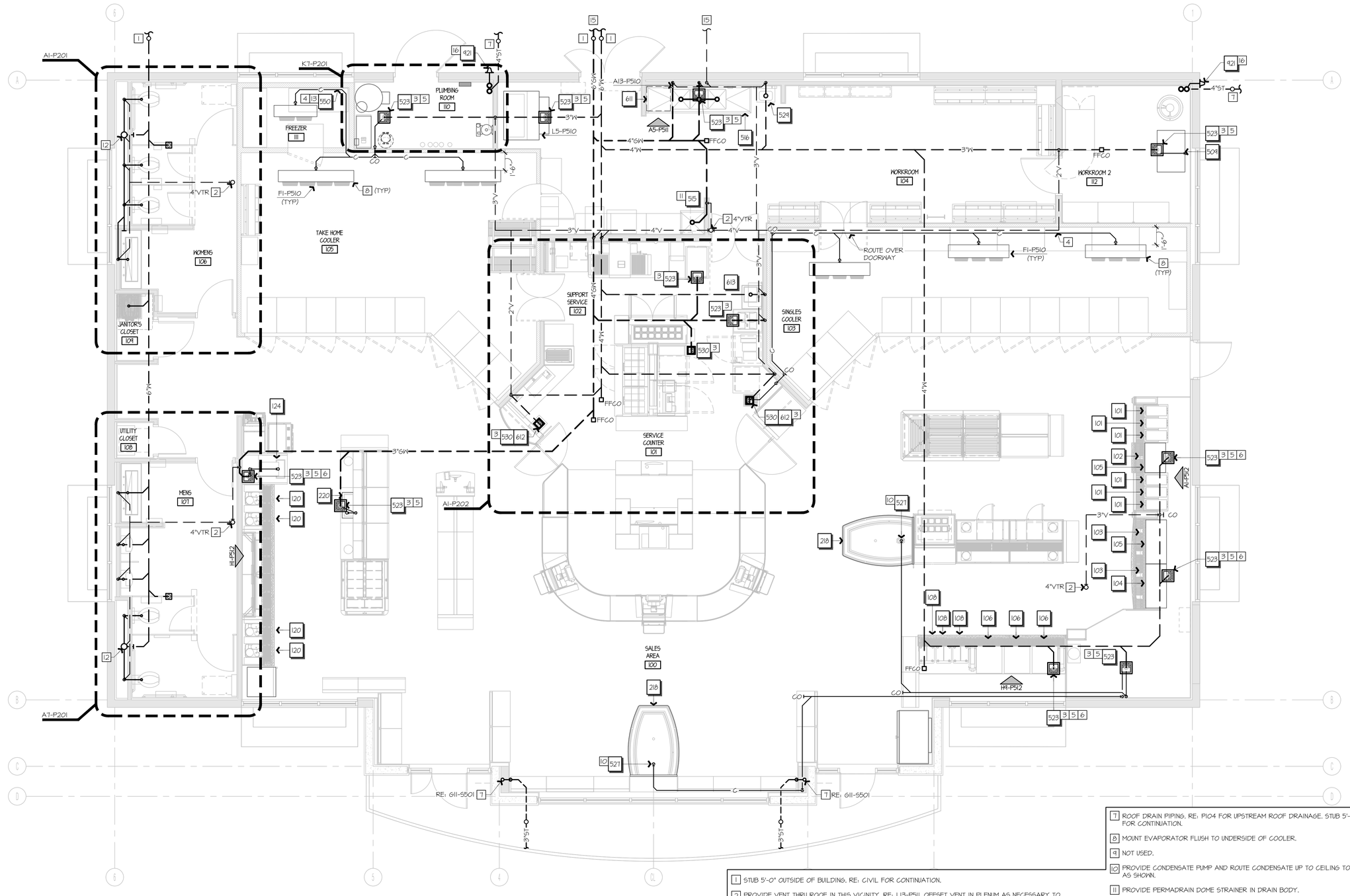

REFER TO SHEET P600 FOR * EQUIPMENT TAGS

REFER TO SHEET P501 & P502 FOR PIPE SIZES.

1. STUB 5'-0" OUTSIDE OF BUILDING. RE: CIVIL FOR CONTINUATION.
2. PROVIDE VENT THRU ROOF IN THIS VICINITY. RE: L13-P511. OFFSET VENT IN PLENUM AS NECESSARY TO MAINTAIN OUTSIDE AIR INTAKE CLEARANCES.
3. INDIRECT DRAIN: DISCHARGE DRAINS INTO FLOOR RECEPTOR WITH AIR GAP OF TWICE THE PIPE DIAMETER. RE: L5-P511.
4. 1" CONDENSATE DRAINAGE PIPING PVC FOR COOLERS, COPPER FOR FREEZER. SECURE TO WALL WITH SPACING TYPE BRACKETS.
5. PROVIDE "GUARDIAN DRAIN LOCK" IN DRAIN BODY.
6. CONNECT DRAIN LINES FROM DRINK BARS AND FOUNTAIN WALLS TO HEADER PIPE. ROUTE HEADER DRAIN LINE TO FLOOR SINK. PROVIDE WITH AIR GAP FITTING PER LOCAL AUTHORITIES. RE: P512 & L5-P511.
7. ROOF DRAIN PIPING. RE: P104 FOR UPSTREAM ROOF DRAINAGE. STUB 5'-0" OUTSIDE OF BUILDING. RE: CIVIL FOR CONTINUATION.
8. MOUNT EVAPORATOR FLUSH TO UNDERSIDE OF COOLER.
9. NOT USED.
10. PROVIDE CONDENSATE PUMP AND ROUTE CONDENSATE UP TO CEILING TO INDIRECT WASTE OVER FLOOR SINK AS SHOWN.
11. PROVIDE PERMADRAIN DOME STRAINER IN DRAIN BODY.
12. CONTRACTOR TO SCOPE AND RECORD SANITARY WASTE LINE FROM RESTROOM CLEANOUTS TO THE PUBLIC SEWER CONNECTION.
13. PROVIDE HEAT TRACE CABLE FOR ALL CONDENSATE DRAIN PIPING WITHIN FREEZER. PROVIDE 1" ARMAFLEX INSULATION OVER HEAT TRACING ON CONDENSATE LINE. SLOPE DRAIN PIPING 1/8" PER FT. TOWARD TERMINATION POINT. INSTALL HEAT TRACE LINE SIMILAR TO DETAIL FI-P510.
14. NOT USED.
15. ROUTE TO GREASE INTERCEPTOR. RE: P501 FOR COMPLETE SYSTEM. RE: CIVIL FOR EXACT LOCATION.
16. PROVIDE DOWNSPOUT NOZZLES 18" AFG TO THE CENTER.

A1 PLUMBING WASTE & VENT FLOOR PLAN

3/8" = 1'-0"

NORTH

A9 PLAN NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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REV	DATE	DESCRIPTION

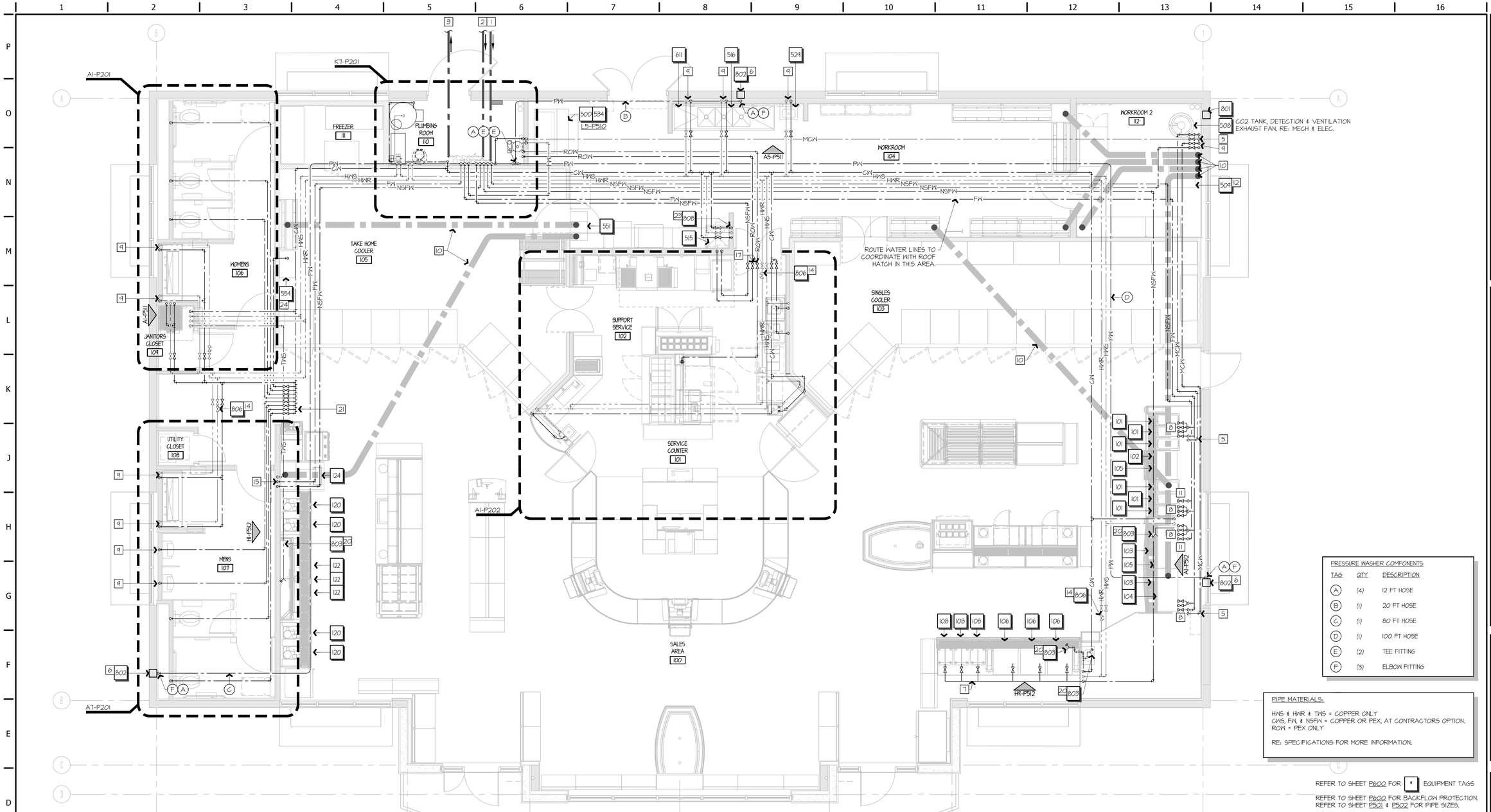
ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE:

PLUMBING WASTE & VENT FLOOR PLAN

SHEET NUMBER:

P101



PRESSURE WASHER COMPONENTS		
TAG	QTY	DESCRIPTION
A	(4)	12 FT HOSE
B	(1)	20 FT HOSE
C	(1)	80 FT HOSE
D	(1)	100 FT HOSE
E	(2)	TEE FITTING
F	(3)	ELBOW FITTING

PIPE MATERIALS:

HNS & HNR & TNS = COPPER ONLY
CNS, FN, & NSFN = COPPER OR PEX, AT CONTRACTORS OPTION.
ROW = PEX ONLY

RE: SPECIFICATIONS FOR MORE INFORMATION.

REFER TO SHEET P600 FOR * EQUIPMENT TAGS

REFER TO SHEET P600 FOR BACKFLOW PROTECTION.
REFER TO SHEET P501 & P502 FOR PIPE SIZES.

WATER SERVICE: PLUMBING CONTRACTOR TO VERIFY EXISTING WATER PRESSURE PRIOR TO CONSTRUCTION. WATER PRESSURE AT BUILDING ENTRANCE PRIOR TO THE BACKFLOW PREVENTER DETERMINES ONE OF THE FOLLOWING REQUIREMENTS:

GREATER THAN 80 PSI:	PROVIDE PRESSURE REGULATING VALVE (PRV) WITH STRAINER.
GREATER THAN 70 PSI:	NO BOOSTER SYSTEM WILL BE NECESSARY.
LESS THAN 70 PSI:	INSTALL WATER PRESSURE BOOSTER SYSTEM FOR ENTIRE BUILDING AS FOLLOWS:

BOOSTER PUMP IF REQUIRED, SHALL BE FACTORY PRESET TO 70-PSI. COORDINATE WITH QT REPRESENTATIVE FOR SPECIFIC INSTRUCTIONS ON CHOOSING AND PLACING EQUIPMENT.

AVAILABLE PRESSURE = 80 PSI, TOTAL GPM = 75
TOTAL LENGTH OF PIPING = 350 FT, STATIC LOSS = 5 PSI

LOSSES:		
RPZ-BFP	12 PSI	
METER LOSS	4 PSI	(AVAILABLE PRESSURE 80 - TOTAL LOSSES 36) = 44 PSI ALLOWED.
STATIC LOSS	5 PSI	(TOTAL LENGTH 350) = 12.6 PSI ALLOWABLE LOSS PER 100 FEET.
FIXTURE REQUIRES:	15 PSI	
TOTAL LOSSES	36 PSI	(IRRIGATION FLOW ESTIMATE: 35 GPM)

