

Mechanical - Electrical - Plumbing Design Drawings for

Harmony Center

1537 NE 24th Street
Oklahoma City, OK, 73111

GENERAL MEP SPECIFICATIONS

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW AND UNDERSTAND ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENTS. EACH CONTRACTOR IS RESPONSIBLE FOR ALL WORK ASSOCIATED WITH HIS TRADE REGARDLESS OF WHERE THE WORK IS DEPICTED IN THE DRAWINGS OR SPECIFICATIONS.
- THE LAYOUT OF SYSTEMS SHOWN ON PLANS ARE APPROXIMATE AND WILL NEED TO BE COORDINATED IN FIELD. THE CONTRACTOR SHALL INCLUDE THIS COORDINATION IN HIS SCOPE AND INCLUDE ALL COSTS OF MODIFYING THE LAYOUT AS REQUIRED IN HIS BID.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND LABOR TO PRODUCE A COMPLETE AND FULLY OPERATIONAL SYSTEM UNLESS STATED OTHERWISE ON PLANS.
- ALL MATERIALS TO BE NEW, FIRST CLASS, AND INSTALLED PER MANUFACTURE'S PUBLISHED INSTRUCTIONS.
- ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH LOCALLY ADOPTED CODES AND ORDINANCES.
- CONTRACTOR IS RESPONSIBLE FOR TO COORDINATE EQUIPMENT LOCATIONS AND SYSTEM ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION.
- CONTRACTOR TO GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE THE PROJECT IS TURN OVER TO THE OWNER, UNLESS NOTED OTHERWISE.
- CONTRACTOR IS TO INCLUDE IN HIS SCOPE THE COST OF ALL PERMITS, INSPECTIONS, METERING, AND TAPS ASSOCIATED WITH HIS WORK.
- CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, CUTTING, CORING, PATCHING, AND BACKFILL REQUIRED TO COMPLETE HIS WORK, UNLESS NOTED OTHERWISE.
- THESE PLANS ARE NOT TO BE SCALED. SEE ARCHITECTURAL PLANS FOR DIMENSIONS. WHERE THERE IS A CONFLICT BETWEEN ARCHITECTURAL DIMENSIONS AND MEP DIMENSION, ARCHITECTURAL SHALL GOVERN.
- SEE DISCIPLINE SHEETS FOR ADDITIONAL DISCIPLINE SPECIFIC SPECIFICATIONS.

DEFERRED SUBMITTAL NOTES

- FIRE ALARM CONTRACTOR TO PROVIDE DEFERRED SUBMITTAL FOR FIRE ALARM SYSTEM. SUBMITTAL TO INCLUDE BATTERY CALCULATION, VOLTAGE DROP CALCULATIONS, AND DEVICE CUT SHEETS FOR DEVICES AND PANELS.
- FIRE SPRINKLER CONTRACTOR TO PROVIDE DEFERRED SUBMITTAL FOR FIRE SPRINKLER SYSTEM. SUBMITTAL TO INCLUDE HYDRAULIC CALCULATIONS AND SPRINKLER DRAWINGS SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.

FIRE RATED PENETRATION NOTES

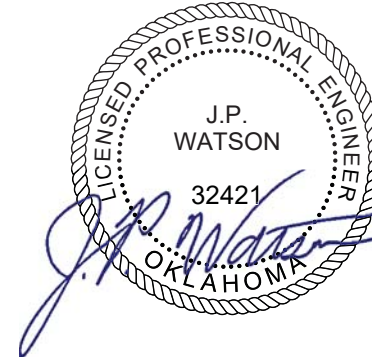
- THIS BUILDING CONTAINS FIRE RATED ASSEMBLIES. SEE ARCHITECTURAL PLANS FOR LOCATIONS.
- A UL LISTED FIRESTOP SYSTEM SHALL BE INSTALLED AT EACH PENETRATION OF A HORIZONTAL OR VERTICAL RATED ASSEMBLY IN ACCORDANCE WITH ASTM E814 OR UL 1479.
- EACH CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROTECTION FOR HIS PENETRATIONS THRU RATED ASSEMBLIES.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING A CATALOG OF ALL UL LISTED FIRESTOP ASSEMBLIES

REFERENCED CODES IN EFFECT

2015 INTERNATIONAL MECHANICAL CODE
2015 INTERNATIONAL PLUMBING CODE
2015 INTERNATIONAL FUEL GAS CODE
2015 INTERNATIONAL FIRE CODE
2017 NATIONAL ELECTRIC CODE
2009 INTERNATIONAL ENERGY CONSERVATION CODE
2015 INTERNATIONAL RESIDENTIAL CODE

SHEET INDEX

Sheet Number	Sheet Title
MEP1	MECHANICAL ELECTRICAL PLUMBING COVER SHEET
MEP2	ROOF PLAN
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M501	HVAC DETAILS & SCHEDULES
EP101	POWER PLANS
EL101	LIGHTING PLANS
E501	ELECTRICAL DETAILS & SCHEDULES
E601	ELECTRICAL SCHEDULES
PS101	SANITARY SEWER PLANS
PW101	WATER & GAS PLANS
P501	PLUMBING DETAILS & SCHEDULES



James Watson, P.E. October 8th, 2021
PE-32421
OK Certificate of Authority # 8654



J-SQUARED
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2401 Bernadette Drive, Suite 201
Columbia, Missouri 65203
573 - 234 - 4492 phone
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J2 PROJECT No: J20395

J2 DESIGN: KEL

ISSUE TITLE DATE

PERMIT SET 10-08-2021

Mechanical - Electrical - Plumbing Design Drawings for

Harmony Center

1537 NE 24th Street
Oklahoma City, OK, 73111

SHEET TITLE

MECHANICAL
ELECTRICAL
PLUMBING COVER
SHEET

SHEET NUMBER

MEP1

ROOF PLAN SYMBOL LEGEND

- GAS LINE
- OVERHEAD ELECTRIC
- UNDER GROUND ELECTRIC
- DISCONNECT

ROOF PLAN GENERAL NOTES:

1.

SEE SHEET E501 AND M501 FOR MORE ELECTRICAL AND HVAC NOTES, SCHEDULES, AND DETAILS.
2.

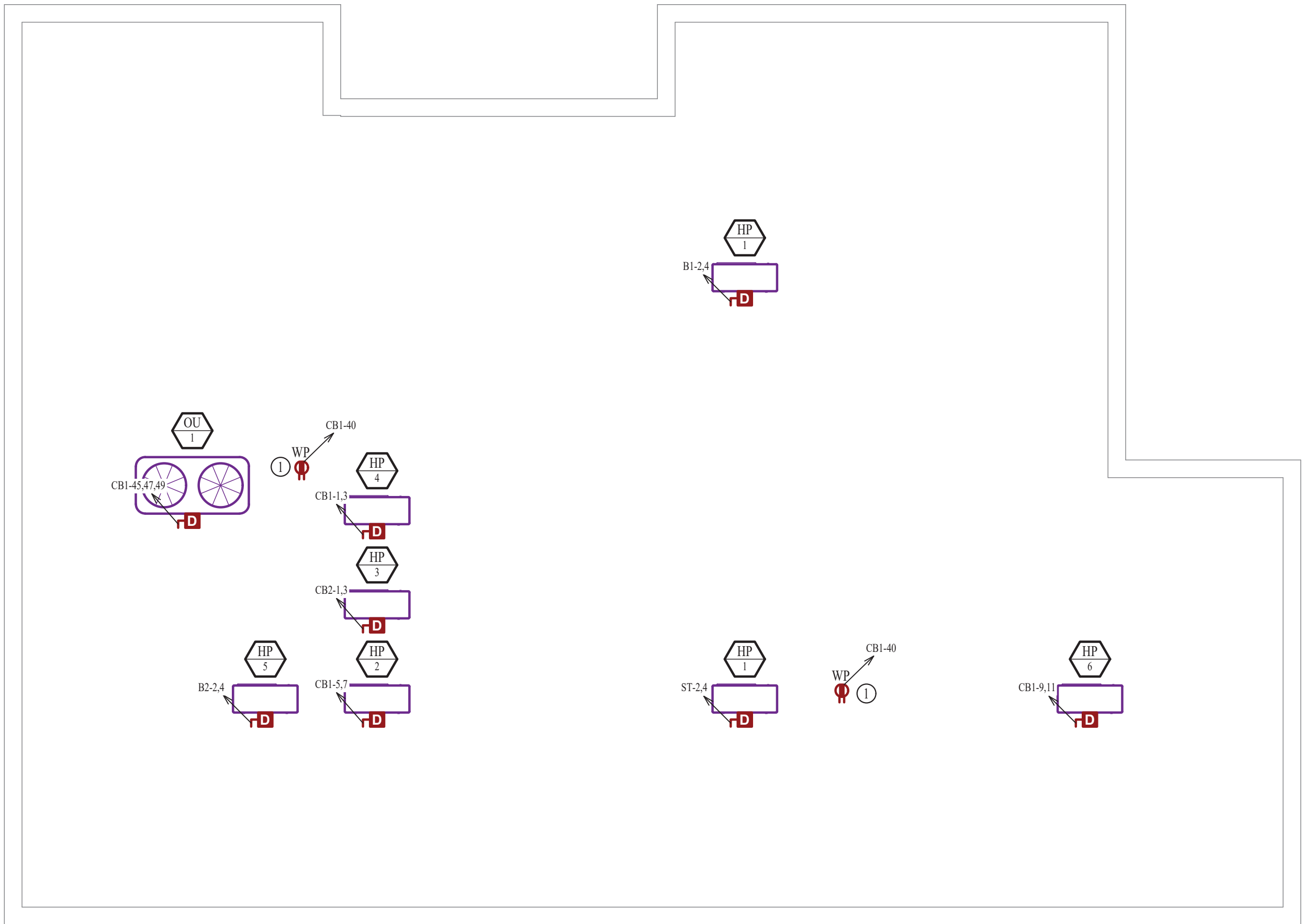
ALL ROOFTOP EQUIPMENT TO BE LOCATED AT MINIMUM OF 10 FT AWAY FROM ROOF EDGE.
3.

TAG ALL HEAP PUMPS WITH APARTMENT NUMBER SERVED.

ROOF PLAN KEY NOTES:

- ①

PEDESTAL MOUNTED WEATHER PROOF RECEPTACLE.



ROOF PLAN

SCALE: 3/16" = 1'-0"



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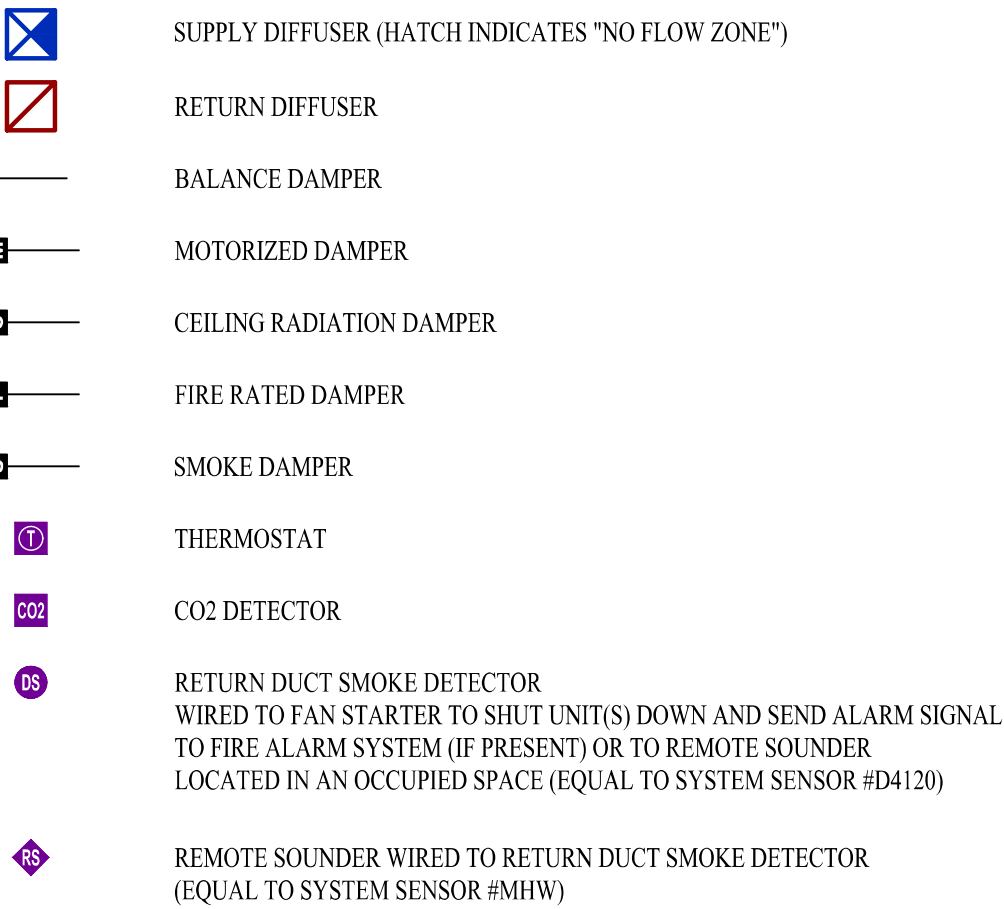
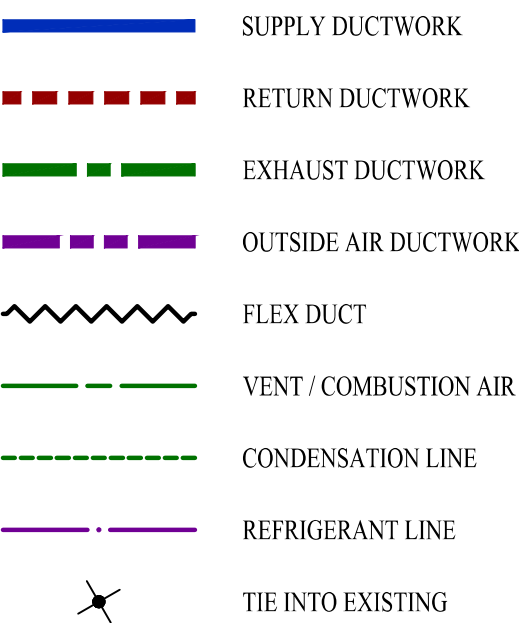
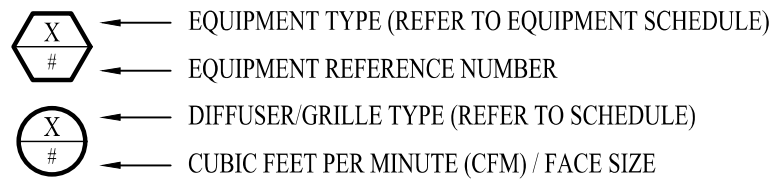
SHEET TITLE

