDM	30	20	-
14	GREAT ROOM CAN LIGHTS (A1.1)	LEDM	75	20	-
15	GREAT ROOM TAPE LIGHT (E1.1)	LVD	36	20	-
16	PANTRY CAN LIGHTS (C1.1)	LEDM	14	20	-
17	PANTRY CAN LIGHTS (B2.2)	LEDM	30	20	-
18	PANTRY CAN LIGHTS (A1.1)	LEDM	30	20	-
19	BUFFET CAN LIGHTS (A1.1)	LEDM	90	20	-
20	BUFFET CAN LIGHTS (B2.2)	LEDM	165	20	-
21	BUFFET SCONCES (DF8)	LEDM	36	20	-
22	BUFFET UNDER COUNTER LIGHT (F1.1)	LVD	53	20	-
23	FITNESS CENTER LINEAR LIGHTS (D1.1)	LEDM	370	20	-
24	FITNESS CENTER CAN LIGHTS (A1.1)	LEDM	75	20	-
25	CORRIDOR CAN LIGHTS (B2.2)	LEDM	30	20	-
26	RECEPTION AREA CAN LIGHTS (A1.2)	LEDM	144	20	-
27	SPARE	-	-	20	-
28	SPARE	-	-	20	-
29	SPARE	-	-	20	-
30	SPARE	-	-	20	-
31	SPARE	-	-	20	-
32	SPARE	-	-	20	-
	TOTAL:		2098		

ABBREVIATIONS:
CFCIM - COMPACT FLUORESCENT DIMMING
EM - EMERGENCY LOAD
IDIM - INCANDESCENT DIMMING
DMX - DMX CONTROL
LEDM - LED DIMMING
LVD - LOW VOLTAGE DIMMING
SW - SWITCHED LOAD (ON/OFF)

GENERAL NOTES:
1. THIS SCHEDULE IS PROVIDED FOR REFERENCE ONLY. MULTIPLE RACKS/PANEL MAY BE REQUIRED. PROVIDE NUMBER OF POWER CONNECTIONS AS NECESSARY.
2. CONFIRM LOAD AND/OR LOAD TYPE PRIOR TO ORDERING. PROVIDE NUMBER OF CONTROL MODULES AND ENCLOSURE AS REQUIRED.

PANELBOARD SCHEDULE — PC

VOLTAGE: 120/208 | PHASE / WIRE: 1 /3 | AMPS: 100
POLES: 18 | KAIC AMPS (RMS): 10 | MAIN BREAKER / M.O: MLO
MOUNTING: RECESSED | LOCATION: QUEEN / QUEEN ADA | FED FROM: SEE ELEC PLANS
ENCLOSURE: NEMA 1 | MANUFACTURER: SQUARE D | MODEL: HOMELINE

CIRC NO.	EQUIPMENT SERVED	GB AMPS	GB POLES	GB ACC.	LOAD (VA)	PHASE LOADS (VA) A	PHASE LOADS (VA) B	LOAD (VA)	GB ACC.	GB POLES	GB AMPS	EQUIPMENT SERVED	CIRC NO.
1	GENERAL LIGHTING	20	1	AFCI	200	1100		900	AFCI/GFCI	1	20	REFRIGERATOR RECEPTACLE	2
3	BATHROOM RECEPTACLE	20	1	AFCI	180		1180	1000	AFCI/GFCI	1	20	MICROWAVE	4
5	GENERAL RECEPTACLES	20	1	AFCI	1260	1800		540	AFCI	1	20	KITCHEN RECEPTACLES	6
7	SPARE	20	1	-			1200	1200	AFCI/GFCI	1	20	DISHWASHER / DISPOSAL	8
9	SPARE	20	1	-		1000		1000	AFCI/GFCI	1	20	COOKTOP	10
11	SPARE	20	1	-			0		-	1	20	SPARE	12
13	SPARE	20	1	-		0			-	1	20	SPARE	14
15	VTAP1	20	2	HACR	2070		2070		-	1	20	SPARE	16
17	*				2070	2070			-	1	20	SPARE	18
ENCLOSURE ACCESSORIES: CH, FL								PANELBOARD ACCESSORIES: GB, CBB					