1. STUB OUT DOMESTIC COLD WATER 5'-0" OUTSIDE BUILDING. RE: CIVIL DRAWINGS FOR CONTINUATION. ROUTE UP INTO WORKROOM. RE: P503 FOR DETAIL.
2. STUB OUT IRRIGATION WATER SUPPLY (INCOMING) 5'-0" OUTSIDE BUILDING. RE: CIVIL DRAWINGS FOR CONTINUATION. ROUTE UP INTO BACKFLOW PREVENTER. RE: P503 FOR DETAIL.
3. STUB OUT IRRIGATION WATER (OUTGOING) 5'-0" OUTSIDE BUILDING. RE: CIVIL DRAWINGS FOR CONTINUATION. RE: P503 FOR DETAIL.
4. NOT USED.
5. CHILLED WATER LINE FROM MULTIPLEX MACHINE TO ICE MACHINES AND TEA FOUNTAIN MACHINE. CONNECT IN A BYPASS ARRANGEMENT WITH THE MAIN FILTERED WATER LINES TO ALLOW EITHER LINE TO SERVE ICE MAKERS. ROUTE WATER LINE ALONG WITH SODA LINE BUNDLE. RE:QT INSTALL DRAWINGS FOR MORE INFORMATION.
6. ROUTE HOSE FROM POWER WASH EQUIPMENT IN SUPPORT ROOM, FURNISHED BY QUIKTRIP, INSTALLED BY CONTRACTOR. ROUTE IN STRAIGHT LINES AS POSSIBLE WITH RADIUS ELBOWS AS NECESSARY. SEE QT REPRESENTATIVE FOR INSTALLATION INSTRUCTIONS.
7. ROUTE FILTERED WATER LINE UNDER COUNTERTOP AT HEIGHT AND SPACING AS REQUESTED BY QT REPRESENTATIVE. INSTALL EQUIPMENT AND MAKE FINAL CONNECTIONS.
8. ROUTE FILTERED WATER LINE AS SHOWN ON PLANS. PROVIDE MANIFOLD WITH MULTIPLE VALVED CONNECTIONS FOR FEMALE THREADED OUTLETS. RE: PLUMBING ELEVATIONS. (QTY PER PLAN) INSTALL PRESSURE GAUGE WITH ISOLATION BALL-VALVE ON WATER MANIFOLD.
9. INSULATE BEHIND WATER PIPES IN EXTERIOR WALL.
10. ROUTE COFFEE/SODA LINE BUNDLE(S) ABOVE CEILING TO EQUIPMENT SERVED AS INDICATED, MAINTAINING A 2' MINIMUM BENDING RADIUS AND PROTECTING BUNDLE FROM DAMAGE AGAINST CONTACT WITH STRUCTURE OR OTHER ELEMENTS. COORDINATE WITH QT REPRESENTATIVE.
11. PROVIDE SEPARATE NON-SILOPHOS INHIBITOR FILTERED WATER LINE TO CRUSHED ICE DISPENSER. RE: A1-P503.
12. MULTIPLEX - ROUGH-IN WATER SUPPLY AT 84" AFF WITH BALL VALVE. PIPING FROM BALL VALVE SHOULD BE 3/4" FLEX TUBING. SET PRESSURE REGULATING VALVE TO 55 PSIG. PROVIDE FLEX TUBING WITH 10' EXTRA COIL FOR SERVICE/CLEANING. PROVIDE 10' EXTRA COIL FOR REMOTE CONDENSER PIPING. RE: P600 FOR BFP.
13. NOT USED.
14. PROVIDE BALANCE VALVE ON HNR LINE. PROVIDE BALL VALVES ON HNS/HNR LINES FOR BALANCE VALVE ISOLATION. MAINTAIN ACCESSIBILITY TO VALVES. RE: P502 FOR MORE INFORMATION.
15. PROVIDE VERTICAL WATER MANIFOLD FOR NSFN AND FN LINES SERVING COFFEE BAR EXPOSED ALONG WALL. ROUTE INDIVIDUAL WATER LINES BELOW COUNTERTOP HEIGHT TO EQUIPMENT. COORDINATE MANIFOLDS WITH ELECTRICAL DEVICES. LABEL MANIFOLDS AND EQUIPMENT SERVED FROM EACH SHUT OFF. RE: P512.
16. NOT USED.
17. PROVIDE LINE SIZE STAINLESS STEEL BALL VALVES TYP OF MC #SSV-TSNLH FOR ROW LINES.
18. NOT USED.
19. NOT USED.
20. INSTALL HOSE BIB INSIDE BASE CABINET FOR USE WITH OWNER-FURNISHED COILED HOSE AND SPRAYER. PROVIDE HOT AND COLD WATER SUPPLIES TO POINT OF USE MIXING VALVE. RE: P512 AND P600 FOR MORE INFORMATION.
21. PROVIDE RESTROOM VALVE MANIFOLD ABOVE ACCESSIBLE CEILING. PROVIDE SHUT OFF VALVES FOR EACH FIXTURE. MAINTAIN ACCESSIBILITY TO MANIFOLD. COORDINATE WITH DUCTWORK ABOVE CEILING IN VICINITY. RE: M101.
22. NOT USED.
23. PROVIDE LINE FOR CHEMICAL DISPENSING SYSTEM. ROUTE FLEXIBLE TUBING FROM WALL FAUCET TO CHEMICAL FEED SYSTEM.
24. PROVIDE PVC SLEEVE FOR WATER LINE PENETRATION THROUGH COOLER. SEAL WITH EXPANDING FOAM. TRANSITION TO 3/8" TUBING BEFORE COOLER PENETRATION.

A1 | PLUMBING WATER FLOOR PLAN | NORTH
1/4" = 1'-0"

A5 | PLAN NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER

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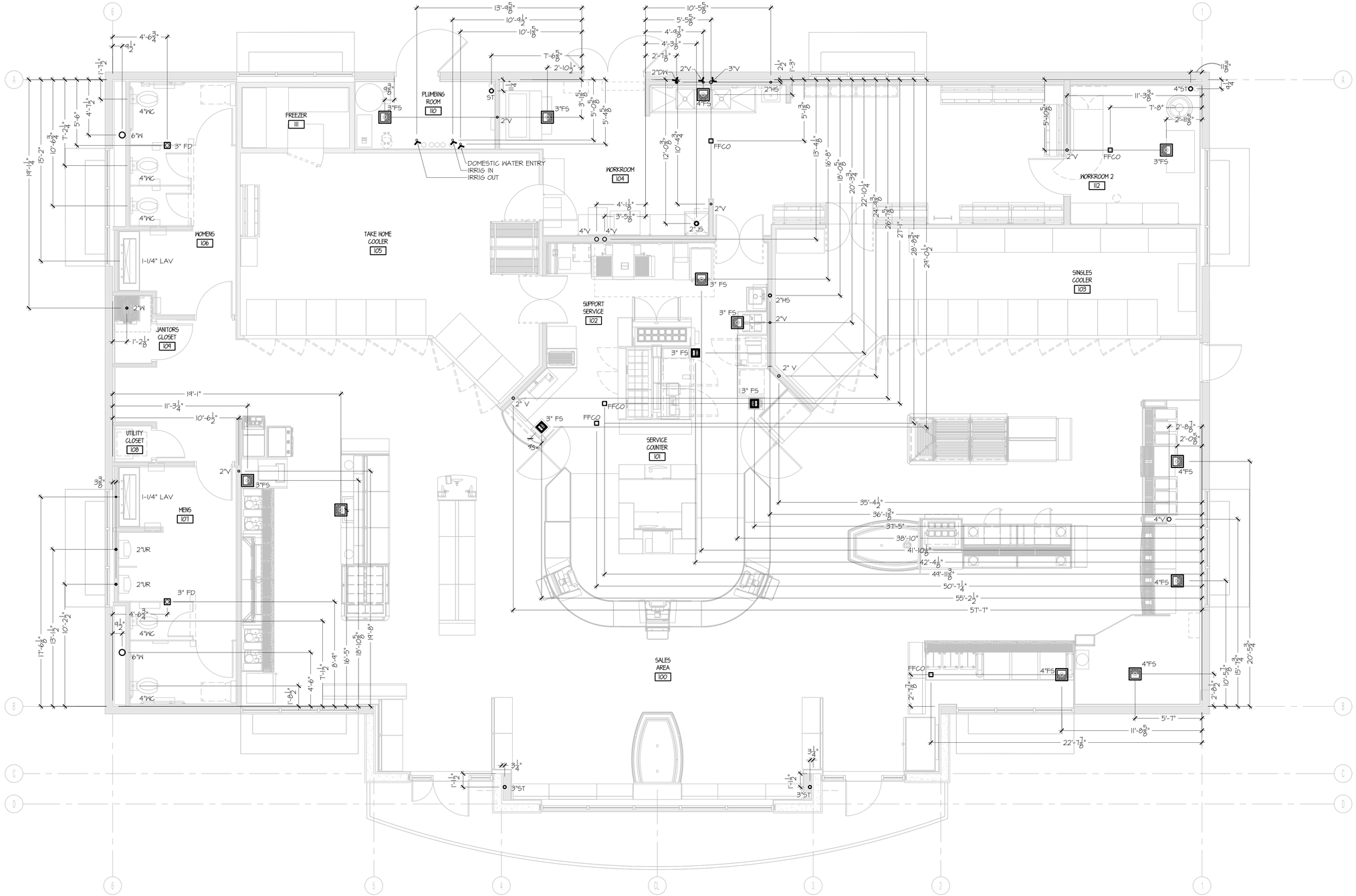
SHEET TITLE:
PLUMBING WATER FLOOR PLAN

SHEET NUMBER:
P102



REFER TO SHEET P501 & P502 FOR PIPE SIZES.

A1 | PLUMBING SLAB ROUGH-IN FLOOR PLAN

3/8" = 1'-0"

NORTH

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER

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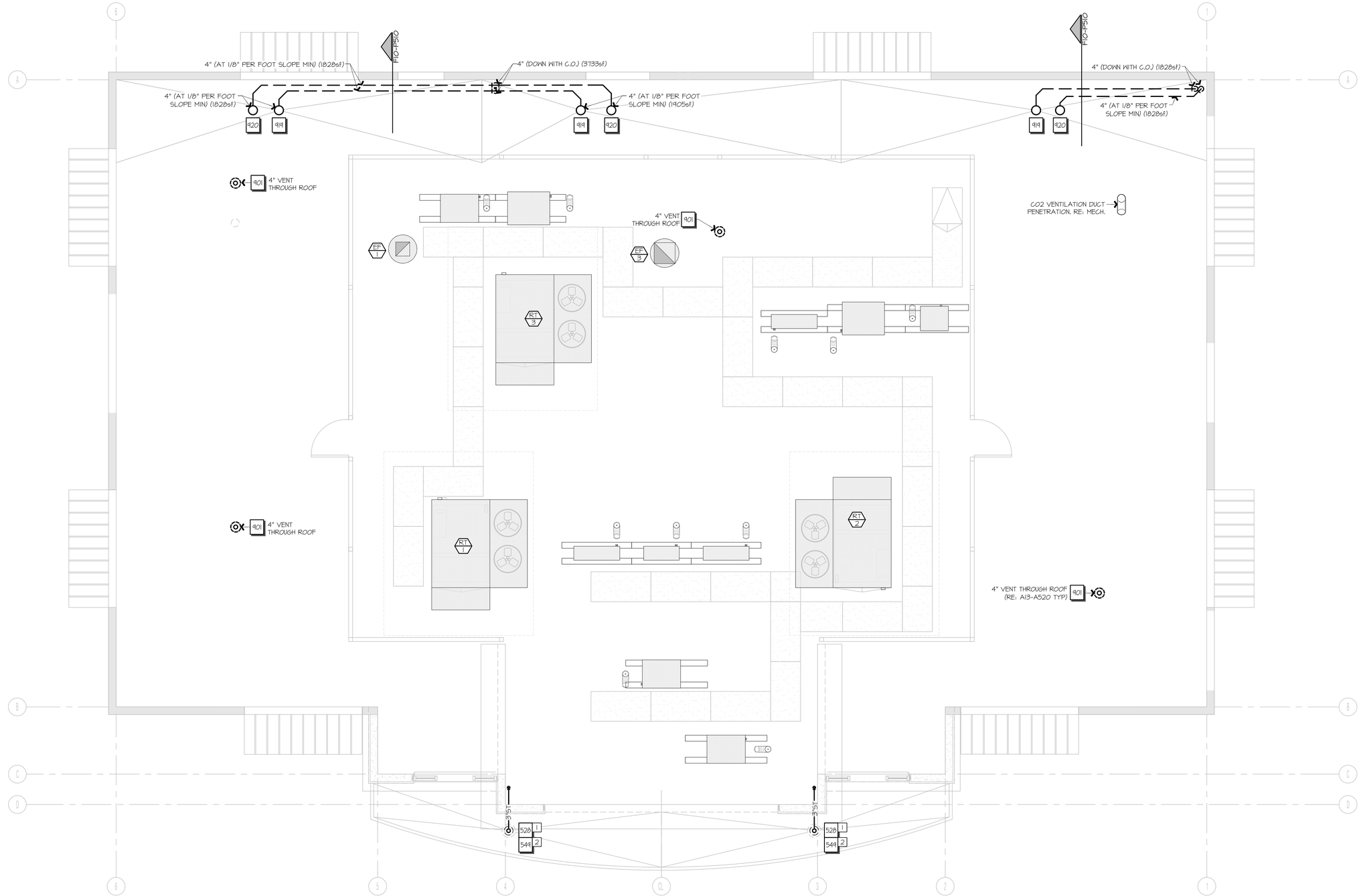
SHEET TITLE:

PLUMBING SLAB ROUGH-IN FLOOR PLAN

SHEET NUMBER:

P103



1 PROVIDE ROOF DRAIN WITH 3" PIPE IN LOW CANOPY ROOF.

2 PROVIDE HEAT TRACE FOR CANOPY DRAINS. RE: L8-P510 FOR DETAIL. RE: P600 FOR LENGTH AND SPECIFICATION.

REFER TO SHEET P600 FOR * EQUIPMENT TAGS

NORTH

A1 PLUMBING ROOF PLAN

1/8" = 1'-0"

A13 PLAN NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
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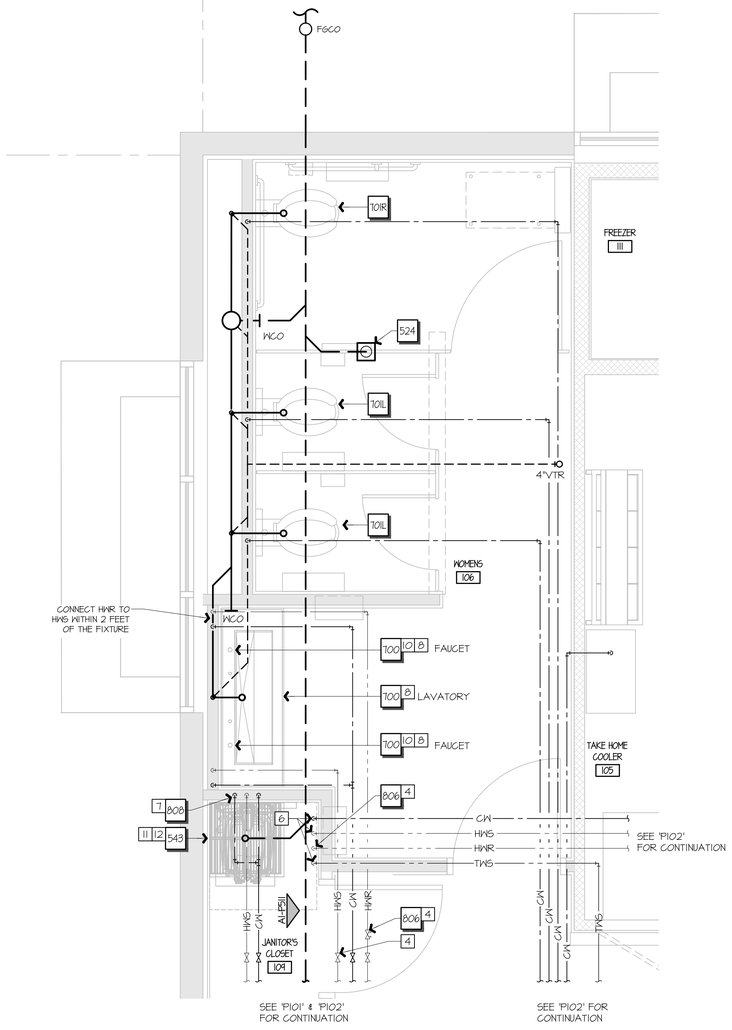
SHEET TITLE:

PLUMBING ROOF PLAN

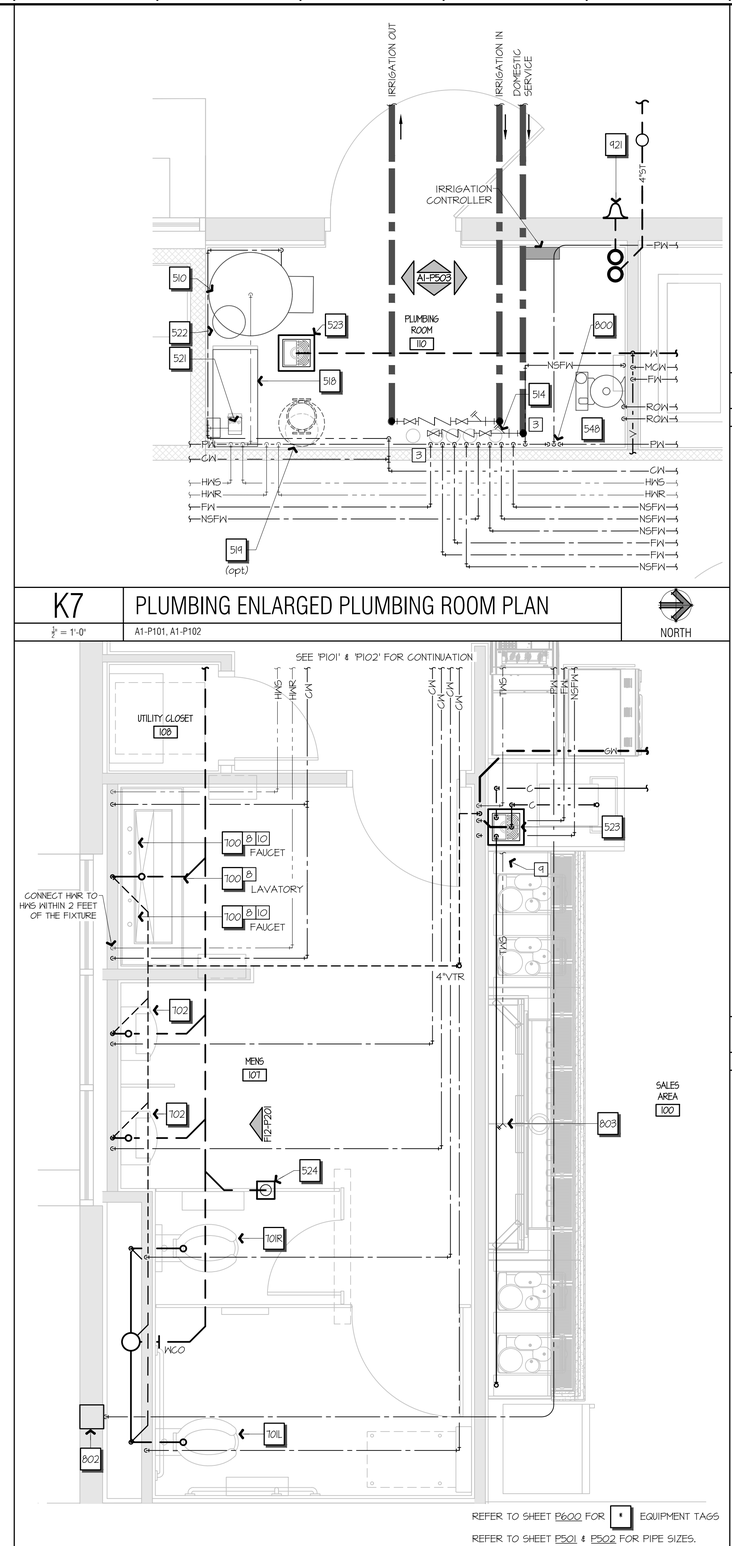
SHEET NUMBER:

P104



A1 PLUMBING ENLARGED WOMEN'S RESTROOM PLAN

1/4" = 1'-0" | A1-P101, A1-P102 | NORTH



REFER TO SHEET P600 FOR [•] EQUIPMENT TAGS

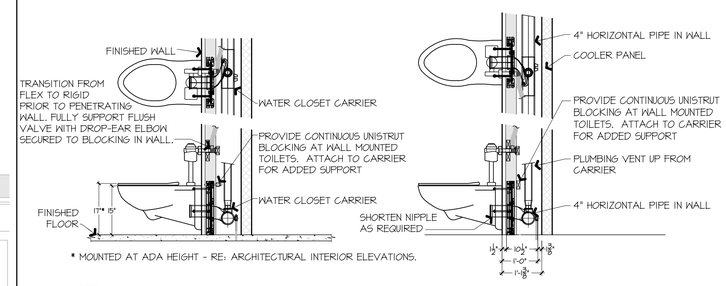
REFER TO SHEET P501 & P502 FOR PIPE SIZES.

K7 PLUMBING ENLARGED PLUMBING ROOM PLAN

1/4" = 1'-0" | A1-P101, A1-P102 | NORTH

A7 PLUMBING ENLARGED MEN'S RESTROOM PLAN

1/4" = 1'-0" | A1-P101, A1-P102 | NORTH



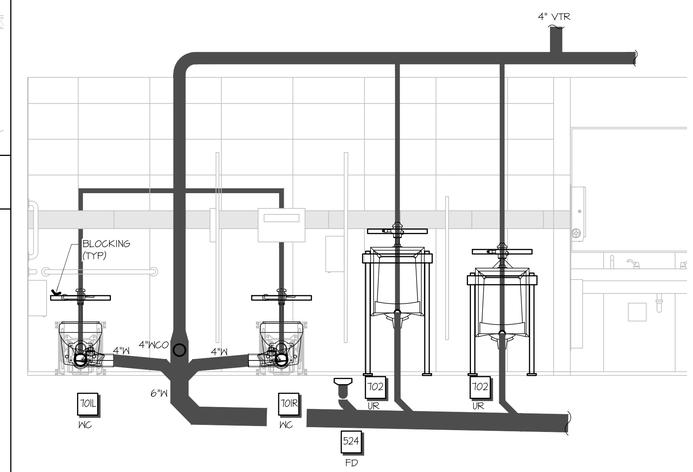
* MOUNTED AT ADA HEIGHT - RE: ARCHITECTURAL INTERIOR ELEVATIONS.

NOTES
1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. TRIM TRACK WHERE REQUIRED.

CRITICAL DIMENSIONS FOR WATER CLOSETS.

M12 CRITICAL DIMENSIONS AT WATER CLOSETS

1/2" = 1'-0" | A1-P103, A1-P201



TRANSITION FROM PEX TO RIGID BRASS NIPPLES FOR ALL THROUGH-WALL DEVICES. PROVIDE BLOCKING AND PIPE SUPPORTS IN WALL TO FULLY SECURE ALL FLUSH VALVES, FAUCET SPOUTS, & STOPS.

ROUGH-IN FAUCET SUPPLIES TO COORDINATE WITH UNDERCOUNTER SOAP BOTTLES.

RE: ARCHITECTURAL DRAWINGS FOR VERIFYING ADA FIXTURE HEIGHT REQUIREMENTS.
RE: PLUMBING RISER DIAGRAMS FOR ALL PIPE SIZES.

F12 MEN'S RESTROOM IN-WALL PIPING ELEVATION

NOT TO SCALE | A7-P201

1. NOT USED.
2. NOT USED.
3. MOUNT VALVE MANIFOLDS ON WALL. ROUTE WATER LINES THROUGH WALL TO SUPPLY FIXTURES INDICATED. DO NOT ROUTE WATER LINES OVER SECURITY CABINET OR OTHER ELECTRICAL EQUIPMENT.
4. PROVIDE HWS WITH BALL VALVE AND HWR WITH BALANCE VALVE. RE: P502 FOR MORE INFORMATION.
5. NOT USED.
6. PROVIDE HOT AND COLD WATER SUPPLIES WITH POINT OF USE MIXING VALVE AND SUPPLY HOSE BIB WITH TEMPERED WATER AS SCHEDULED ON P600. PROVIDE SHUT OFF VALVES LABELED "COFFEE BAR HOSE SPRAYER" AND BACKFLOW PREVENTER LOCATED IN THE VERTICAL PIPE RUNS. RE: P600.
7. PROVIDE CW LINE FOR CHEMICAL DISPENSING SYSTEM. ROUTE FLEXIBLE TUBING FROM WALL FAUCET TO CHEMICAL FEED SYSTEM.
8. INSTALL ALL LAVATORY PIPING AS HIGH AS POSSIBLE UNDERNEATH LAVATORY COUNTERTOP. INSULATE ALL EXPOSED PIPING PER ADA REQUIREMENTS. RE: SPECIFICATIONS.
9. TWS ROUTED BELOW EQUIPMENT WITHIN MILLWORK TO HOSE BIB. RE: HI-P512.
10. INSTALL HWS AND CWS STOPS, MIXING VALVES, AND CONTROLLERS FOR LAVATORY FAUCETS AS CLOSE TO THE OUTER WALLS AS POSSIBLE AND COORDINATE WITH SOAP CANISTERS. RE: A212 FOR LAVATORY ELEVATIONS.
11. PROVIDE PERMADRAIN DOME STRAINER IN DRAIN BODY.
12. RECESS FLOOR SINK ASSOCIATED WITH FLOOR SCRUBBER 1/4" BELOW FINISH FLOOR. RE: LT-A410.

A12 PLAN NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

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PLUMBING ENLARGED RESTROOM PLANS

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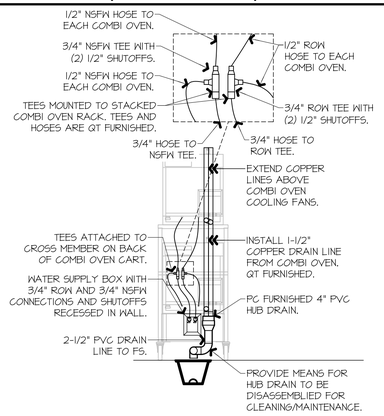
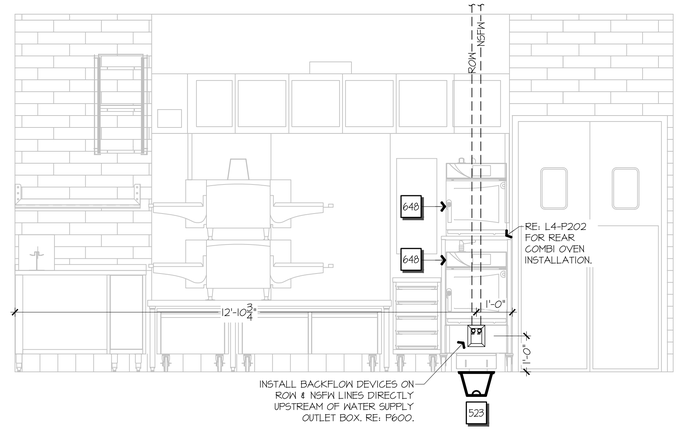
P201



CONTRACTOR TO LABEL THE BACK OF THE COMBI OVEN AS FOLLOWS:
- RO/W IDENTIFIED AS CONNECTION WITH 70-125PPM REQUIREMENT
- NSFW IDENTIFIED AS CONNECTION WITH 70-360PPM REQUIREMENT.