ROOF PLAN

SHEET NUMBER

MEP2

HVAC PLAN SYMBOL LEGEND

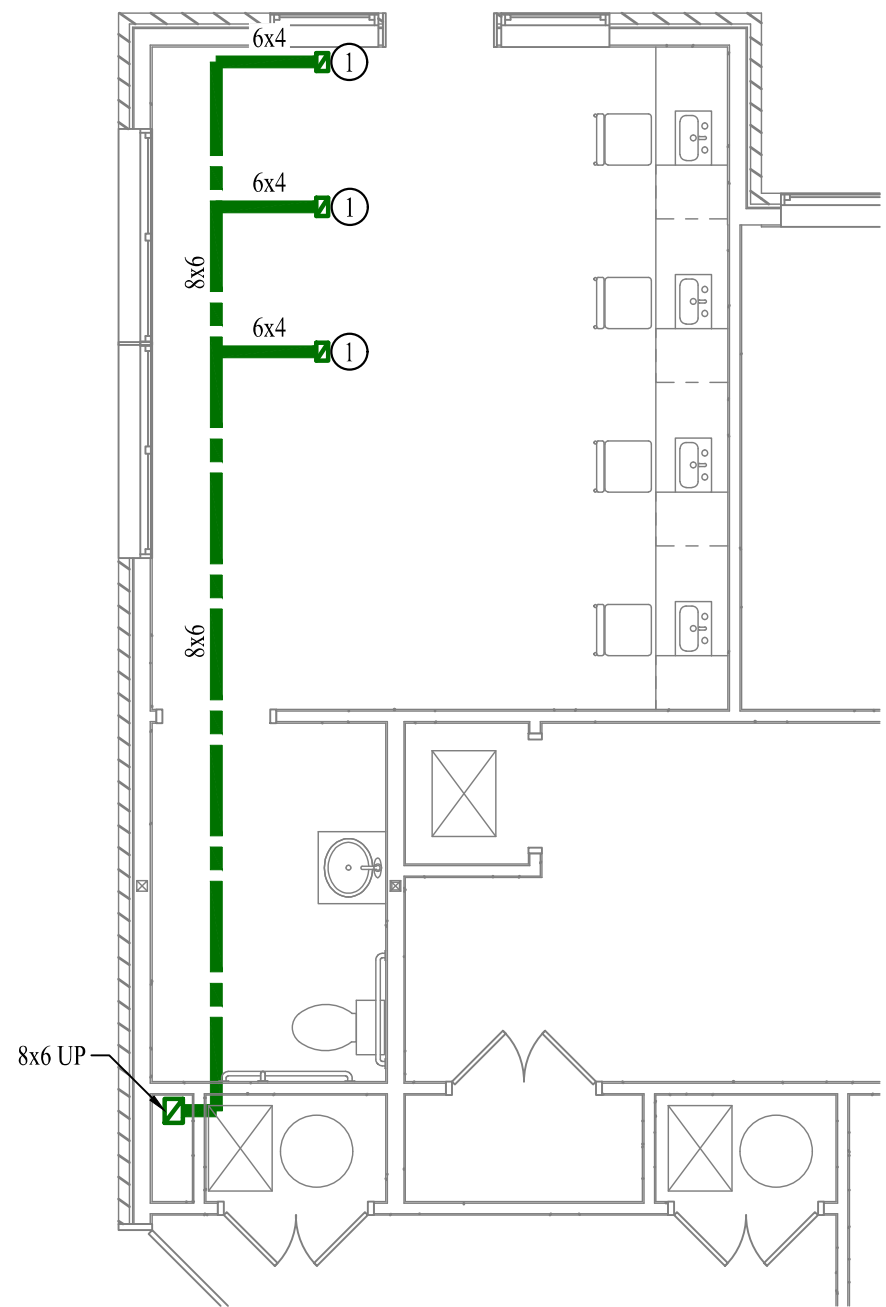


HVAC PLAN GENERAL NOTES:

- SEE SHEET M501 FOR ADDITIONAL HVAC NOTES, DETAIL, AND SCHEDULES.
- DUCTWORK ON SECOND FLOOR TO BE RUN IN ROOF JOIST SPACE UNLESS NOTED OTHERWISE. COORDINATE EXACT DUCT ROUTING AND SIZES WITH STRUCTURE PRIOR TO INSTALL.

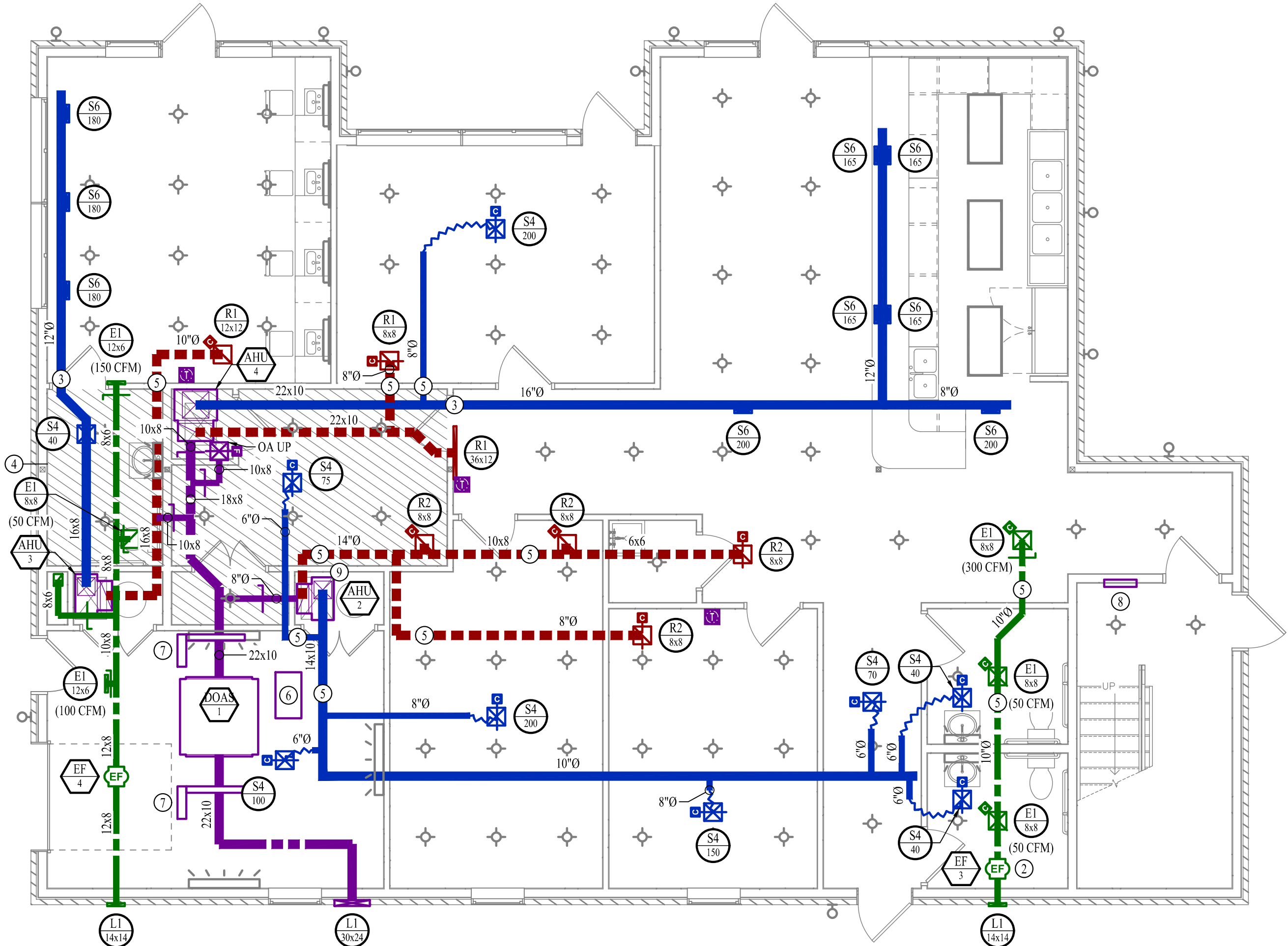
HVAC PLAN KEY NOTES:

- COORDINATE FINAL DUCT LOCATION WITH NAIL STATION TO SOURCE CAPTURE PER IMC 502.20 (50 CFM).
- INSTALL FIRE RATED ACCESS PANEL FOR HVAC EQUIPMENT PER MANUFACTURE REQUIREMENTS.
- TRANSITION TO EXPOSED SPIRAL DUCT AT THIS LOCATION.
- SOFFIT AREA INDICATED AS SHADED AREA. SEE ARCHITECTURAL PLANS. DUCT TO BE RUN BELOW TRUSS ASSEMBLY IN SOFFIT.
- DUCT TO BE RUN UP IN TRUSS ASSEMBLY AT THIS LOCATION.
- DOAS BRANCH CONTROLLER.
- 10kW DUCT HEATER.
- 3kW WALL HEATER. EQUAL TO MARKEL J3423T.
- COORDINATE AHU LOCATION AND DUCTWORK INTO JOIST SPACE WITH STRUCTURE PRIOR TO INSTALL.
- DRYER VENT WALL CAP. EQUAL TO DRYERWALLVENT DWV4B. COORDINATE COLOR WITH OWNER PRIOR TO INSTALLATION.



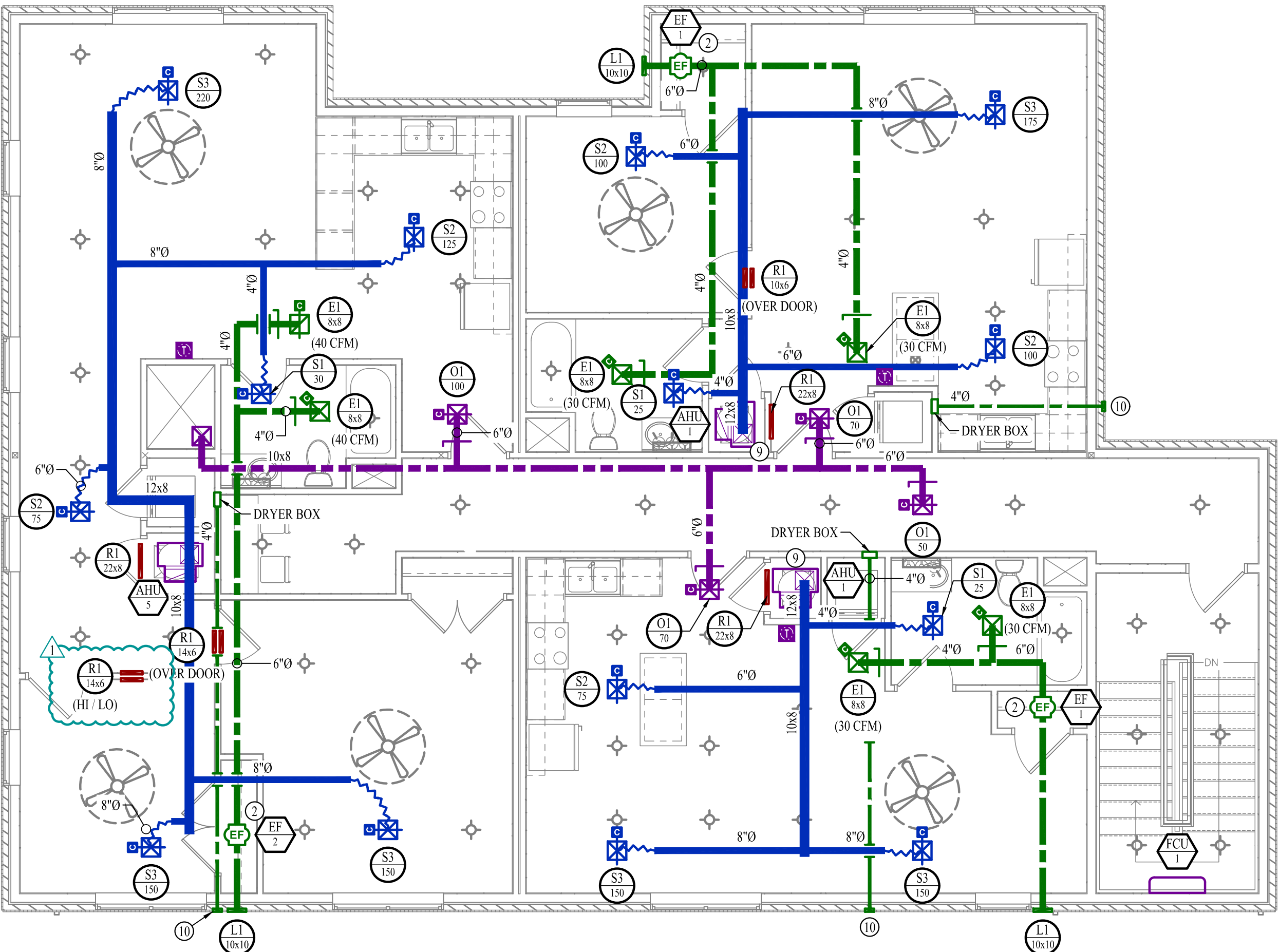
UNDERSLAB HVAC PLAN

SCALE: 3/16" = 1'-0"