CIRCUIT BREAKER ACCESSORIES: AFCI - ARC-FAULT INTERRUPTING; AFGF - ARC-FAULT/GROUND-FAULT INTERRUPTING; GFCI - GROUND-FAULT INTERRUPTING; HACR - HVAC RATING; HLF - HANDLE LOCK-OFF; HLN - HANDLE LOCK-ON; SR - SWITCH RATING; ST - SHUNT TRIP
ENCLOSURE ACCESSORIES: CH - CONCEALED HINGE; CW - COLUMN WIDTH PANEL; DWD - HINGED DOOR WITHIN HINGED DOOR; EGT - EXTENDED GUTTER TOP; EGB - EXTENDED GUTTER BOTTOM; EGSL - EXTENDED GUTTER LEFT HAND SIDE; EGSR - EXTENDED GUTTER RIGHT HAND SIDE; FL - FLUSH LOCK(S)
PANELBOARD ACCESSORIES: CL - COMPRESSION LUGS; FTL - FEED-THRU LUGS; GB - EQUIPMENT GROUND BAR KIT; IGB - INSULATED GROUND BAR KIT; NBK - NEUTRAL BONDING KIT; PS - PREPAWED CIRCUIT BREAKER SPACE; SB - SPLIT BUS; SER - SERVICE ENTRANCE RATING
SFB - SUB-FEED CIRCUIT BREAKER; SFL - SUB-FEED LUGS; CBB - 75% PLATED COPPER BUS BARS; ABB - 75% PLATED ALUMINUM BUS BARS; THN - 200% RATED NEUTRAL BUS BAR; TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSION

PANELBOARD SCHEDULE — PB

VOLTAGE: 120/208 | PHASE / WIRE: 1 /3 | AMPS: 100
POLES: 18 | KAIC AMPS (RMS): 10 | MAIN BREAKER / M.O: MLO
MOUNTING: RECESSED | LOCATION: KING/KING ADA/KING EXTEND | FED FROM: SEE ELEC PLANS
ENCLOSURE: NEMA 1 | MANUFACTURER: SQUARE D | MODEL: HOMELINE

CIRC NO.	EQUIPMENT SERVED	GB AMPS	GB POLES	GB ACC.	LOAD (VA)	PHASE LOADS (VA) A	PHASE LOADS (VA) B	LOAD (VA)	GB ACC.	GB POLES	GB AMPS	EQUIPMENT SERVED	CIRC NO.
1	GENERAL LIGHTING	20	1	AFCI	200	1100		900	AFCI/GFCI	1	20	REFRIGERATOR RECEPTACLE	2
3	BATHROOM RECEPTACLE	20	1	AFCI	180		1180	1000	AFCI/GFCI	1	20	MICROWAVE	4
5	GENERAL RECEPTACLES	20	1	AFCI	1260	1620		360	AFCI	1	20	KITCHEN RECEPTACLES	6
7	SPARE	20	1	-			1200	1200	AFCI/GFCI	1	20	DISHWASHER / DISPOSAL	8
9	SPARE	20	1	-		1000		1000	AFCI/GFCI	1	20	COOKTOP	10
11	SPARE	20	1	-			0		-	1	20	SPARE	12
13	SPARE	20	1	-		0			-	1	20	SPARE	14
15	VTAP1	20	2	HACR	2070		2070		-	1	20	SPARE	16
17	*				2070	2070			-	1	20	SPARE	18
ENCLOSURE ACCESSORIES: CH, FL								PANELBOARD ACCESSORIES: GB, CBB					

CIRCUIT BREAKER ACCESSORIES: AFCI - ARC-FAULT INTERRUPTING; AFGF - ARC-FAULT/GROUND-FAULT INTERRUPTING; GFCI - GROUND-FAULT INTERRUPTING; HACR - HVAC RATING; HLF - HANDLE LOCK-OFF; HLN - HANDLE LOCK-ON; SR - SWITCH RATING; ST - SHUNT TRIP
ENCLOSURE ACCESSORIES: CH - CONCEALED HINGE; CW - COLUMN WIDTH PANEL; DWD - HINGED DOOR WITHIN HINGED DOOR; EGT - EXTENDED GUTTER TOP; EGB - EXTENDED GUTTER BOTTOM; EGSL - EXTENDED GUTTER LEFT HAND SIDE; EGSR - EXTENDED GUTTER RIGHT HAND SIDE; FL - FLUSH LOCK(S)
PANELBOARD ACCESSORIES: CL - COMPRESSION LUGS; FTL - FEED-THRU LUGS; GB - EQUIPMENT GROUND BAR KIT; IGB - INSULATED GROUND BAR KIT; NBK - NEUTRAL BONDING KIT; PS - PREPAWED CIRCUIT BREAKER SPACE; SB - SPLIT BUS; SER - SERVICE ENTRANCE RATING
SFB - SUB-FEED CIRCUIT BREAKER; SFL - SUB-FEED LUGS; CBB - 75% PLATED COPPER BUS BARS; ABB - 75% PLATED ALUMINUM BUS BARS; THN - 200% RATED NEUTRAL BUS BAR; TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSION

PANELBOARD SCHEDULE — PA

VOLTAGE: 120/208 | PHASE / WIRE: 1 /3 | AMPS: 100
POLES: 18 | KAIC AMPS (RMS): 10 | MAIN BREAKER / M.O: MLO
MOUNTING: RECESSED | LOCATION: KING 1BR ADA/KING 1BR | FED FROM: SEE ELEC PLANS
ENCLOSURE: NEMA 1 | MANUFACTURER: SQUARE D | MODEL: HOMELINE