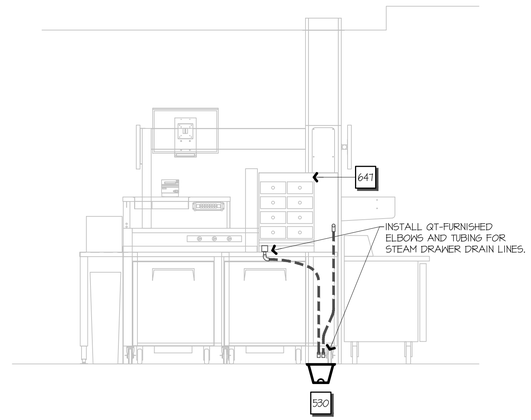
L4 REAR COMBI OVEN ELEVATION

3/4" = 1'-0" A1-P102, A1-P202



L7 FSC REAR ELEVATION

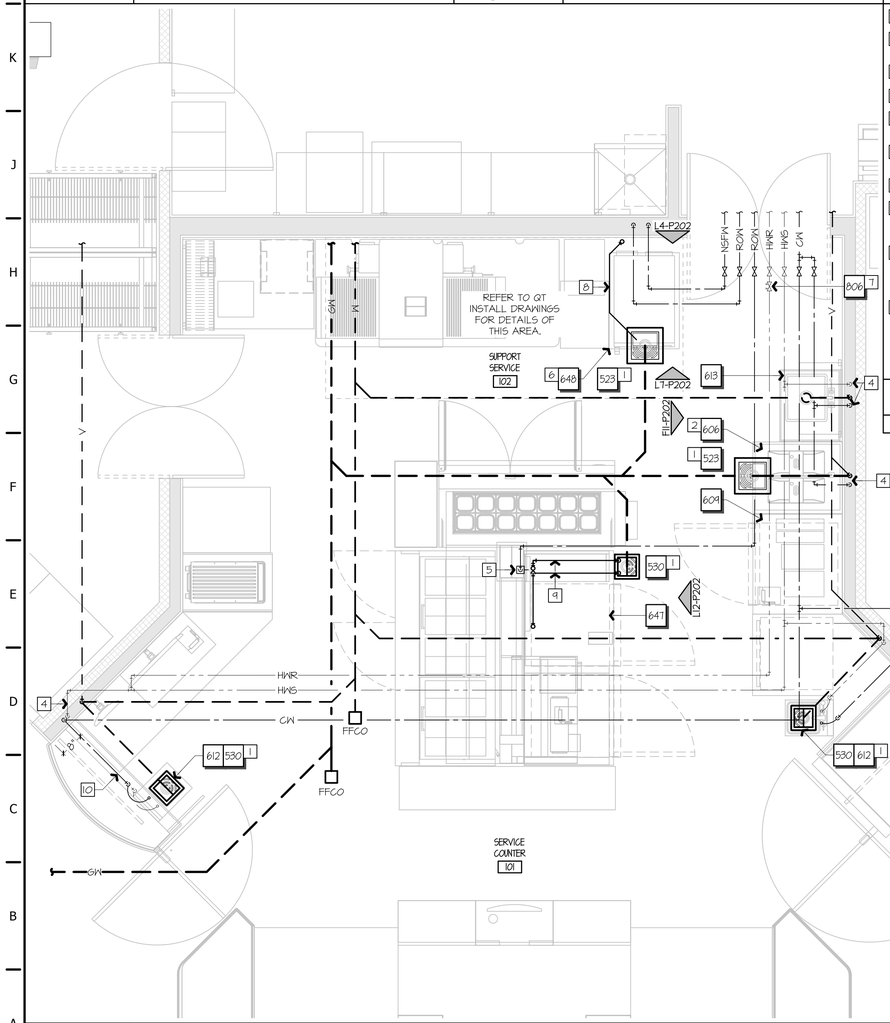
3/4" = 1'-0" A1-P102, A1-P202



L12 FSC ISLAND ELEVATION

3/4" = 1'-0" A1-P202

L1 NOT USED



A1 PLUMBING ENLARGED SERVICE COUNTER PLAN

3/4" = 1'-0" A1-P101, A1-P102

NORTH

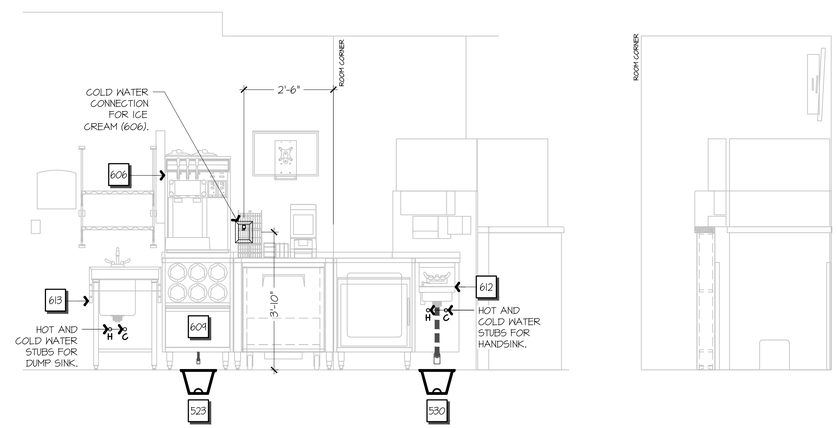
1. INDIRECT DRAIN: DISCHARGE DRAIN INTO FLOOR RECEPTOR WITH AIR GAP OF TWICE THE PIPE DIAMETER.
2. INSTALL MFR-FURNISHED SINGLE-TEMP FAUCET ON TOP OF ICE CREAM MACHINE, CENTERED BETWEEN THE TWO BASINS. RUN BRAIDED STAINLESS STEEL SUPPLY HOSE THROUGH THE BACK OF UNIT AND UP TO FAUCET.
3. NOT USED.
4. ROUTE WATER LINES DOWN IN FURRED OUT WALL ADJACENT TO COOLER PANEL.
5. ROUTE RO/W LINE OVERHEAD, REMOVE FACTORY INSTALLED COPPER PIPE, AND INSTALL PEX PIPING WITHIN QT FURNISHED FSC ISLAND. PROVIDE SHUT-OFF VALVE WITHIN PRE-INSTALLED SUPPLY BOX.
6. PROVIDE WATER SUPPLY OUTLET BOX WITH RO/W AND NSFW CONNECTION. RE: P600 FOR SPECIFICATION. INSTALL BOX AND COORDINATE WITH POWER DEVICES. RE: L4-P202 & L7-P202.
7. PROVIDE BALANCE VALVE ON HWR LINE. RE: P502 FOR MORE INFORMATION.
8. ROUTE 1-1/2" COPPER DRAIN LINE FROM EACH COMBI OVEN INDIVIDUALLY TO PVC HUB DRAIN AND DISCHARGE INDIRECT WASTE OVER FLOOR SINK. PROVIDE AIR GAP TWICE THE DIAMETER OF THE DRAIN LINE. RE: L4-P202 & L7-P202.
9. INSTALL QT-FURNISHED DRAIN KIT FOR STEAM DRAWER DRAIN LINES AND DISCHARGE INDIRECT WASTE OVER FLOOR SINK. INSTALL ELBOW FITTINGS DIRECTLY TO EQUIPMENT DRAIN CONNECTION. ROUTE TUBING TO DISCHARGE WITH AN ELBOW FITTING TO INDIRECT WASTE OVER FLOOR SINK. PROVIDE AIR GAP TWICE THE DIAMETER OF THE DRAIN LINE. RE: A11-P202 & L12-P202.
10. STACK CW AND HW LINES VERTICALLY AND MOUNT TO THE OUTSIDE OF MILLWORK FROM WALL TO HANDSINK.

G7 PLAN NOTES

REFER TO SHEET P101 & P102 FOR PLUMBING CONTINUATION.

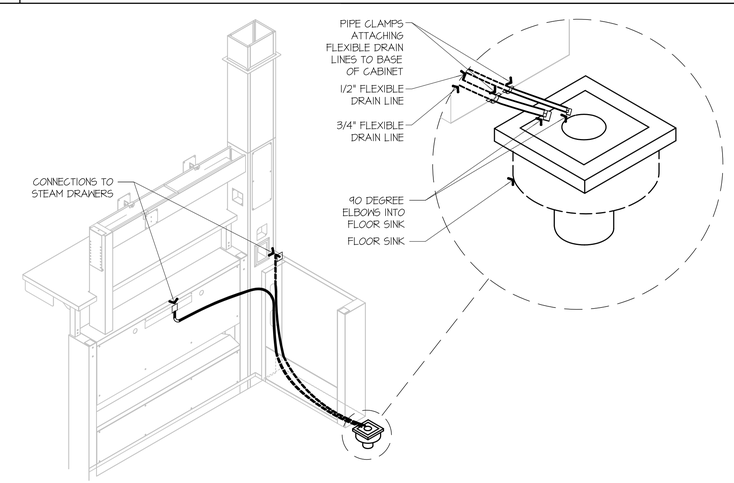
REFER TO SHEET P600 FOR [ ] EQUIPMENT TAGS

REFER TO SHEET P501 & P502 FOR PIPE SIZES.



F11 FSC RIGHT ELEVATION

3/4" = 1'-0" A1-P202



A11 STEAM DRAWER DETAIL

NOT TO SCALE

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

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LEE'S SUMMIT, MISSOURI

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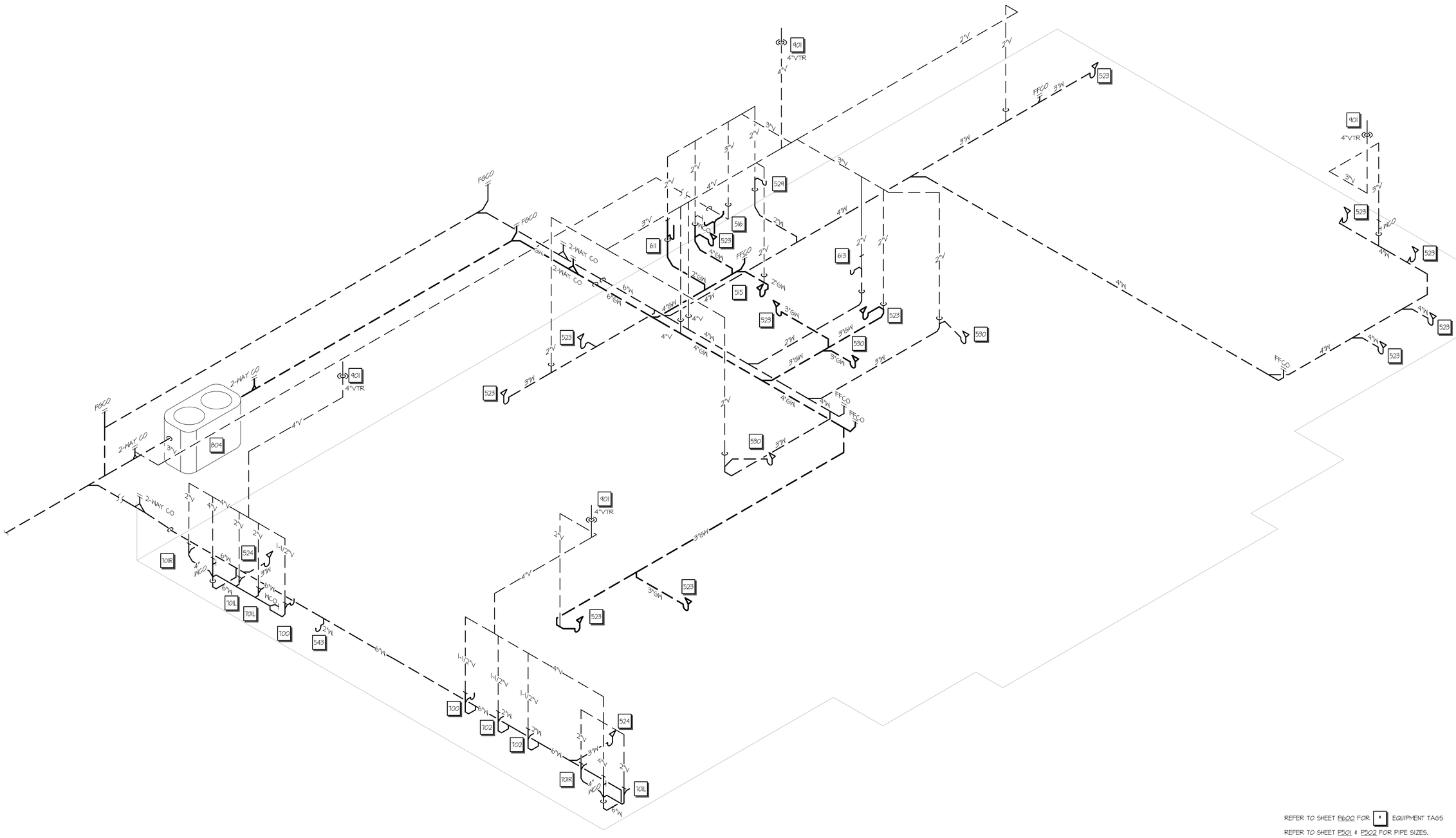
PROTOTYPE	P-120
DIVISION	KANSAS CITY
VERSION	G35E
DATE	11-01-2024

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE:
PLUMBING ENLARGED SERVICE COUNTER PLAN & ELEVATIONS

SHEET NUMBER:
P202



REFER TO SHEET P600 FOR [ ] EQUIPMENT TAGS

REFER TO SHEET P501 & P502 FOR PIPE SIZES.

A1 PLUMBING WASTE & VENT RISER DIAGRAM

NOT TO SCALE

A1-P101

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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PROTOTYPE	P-120
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DATE	11-01-2024

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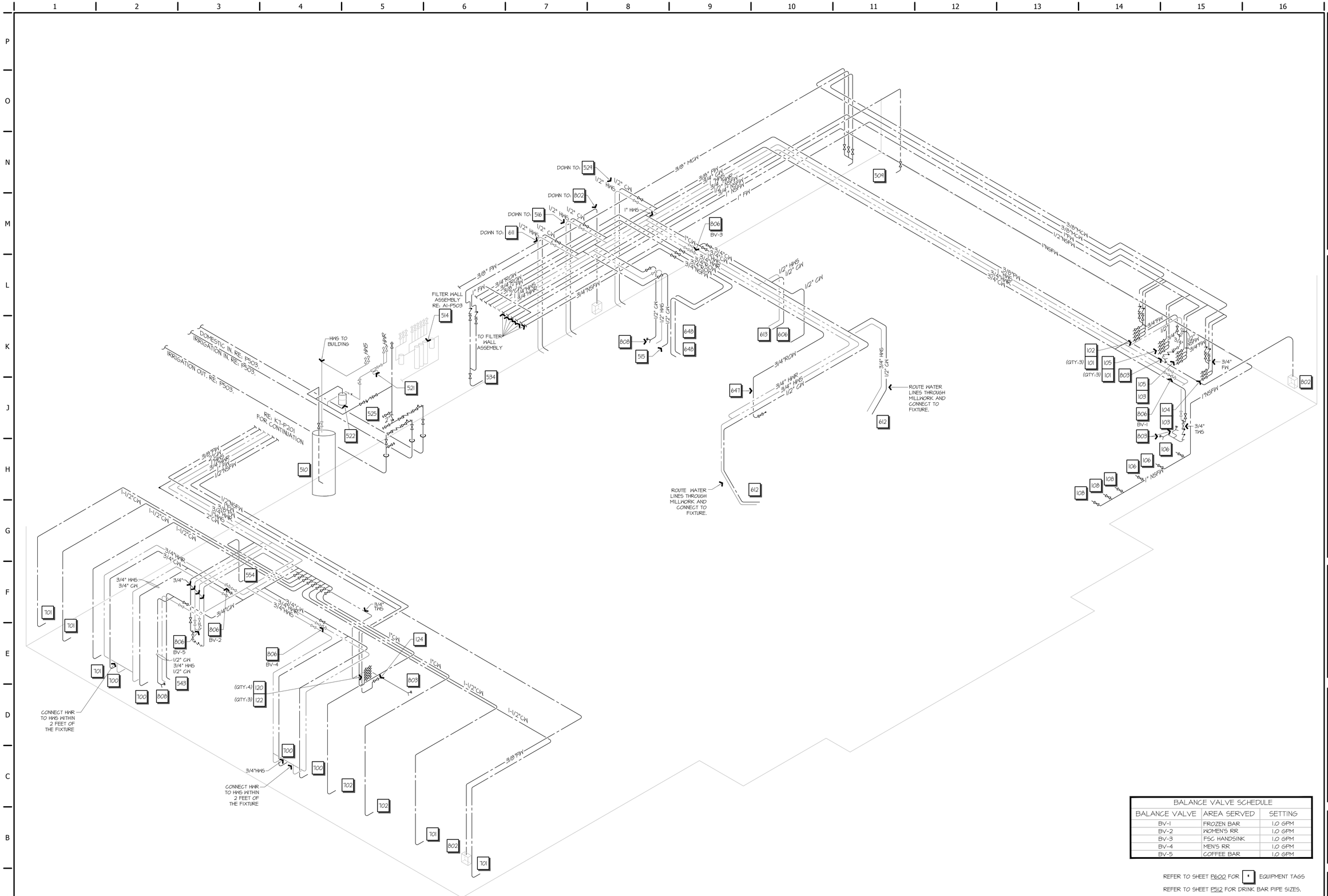
SHEET TITLE:

PLUMBING
WASTE & VENT
RISER DIAGRAM

SHEET NUMBER:

P501



BALANCE VALVE SCHEDULE		
BALANCE VALVE	AREA SERVED	SETTING
BV-1	FROZEN BAR	1.0 GPM
BV-2	WOMEN'S RR	1.0 GPM
BV-3	FSC HANDSINK	1.0 GPM
BV-4	MEN'S RR	1.0 GPM
BV-5	COFFEE BAR	1.0 GPM

REFER TO SHEET P600 FOR [ ] EQUIPMENT TAGS

REFER TO SHEET P512 FOR DRINK BAR PIPE SIZES.