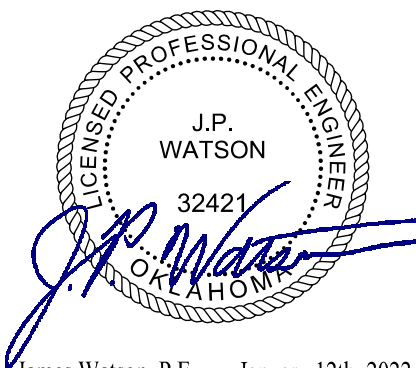
FIRST FLOOR HVAC PLAN

SCALE: 3/16" = 1'-0"

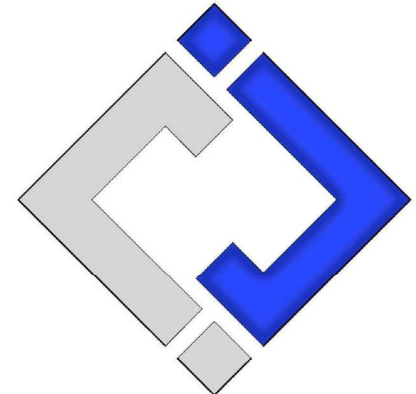


SECOND FLOOR HVAC PLAN

SCALE: 3/16" = 1'-0"



James Watson, P.E. January 12th, 2022
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J2 PROJECT No: J20395
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ISSUE TITLE DATE
PERMIT SET 10-08-2021
ADDENDUM #1 01-12-2022

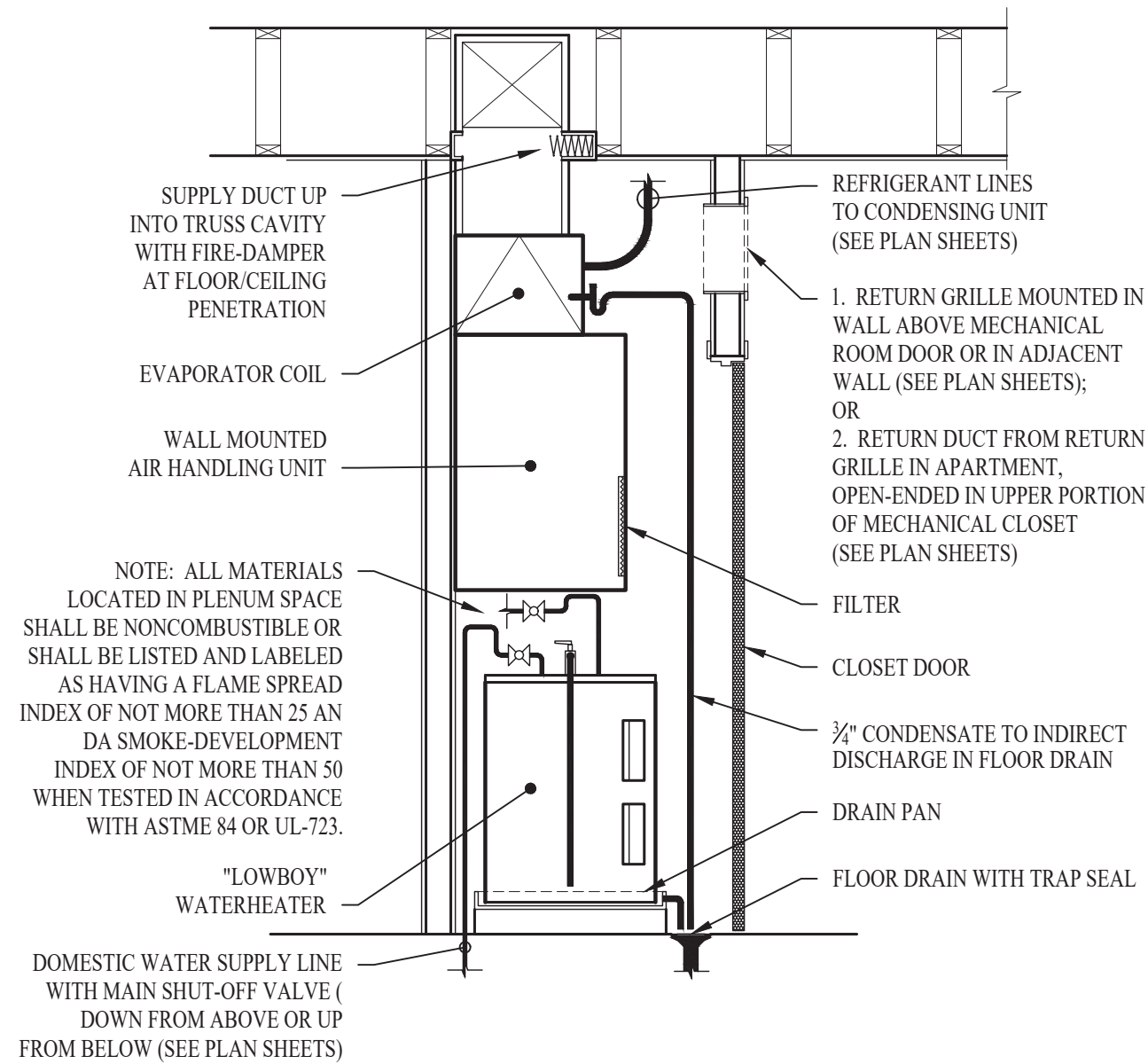
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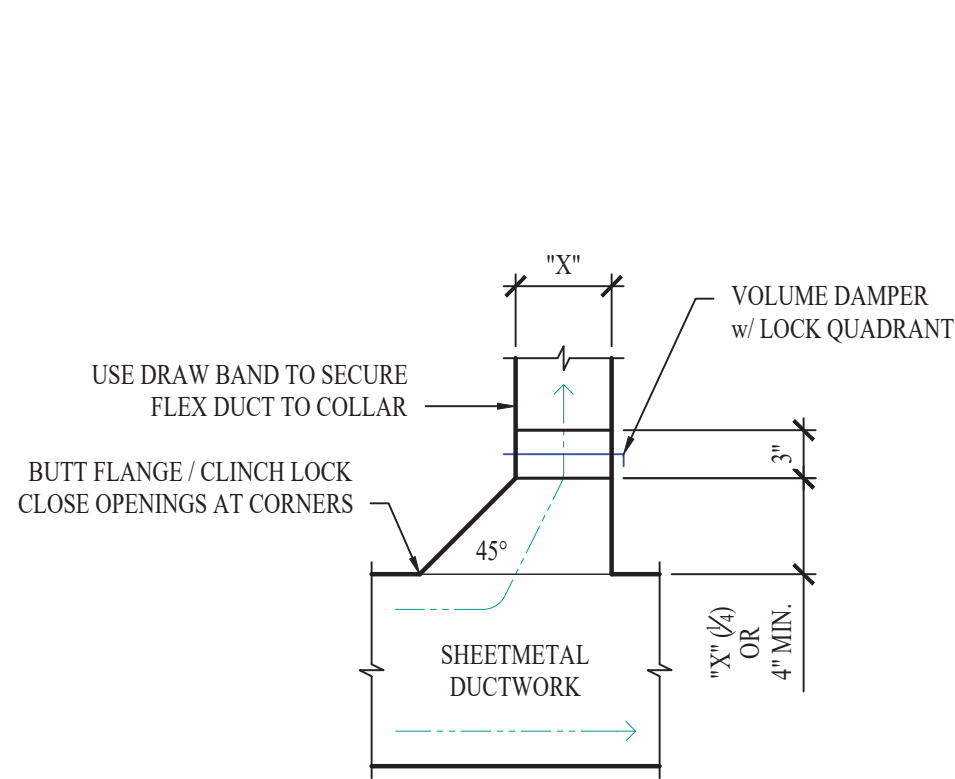
HVAC PLANS

SHEET NUMBER

M101



STACKED WATER HEATER / AHU DETAIL



TYPICAL 45° TAKEOFF DETAIL

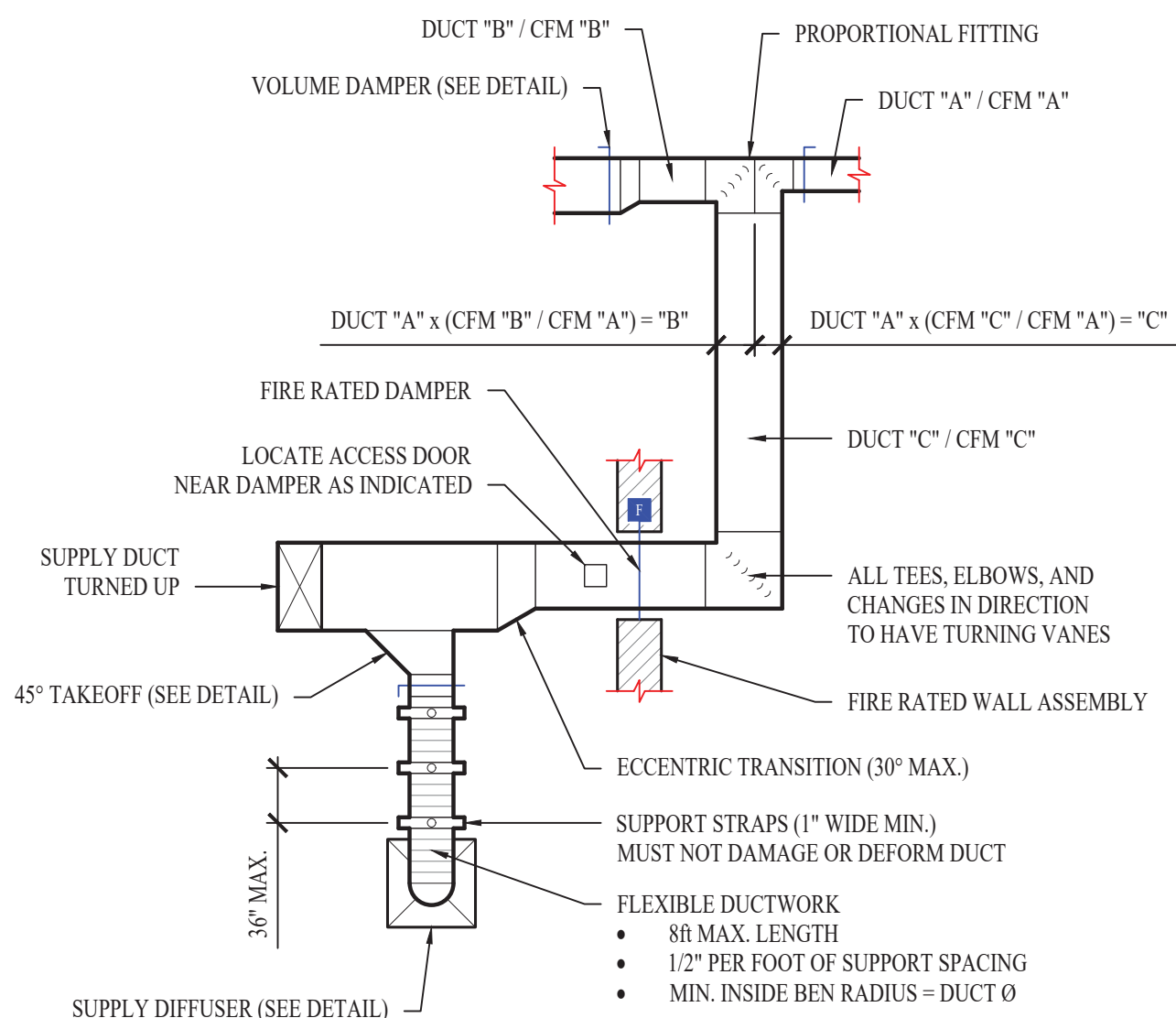
90° ELBOW (SUPPLY / RETURN)

"T" BRANCH (SUPPLY / RETURN)

"T" BRANCH (SUPPLY)

"T" BRANCH (SUPPLY)

TYPICAL DUCTWORK FITTINGS DETAIL



TYPICAL DUCTWORK DETAIL

AHU & HP SCHEDULE													
TAG	EQUIPMENT DESCRIPTION	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	OA AIRFLOW (CFM)	HEATING (IA: 70DB, OA: 5DB)	COOLING (IA: 80 DB/67 W.B, OA: 95 DB)			ELECTRICAL			NOTES
						TOTAL (KBTU)	SENSIBLE (KBTU)	TOTAL (KBTU)	MIN EFF. (SEER)	VOLTS/PH	MCA	OCF	
AHU-1	AIR HANDLING UNIT	1.0	VERTICAL	400	0	15.0	11.0	12.0	19	POWERED THRU HP-1			1,3
HP-1	HEAT PUMP	1.0	-	-	-	15.0	11.0	12.0	19	208/1	14	30	2,3
AHU-2	AIR HANDLING UNIT	1.5	VERTICAL	675	200	21.6	16.7	18.0	18.4	POWERED THRU HP-2			1,4
HP-2	HEAT PUMP	1.5	-	-	-	21.6	16.7	18.0	18.4	208/1	17	35	2,4
AHU-3	AIR HANDLING UNIT	1.5	VERTICAL	675	350	21.6	16.7	18.0	18.4	POWERED THRU HP-3			1,4
HP-3	HEAT PUMP	1.5	-	-	-	21.6	16.7	18.0	18.4	208/1	17	35	2,4
AHU-4	AIR HANDLING UNIT	3.5	VERTICAL	1250	300	48.0	36.1	42.0	15.4	POWERED THRU HP-4			1,5
HP-4	HEAT PUMP	3.5	-	-	-	48.0	36.1	42.0	15.4	208/1	36	45	2,5
AHU-5	AIR HANDLING UNIT	1.5	VERTICAL	675	0	21.6	16.7	18.0	18.4	POWERED THRU HP-5			1,4
HP-5	HEAT PUMP	1.5	-	-	-	21.6	16.7	18.0	18.4	208/1	17	35	2,4
FCU-1	WALL MOUNT	1.0	WALL MOUNT	300	0	14.6	9.9	12.0	30	POWERED THRU HP-6			1,6
HP-6	HEAT PUMP	1.0	-	-	-	14.6	9.9	12.0	30	208/1	10	20	2,6
NOTES:													
1. INSTALL MANUFACTURER PROVIDED THERMOSTAT CAPABLE OF 7-DAY PROGRAMING. COORDINATE EXACT MOUNTING LOCATION WITH OWNER.													
2. WITH FACTORY HAIL GUARD.													
3. EQUAL TO TRANE MITSUBISHI NTXAMT12A112AA & NTXSKH12A112AA.													
4. EQUAL TO TRANE MITSUBISHI NTXAMT18A112AA & NTXSKH18A112AA.													
5. EQUAL TO TRANE MITSUBISHI TPVAA0421AA70A & TRUZH0421KA10NA.													
6. EQUAL TO TRANE MITSUBISHI NTXWPH09B112AA & NTXSPH09B112AA.													