CIRC NO.	EQUIPMENT SERVED	GB AMPS	GB POLES	GB ACC.	LOAD (VA)	PHASE LOADS (VA) A	PHASE LOADS (VA) B	LOAD (VA)	GB ACC.	GB POLES	GB AMPS	EQUIPMENT SERVED	CIRC NO.
1	GENERAL LIGHTING	20	1	AFCI	200	1100		900	AFCI/GFCI	1	20	REFRIGERATOR RECEPTACLE	2
3	BATHROOM RECEPTACLE	20	1	AFCI	180		1180	1000	AFCI/GFCI	1	20	MICROWAVE	4
5	LIVING ROOM RECEPTACLES	20	1	AFCI	720	1080		360	AFCI	1	20	KITCHEN RECEPTACLES	6
7	BEDROOM RECEPTACLES	20	1	AFCI	900		1260	360	AFCI	1	20	KITCHEN RECEPTACLES	8
9	SPARE	20	1	-		1200		1200	AFCI/GFCI

PANELBOARD SCHEDULE — 4P2

VOLTAGE: 120/208 | POLES: 42 | MOUNTING: SURFACE | ENCLOSURE: NEMA 1
PHASE / WIRE: 3 / 4 | KAIC AMPS (RMS): 42 | LOCATION: ELEC 434 | MANUFACTURER: SQUARE D
AMPS: 400 | MAIN BREAKER / MLO: MLO | FED FROM: MSB | MODEL: NQ

CIRC NO.	EQUIPMENT SERVED	CB AMPS	CB POLES	CB ACC	LOAD (VA)	PHASE LOADS (VA) A	B	C	LOAD (VA)	CB ACC	CB POLES	CB AMPS	EQUIPMENT SERVED	CIRC NO.
1	FAN COIL UNITS FC2-3, FC3-3, AND FC4-3	15	2	HACR	250	8310			8060	HACR	3	70	HEAT PUMP HP1 CIRCUIT #1	2
3	"				250		8310		8060				"	4
5	OUTDOOR AIR UNIT DOAS2	70	3	HACR	7490			15550	8060				"	6
7	"				7490	14605			7115	HACR	3	60	HEAT PUMP HP1 CIRCUIT #2	8
9	"				7490		14605		7115				"	10
11	MINI-SPLIT MSCU1	20	2	HACR	1715			8830	7115				"	12
13	"				1715	4740			3025	HACR	2	35	HEAT PUMP HP2	14
15	ROOFTOP RECEPTACLES	20	1	-	720		3745		3025				"	16
17	SPARE	20	1	-				3025	3025	HACR	2	35	HEAT PUMP HP3	18
19	SPARE	20	1	-		3025			3025				"	20
21	SPARE	20	1	-			1715		1715	HACR	2	20	HEAT PUMP HP4	22
23	SPARE	20	1	-				1715	1715				"	24
25	SPARE	20	1	-		0				-	1	20	SPARE	26
27	SPARE	20	1	-			0			-	1	20	SPARE	28
29	SPARE	20	1	-				0		-	1	20	SPARE	30
31	SPARE	20	1	-		0				-	1	20	SPARE	32
33	SPARE	20	1	-			0			-	1	20	SPARE	34
35	SPARE	20	1	-				0		-	1	20	SPARE	36
37	SPARE	20	1	-		0				-	1	20	SPARE	38
39	SPARE	20	1	-			0			-	1	20	SPARE	40
41	SPARE	20	1	-				0		-	1	20	SPARE	42

ENCLOSURE ACCESSORIES: CH,FL — PANELBOARD ACCESSORIES: GB,CBB

CIRCUIT BREAKER ACCESSORIES:
AC - AUXILIARY CONTACTS
AFCI - ARCH FAULT INTERUPTING
GFCI - GROUND FAULT INTERUPTING
HACR - HACR RATING
HLF - HANDLE LOCK-OFF
HLN - HANDLE LOCK-ON
SR - SWITCH RATING
ST - SHUNT TRIP
AFGF - COMBINATION ARCH AND GROUND FAULT INTERUPTING
NOTES:
CR - CONFIRM REQUIREMENTS FOR EQUIPMENT FURNISHED BY OTHERS

ENCLOSURE ACCESSORIES:
CH - CONCEALED HINGE
CW - COLUMN WIDTH PANEL
DWD - HINGED DOOR WITHIN HINGED DOOR
EGT - EXTENDED GUTTER TOP
EGB - EXTENDED GUTTER BOTTOM
EGSL - EXTENDED GUTTER LEFT HAND SIDE
EGSR - EXTENDED GUTTER RIGHT HAND SIDE
FL - FLUSH LOCK(S)