A1 PLUMBING WATER RISER DIAGRAM

NOT TO SCALE

A1-P102

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
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SIGNATURE DATE: 11/25/2024

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SHEET TITLE:

PLUMBING WATER RISER DIAGRAM

SHEET NUMBER:

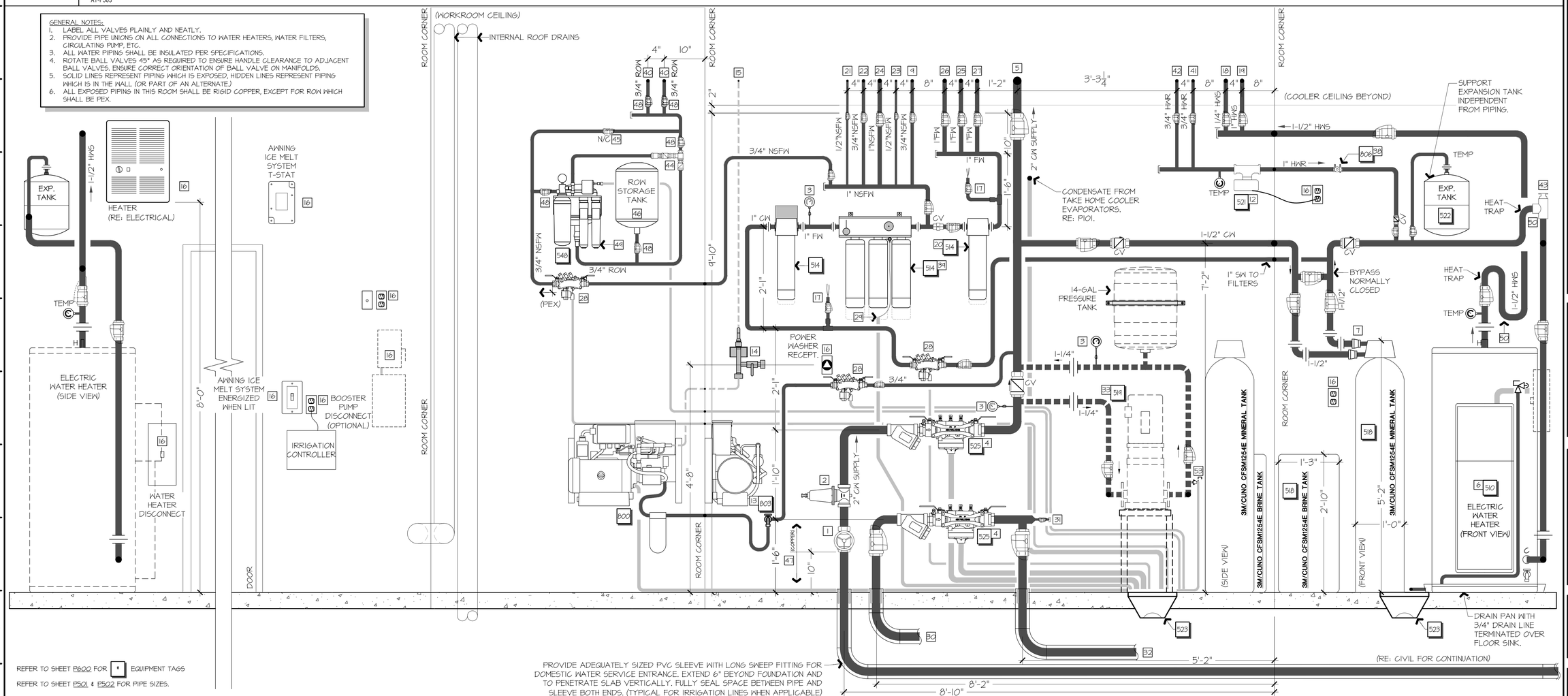
P502

1. DOMESTIC WATER ENTRY WITH LINE SIZE MAIN SHUT-OFF GATE VALVE.
2. WATER PRESSURE: PROVIDE WATER PRESSURE REGULATOR ON SERVICE ENTRANCE DOWNSTREAM OF MAIN SHUTOFF VALVE WHEN SERVICE LINE PRESSURE EXCEEDS 80 PSIG.
3. PRESSURE GAUGE: GRAINGER 4TA54 0-160 PSIG WITH 1/4" TAP.
4. BACK FLOW PREVENTER: FULL LINE SIZE. CONTRACTOR TO PROVIDE AND INSTALL DRAIN LINE FROM AIR GAP FITTING TO FLOOR SINK. PROVIDE INDEPENDENT SUPPORTS FROM WALLS AND/OR FLOOR.
5. 2" COLD WATER OUT TO BUILDING.
6. WATER HEATER ON FLOOR WITH DIELECTRIC UNITS ON WATER SUPPLIES AND WATER HEATER DRAIN VALVE. USE PIPE UNIONS AND ISOLATION BALL VALVES. PROVIDE A 210°F TEMPERATURE AND 150 PSI PRESSURE RELIEF VALVE WITH TEST LEVER SIZED WITH ASME TEMPERATURE STEAM RATING 10° OVER HEATER INPUT. RUN HARD COPPER DISCHARGE LINE FULL SIZE OF VALVE OUTLET. RE: MANUFACTURER'S INSTALLATION GUIDE.
7. 1-1/2" TO 1" PIPE REDUCER FOR WATER SOFTENER CONNECTION.
8. NOT USED.
9. NSFW LINE OUT TO FSC.
10. NOT USED.
11. NOT USED.
12. CIRCULATING PUMP WITH AQUASTAT SET AT 104°F, SET TO BE OPERATIONAL 24-HOURS.
13. HOSE CONNECTION FOR POWER WASHER. SECURE TIGHT TO WALL.
14. JUNCTION BRACKET, BLEEDER VALVE PRESSURE RELIEF LINE, AND 3/8" TUBING UP TO CEILING FOR PRESSURE WASHER CONNECTION.
15. ROUTE TUBING IN CEILING VOID TO REMOTE STATION BOXES PER POWER WASHER MANUFACTURER'S REQUIREMENTS AND AS SHOWN ON PLAN. TUBING SUPPLIED BY QUIKTRIP AND INSTALLED BY CONTRACTOR.
16. ELECTRICAL SUPPLY FOR EQUIPMENT PROVIDED BY ELECTRICAL CONTRACTOR.
17. PROVIDE UPWARD FACING TEE, SHUT-OFF VALVE, AND TRANSDUCER PER EMS.
18. HOT WATER SUPPLY TO FSC, DRINK BAR, AND WORKROOM.
19. HOT WATER SUPPLY TO JANITOR'S CLOSET AND RESTROOM.
20. WATERWISE WW-ICE-55L SCALE INHIBITOR OR EQUAL.
21. CRUSHED ICE: NSFW ROUTE OVER CEILING TO CRUSHED ICE MAKERS AT FOUNTAIN AND TEA.
22. MULTIPLEX: NSFW ROUTE OVER CEILING TO MULTIPLEX FOR BEVERAGE DISPENSERS.
23. COFFEE BAR: NSFW ROUTE OVER CEILING TO COFFEE BAR.
24. FROZEN BAR: NSFW ROUTE OVER CEILING TO FROZEN BAR.
25. FOUNTAIN, TEA, AND CUBED ICE MACHINES: FW ROUTE UP OVER CEILING TO FOUNTAIN, TEA, AND CUBED ICE MACHINES.
26. ICE BAGGER & ICE KIOSK: FW ROUTE OVER CEILING TO ICE BAGGER AND ICE KIOSK.
27. COFFEE BAR: FW ROUTE OVER CEILING TO COFFEE BAR.
28. BACKFLOW PREVENTER PER PLUMBING SCHEDULE P600. INSTALL DRAIN LINE FROM AIR GAP FITTING TO FLOOR SINK.
29. ROUTE 3/4" PVC DRAIN LINE DOWN WALL AND INDIRECT WASTE OVER FLOOR SINK.
30. LAWN IRRIGATION LINE IN FROM STREET. RE: IRRIGATION PLANS FOR SIZE.
31. 1/2" MALE AIR HOSE FITTING FOR BLOWOUT.
32. LAWN IRRIGATION LINE OUT TO LAWN. RE: IRRIGATION PLANS FOR SIZE.
33. OPTIONAL BOOSTER PUMP. IF REQUIRED, PROVIDE BOOSTER PUMP SYSTEM, FACTORY PRESET AT 70 PSI SYSTEM PRESSURE, WITH INLINE PRESSURE TANK FOR WHOLE-BUILDING WATER SUPPLY. PROVIDE STEEL FLOOR STAND AND MOUNT SECURELY WITH NEOPRENE ISOLATION MOUNTS. PROVIDE BALL VALVES, PIPE UNIONS AND TRANSITION FITTINGS ON INLET AND OUTLET LINES, AND CHECK VALVE. SET UNIT TO MAINTAIN 70-PSI IN SYSTEM. FILL PRESSURE TANK WITH 68 PSI AIR CHARGE.
34. NOT USED.
35. NOT USED.
36. NOT USED.
37. NOT USED.
38. PROVIDE BALANCE VALVE AND SET TO 5 GPM.
39. 3M/CUNO AQUAASSURE NO SCALE INHIBITOR.
40. ROW LINE OUT TO FSC KITCHEN. RE: P102 & P502.
41. HOT WATER RETURN FROM RESTROOMS.
42. HOT WATER RETURN FROM FSC.
43. PROVIDE WATTS N36-M1 VACUUM RELIEF VALVE ON COLD WATER LINE FOR WATER HEATER IN LOCATION SHOWN.
44. INSTALL REVERSE OSMOSIS CLEANING BYPASS KIT AND INSTALL PER MANUFACTURER'S INSTRUCTIONS.
45. PROVIDE NORMALLY CLOSED LINE SIZE STAINLESS STEEL BALL VALVE TYP OF MC #S6V-75NLH ON SERVICE BYPASS LINE FOR REVERSE OSMOSIS SYSTEM.
46. INSTALL OWNER FURNISHED REVERSE OSMOSIS WATER STORAGE TANK.
47. DOMESTIC SERVICE ENTRANCE AND IRRIGATION ENTRANCE SHALL BE PEX UNLESS NOTED OTHERWISE PER CIVIL.
48. PROVIDE LINE SIZE STAINLESS STEEL BALL VALVES TYP OF MC #S6V-75NLH.
49. ENSURE QT FURNISHED FLOW CONTROL VALVE IS INSTALLED IN DISCHARGE LINE OF REVERSE OSMOSIS SYSTEM. RE: INSTALLATION INSTRUCTIONS.
50. INSULATE PIPING FROM WATER HEATER TO HEAT TRAP PER SPECIFICATIONS.
51. NOT USED.
52. NOT USED.
53. PROVIDE PRESSURE RELIEF VALVE TYPICAL OF ZURN #P1500XL ON OUTLET OF BOOSTER PUMP. SET RELIEF AT 100 PSI AND ROUTE TO FLOOR SINK.

L1 PLUMBING WATER WALL NOTES

A1-P503

GENERAL NOTES:
1. LABEL ALL VALVES PLAINLY AND NEATLY.
2. PROVIDE PIPE UNIONS ON ALL CONNECTIONS TO WATER HEATERS, WATER FILTERS, CIRCULATING PUMP, ETC.
3. ALL WATER PIPING SHALL BE INSULATED PER SPECIFICATIONS.
4. ROTATE BALL VALVES 45° AS REQUIRED TO ENSURE HANDLE CLEARANCE TO ADJACENT BALL VALVES. ENSURE CORRECT ORIENTATION OF BALL VALVE ON MANIFOLDS.
5. SOLID LINES REPRESENT PIPING WHICH IS EXPOSED, HIDDEN LINES REPRESENT PIPING WHICH IS IN THE WALL (OR PART OF AN ALTERNATE.)
6. ALL EXPOSED PIPING IN THIS ROOM SHALL BE RIGID COPPER, EXCEPT FOR ROW WHICH SHALL BE PEX.



REFER TO SHEET P600 FOR EQUIPMENT TAGS

REFER TO SHEET P501 & P502 FOR PIPE SIZES.

A1 PLUMBING WATER WALL ELEVATION

1"=1'-0"

J7-P201, L1-E501

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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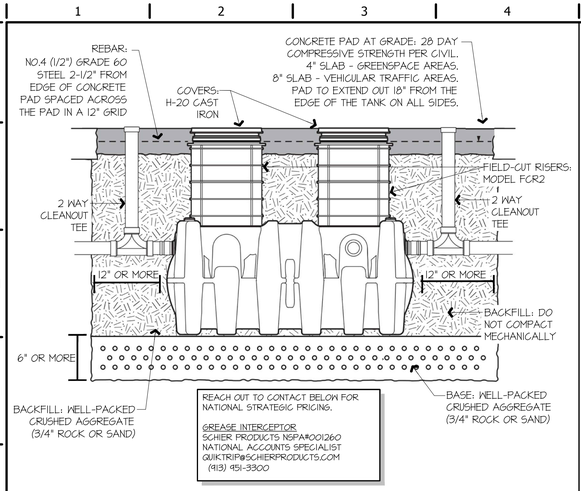
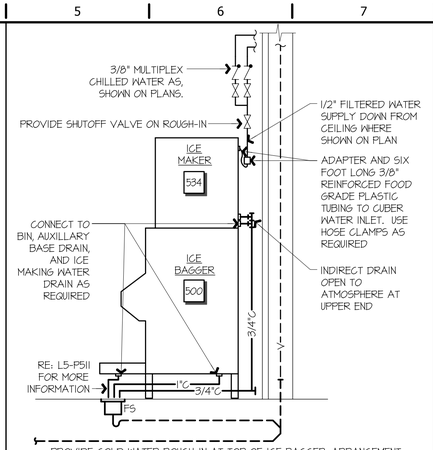
SHEET TITLE:
PLUMBING WATER WALL ELEVATION

SHEET NUMBER:
P503



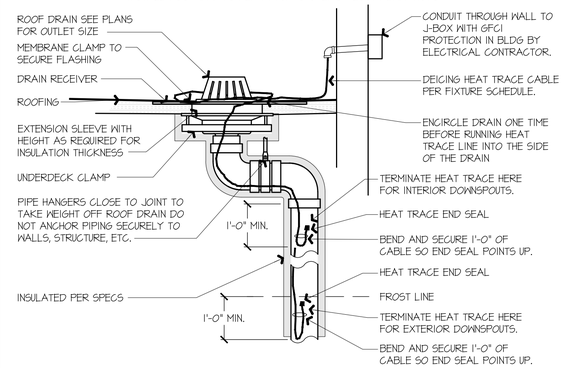
L1	GREASE INTERCEPTOR
NOT TO SCALE	



PROVIDE COLD WATER ROUGH-IN AT TOP OF ICE BAGGER. ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST AS REQUIRED TO SUIT CONDITIONS. VERIFY CONNECTIONS WITH MANUFACTURER.

L5	ICE BAGGER CONNECTIONS
NOT TO SCALE	

INSTALL ROOF DRAINS PER MANUFACTURER'S RECOMMENDATIONS



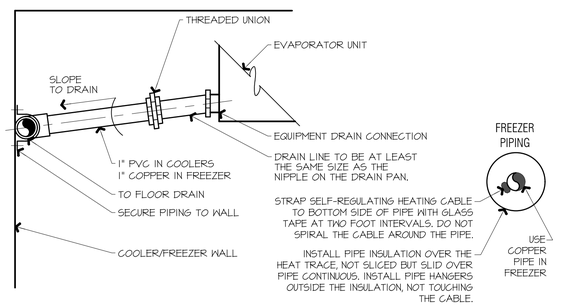
USE PIPE, FITTINGS AND CONNECTORS PER SPECIFICATIONS. INSULATE ROOF DRAIN BODIES AND PIPE PER SPECIFICATIONS. LOCATE DRAINS WHERE SHOWN ON ARCHITECTURAL PLANS - VERIFY WITH STRUCTURAL PLANS FOR ROOF LOW POINTS. COORDINATE WITH ROOFING CONTRACTOR. REFER TO STRUCTURAL DRAWINGS AND COORDINATE THEREWITH IF REQUIRED FOR SUPPLEMENTARY STEEL AROUND ROOF OPENING. ARRANGEMENT SHOWN IS SCHEMATIC -- ADJUST TO SUIT ACTUAL CONDITIONS.