EXHAUST FAN SCHEDULE											
TAG	EQUIPMENT TYPE	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	FLOW		ELECTRICAL			PHYSICAL		NOTES
				CFM	S.P.	VOLT/PH	MCA	OCP	DIM	WEIGHT	
EF-1	IN-LINE	SOLAR & PAULU	TD-SILENT 125XS	60	0.375"	120/1	0.5	20	-	-	1,2
EF-2	IN-LINE	SOLAR & PAULU	TD-SILENT 125XS	80	0.375"	120/1	0.5	20	-	-	1,2
EF-3	IN-LINE	SOLAR & PAULU	TD-SILENT 200S	400	0.375"	120/1	1	20	-	-	1,2
EF-4	IN-LINE	SOLAR & PAULU	TD-SILENT 200S	450	0.375"	120/1	1	20	-	-	1,2
NOTES:											
1. WITH BACKDRAFT DAMPER											
2. WITH SPEED CONTROLLER											

AIR DEVICE SCHEDULE						
TAG	SERVICE	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	SIZE	COLOR / FINISH	NOTES
E1	EXHAUST	PRICE	530	SEE PLANS	WHITE	1,2,3
L1	EXHAUST	POTTORFF	EFD	SEE PLANS	EXTERIOR	1
O1	SUPPLY	HART & COOLEY	A 504	6x6	WHITE	1,2
R1	RETURN	PRICE	530	SEE PLANS	WHITE	1
R2	RETURN	PRICE	80	SEE PLANS	WHITE	1
S1	SUPPLY	HART & COOLEY	A 504	8x8	WHITE	1,2
S2	SUPPLY	HART & COOLEY	A 504	10x10	WHITE	1,2
S3	SUPPLY	HART & COOLEY	A 504	12x12	WHITE	1,2
S4	SUPPLY	PRICE	SPD	12x12	WHITE	1,2,3
S5	SUPPLY	PRICE	SPD	20x20	WHITE	1,2,3
S6	SUPPLY	PRICE	520	12x4	WHITE	1,2

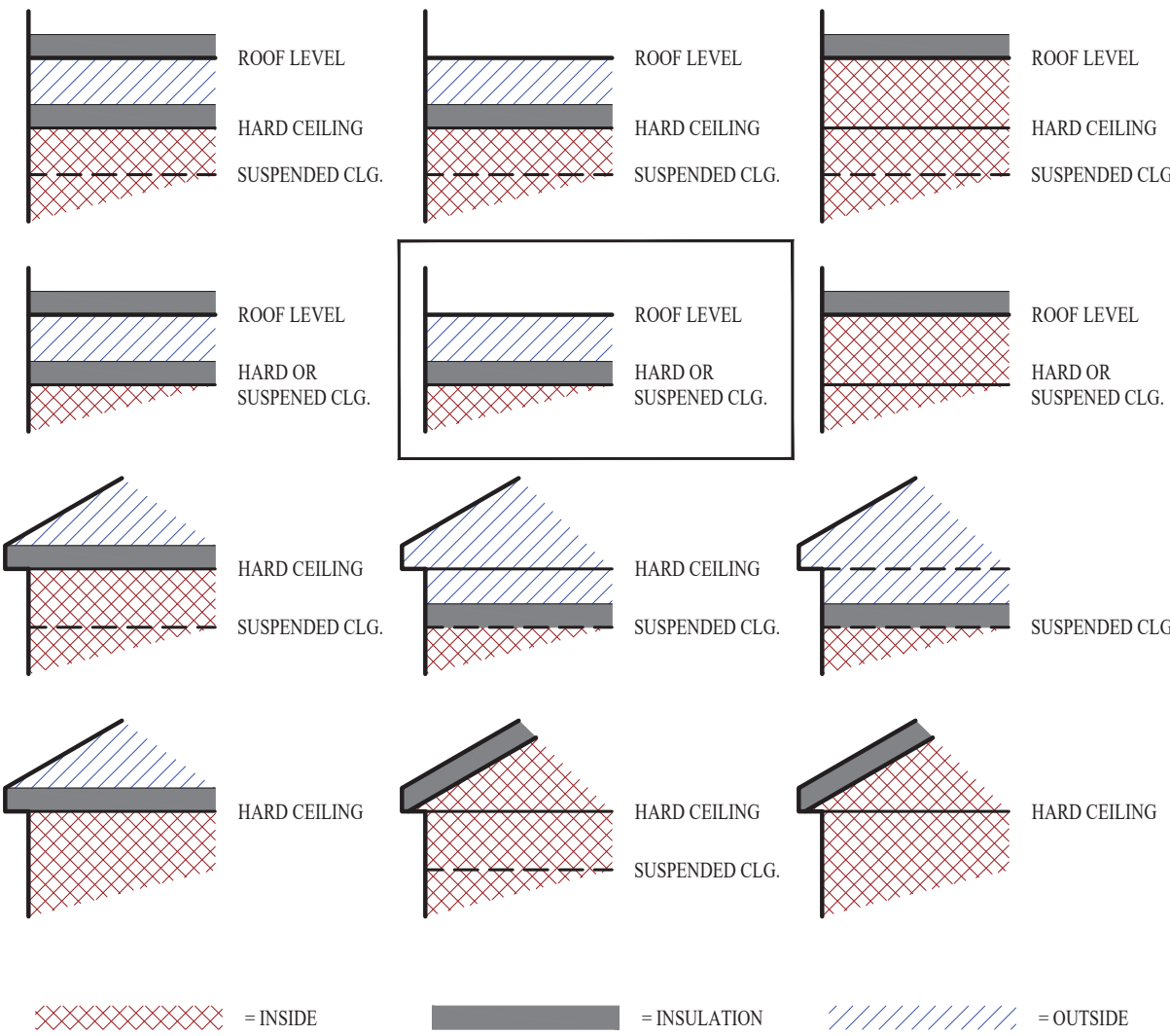
NOTES:

1. VERIFY AIR DEVICE FINISHES WITH OWNER/ARCHITECT PRIOR TO INSTALLATION
2. SEE PLANS FOR AIR FLOW
3. WITH DRYWALL MOUNTING KIT

DOAS SCHEDULE													
TAG	EQUIPMENT DESCRIPTION	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	OA AIRFLOW MAX/MIN (CFM)	HEATING (IA: 70DB, OA: 5DB)	COOLING (IA: 55 DB/56 WB, OA: 95 DB)			ELECTRICAL			NOTES
						SENSIBLE (KBTU)	SENSIBLE (KBTU)	TOTAL (KBTU)	MIN EFF. (EER)	VOLTS/PH	MCA	OCF	
DOA-1	FAN COIL UNIT	10.0	HORIZONTAL	1200	1200	41.4	45.5	117	11.7	208/1	4	15	1,2
QA-1	HEAT PUMP	10.0	-	-	-	41.4	45.5	117	11.7	208/3	45	50	2
NOTES:													
1. INSTALL MANUFACTURER PROVIDED CONTROLLER. COORDINATE EXACT MOUNTING LOCATION WITH OWNER.													
2. EQUAL TO TRANE MITSUBISHI TPEYPI20AR140A & TURYP1203AN40AN WITH BRANCH CONTROLLER TCMBQ106SJ11N4.													

HVAC SPECIFICATIONS

1. EQUIPMENT
 - 1.1. ALL EQUIPMENT MUST PROVIDE THE PERFORMANCE SPECIFIED ON PLANS. WHERE SPECIFIC MAKES AND MODELS ARE INDICATED ON PLAN, CONTRACTOR TO PROVIDE MODEL INDICATED OR APPROVED EQUAL.
 - 1.2. CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER PRIOR TO PURCHASE.
 - 1.3. ALL HORIZONTAL FURNACES WITH AC COILS TO BE EQUIPPED WITH CORROSION RESISTANT DRAIN PAIN. DRAIN PAN TO DISCHARGE TO SANITARY WASTE VIA INDIRECT CONNECTION WITH AIR GAP. DRAIN PAN TO PROVIDE SECONDARY OVERFLOW OR FLOAT SWITCH INTERLOCKED WITH UNIT TO SHUT DOWN UNIT ON HIGH WATER SIGNAL.
 - 1.4. ALL EXTERIOR REFRIGERANT COILS TO BE PROTECTED BY FACTORY EQUIPPED HAIL GUARDS.
 - 1.5. REFRIGERANT PIPING TO BE ACR COPPER OR TYPE L COPPER.
2. DUCTWORK
 - 2.1. DUCTWORK TO BE GALVANIZED STEEL, SEAL CLASS B, CONSTRUCTED PER SMACNA STANDARDS.
 - 2.2. 26 GA. MINIMUM UP TO 16" DUCT, 24 GA. UP TO 20", 22 GA. UP TO 24", 20 GA. UP TO 28", AND 18 GA. UP TO 36".
 - 2.3. TURNING VANES TO BE PROVIDED AND INSTALLED AT ALL 90° BENDS AND TEES.
 - 2.4. DUCT DIMENSIONS LISTED ARE TO INTERIOR OF DUCT LINER.
 - 2.5. BALANCE DAMPERS MUST BE PROVIDED TO ALLOW ADJUSTMENT AT EACH AIR TERMINAL.
 - 2.5.1. WHERE BRANCH TAKEOFF IS ACCESSIBLE (ABOVE LAY-IN CEILING OR EXPOSED DUCT), THE BALANCE DAMPER IS TO BE INSTALLED AT TAKEOFF.
 - 2.5.2. WHERE TAKEOFF IS INACCESSIBLE (IN ATTIC OR SOFFIT), THE BALANCE DAMPER IS TO BE LOCATED SO IT IS ACCESSIBLE FROM FACE OF AIR DEVICE.
 - 2.6. HVAC CONTRACTOR RESPONSIBLE FOR ALL DUCTWORK TRANSITIONS AND FITTINGS AS REQUIRED FOR FINAL CONNECTIONS TO HVAC EQUIPMENT.
3. INSULATION
 - 3.1. DUCTWORK
 - 3.1.1. SEE "TYPICAL DUCT INSULATION DIAGRAM" FOR INSTALLATION SPECIFIC REQUIREMENTS.
 - 3.1.2. INTERNAL DUCT LINER TO BE EQUAL TO JOHNS MANVILLE LINACOUSTIC R-300.
 - 3.1.3. EXTERNAL DUCT WRAP TO INCLUDE VAPOR BARRIER. EQUAL TO JOHNS MANVILLE MICROLITE WITH FSK JACKET.
 - 3.2. REFRIGERANT PIPING
 - 3.2.1. REFRIGERANT PIPING SHALL BE TYPE ACR OR TYPE L COPPER.
 - 3.2.2. SPLIT SYSTEM (SUCTION LINE ONLY) - 1" CLOSED CELL ELASTOMERIC FOAM (EQUAL TO 'ARMAFLEX AP').
 - 3.3. VRV/VRF SYSTEMS (BOTH SUCTION AND HOT GAS LINES) 1 1/2" EPDM (EQUAL TO 'AEROFLEX AEROCEL AC') WITHIN CONDITIONED SPACES & 2" EPDM (EQUAL TO 'AEROFLEX AEROCEL AC') IN UNCONDITIONED SPACES, AND WITH BANDED ALUMINUM SHIELDING IN EXTERIOR SPACES.
 - 3.4. CONDENSATE PIPING
 - 3.4.1. SPLIT SYSTEMS - WHERE CONDENSATE PIPING IS LOCATED IN UNCONDITIONED SPACE, INSULATE WITH 1/2" ELASTOMERIC. NO INSULATION REQUIRED IN CONDITIONED SPACES.
 - 3.4.2. VRV/VRF - INSULATE WITH 1/2" ELASTOMERIC.
4. WORKMANSHIP
 - 4.1. COORDINATE WITH OTHER TRADES SO THAT HVAC EQUIPMENT AND DUCT WORK DOES NOT BLOCK REQUIRED ACCESS OR CLEARANCE TO EQUIPMENT.
 - 4.2. ALL HVAC EQUIPMENT IS TO BE INSTALLED PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
 - 4.3. ALL EQUIPMENT TO BE INSTALLED LEVEL AND PLUMB.
 - 4.4. ROOF TOP MOUNTED RTUS TO BE INSTALLED ON CURBS PER MANUFACTURES INSTRUCTIONS.
 - 4.5. GRADE MOUNTED RTUS, CONDENSING UNITS, AND HEAT PUMPS TO BE INSTALLED ON 4" REINFORCED CONCRETE PAD EXTENDING 4" BEYOND EACH EDGE OF THE EQUIPMENT, OR A MANUFACTURER APPROVED PRE-MANUFACTURED BASE.
5. TESTING AND BALANCING
 - 5.1. ALL SYSTEMS MUST BE BALANCED TO WITHIN 10% OF VALUES INDICATED ON PLAN.
 - 5.2. HVAC CONTRACTOR TO PROVIDE WRITTEN BALANCE REPORT INCLUDING FLOW VALUES INDICATED ON PLAN AND ACTUAL MEASURED VALUES.
 - 5.3. THIRD PARTY CERTIFIED TEST AND BALANCE NOT REQUIRED.