PANELBOARD ACCESSORIES:
CL - COMPRESSION LUGS
FTL - FEED-THRU LUGS
GB - EQUIPMENT GROUND BAR KIT
GBI - GROUND BAR INSULATOR KIT
NBK - NEUTRAL BONDING KIT
PS - PREPARED CIRCUIT BREAKER SPACE
SB - SPLIT BUS
SER - SERVICE ENTRANCE RATING

SFB - SUB-FEED CIRCUIT BREAKER
SFL - SUB-FEED LUGS
CBB - SILVER PLATED COPPER BUS BARS
ABB - TIN PLATED ALUMINUM BUS BARS
TRN - 200% RATED NEUTRAL BUS BAR
TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSION

PANELBOARD SCHEDULE — 4P1

VOLTAGE: 120/208 | POLES: 72 | MOUNTING: SURFACE | ENCLOSURE: NEMA 1
PHASE / WIRE: 3 / 4 | KAIC AMPS (RMS): 42 | LOCATION: ELEC 434 | MANUFACTURER: SQUARE D
AMPS: 400 | MAIN BREAKER / MLO: MLO | FED FROM: MSB | MODEL: NQ

CIRC NO.	EQUIPMENT SERVED	CB AMPS	CB POLES	CB ACC	LOAD (VA)	PHASE LOADS (VA) A	B	C	LOAD (VA)	CB ACC	CB POLES	CB AMPS	EQUIPMENT SERVED	CIRC NO.
1	STUDIO KING 201 (PANEL PB)	60	2	-	5790	11580			5790	-	2	60	STUDIO KING 202 (PANEL PB)	2
3	"				4450		8900		4450				"	4
5	EXTENDED STUDIO KING 203 (PANEL PB)	60	2	-	5790			11760	5970	-	2	60	STUDIO QUEEN 204 (PANEL PC)	6
7	"				4450	8900			4450				"	8
9	STUDIO QUEEN 205 (PANEL PC)	60	2	-	5970		11940		5970	-	2	60	STUDIO QUEEN 206 (PANEL PC)	10
11	"				4450			8900	4450				"	12
13	STUDIO QUEEN 207 (PANEL PC)	60	2	-	5970	11760			5790	-	2	60	STUDIO KING 208 (PANEL PB)	14
15	"				4450		8900		4450				"	16
17	15R KING 209 (PANEL PA)	60	2	-	6365			12730	6365	-	2	60	15R KING 210 (PANEL PA)	18
19	"				6425	12850			6425				"	20
21	STUDIO KING 211 (PANEL PB)	60	2	-	5790		11580		5790	-	2	60	STUDIO KING 212 (PANEL PB)	22
23	"				4450			8900	4450				"	24
25	STUDIO KING 213 (PANEL PB)	60	2	-	5790	11580			5790	-	2	60	STUDIO KING 214 (PANEL PB)	26
27	"				4450		8900		4450				"	28
29	STUDIO KING 215 (PANEL PB)	60	2	-	5790			11580	5790	-	2	60	STUDIO KING 216 (PANEL PB)	30
31	"				4450	8900			4450				"	32
33	STUDIO KING 217 (PANEL PB)	60	2	-	5790		11580		5790	-	2	60	STUDIO KING 218 (PANEL PB)	34
35	"				4450			8900	4450				"	36
37	EXTENDED STUDIO KING 219 (PANEL PB)	60	2	-	5790	11580			5790	-	2	60	ADA STUDIO KING 220 (PANEL PB)	38
39	"				4450		8900		4450				"	40
41	STUDIO QUEEN 221 (PANEL PC)	60	2	-	5970			12335	6365	-	2	60	ADA 15R KING (PANEL PA)	42
43	"				4450	10875			6425				"	44
45	CORRIDOR LIGHTS	20	1	-	1000		1000			-	1	20	SPARE	46
47	CORRIDOR RECEPTACLES	20	1	-	1620			1620		-	1	20	SPARE	48
49	FAN COIL UNITS FC2-1, FC3-1, AND FC4-1	15	2	HACR	250	250				-	1	20	SPARE	50
51	"				250		250			-	1	20	SPARE	52
53	SPARE	20	1	-				0		-	1	20	SPARE	54
55	SPARE	20	1	-		0				-	1	20	SPARE	56
57	SPARE	20	1	-			0			-	1	20	SPARE	58
59	SPARE	20	1	-				0		-	1	20	SPARE	60
61	SPARE	20	1	-		0				-	1	20	SPARE	62
63	SPARE	20	1	-			0			-	1	20	SPARE	64
65	SPARE	20	1	-				0		-	1	20	SPARE	66
67	SPARE	20	1	-		0				-	1	20	SPARE	68
69	SPARE	20	1	-			0			-	1	20	SPARE	70
71	SPARE	20	1	-				0		-	1	20	SPARE	72