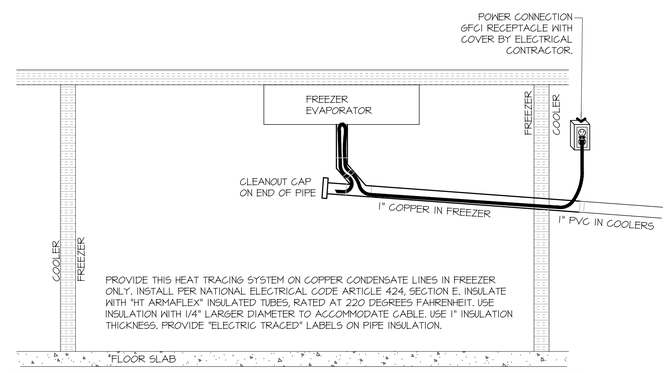
L8	CANOPY ROOF DRAIN
NOT TO SCALE	

PLUMBING FIXTURE ASSIGNED LOAD VALUES

FIXTURE DESCRIPTION	QTY	SUPPLY CONTROL	SINGLE FIXTURE COLD	SINGLE FIXTURE HOT	SINGLE FIXTURE TOTAL	COMBINED FIXTURES COLD	COMBINED FIXTURES HOT	COMBINED FIXTURES TOTAL
KITCHEN								
KITCHEN SINK - HOTEL REST.	2	FAUCET	3	3	4	6	6	8
LAVATORY - PRIVATE	3	FAUCET	0.5	0.5	0.7	1.5	1.5	2.1
ICE MACHINES	4	-	1	0	1	4	0	4
MISC. DRINK DISPENSERS	23	-	1	0	1	23	0	23
DISHWASHER	1	-	0	1.4	1.4	0	1.4	1.4
DOMESTIC								
WATER CLOSET	5	FLUSH VALVE	10	0	10	50	0	50
URINAL	2	FLUSH VALVE	5	0	5	10	0	10
LAVATORY - PUBLIC	4	FAUCET	1.5	1.5	2	6	6	8
SERVICE SINK	2	FAUCET	2.25	2.25	3	4.5	4.5	6
WALL HYDRANT	6	FAUCET	0.5	0.5	0.7	3	3	4.2
TOTAL						108	22.4	116.7

L12	PLUMBING FIXTURE ASSIGNED LOAD VALUES

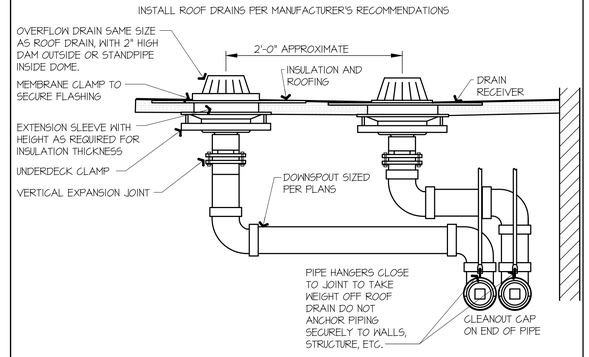




PROVIDE THIS HEAT TRACING SYSTEM ON COPPER CONDENSATE LINES IN FREEZER ONLY. INSTALL PER NATIONAL ELECTRICAL CODE ARTICLE 424, SECTION E. INSULATE WITH "HT ARMAFLEX" INSULATED TUBES, RATED AT 220 DEGREES FAHRENHEIT. USE INSULATION WITH 1/4" LARGER DIAMETER TO ACCOMMODATE CABLE. USE 1" INSULATION THICKNESS. PROVIDE "ELECTRIC TRACED" LABELS ON PIPE INSULATION.

F1	COOLER & FREEZER CONDENSATE DRAIN DETAIL
NOT TO SCALE	

INSTALL ROOF DRAINS PER MANUFACTURER'S RECOMMENDATIONS



USE PIPE, FITTINGS AND CONNECTORS PER SPECIFICATIONS. INSULATE ROOF DRAIN BODIES AND PIPE PER SPECIFICATIONS. LOCATE DRAINS WHERE SHOWN ON ARCHITECTURAL PLANS - VERIFY WITH STRUCTURAL PLANS FOR ROOF LOW POINTS. COORDINATE WITH ROOFING CONTRACTOR. RE: STRUCTURAL DRAWINGS AND COORDINATE THEREWITH IF REQUIRED FOR SUPPLEMENTARY STEEL AROUND ROOF OPENING. ARRANGEMENT SHOWN IS SCHEMATIC -- ADJUST TO SUIT ACTUAL CONDITIONS.

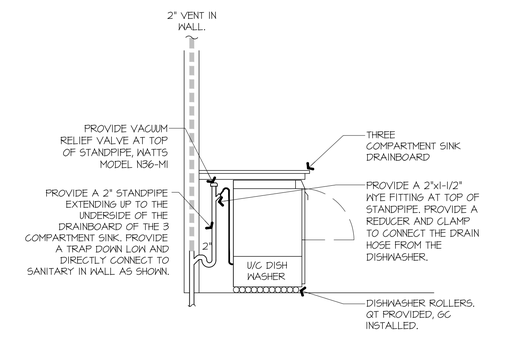
F10	ROOF DRAIN AND OVERFLOW
NOT TO SCALE	

F14	NOT USED

A1	NOT USED

A5	NOT USED

A10	NOT USED



THIS DRAWING IS SCHEMATIC. INSTALL STANDPIPE AND TRAP ON ITS SIDE FLAT AGAINST THE WALL TO ALLOW THE DISHWASHER TO SLIDE BACK AS FAR AGAINST THE WALL AS POSSIBLE.

A13	DISHWASHER STANDPIPE DETAIL
NOT TO SCALE	A1-P101

STATE OF MISSOURI
NEIL P. BARTLEY
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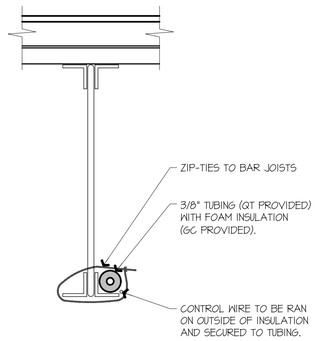
SHEET TITLE:
PLUMBING SECTIONS & DETAILS

SHEET NUMBER:
P510

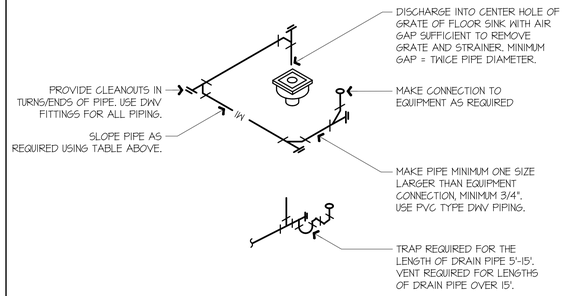


L1 POWER WASH TUBING SUPPORT

NOT TO SCALE

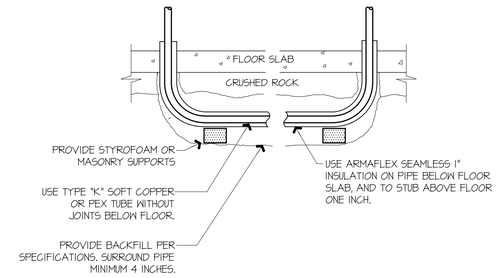
SLOPE OF HORIZONTAL DRAINAGE PIPE	
SIZE (INCHES)	MINIMUM SLOPE (INCHES PER FOOT)
2-1/2 OR LESS	1/4
3 TO 6	1/8
8 OR LARGER	1/16

ROUTE PIPE INCONSPICUOUSLY AND UNOBTRUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.



L5 INDIRECT DRAIN

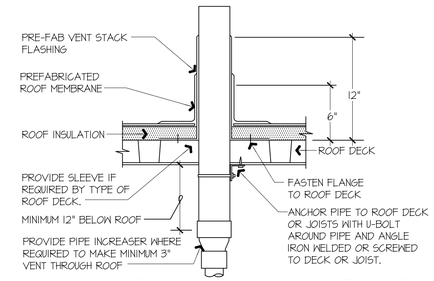
NOT TO SCALE



IF FLOOR SLAB IS EXISTING, SAW CUT, EXCAVATE, BACK- FILL, REPAIR VAPOR BARRIER, PATCH CONCRETE FLOOR.

L9 WATER PIPE UNDER SLAB

NOT TO SCALE

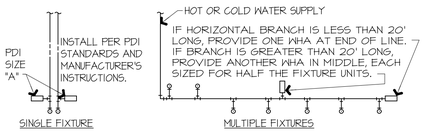


REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR MINIMUM THREE FEET FROM PROPERTY LINE, OR TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, OR TWO FEET FROM ANY VERTICAL SURFACE. PROVIDE 1/2" UNICELLULAR INSULATION ON VENT PIPE INSIDE BUILDING WITHIN TEN FEET OF VENT THROUGH ROOF LOCATION.

ALSO RE: A13-A520 WHICH TAKES PRECEDENCE WITH REGARD TO ROOFING MEMBRANE INSTALLATION.

L13 VENT THROUGH ROOF (VTR)

NOT TO SCALE



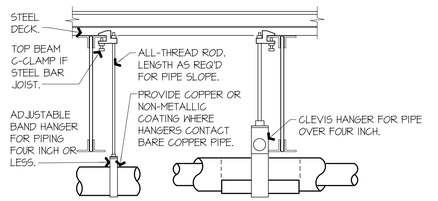
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1 1/4"	61-113
E	1 1/2"	114-154
F	2"	155-330

FIXTURE UNIT TABULATION		
FIXTURE	COLD	HOT
VALVE WATER CLOSET	10	--
URINAL	5	--
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3

CONTRACTOR TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS, OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE # 1010 AND ANSI # A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE.

F1 WATER HAMMER ARRESTERS

NOT TO SCALE



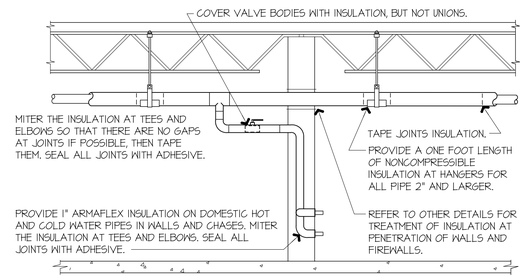
DO NOT HANG PIPE LARGER THAN 3" FROM BOTTOM OF JOISTS.

PROVIDE GALVANIZED STEEL SADDLE FOR ALL INSULATED PIPE LARGER THAN 3/4". VERIFY INSULATION THICKNESS WHEN SIZING HANGERS.

PROVIDE UPPER ATTACHMENT AS REQUIRED FOR CASES NOT SHOWN HERE. DO NOT INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER EXCEPT IN CHASES. TRAPEZE HANGERS MAY BE USED FOR MULTIPLE PARALLEL PIPES. HANGER SPACING FOR PIPE SIZE: COPPER: 4"=12' 3"=11' 2-1/2"=10' 2"=9' 1-1/2"=8' 1-1/4"=7' 1"=6' 3/4"=6' 1/2"=5'. CAST IRON: 10' AND ONE NEAR ALL JOINTS. STEEL: 4"=12' 3"=12' 2-1/2"=11' 2"=10' 1-1/2"=9' 1"=7' 3/4"=6' 1/2"=5'. PEX: 32" OR 6'-0" IF USING UPONOR GALVANIZED STEEL SADDLES ON 1/2" OR 3/4". LOCATE HANGERS AS CLOSE AS POSSIBLE TO TURNS AND TEES OF PIPE. PROVIDE SUPPLEMENTARY STEEL STRUTS BETWEEN JOISTS IF REQUIRED. LOCATE HANGERS TO TAKE LOAD OFF OF EQUIPMENT CONNECTIONS. ANCHOR WATER PIPE AGAINST SWAYING DUE TO CHANGES IN WATER VELOCITY. PROVIDE SEISMIC BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES. CHAINS OR PERFORATED STRAP IRON OR STEEL IS NOT ACCEPTABLE. REFER TO CODES FOR FURTHER INFORMATION.

F5 PIPE HANGERS

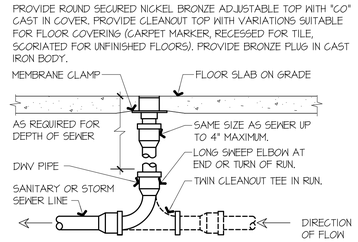
NOT TO SCALE



PROVIDE INSULATION ON ALL HOT & COLD WATER, CONDENSATE, & ROOF DRAIN PIPE PER SPECIFICATIONS. INSTALL ALL ITEMS PER SPECIFICATIONS AND MANUFACTURER'S INSTRUCTIONS. MAINTAIN VAPOR BARRIER ON COLD PIPING BY MEANS OF SEALANT AND TAPE. FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES SHALL NOT EXCEED 25/50.

F9 PIPE INSULATION

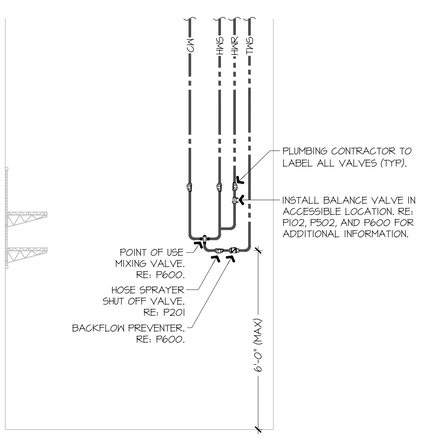
NOT TO SCALE



LOCATE AT BUILDING EXIT, AT ENDS OF RUNS, AT TURNS OF PIPE GREATER THAN 45 DEGREES, AT 50' INTERVALS ON STRAIGHT RUNS, AND WHERE SHOWN ON PLANS. PROVIDE BACKFILL PER SPECIFICATIONS. LOCATE CLEANOUTS WHERE THERE IS 18" CLEAR AROUND. CONSULT LOCAL CODES FOR OTHER FCO REQUIREMENTS.

F13 FLOOR CLEANOUT

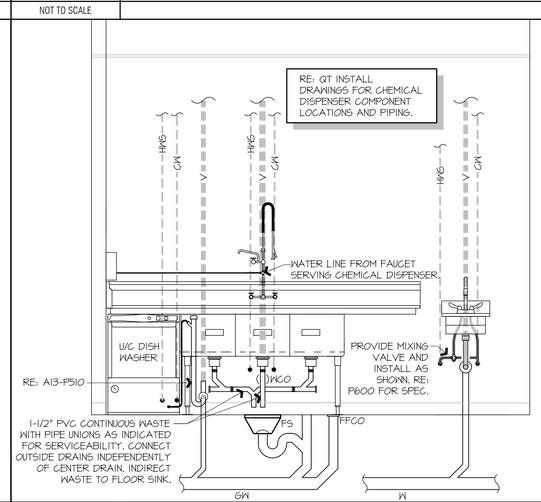
NOT TO SCALE



A1 REMOTE HOSE SPRAYER PIPING ELEVATION

3/4" = 1'-0"

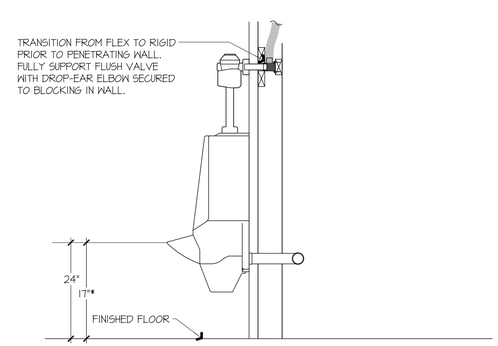
A1-P102



A5 THREE COMPARTMENT SINK

NOT TO SCALE

A1-P101, A1-P102



NOTES
1. INSTALL PER MANUFACTURER'S RECOMENDATIONS.
2. TRIM TRACK WHERE REQUIRED.