DUCT INSIDE THERMAL ENVELOPE INSULATION REQUIREMENTS

- RECTANGULAR
- SUPPLY = 1" LINER
 - RETURN = 1" LINER
 - EXHAUST = NONE
 - OUTSIDE AIR = 2" WRAP

- ROUND
- SUPPLY = 1 1/2" WRAP
 - RETURN = NONE
 - EXHAUST = NONE
 - OUTSIDE AIR = 2" WRAP

- SPIRAL
- SUPPLY = NONE
 - RETURN = NONE
 - EXHAUST = NONE
 - OUTSIDE AIR = 2" WRAP

DUCT OUTSIDE THERMAL ENVELOPE INSULATION REQUIREMENTS








- RECTANGULAR
- SUPPLY = 1" LINER & 1/2" WRAP
 - RETURN = 1" LINER @ 1/2" WRAP
 - EXHAUST = 1/2" WRAP
 - OUTSIDE AIR = NONE

- ROUND
- SUPPLY = 2" WRAP
 - RETURN = 2" WRAP
 - EXHAUST = 1 1/2" WRAP
 - OUTSIDE AIR = NONE


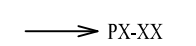


















- SPIRAL
- SUPPLY = 2" WRAP
 - RETURN = 2" WRAP
 - EXHAUST = 1 1/2" WRAP
 - OUTSIDE AIR = NONE

TYPICAL BUILDING INTERIOR DUCT INSULATION DIAGRAM

FIRE ALARM PLAN SYMBOL LEGEND

-  MANUAL PULL STATION
-  SMOKE DETECTOR
-  HORN STROBE - WALL MOUNT
-  TAMPER SWITCH
-  WATER FLOW SWITCH
-  FIRE ALARM CONTROL PANEL
-  FIRE ALARM ANNUNCIATOR

POWER PLAN SYMBOL LEGEND

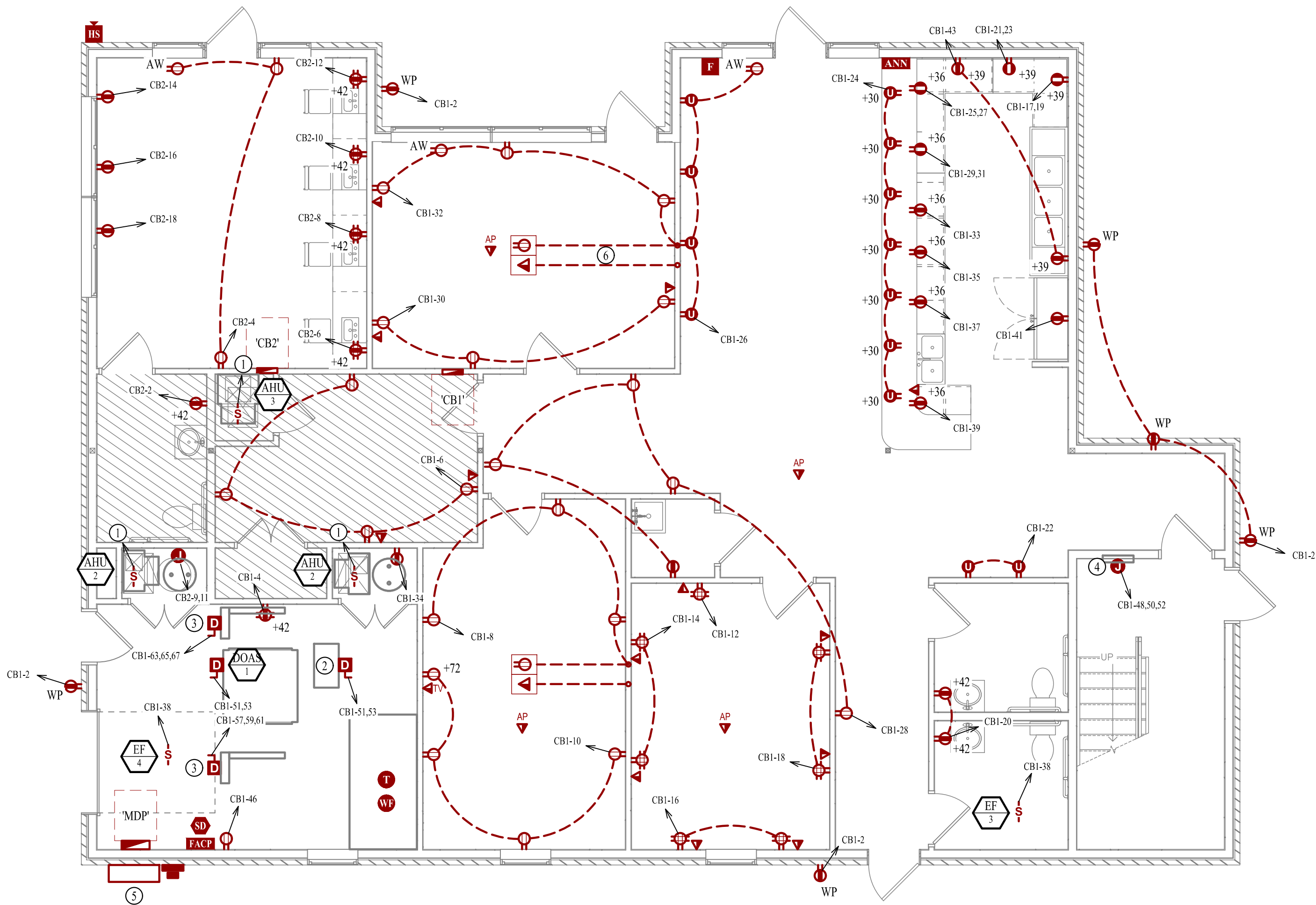
-  CIRCUIT WIRING
-  CIRCUIT TAG
-  JUNCTION BOX
-  RECEPTACLE
-  INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
-  "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
-  "AW" = ABOVE WINDOW RECEPTACLE
-  "EX" = EXISTING RECEPTACLE TO REMAIN
-  GFCI DUPLEX CONVENIENCE RECEPTACLE
-  208V RECEPTACLE
-  QUADPLEX CONVENIENCE RECEPTACLE
-  USB OUTLET
-  DATA / PHONE JACK
-  BOX WITH 1" CONDUIT & PULL STRING) UP TO CEILING SPACE (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
-  WIRELESS ACCESS POINT, CEILING MOUNTED
-  FLOOR RECEPTACLE
-  FLOOR DATA
-  DISCONNECT
-  SMOKE DETECTOR - 120V
-  COMBINATION SMOKE / CO DETECTOR - 120V

POWER PLAN GENERAL NOTES:

- SEE SHEET E501 FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.
- VERIFY ALL RECEPTACLE HEIGHTS AND LOCATIONS WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION.

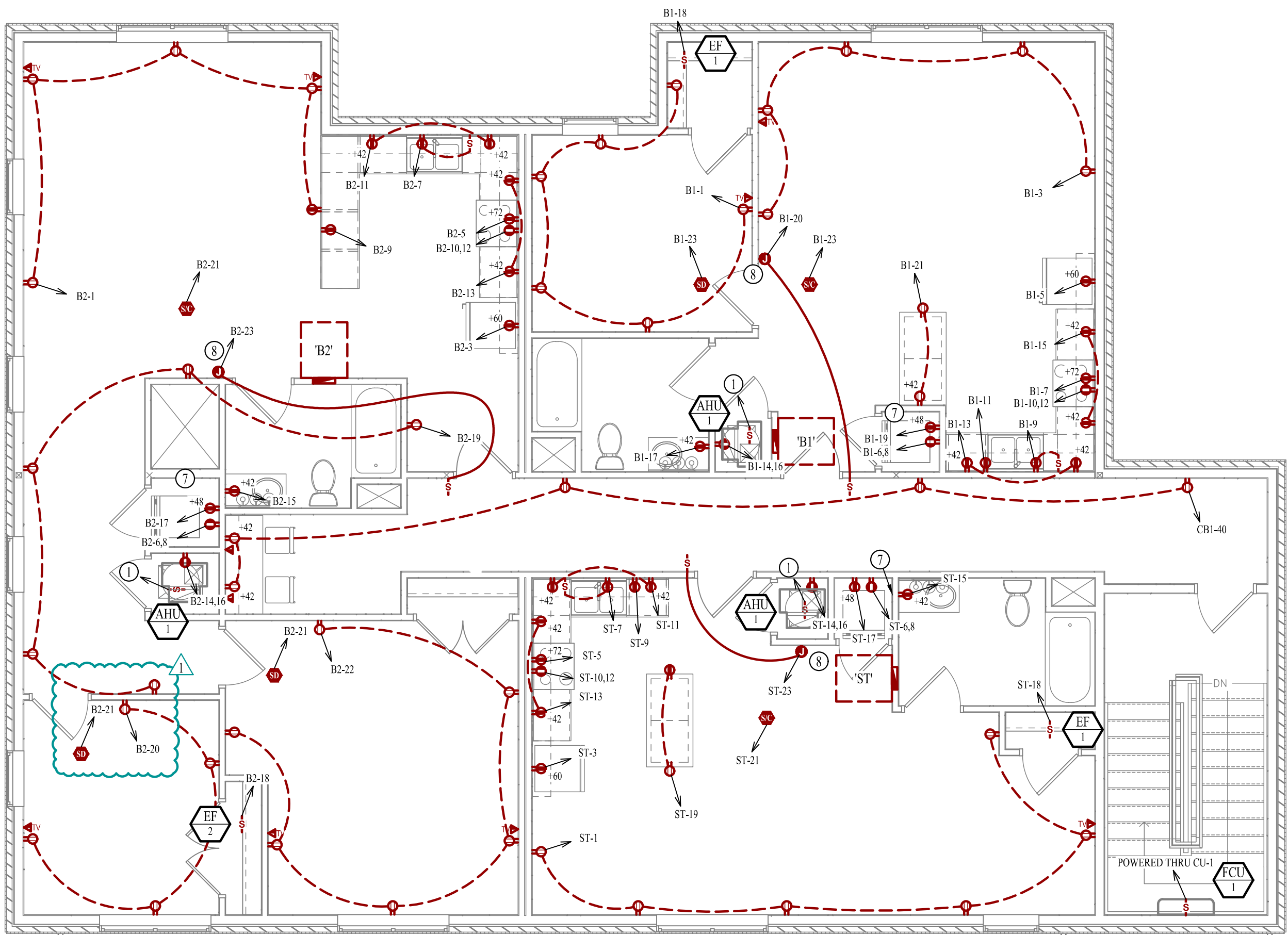
POWER PLAN KEY NOTES:

- POWERED THROUGH ASSOCIATED HEAT PUMP.
- DOAS BRANCH CONTROLLER.
- 10kW DUCT HEATER PROVIDED BY HVAC CONTRACTOR.
- 3kW WALL HEATER PROVIDED BY HVAC CONTRACTOR.
- CT CABINET, METER & AUTOMATIC TRANSFER SWITCH. SEE POWER RISER FOR DETAILS.
- (2) 1" PVC CONDUITS UNDER SLAB TO FLOOR BOXES. (DATA & POWER RUN SEPARATELY)
- MEDIA PANEL LOCATION. EQUAL TO LEGRAND ENP205AV1.
- DOOR BELL SPEAKER. PROVIDE LOW VOLTAGE WIRING TO PUSH BUTTON AT FRONT DOOR. EQUAL TO NICOR #PRCP-2.



FIRST FLOOR POWER PLAN

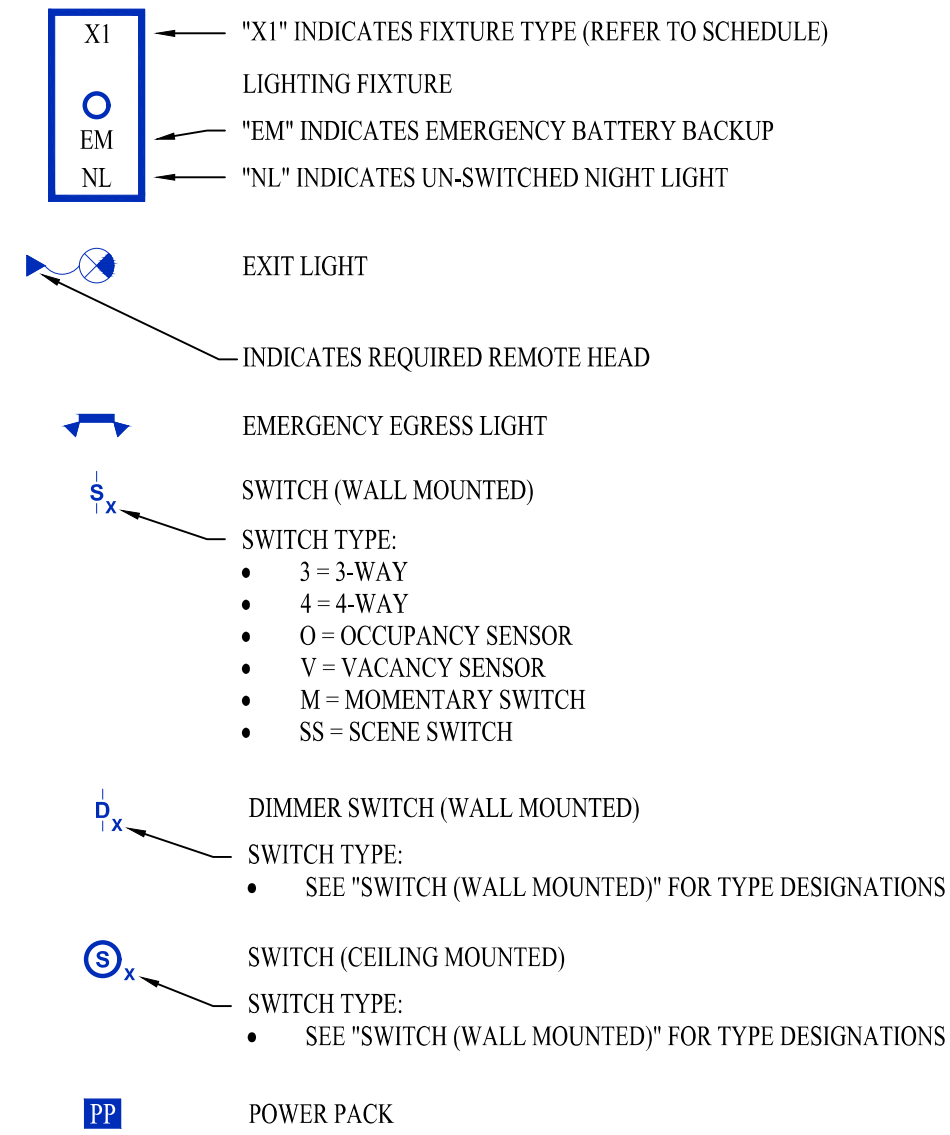
SCALE: 3/16" = 1'-0"