ENCLOSURE ACCESSORIES: CH,FL — PANELBOARD ACCESSORIES: GB,CBB

CIRCUIT BREAKER ACCESSORIES:
AC - AUXILIARY CONTACTS
AFCI - ARCH FAULT INTERUPTING
GFCI - GROUND FAULT INTERUPTING
HACR - HACR RATING
HLF - HANDLE LOCK-OFF
HLN - HANDLE LOCK-ON
SR - SWITCH RATING
ST - SHUNT TRIP
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NOTES:
CR - CONFIRM REQUIREMENTS FOR EQUIPMENT FURNISHED BY OTHERS

ENCLOSURE ACCESSORIES:
CH - CONCEALED HINGE
CW - COLUMN WIDTH PANEL
DWD - HINGED DOOR WITHIN HINGED DOOR
EGT - EXTENDED GUTTER TOP
EGB - EXTENDED GUTTER BOTTOM
EGSL - EXTENDED GUTTER LEFT HAND SIDE
EGSR - EXTENDED GUTTER RIGHT HAND SIDE
FL - FLUSH LOCK(S)

PANELBOARD ACCESSORIES:
CL - COMPRESSION LUGS
FTL - FEED-THRU LUGS
GB - EQUIPMENT GROUND BAR KIT
GBI - GROUND BAR INSULATOR KIT
NBK - NEUTRAL BONDING KIT
PS - PREPARED CIRCUIT BREAKER SPACE
SB - SPLIT BUS
SER - SERVICE ENTRANCE RATING

SFB - SUB-FEED CIRCUIT BREAKER
SFL - SUB-FEED LUGS
CBB - SILVER PLATED COPPER BUS BARS
ABB - TIN PLATED ALUMINUM BUS BARS
TRN - 200% RATED NEUTRAL BUS BAR
TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSION

PANELBOARD SCHEDULE — 3P1

VOLTAGE: 120/208 | POLES: 72 | MOUNTING: SURFACE | ENCLOSURE: NEMA 1
PHASE / WIRE: 3 / 4 | KAIC AMPS (RMS): 42 | LOCATION: ELEC 324 | MANUFACTURER: SQUARE D
AMPS: 400 | MAIN BREAKER / MLO: MLO | FED FROM: MSB | MODEL: NQ

CIRC NO.	EQUIPMENT SERVED	CB AMPS	CB POLES	CB ACC	LOAD (VA)	PHASE LOADS (VA) A	B	C	LOAD (VA)	CB ACC	CB POLES	CB AMPS	EQUIPMENT SERVED	CIRC NO.
1	STUDIO KING 201 (PANEL PB)	60	2	-	5790	11580			5790	-	2	60	STUDIO KING 202 (PANEL PB)	2
3	"				4450		8900		4450				"	4
5	EXTENDED STUDIO KING 203 (PANEL PB)	60	2	-	5790			11760	5970	-	2	60	STUDIO QUEEN 204 (PANEL PC)	6
7	"				4450	8900			4450				"	8
9	STUDIO QUEEN 205 (PANEL PC)	60	2	-	5970		11940		5970	-	2	60	STUDIO QUEEN 206 (PANEL PC)	10
11	"				4450			8900	4450				"	12
13	STUDIO QUEEN 207 (PANEL PC)	60	2	-	5970	11760			5790	-	2	60	STUDIO KING 208 (PANEL PB)	14
15	"				4450		8900		4450				"	16
17	15R KING 209 (PANEL PA)	60	2	-	6365			12730	6365	-	2	60	15R KING 210 (PANEL PA)	18
19	"				6425	12850			6425				"	20
21	STUDIO KING 211 (PANEL PB)	60	2	-	5790		11580		5790	-	2	60	STUDIO KING 212 (PANEL PB)	22
23	"				4450			8900	4450				"	24
25	STUDIO KING 213 (PANEL PB)	60	2	-	5790	11580			5790	-	2	60	STUDIO KING 214 (PANEL PB)	26
27	"				4450		8900		4450				"	28
29	STUDIO KING 215 (PANEL PB)	60	2	-	5790			11580	5790	-	2	60	STUDIO KING 216 (PANEL PB)	30
31	"				4450	8900			4450				"	32
33	STUDIO KING 217 (PANEL PB)	60	2	-	5790		11580		5790	-	2	60	STUDIO KING 218 (PANEL PB)	34
35	"				4450			8900	4450				"	36
37	EXTENDED STUDIO KING 219 (PANEL PB)	60	2	-	5790	11580			5790	-	2	60	ADA STUDIO KING 220 (PANEL PB)	38
39	"				4450		8900		4450				"	40
41	STUDIO QUEEN 221 (PANEL PC)	60	2	-	5970			12335	6365	-	2	60	ADA 15R KING (PANEL PA)	42
43	"				4450	10875			6425				"	44
45	CORRIDOR LIGHTS	20	1	-	1000		1000			-	1	20	SPARE	46
47	CORRIDOR RECEPTACLES	20	1	-	1620			1620		-	1	20	SPARE	48
49	FAN COIL UNITS FC2-2, FC3-2, AND FC4-2	15	2	HACR	250	250				-	1	20	SPARE	50
51	"				250		250			-	1	20	SPARE	52
53	SPARE	20	1	-				0		-	1	20	SPARE	54
55	SPARE	20	1	-		0				-	1	20	SPARE	56
57	SPARE	20	1	-			0			-	1	20	SPARE	58
59	SPARE	20	1	-				0		-	1	20	SPARE	60
61	SPARE	20	1	-		0				-	1	20	SPARE	62
63	SPARE	20	1	-			0			-	1	20	SPARE	64
65	SPARE	20	1	-				0		-	1	20	SPARE	66
67	SPARE	20	1	-		0				-	1	20	SPARE	68
69	SPARE	20	1	-			0			-	1	20	SPARE	70
71	SPARE	20	1	-				0		-	1	20	SPARE	72