SECOND FLOOR POWER PLAN

SCALE: 3/16" = 1'-0"

LIGHTING PLAN SYMBOL LEGEND

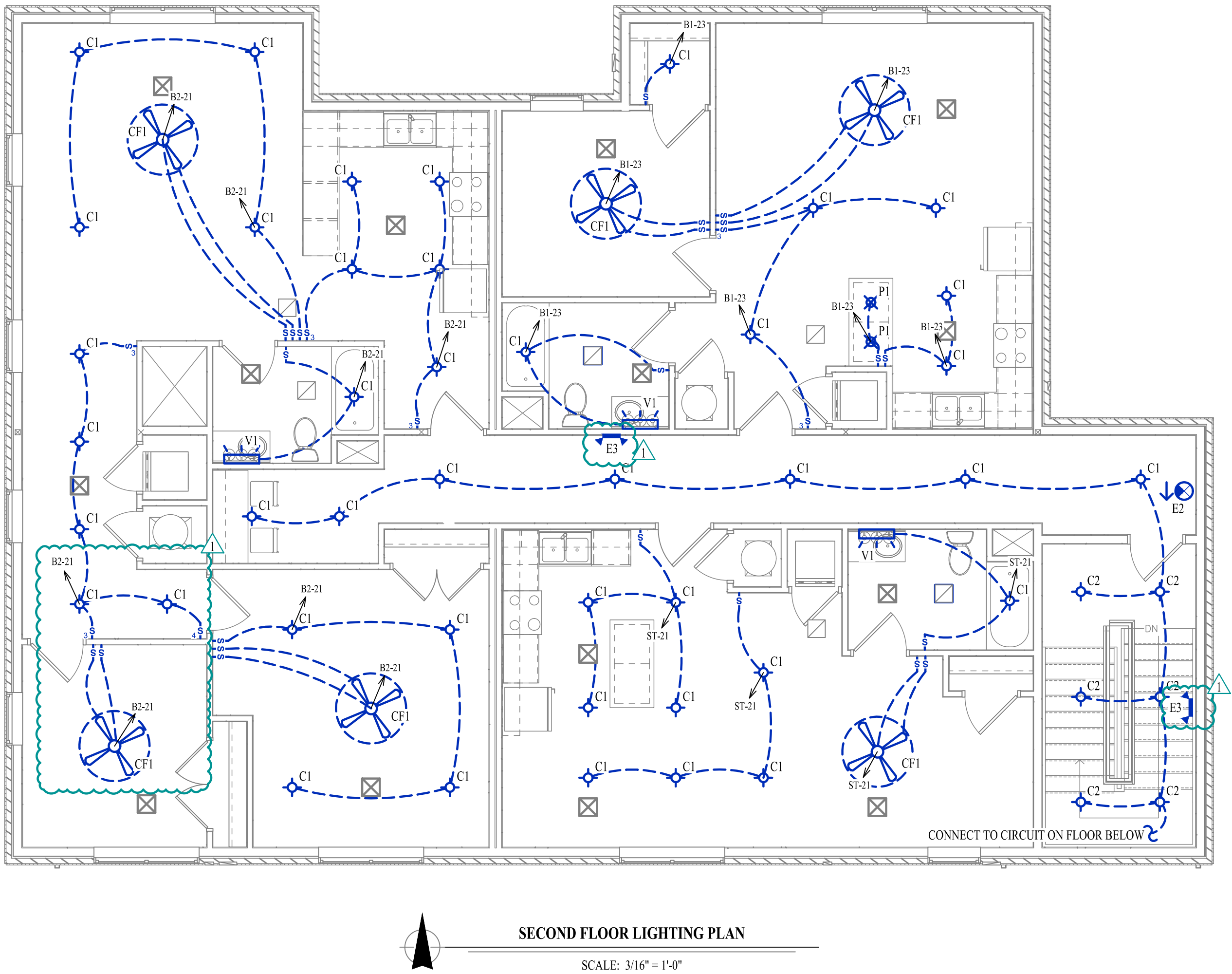
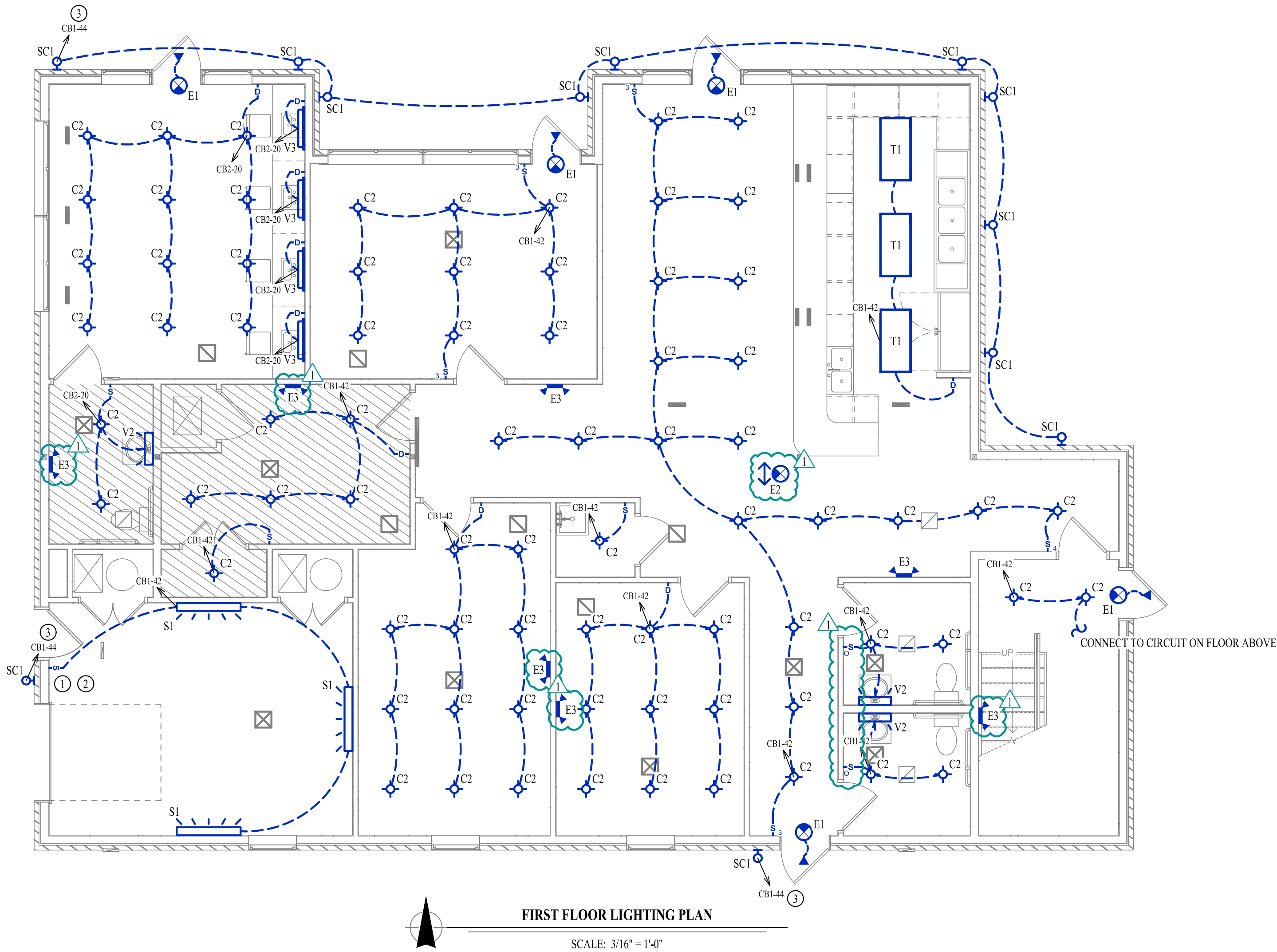


LIGHTING PLAN GENERAL NOTES:

1. SEE SHEET E501 FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.

LIGHTING PLAN KEY NOTES:

- ① ASTRONOMICAL TIMER CONTROLLING OUTDOOR POLE LIGHTS. EQUAL TO INTERMATIC DT104D89. LIGHT FIXTURE TO BE ON AT DUSK AND OFF AT DAWN.
- ② ASTRONOMICAL TIME SWITCH CONTROLLING OUTDOOR BUILDING MOUNTED LIGHTS. EQUAL TO LEGAND RT-200. LIGHT FIXTURE TO BE ON AT DUSK AND OFF AT DAWN.
- ③ WIRE THROUGH ASTRONOMICAL TIME SWITCH. SEE KEY NOTE 2.



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James Watson, P.E. January 12th, 2022
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J2 PROJECT No:	J20395
J2 DESIGN:	KEL

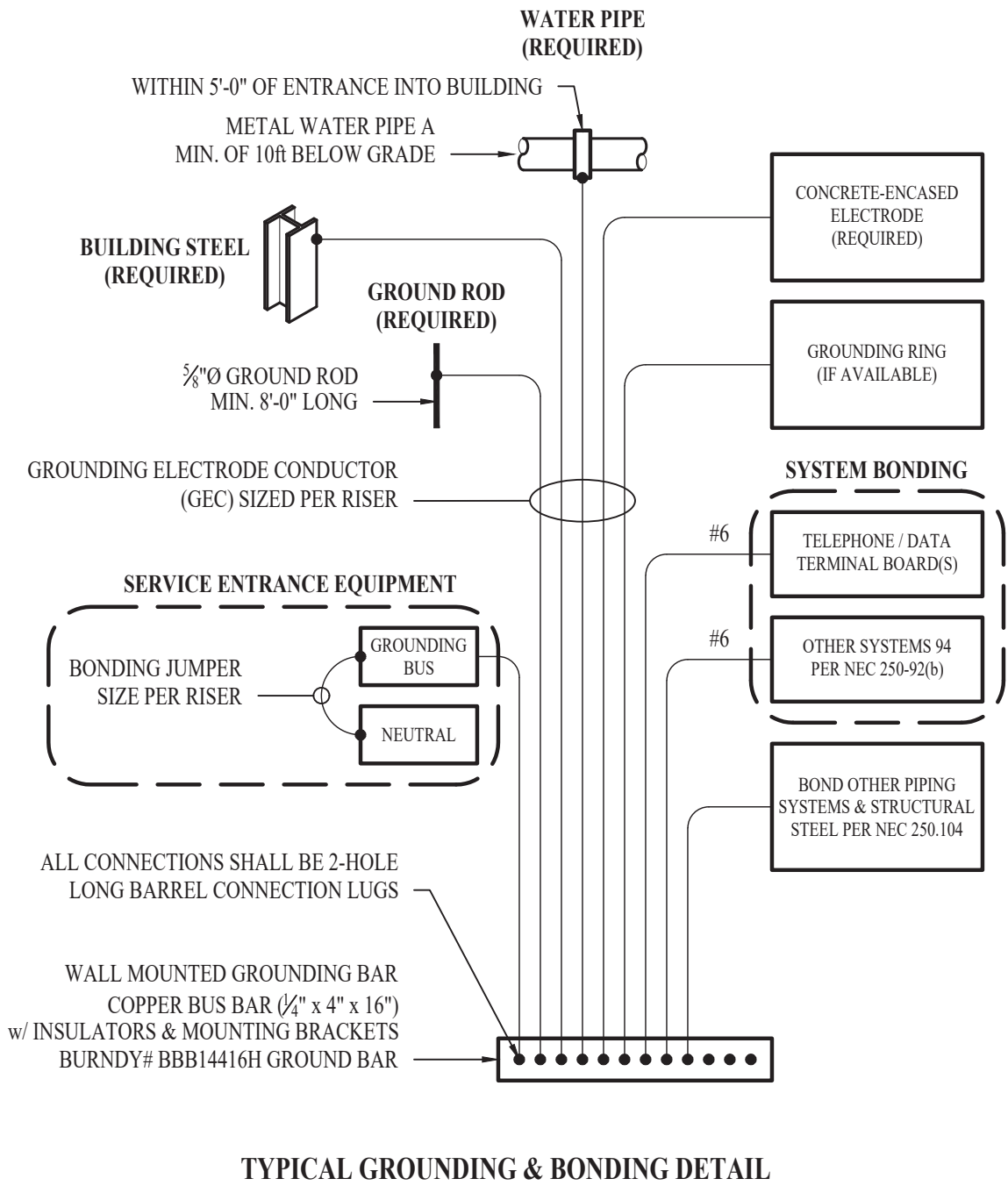
ISSUE TITLE	DATE
PERMIT SET	10-08-2021
ADDENDUM #1	01-12-2022

Mechanical - Electrical - Plumbing Design Drawings for
Harmony Center
1537 NE 24th Street
Oklahoma City, OK, 73111

SHEET TITLE
LIGHTING PLANS
SHEET NUMBER
EL101

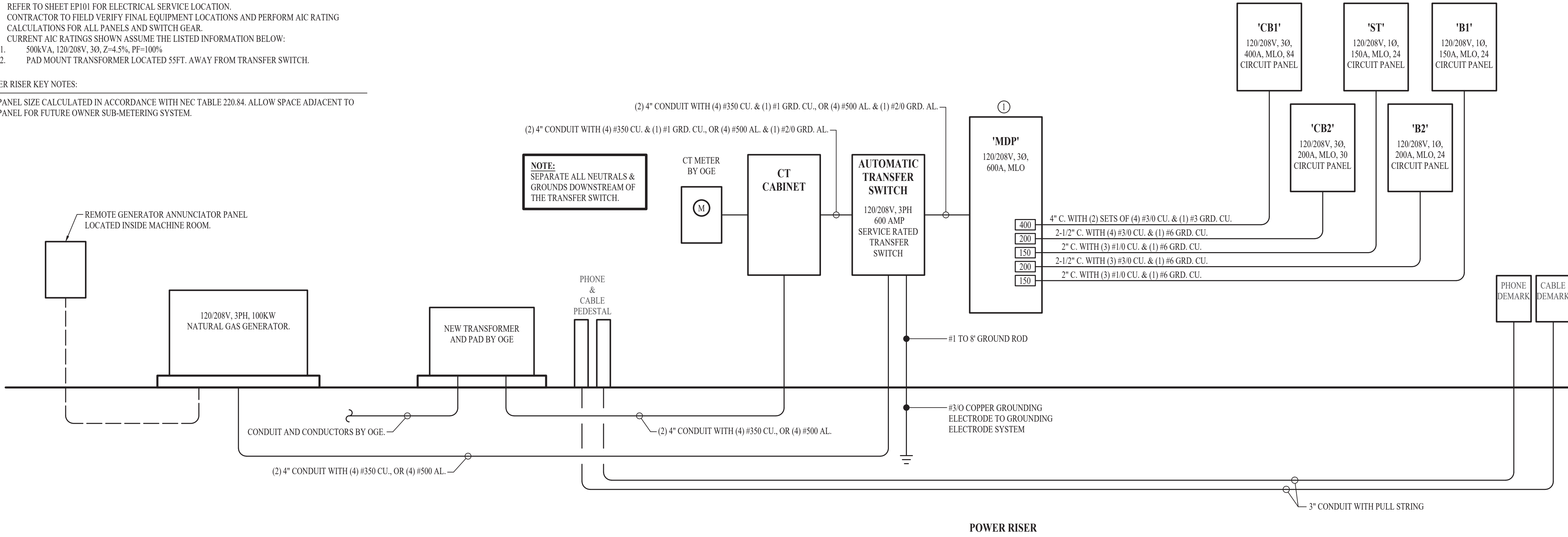
LIGHT FIXTURE SCHEDULE										
TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (K)	CRI	VOLTS	WATTS	NOTES
C1	HALO	HLC6-09-930-1E-WH	6" ROUND LED CAN	SURFACE	925	3000	80	120	16	
C2	HALO	SMDGR-12-9S-WH	6" ROUND LED CAN	SURFACE	1150	3500	80	120	15	
CF1	HUNTER	59269	46" CEILING FAN WITH LIGHTS	SURFACE	1600	3000	80	120	40	(2) A19 TYPE SCREW IN LED BULB
E1	SURE LITES	APCH7R WITH APWR2	INTERIOR EXIT LIGHT WITH EXTERIOR REMOTE HEAD	CEILING				UNV	1	WITH RED LETTERS
E2	SURE LITES	APCH7R	INTERIOR EXIT LIGHT WITH HEADS	WALL / CEILING				UNV	1	WITH RED LETTERS
E3	SURE LITES	APLEL	EMERGENCY EGRESS LIGHT	WALL				UNV	1	MOUNT A 7.5' A.F.F.
P1	RPLIGHTING	4605-BN	MINI PENDANT LIGHT	PENDANT	800	3000	80	120	9	(1) A19 TYPE SCREW IN LED BULB
S1	METALUX	4BCLED-LD4-40SL-F-UNV-L835-CD1-U	4' LINEAR	WALL BRACKET	4000	3500	80	120	42	
SC1	LUMIERE	303-W2-LEDH2-4000K-UNV-T2-DIM10-HZ-EDGE	SCNCE	WALL	1100	4000	80	120	16	
T1	METALUX	24FPSL2SCT3	2x4 LED TROFFER	SURFACE	6200	3500	80	120	56	WITH SURFACE MOUNT KIT
V1	RPLIGHTING	4904-BN-3	LED VANITY	WALL	1750	3000	80	120	24	
V2	METALUX	2BCLED-LD4-20SL-F-UNV-L835-CD1-U	LED VANITY	WALL	2000	3500	80	120	23	
V3	AFX	ALNV280520LAJD2SN	LED VANITY	WALL	2000	3500	90	120	26	
NOTES: 1. VERIFY LIGHT FIXTURE FINISHES WITH OWNER / ARCHITECT PRIOR TO INSTALLATION										

MAIN DISTRIBUTION PANEL SCHEDULE						
VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING
120/208		600A MLO		SURFACE		25,000
NEMA RATING: 1						PHASE "A" LOAD 584.5 PHASE "B" LOAD 532.8 PHASE "C" LOAD 530.0
DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION
COMMUNITY BUILDING PANEL (CB1)	400-3	284.5	A	127.5	150-2	STUDIO APARTMENT (ST)
-	-	265.3	B	102.5	-	-
-	-	275.5	C	111.0	150-2	1 BEDROOM UNIT (B1)
COMMUNITY BUILDING PANEL (CB2)	150-3	46	A	126.5	-	-
-	-	26	B	139.0	200-2	2 BEDROOM UNIT (B2)
-	-	27.5	C	116.0	-	-
SPARE			A			SPARE
SPARE			B			SPARE
SPARE			C			SPARE
NOTES: A: PANEL SHALL BE EQUAL TO SQUARE D "I-LINE" SERIES FOR 208V / "NP" SERIES FOR 480V B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INST ALL. C: AFTER COMPLETION OF WORK, ELECTRICIAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.						



- ELECTRICAL SPECIFICATIONS**
- GENERAL
 - THE ENTIRE ELECTRICAL SYSTEM SHALL BE CONTINUOUSLY GROUNDING. EVERY BRANCH CONDUIT SHALL INCLUDE A GREEN GROUND CONDUCTOR SIZED PER NEC.
 - ARC-FAULT CIRCUITS SHALL BE RUN WITH A DEDICATED NEUTRAL AS REQUIRED BY MANUFACTURER.
 - PROVIDE PERMANENT ARC-FLASH LABEL AFFIXED TO EVERY DISCONNECT AND PANEL.
 - PROVIDE TYPE WRITTEN PANEL SCHEDULE FOR EACH PANEL.
 - MATERIALS
 - CONDUIT & CONDUCTORS
 - ALL CONDUCTOR SIZES INDICATED ON PLANS ARE COPPER UNLESS NOTED OTHERWISE.
 - ABOVE GRADE CONDUCTORS SHALL BE THIN COPPER. BELOW GRADE CONDUCTORS SHALL BE XHHW-2.
 - MINIMUM CONDUCTOR SIZE SHALL BE #12 UNLESS NOTED OTHERWISE. 120V, 20 AMP CIRCUITS WITH CONDUCTOR LENGTH GREATER THAN 100' SHALL BE MINIMUM #10. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MEASURING ACTUAL CONDUCTOR LENGTH AND INCREASING CONDUCTOR SIZE TO COMPENSATE FOR VOLTAGE DROP AS REQUIRED BY NEC.
 - RIGID GALVANIZED OR SCHEDULE 40 PVC CONDUIT SHALL BE USED FOR SERVICE WIRING, BELOW GRADE INSTALLATIONS, OR WHERE EXPOSED TO WEATHER. IN APPLICATIONS OTHER THAN THOSE LISTED IN 2.1.4, EMT OR MC CABLE IS ACCEPTABLE. WHERE CONDUCTORS ARE PROTECTED FROM DAMAGE, ENCLOSED IN BUILDING MATERIALS, AND CONSTRUCTION IS OF A PERMITTED TYPE, NM CABLE MAY BE USED.
 - DEVICES
 - CONTRACTOR TO PROVIDE J-BOXES, COVER PLATES, AND ANY ACCESSORIES REQUIRED TO PROVIDE A COMPLETE SYSTEM. SEE ARCHITECTURAL PLANS FOR DEVICE COLORS.
 - DUPLEX RECEPTACLES SHALL BE TAMPER RESISTANT, 20 AMP, EQUAL TO LEVITON CR20.
 - TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS120-2
 - DIMMER SWITCHES SHALL BE TESTED WITH FIXTURES AND LAMPS FOR COMPATIBILITY.
 - EMERGENCY LIGHTING
 - THE BRANCH CIRCUIT FEEDING THE EMERGENCY FIXTURE SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES.

- POWER RISER GENERAL NOTES:**
- REFER TO SHEET EPI01 FOR ELECTRICAL SERVICE LOCATION.
 - CONTRACTOR TO FIELD VERIFY FINAL EQUIPMENT LOCATIONS AND PERFORM AIC RATING CALCULATIONS FOR ALL PANELS AND SWITCH GEAR.
 - CURRENT AIC RATINGS SHOWN ASSUME THE LISTED INFORMATION BELOW:
 - 500kVA, 120/208V, 3Ø, Z=4.5%, PF=100%
 - PAD MOUNT TRANSFORMER LOCATED 55FT. AWAY FROM TRANSFER SWITCH.
- POWER RISER KEY NOTES:**
- PANEL SIZE CALCULATED IN ACCORDANCE WITH NEC TABLE 220.84. ALLOW SPACE ADJACENT TO PANEL FOR FUTURE OWNER SUB-METERING SYSTEM.



SANITARY SEWER PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

SANITARY SEWER PLAN GENERAL NOTES:

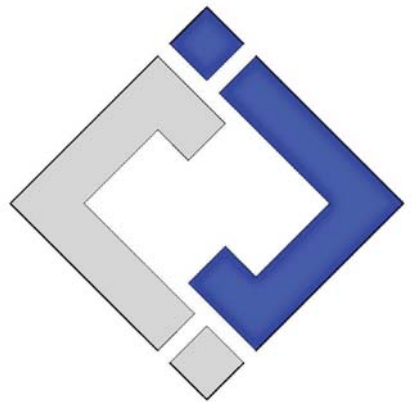
- SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
- FOR FIXTURE CONNECTION SIZES SEE CONNECTION SCHEDULE ON SHEET P501.

SANITARY SEWER PLAN KEY NOTES:

- SEE SITE PLAN FOR CONTINUATION.
- HUB DRAIN FOR FUTURE PEDICURE STATION. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.



James Watson, P.E. October 8th, 2021
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J2 PROJECT No: J20395

J2 DESIGN: KEL

ISSUE TITLE DATE

PERMIT SET 10-08-2021

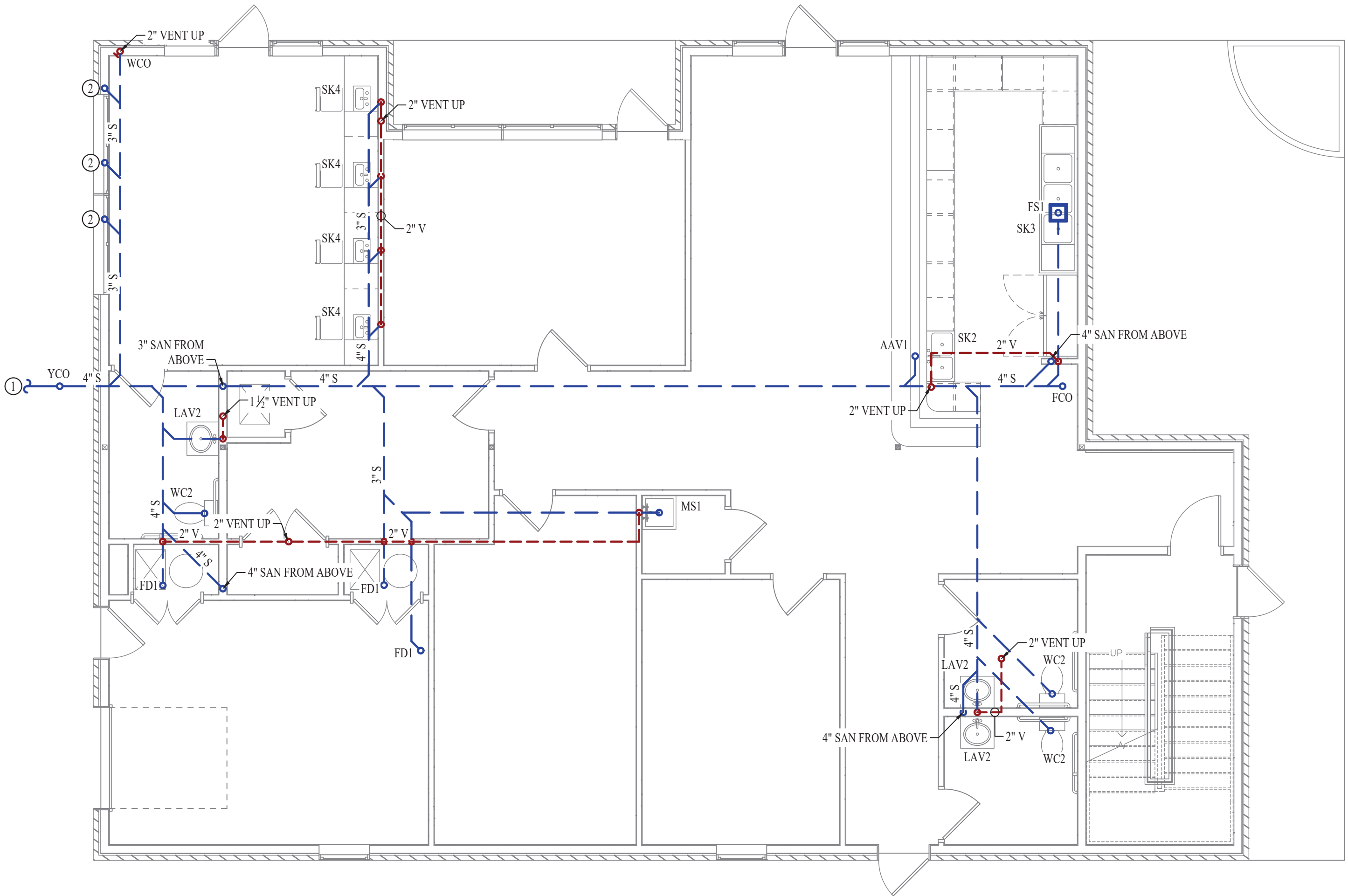
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SHEET TITLE