ENCLOSURE ACCESSORIES: CH,FL — PANELBOARD ACCESSORIES: GB,CBB

CIRCUIT BREAKER ACCESSORIES:
AC - AUXILIARY CONTACTS
AFCI - ARCH FAULT INTERUPTING
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PANELBOARD ACCESSORIES:
CL - COMPRESSION LUGS
FTL - FEED-THRU LUGS
GB - EQUIPMENT GROUND BAR KIT
GBI - GROUND BAR INSULATOR KIT
NBK - NEUTRAL BONDING KIT
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SER - SERVICE ENTRANCE RATING

SFB - SUB-FEED CIRCUIT BREAKER
SFL - SUB-FEED LUGS
CBB - SILVER PLATED COPPER BUS BARS
ABB - TIN PLATED ALUMINUM BUS BARS
TRN - 200% RATED NEUTRAL BUS BAR
TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSION

PANELBOARD SCHEDULE — 2P1

VOLTAGE: 120/208 | POLES: 72 | MOUNTING: SURFACE | ENCLOSURE: NEMA 1
PHASE / WIRE: 3 / 4 | KAIC AMPS (RMS): 42 | LOCATION: ELEC 224 | MANUFACTURER: SQUARE D
AMPS: 400 | MAIN BREAKER / MLO: MLO | FED FROM: MSB | MODEL: NQ

CIRC NO.	EQUIPMENT SERVED	CB AMPS	CB POLES	CB ACC	LOAD (VA)	PHASE LOADS (VA) A	B	C	LOAD (VA)	CB ACC	CB POLES	CB AMPS	EQUIPMENT SERVED	CIRC NO.
1	STUDIO KING 201 (PANEL PB)	60	2	-	5790	11580			5790	-	2	60	STUDIO KING 202 (PANEL PB)	2
3	"				4450		8900		4450				"	4
5	EXTENDED STUDIO KING 203 (PANEL PB)	60	2	-	5790			11760	5970	-	2	60	STUDIO QUEEN 204 (PANEL PC)	6
7	"				4450	8900			4450				"	8
9	STUDIO QUEEN 205 (PANEL PC)	60	2	-	5970		11940		5970	-	2	60	STUDIO QUEEN 206 (PANEL PC)	10
11	"				4450			8900	4450				"	12
13	STUDIO QUEEN 207 (PANEL PC)	60	2	-	5970	11760			5790	-	2	60	STUDIO KING 208 (PANEL PB)	14
15	"				4450		8900		4450				"	16
17	15R KING 209 (PANEL PA)	60	2	-	6365			12730	6365	-	2	60	15R KING 210 (PANEL PA)	18
19	"				6425	12850			6425				"	20
21	STUDIO KING 211 (PANEL PB)	60	2	-	5790		11580		5790	-	2	60	STUDIO KING 212 (PANEL PB)	22
23	"				4450			8900	4450				"	24
25	STUDIO KING 213 (PANEL PB)	60	2	-	5790	11580			5790	-	2	60	STUDIO KING 214 (PANEL PB)	26
27	"				4450		8900		4450				"	28
29	STUDIO KING 215 (PANEL PB)	60	2	-	5790			11580	5790	-	2	60	STUDIO KING 216 (PANEL PB)	30
31	"				4450	8900			4450				"	32
33	STUDIO KING 217 (PANEL PB)	60	2	-	5790		11580		5790	-	2	60	STUDIO KING 218 (PANEL PB)	34
35	"				4450			8900	4450				"	36
37	EXTENDED STUDIO KING 219 (PANEL PB)	60	2	-	5790	11580			5790	-	2	60	ADA STUDIO KING 220 (PANEL PB)	38
39	"				4450		8900		4450				"	40
41	STUDIO QUEEN 221 (PANEL PC)	60	2	-	5970			12335	6365	-	2	60	ADA 15R KING (PANEL PA)	42
43	"				4450	10875			6425				"	44
45	CORRIDOR LIGHTS	20	1	-	1000		1000			-	1	20	SPARE	46
47	CORRIDOR RECEPTACLES	20	1	-	1620			1620		-	1	20	SPARE	48
49	FAN COIL UNITS FC2-1, FC3-1, AND FC4-1	15	2	HACR	250	250				-	1	20	SPARE	50
51	"				250		250			-	1	20	SPARE	52
53	SPARE	20	1	-				0		-	1	20	SPARE	54
55	SPARE	20	1	-		0				-	1	20	SPARE	56
57	SPARE	20	1	-			0			-	1	20	SPARE	58
59	SPARE	20	1	-				0		-	1	20	SPARE	60
61	SPARE	20	1	-		0				-	1	20	SPARE	62
63	SPARE	20	1	-			0			-	1	20	SPARE	64
65	SPARE	20	1	-				0		-	1	20	SPARE	66
67	SPARE	20	1	-		0				-	1	20	SPARE	68
69	SPARE	20	1	-			0			-	1	20	SPARE	70
71	SPARE	20	1	-				0		-	1	20	SPARE	72

ENCLOSURE ACCESSORIES: CH,FL — PANELBOARD ACCESSORIES: GB,CBB

CIRCUIT BREAKER ACCESSORIES:
AC - AUXILIARY CONTACTS
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HACR - HACR RATING
HLF - HANDLE LOCK-OFF
HLN - HANDLE LOCK-ON
SR - SWITCH RATING
ST - SHUNT TRIP
AFGF - COMBINATION ARCH AND GROUND FAULT INTERUPTING
NOTES:
CR - CONFIRM REQUIREMENTS FOR EQUIPMENT FURNISHED BY OTHERS

ENCLOSURE ACCESSORIES:
CH - CONCEALED HINGE
CW - COLUMN WIDTH PANEL
DWD - HINGED DOOR WITHIN HINGED DOOR
EGT - EXTENDED GUTTER TOP
EGB - EXTENDED GUTTER BOTTOM
EGSL - EXTENDED GUTTER LEFT HAND SIDE
EGSR - EXTENDED GUTTER RIGHT HAND SIDE
FL - FLUSH LOCK(S)

PANELBOARD ACCESSORIES:
CL - COMPRESSION LUGS
FTL - FEED-THRU LUGS
GB - EQUIPMENT GROUND BAR KIT
GBI - GROUND BAR INSULATOR KIT
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PS - PREPARED CIRCUIT BREAKER SPACE
SB - SPLIT BUS
SER - SERVICE ENTRANCE RATING

SFB - SUB-FEED CIRCUIT BREAKER
SFL - SUB-FEED LUGS
CBB - SILVER PLATED COPPER BUS BARS
ABB - TIN PLATED ALUMINUM BUS BARS
TRN - 200% RATED NEUTRAL BUS BAR
TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSION

PANELBOARD SCHEDULE — KP1

VOLTAGE: 120/208 | POLES: 54 | MOUNTING: SURFACE | ENCLOSURE: NEMA T
PHASE / WIRE: 3 / 4 | KAIC AMPS (RMS): 22 | LOCATION: KITCHEN 133 | MANUFACTURER: SQUARE D
AMPS: 250 | MAIN BREAKER / MLO: MLO | FED FROM: MSB | MODEL: NQ

CIRC NO.	EQUIPMENT SERVED	CB AMPS	CB POLES	CB ACC	LOAD (VA)	PHASE LOADS (VA) A	B	C	LOAD (VA)	CB ACC	CB POLES	CB AMPS	EQUIPMENT SERVED	CIRC NO.
1	TOASTER	20	1	-	1500	4675			3175	GFCI	2	40	UNDERCOUNTER WAREWASHER	2
3	WAFFLE MAKER	20	-	-	1500		4675		3175				"	4
5	WAFFLE MAKER	20	-	-	1500			4410	2910	GFCI	2	40	COFFEE BREWER	6
7	COOKER / WARMER	20	1	1	1000	3910			2910				"	8
9	DROP IN REFRIGERATED COLD WELL	20	1	GFCI	805		4405		3600	-	3	35	COMBI OVEN	10
11	INDUCTION WARMERS	20	1	GFCI	1300	3600			4900	3600			"	12
13	INDUCTION WARMERS	20	1	GFCI	1300	4900			3600				"	14
15	HOT WATER DISPENSER	30	2	GFCI	2025		2025			-	1	20	SPARE	16
17	"				2025			2205	180	GFCI	1	20	BEER DISPENSER	18
19	DRINK DISPENSER	20	1	GFCI	500	680			180	GFCI	1	20	BEER DISPENSER	20
21	ICE MAKER	30	2	GFCI	2025		2540		3250	-	2	25	CONVENIENCE RECEPTACLES	22
23	"				2000			3250	1250	-	2	25	WALK-IN FREEZER CONDENSING UNIT	24
25	JUICE DISPENSER	20	1		500	1730			1250				"	26
27	PANTRY REFRIGERATOR	20	1	GFCI	900		1350		450	-	2	20	WALK-IN FREEZER EVAPORATOR	28
29	PANTRY REFRIGERATOR	20	1	GFCI	900			1350	450				"	30
31	PANTRY COUNTERTOP RECEPTACLE	20	1	GFCI	180	1150			970	-	2	15	WALK-IN COOLER CONDENSING UNIT	32
33	KITCHEN LIGHTS	20	1	-	340		1310		970				"	34
35	SPARE	20	1	-		800			800	-	1	20	WALK-IN COOLER EVAPORATOR	36
37	SPARE	20	1	-		500			500	-	1	20	COOLER LIGHTS	38
39	SPARE	20	1	-			0			-	1	20	SPARE	40
41	SPARE	20	1	-				0		-	1	20	SPARE	42
43	SPARE	20	1	-						-	1	20	SPARE	44
45	SPARE	20	1	-						-	1	20	SPARE	46
47	SPARE	20	1	-						-	1	20	SPARE	48
49	SPARE	20	1	-						-	1	20	SPARE	50
51	SPARE	20	1	-						-	1	20	SPARE	52
53	SPARE	20	1	-						-	1	20	SPARE	54
ENCLOSURE ACCESSORIES:		CH,FL				PANELBOARD ACCESSORIES:								GB,CBB