**SANITARY
SEWER PLANS**

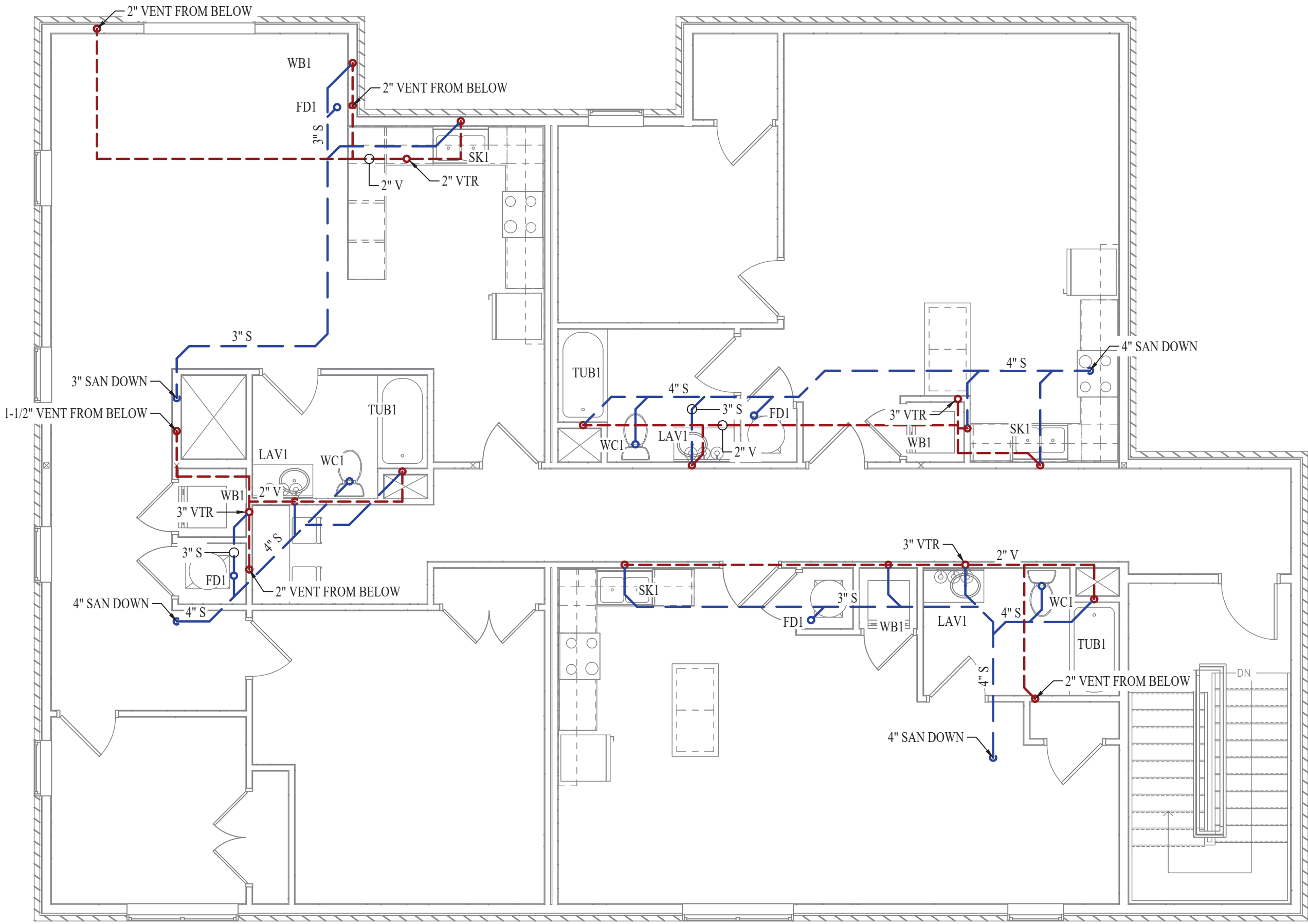
SHEET NUMBER

PS101



FIRST FLOOR SANITARY SEWER PLAN

SCALE: 3/16" = 1'-0"



SECOND FLOOR SANITARY SEWER PLAN

SCALE: 3/16" = 1'-0"

WATER & GAS PLAN SYMBOL LEGEND

- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- FILTERED WATER LINE
- M

WATER METER
- X

VALVE
- P

PUMP
- GAS LINE
- G

GAS METER
- AIR LINE
- PIPING TURNED DOWN / TURNED UP
- X

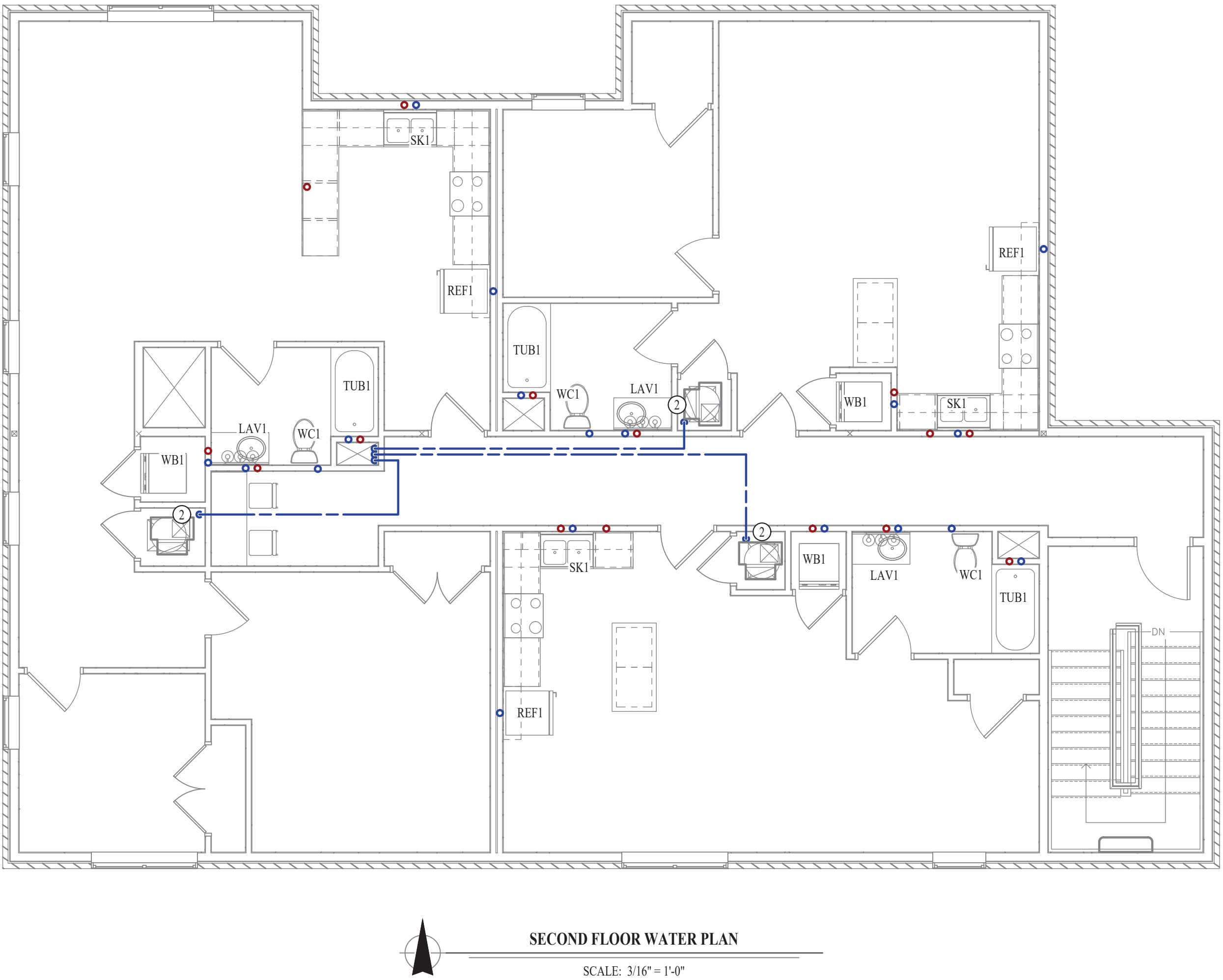
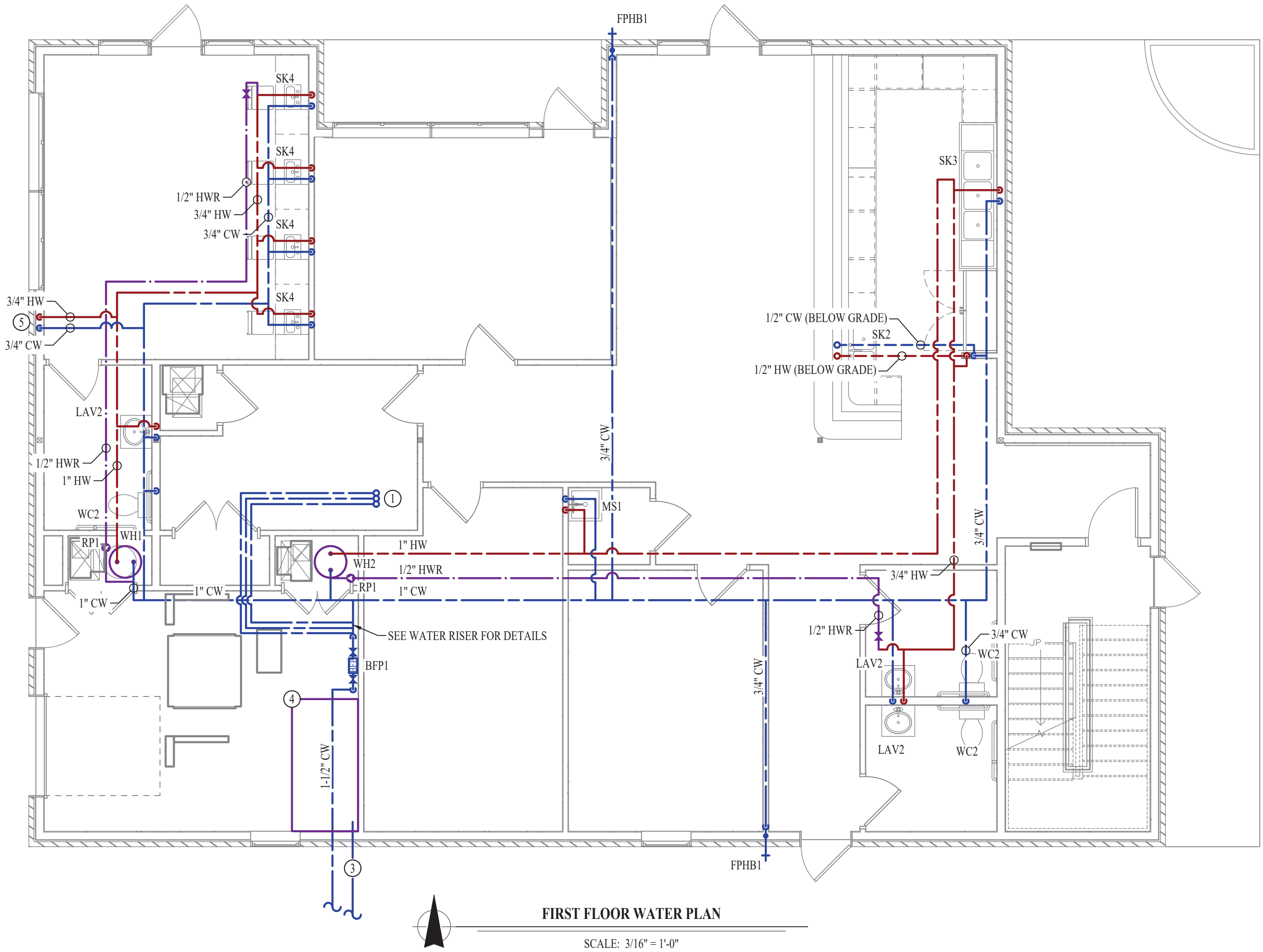
TIE INTO EXISTING

WATER & GAS PLAN GENERAL NOTES:

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

WATER & GAS PLAN KEY NOTES:

- ① (3) 3/4" CW UP TO EACH APARTMENT.
- ② UPONOR PEX MANIFOLD LOCATION. SEE DETAIL FOR MORE INFORMATION.
- ③ FIRE SPRINKLER LINE. COORDINATE FINAL SIZE WITH FIRE SPRINKLER CONTRACTOR.
- ④ FIRE SPRINKLER RISER AREA. COORDINATE FINAL SIZE AND CLEARANCES WITH FIRE SPRINKLER CONTRACTOR.
- ⑤ HW & CW FOR FUTURE PEDICURE STATION. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.



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WATER & GAS PLANS

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1/2 DESIGN: KEL

ISSUE TITLE DATE

PERMIT SET 10-08-2021

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