CIRCUIT BREAKER ACCESSORIES:
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NOTES:
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CH - CONCEALED HINGE
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EGB - EXTENDED GUTTER BOTTOM
EGSL - EXTENDED GUTTER LEFT HAND SIDE
EGSR - EXTENDED GUTTER RIGHT HAND SIDE
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FTL - FEED-THRU LUGS
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SB - SPLIT BUS
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SFB - SUB-FEED CIRCUIT BREAKER
SFL - SUB-FEED LUGS
CBB - SILVER PLATED COPPER BUS BARS
ABB - TIN PLATED ALUMINUM BUS BARS
TRN - 200% RATED NEUTRAL BUS BAR
TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSION

PANELBOARD SCHEDULE — 1PL

VOLTAGE: 120/208 | POLES: 30 | MOUNTING: SURFACE | ENCLOSURE: NEMA T
PHASE / WIRE: 3 / 4 | KAIC AMPS (RMS): 10 | LOCATION: LAUNDRY 125 | MANUFACTURER: SQUARE D
AMPS: 100 | MAIN BREAKER / MLO: MLO | FED FROM: MSB | MODEL: HQ

CIRC NO.	EQUIPMENT SERVED	CB AMPS	CB POLES	CB ACC	LOAD (VA)	PHASE LOADS (VA) A	B	C	LOAD (VA)	CB ACC	CB POLES	CB AMPS	EQUIPMENT SERVED	CIRC NO.
1	GAS DRYER	20	3	-	565	1610			1045	-	3	20	WASHER	2
3	"				565		1610		1045				"	4
5	"				565			1610	1045				"	6
7	GAS DRYER	20	3	-	565	1610			180	-	1	20	SOAP DISPENSER RECEPTACLE	8
9	"				565		1105		1	-	1	20	LAUNDRY OFFICE RECEPTACLES	10
11	"				565			1285	720	GFCI	1	20	LAUNDRY RECEPTACLES	12
13	MOTORIZED DAMPER	20	1	-	100	100				-	1	20	SPARE	14
15	SPARE	20	1	-						-	1	20	SPARE	16
17	SPARE	20	1	-						-	1	20	SPARE	18
19	SPARE	20	1	-						-	1	20	SPARE	20
21	SPARE	20	1	-						-	1	20	SPARE	22
23	SPARE	20	1	-						-	1	20	SPARE	24
25	SPARE	20	1	-						-	1	20	SPARE	26
27	SPARE	20	1	-						-	1	20	SPARE	28
29	SPARE	20	1	-						-	1	20	SPARE	30
ENCLOSURE ACCESSORIES:		CH,FL				PANELBOARD ACCESSORIES:								GB,CBB

CIRCUIT BREAKER ACCESSORIES:
AC - AUXILIARY CONTACTS
AFCI - ARCH FAULT INTERUPTING
GFCI - GROUND FAULT INTERUPTING
HACR - HACR RATING
HLF - HANDLE LOCK-OFF
HLN - HANDLE LOCK-ON
SR - SWITCH RATING
ST - SHUNT TRIP
AFGF - COMBINATION ARCH AND GROUND FAULT INTERUPTING
NOTES:
CR - CONFIRM REQUIREMENTS FOR EQUIPMENT FURNISHED BY OTHERS

ENCLOSURE ACCESSORIES:
CH - CONCEALED HINGE
CW - COLUMN WIDTH PANEL