* MOUNTED AT 24" FOR STANDARD HEIGHT, 17" FOR ADA HEIGHT, - REFER TO ARCHITECTURAL INTERIOR ELEVATIONS.

A9 URINAL DETAIL

NOT TO SCALE

A13 NOT USED

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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Missouri Certificate of Authority #001022

QuikTrip No. 0183R

1001 SW BLUE PARKWAY
LEE'S SUMMIT, MISSOURI

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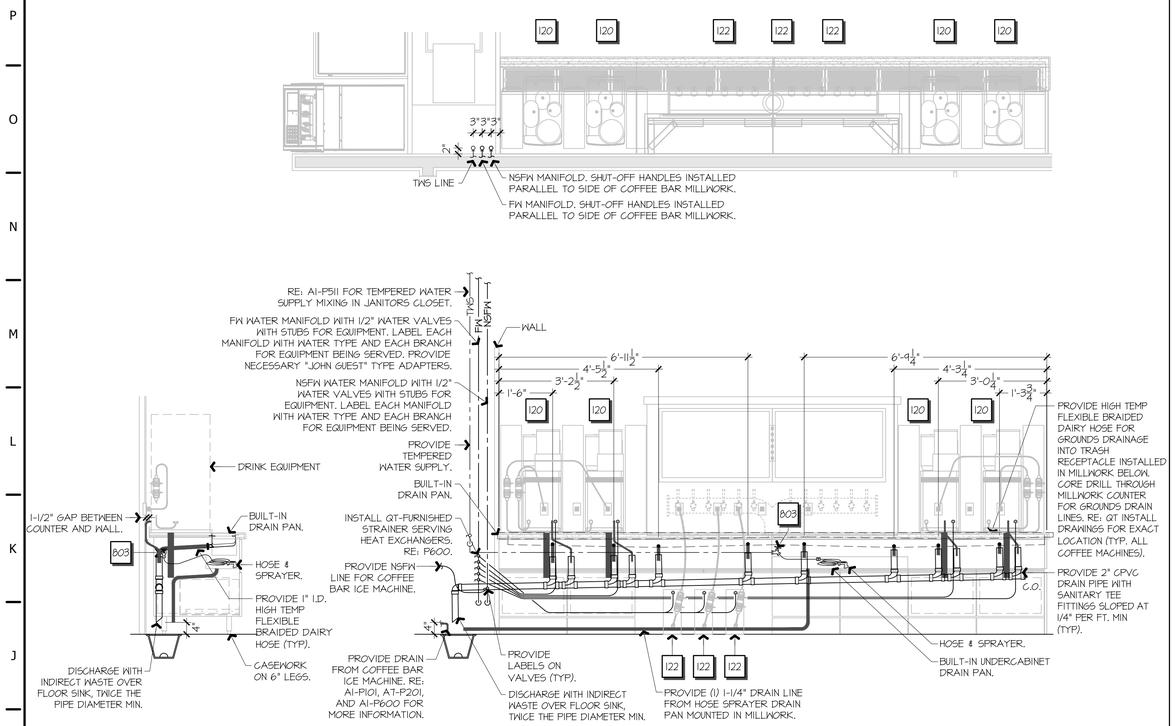
PROTOTYPE	P-120
DIVISION	KANSAS CITY
VERSION	G3SE
DATE	11-01-2024

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 11/25/2024

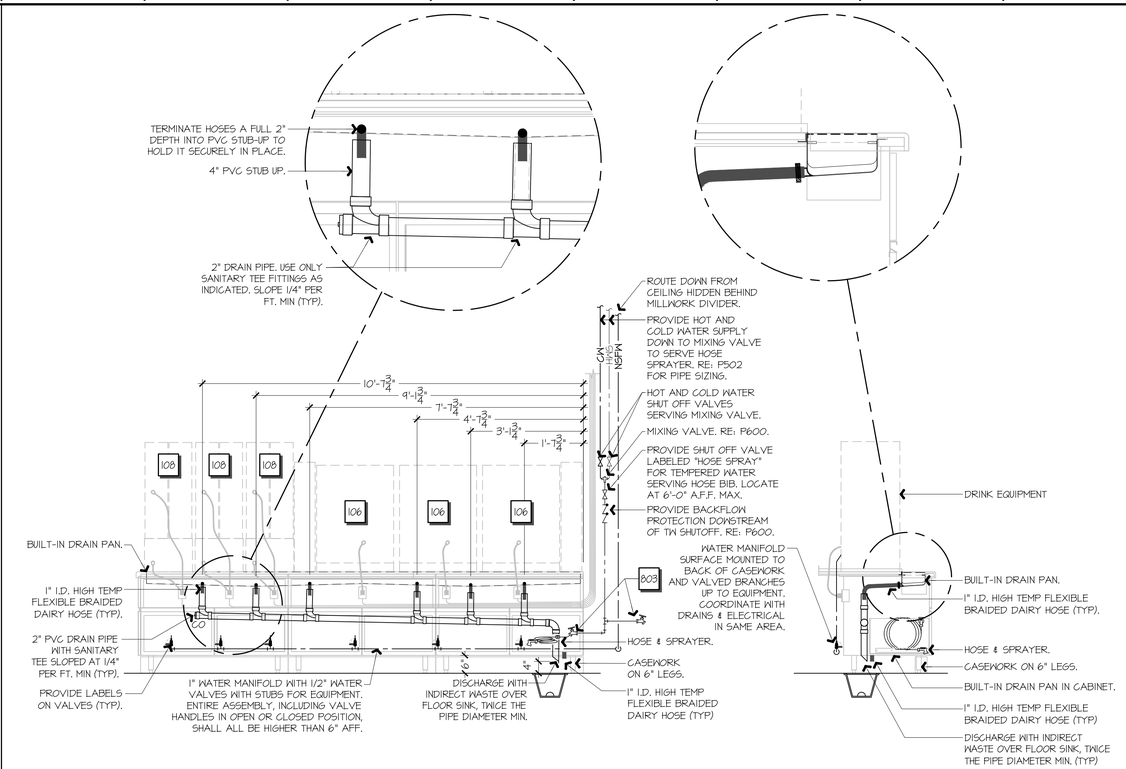
SHEET TITLE:
PLUMBING GENERAL DETAILS

SHEET NUMBER:
P511



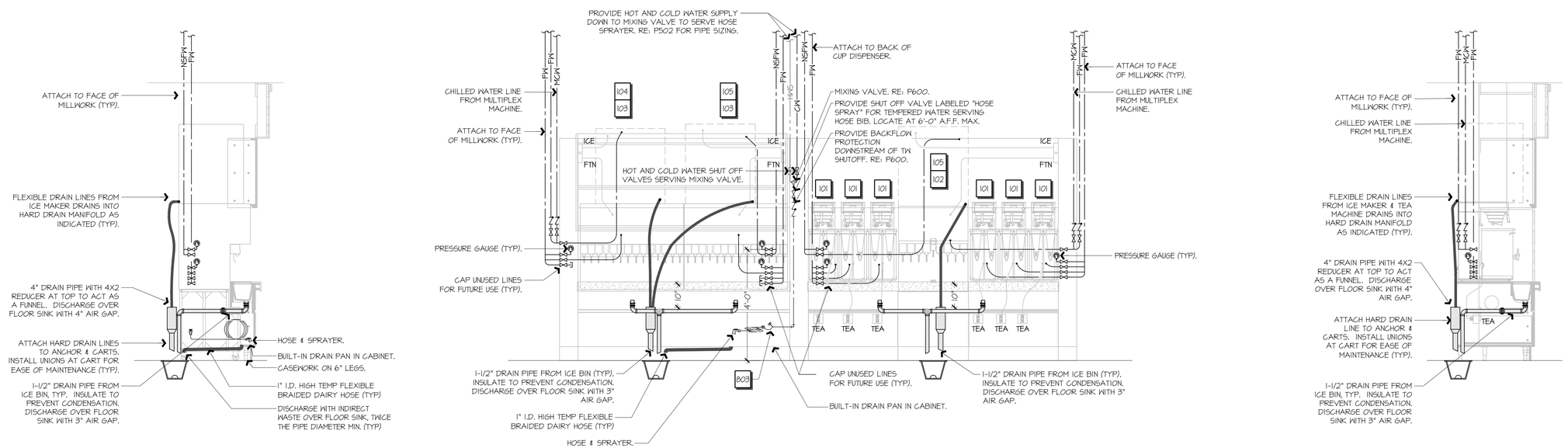
H1 COFFEE BAR REAR ELEVATION & SECTION

3/8" = 1'-0" | A1-P101, A1-P102



H9 FROZEN BAR REAR ELEVATION & SECTION

3/8" = 1'-0" | A1-P101, A1-P102



A1 FOUNTAIN WALL ELEVATION & SECTION

3/8" = 1'-0" | A1-P101, A1-P102

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER
SIGNATURE DATE: 11/25/2024

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PROTOTYPE	P-120
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REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE:

PLUMBING SECTIONS & DETAILS

SHEET NUMBER:

P512

PLUMBING EQUIPMENT LIST AND CONNECTION SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	TRIM & ACCESSORIES	CONNECTIONS CW	HW	TW	W	V	FURNISHED BY	BACKFLOW (PC FURNISHED)	NOTES
101	BREWED TEA DISPENSER	BUNN	41400.002		1/2"FPT			DRIP TRAY		GT	WILKINS #38-140 (D.C. ASSE 1022)	17
102	FOUNTAIN MACHINE 8-HEAD	CORNELIUS	ED 250-8		1/2"FPT			IW TO FS		GT	(INTEGRAL AIR GAP)	15
103	FOUNTAIN MACHINE 12-HEAD	CORNELIUS	ED 350-12		1/2"FPT			IW TO FS		GT	(INTEGRAL AIR GAP)	
104	CUBED ICE MAKER	HOSHIZAKI	KM-1100SRJZ		3/8"FPT			IW TO FS		GT	(INTEGRAL NSF AIR GAP)	15
105	CRUSHED ICE MAKER	HOSHIZAKI	F-200IMRJZ-C		1/2"NSFW			IW TO FS		GT	(INTEGRAL NSF AIR GAP)	
106	FREEZONI MACHINE	FBD	T14		3/8"NSFW			IW TO FS		GT	WILKINS #38-140 (D.C. ASSE 1022)	17
108	SMOOTHIE MACHINE	BUNN	BUNN RULTRA-2 PAF		1/2"NSFW			DRIP TRAY		GT	WILKINS #38-140 (D.C. ASSE 1022)	17
120	BEAN TO CUP COFFEE	CURTIS	GENESIS		3/8"FPT			1/2"		GT	WILKINS #38-140 (D.C. ASSE 1022)	17
122	COFFEE HEAT EXCHANGER	CURTIS	WB56T63000	GRAINGER "APPROVED VENDOR" BRASS, 3/8" NPT, 20 MESH Y	1/2"FW					GT		
	STRAINER	FILTREX	886-434							GT		2
124	COFFEE BAR ICE MACHINE	CORNELIUS	IMD 300-15A		1/4"FW			1-1/2"		GT	WILKINS #38-140 (D.C. ASSE 1022)	17
218	END CAP FLOOR COOLER	OASIS	FSE663R					IW TO FS		GT		
220	GOLD WELL	THERMELL REFRIGERATION	14RQB							GT		
500	ICE BAGGER	FOLLETT	DB1000					IW TO FS		GT		
508	CO2 TANK	CHART	CARBO-MIZER 750							GT		
509	MULTIPLEX	MULTIPLEX	SOM04		3/4"NSFW			IW TO FS		GT	WILKINS #38-140 (D.C. ASSE 1022)	17
510	WATER HEATER	RUUD	E85A-12-G	208V-3PH, 12.3KW, 85GAL, 55 GPH RECOVERY, SET AT 140 DEG.						PC		9
				30" ROUND DRAIN PAN						PC		
514	WATER FILTRATION SYSTEM	3M/CUNO	BEV340/SF185		1"			IW TO FS		GT	WILKINS 1-375XL (RPZ ASSE 1013)	12,17
		WATER WISE	WW-ICE-55L		1"					GT		
515	JANITOR SINK	CUSTOM ST. STEEL	24"x24"x10" STAINLESS	WITH 28" STAINLESS STEEL SIDE SPLASHES ON ONE OR TWO WALLS				2"	2"	GT		16
	FAUCET	DELTA	28C2383 WITH INTEGRAL VB	PER PLAN. MOUNT CENTERLINE OF FAUCET 36" A.F.F.	1/2"	1/2"				PC		
				DRAIN FITTING.						PC		
	CHEMICAL SYSTEM	CINTAS			1/2"					GT	(INTEGRAL AIR GAP - ASSE 1055B)	
516	3-COMPARTMENT SINK	CUSTOM ST. STEEL	3-COMP W/ DRBRDS					IW TO FS		GT		27
	FAUCET	T&S BRASS	B-0133-A10-B08	BACK-MOUNT PRE-RINSE AND SWING SPOUT FAUCET.	1/2"	1/2"				PC		
		T&S BRASS	B-3940-3X	(3) 2" PULL-HANDLE DRAIN WASTES.						PC		
	CHEMICAL SYSTEM	CINTAS		SUPPLY CONNECTION BY PC						GT	(INTEGRAL AIR GAP - ASSE 1055B)	
518	WATER SOFTENER	3M/CUNO	CFSM1254E		1"			IW TO FS		PC		
519	BOOSTER PUMP - OPTIONAL	GOULDS	5SV	40 GPM MAX, 45 PSI BOOST	2"					GT		21
	PRESSURE TANK	GOULDS	HYDROPRO V45P	13.4 GALLONS	1"					GT		
521	RECIRCULATING PUMP	GRUNDFOS	UP-15-18 BUC1	(HWR: 5 GPM @ 10 FT HEAD) BRONZE BODY, NSF LISTED.		1"				PC		19
522	EXPANSION TANK	AMTROL	ST-12		3/4"					PC		
523	FLOOR SINK	MIFAB	FS1220-30-84-150	PVC 12"x12"x6" DEEP BODY, 1/2 GRATE (UNO RE: A1-P101)				3" OR 4"		PC		3
524	FLOOR DRAIN	JOSAM	30003-55-Y	CAST IRON BODY ADJUSTABLE, 5"x5" NICKEL BRONZE STRAINER				3"	1-1/2"	PC		3
525	BACKFLOW PREVENTER	WILKINS	375XL-SA6	SUPPLY CONNECTION BY PC				PER PLAN		PC	(RPZ ASSE 1013)	3
527	CONDENSATE PUMP	LITTLE GIANT	VCCA-20ULS 554201101					IW TO FS		PC		
528	CANOPY DRAIN	JOSAM	21503-3-T-AE	3" ROOF DRAIN WITH DECK CLAMP & DRAIN RECEIVER & EXTENSION.						PC		
529	HANDSINK	ACORN	MI150-E521-2	WALL MOUNTED STAINLESS STEEL HANDSINK (LESS FAUCET)				1-1/2"	2"	PC		7
	FAUCET	DELTA	21C4844		1/2"		1/2"			PC		
	THERMOSTATIC MIXING VALVE	POWERS	LFE480-00	SET TO MAXIMUM TEMPERATURE OF 100 DEGREES (ASSE 1070)	1/2"	1/2"				PC		
530	FLOOR SINK	MIFAB	FS1524-30-84-150	PVC 8"x8"x6" DEEP BODY, 1/2 GRATE (UNO RE: A1-P101)				3" OR 4"		PC		3
534	ICE MAKER FOR BAGGER	HOSHIZAKI	KM-1100SRJZ3		1/2"FPT			IW TO FS		GT	(INTEGRAL NSF AIR GAP)	13,15
543	RECESSED MOP SINK	EMI	221-6-16415	WITH 24" STAINLESS STEEL SIDE SPLASHES ON ONE OR TWO WALLS PER PLAN.				2"	2"	GT		
	WITH FAUCET	DELTA	28C2383 WITH INTEGRAL VB	MOUNT CENTERLINE OF FAUCET 36" A.F.F.	1/2"	1/2"				GT		
	CHEMICAL SYSTEM	CINTAS			1/2"					GT	(INTEGRAL AIR GAP - ASSE 1055B)	
548	REVERSE OSMOSIS SYSTEM	3M	56LP200-CL	CLEANING BYPASS, STORAGE TANK	3/4"NSFW			IW TO FS		GT	WILKINS 34-375XL (RPZ ASSE 1013)	17,28
549	CANOPY DRAIN HEAT TRACE	RAYCHEM	GM-IXT	150' SELF-REGULATING HEAT TRACE CABLE, HARD-WIRED.						PC		20
		RAYCHEM	AMC-F5	(1) THERMOSTAT						PC		
		RAYCHEM	FTG-P	(6) POWER CONNECTION & END SEAL KITS						PC		
		RAYCHEM	GM-RAKE	(6) DOWNSPOUT HANGING BRACKETS						PC		
550	FREEZER HEAT TRACE	RAYCHEM	FSI-15F	15' SELF-REGULATING HEAT TRACE CABLE, PLUG-IN						PC		
551	NON GLYCOL CHILLER	MICROMATIC	MHRP14302-PKG							GT		
554	NON AUTOCLEAN				3/8"					GT	(INTEGRAL DUAL CHECK VALVE)	
606	ICE CREAM	STOLTING	FI31-3812-GT		1/2"					GT	(INTEGRAL AIR GAP)	
	SUPPLY OUTLET BOX	SIOUX CHIEF	696-61000_F	SUPPLY CONNECTION BY PC						PC		
609	UNDERCOUNTER ICE BIN							IW TO FS		GT	(INTEGRAL AIR GAP)	
611	DISHWASHER	MOYER DIEBEL	201HT-M4		1/2"	1/2"		2"	2"	GT	(INTEGRAL - LISTED PER ASSE 1004)	24,25
	CHEMICAL SYSTEM	CINTAS								GT	(INTEGRAL AIR GAP - ASSE 1055B)	
612	HANDSINK	ADVANCE TABCO	7-PS-22	WALL MOUNTED STAINLESS STEEL HANDSINK (LESS FAUCET) W/ SOAP HOLE ON LEFT				1-1/2"	1-1/2"	PC		7,18
	FAUCET	TOTO	T28S53ETRCP	.19 GPC 20-SECOND CONTINUOUS W/ ASSE 1070 THERMOSTATIC MIXING VALVE	1/2"	1/2"				PC		
				SET TO MAXIMUM TEMPERATURE OF 110 DEGREES.								
613	DUMP SINK	CUSTOM ST. STEEL	CUSTOM	CUSTOM WALL MOUNT STAINLESS STEEL SINK				1-1/2"	2"	GT		7
	FAUCET	T&S BRASS	B1110	2-HANDLE FAUCET WITHOUT METAL GRID DRAIN.	1/2"	1/2"				PC		
	DRAIN	MCGUIRE	151A							PC		
647	STEAM DRAWERS	ANTUNES	INFINISTEAM		3/4" RQW			IW TO FS		GT	WILKINS #34-705 (D.C. ASSE 1024)	17
648	COMBI OVEN	CONVOTHERM	EASYTOUCH	--				IW TO FS		GT		29
	SUPPLY OUTLET BOX	SIOUX CHIEF	696-62303_F	DISCARD DRAIN BOX, SUPPLY CONNECTION BY PC	3/4" NSFW					PC	WILKINS #34-705 (D.C. ASSE 1024)	17
					3/4" RQW					PC	WILKINS #34-705 (D.C. ASSE 1024)	17
700	LAVATORY	CUSTOM SOLID SURFACE	CUSTOM SOLID SURFACE TROUGH	.19 GPC 20-SECOND CONTINUOUS, WALL OUTLET W/ THERMOSTATIC VALVE				1-1/4"	1-1/2"	GT		1,7
	FAUCET	TOTO	T28S53ETRCP/TIP3155#CP	SET TO MAXIMUM TEMPERATURE OF 110 DEGREES.	1/2"	1/2"				PC		22
701	WATER CLOSET	ZURN	E822443 (Z5615)	WALL MOUNTED WATER CLOSET						PC		1,4,5
	FLUSH VALVE	ZURN	ZER6000AV-WSI	1.6 GALLONS PER FLUSH SENSOR FLUSH VALVE	1"					PC		6
	SEAT	ZURN	Z5415555-EL	HEAVY DUTY WHITE PLASTIC OPEN FRONT SEAT						PC		
(701R/L)	CARRIER	ZURN	Z1201-N_4	ADJUSTABLE HORIZ. HIGH PERFORM. SIPHON JET NO-HUB W.C. CARRIER SYSTEM				4"	2"	PC		
702	URINAL	ZURN	E822444 (Z5755-U)	WALL MOUNTED URINAL						PC		1,4
	FLUSH VALVE	ZURN	ZER6003AV-EWS-CPM	0.5 GALLONS PER FLUSH SENSOR FLUSH VALVE	3/4"					PC		1,6
	CARRIER	ZURN	Z1221-EZ	HANGER PLATE TYPE CARRIER				2"	1-1/2"	PC		
800	POWER WASHER	SPRAY MASTER	300-5139 POWER CLEAN 5.0 CB	WALL MOUNTED	3/4"					GT	WILKINS 34-375XL (RPZ ASSE 1013)	10,17
801	CO2 CONNECTION PORT	CHART	CHART #21312111							GT		
802	POWER WASHER CONNECTION BOX	SPRAY MASTER	300-1260	ROTARY KNOB OPTION	3/8"					GT		11
803	HOSE BIB	WATTS	LF5C-3	CAST BRASS FAUCET, CAST IRON WHEEL HANDLE, 3/4"			3/4"			PC	WILKINS #34-700XL (D.C. ASSE 1024)	17
	THERMOSTATIC MIXING VALVE	POWERS	LFE480-00	SET TO MAXIMUM TEMPERATURE OF 110 DEGREES (ASSE 1070)	1/2"	1/2"				PC		14
	HOSE AND SPRAYER KIT	T&S BRASS	P5-35AV-GH02	9' COILED HOSE, 3/4" FEMALE NPT TO 3/8" MALE NPT ADAPTER			3/8"			PC		14
804	GREASE INTERCEPTOR	SCHIER	6B-250	POLYETHYLENE TANK BODY					3"	PC		31
			AND TEST WELL	W/ RING & COVERS & NECK EXT, BUILT PER CITY REQUIREMENTS.				6"		PC		
806	BALANCE VALVE	BELL & GOSSETT	FS-X*							PC		26,30
807	NOT USED											
808	WALL FAUCET	WOODFORD	101	MOUNT 36" A.F.F.	1/2"					PC	(ANTI-SIPHON WITH INTEGRAL CHECK & ATMOSPHERIC VENT - ASSE 1019)	
809	NOT USED											
901	VENT THROUGH ROOF							PER PLAN		PC		
919	INTERNAL ROOF DRAIN	JOSAM	21504-3-T-AE	4" ROOF DRAIN WITH DECK CLAMP & DRAIN RECEIVER & EXTENSION.						PC		
920	INTERNAL OVERFLOW RD	JOSAM	21504-3-17-T-AE	4" ROOF DRAIN WITH 2" HIGH DAM DECK CLAMP & DRAIN RECEIVER.						PC		
921	DOWNSPOUT NOZZLE	JOSAM	25010-5I	4" DOWNSPOUT NOZZLE SATIN BRONZE						PC		

NOTES:

1) FIXTURE IS ADA COMPLIANT.
2) INSTALL (1) OWNER FURNISHED STRAINER TO SERVE ALL (3) HEAT EXCHANGERS. RE: P512 FOR MORE INFORMATION.
3) PIPE SIZE AS SHOWN ON DRAWINGS. ADAPT AS REQUIRED.
4) COORDINATE SPUD SIZE WITH FLUSH VALVE SUPPLIED.
5) RIM HEIGHT MOUNTED AT 17" ABOVE FINISHED FLOOR FOR ADA WATER CLOSET, 15" ABOVE FINISHED FLOOR FOR NON-ADA WATER CLOSET.
6) MOUNT VALVE PER ARCHITECTURAL ELEVATIONS - MOUNT PER ADA REQUIREMENTS 44" MAX. HEIGHT WHERE REQUIRED
7) INSULATE WATER AND DRAIN PIPING BELOW FIXTURE. PROVIDE WHITE PROWRAP PREMANUFACTURED INSULATION KITS BY MCGUIRE PRODUCTS.
8) NOT USED.
9) MANUAL RESET HIGH TEMPERATURE CUT OFF, THERMOSTAT CONTROL, T&P RELIEF VALVE, U.L. LABELED MEETING ASHRAE 90.1B STANDARDS, AND DRAIN PAN.
10) POWER WASH: CONNECT TO POWER WASH PER MANUFACTURER'S INSTRUCTIONS TO CONNECTION POINTS AS SHOWN IN "PLUMBING WATER WALL ELEVATION", SHEET P503. EQUIPMENT HAS AN INTEGRAL AIR-GAP USING FLUIDMASTER FLOAT VALVE.
11) OUTLET BOX: INSTALL PRESSURE WASHER STAINLESS STEEL BOX AND ALL PRESSURE WASHER LINES FROM BOXES TO CENTRAL POWER WASH EQUIPMENT LOCATION. INSTALL PIPING IN ACCORDANCE WITH LOCAL CODES. INSTALL PIPING IN WALLS AND CEILINGS WITH INSULATION AND RUBBER ISOLATORS TO PREVENT VIBRATION NOISE. INSTALL "NON-POTABLE WATER" LABELS ON EXPOSED PIPE IN BACKROOM.
12) WATER FILTERS: INSTALL WATER FILTER SYSTEM AS SHOWN IN "PLUMBING WATER WALL ELEVATION", SHEET P503.
13) RI AT HEIGHT AS DIRECTED BY OWNER'S REPRESENTATIVE OR AT 84".
14) PROVIDE COMPONENTS FOR HOSE BIBS LOCATED AT DRINK BARS. RE: P102 AND P512 FOR LOCATIONS.
15) INCLUDING CHILLED 3/8" MGN CONNECTION VIA MULTIPLEX MACHINE. ICE MACHINE FILL SYSTEM INCORPORATES INTERNAL AIR-GAP PER ITS NSF LISTING.
16) NOT USED.
17) CONTRACTOR SHALL PROVIDE BACKFLOW PREVENTER AND SIZE INDICATED.
18) CONTRACTOR TO FIELD DRILL 1" DIAMETER HOLE FOR SOAP DISPENSER. RE: GT INSTALL DRAWINGS.
19) PROVIDE CHECK VALVE ON DISCHARGE AS REQUIRED.
20) CUT CABLES TO 20' LENGTHS AND INSTALL POWER CONNECTION KITS & END SEALS FOR EACH. FIXED SET POINT FREEZE PROTECTION THERMOSTAT FOR INSTALLATION BY ELECTRICIAN.
21) RE: TO P102 WATER SERVICE BOX NOTE TO DETERMINE IF A BOOSTER PUMP IS REQUIRED.
22) SECURE VALVE AND OPERATOR TO WALL UNDER LAV.
23) NOT USED.
24) INSTALL GT PROVIDED ROLLERS.
25) PROVIDE COLD WATER CONNECTION FOR DRAIN TEMPERING KIT.
26) PROVIDE 6" STRAIGHT PIPE UPSTREAM AND DOWNSTREAM OF BALANCING VALVE. RE: SHEET P502 FOR BALANCE VALVE SETTINGS.
27) INSTALL OWNER-FURNISHED PERMADRAIN LOCKING STRAINER WITHIN EACH DRAIN OF 3 COMPARTMENT SINK.
28) PROVIDE UNIT SIZE QUICK DISCONNECTS ON INLET, OUTLET, AND DRAIN CONNECTIONS.
29) PROVIDE ALL NECESSARY ACCESSORIES FOR STACKING COMBI OVENS. RE: MANUFACTURER'S INSTALLATION INSTRUCTIONS.
30) SIZE TO MATCH PIPE SIZE.
31) REACH OUT TO CONTACT LISTED ON GREASE INTERCEPTOR DETAIL FOR NATIONAL STRATEGIC PRICING.

GENERAL NOTES (APPLY TO ALL THE ABOVE):

A) CONTRACTOR WILL PROVIDE ALL FIXTURES LISTED IN THE PLUMBING FIXTURE SCHEDULE, INCLUDING ALL ACCESSORIES REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM INCLUDING, BUT NOT LIMITED TO, DRAINS, TRAPS, STOPS, SUPPLIES, ADAPTERS, FITTINGS, ESCUTCHEONS, UNIONS, GAUGES, FLEX-CONNECTORS, ETC., WITH THE EXCEPTION OF FIXTURES WHICH ARE NOTED AS OWNER-FURNISHED, CONTRACTOR-INSTALLED IN RESPONSIBILITY MATRIX. CONTRACTOR STILL PROVIDES TRIM AND ACCESSORIES AS SCHEDULED. COORDINATE WITH GT REPRESENTATIVE. PROVIDE COMPLETE SUBMITTAL PACKAGE TO GT REPRESENTATIVE FOR APPROVAL.
B) ALL DEVICE ROUGH-IN MOUNTING HEIGHTS SHALL BE VERIFIED WITH THE EQUIPMENT MANUALS PRIOR TO COMMENCING WORK.
C) FURNISHED BY: GT=QUIKTRIP, PC=PLUMBING CONTRACTOR, MC=MECHANICAL CONTRACTOR, EC=ELECTRICAL CONTRACTOR.
D) AFF=ABOVE FINISHED FLOOR. CW=COLD WATER. FW=FILTERED WATER. RI=ROUGH-IN. BV=BALL VALVE (FULL PORT). IW=INDIRECT WASTE. HD=HUB DRAIN. FS=FLOOR SINK. UNO=UNLESS NOTED OTHERWISE.
E) WHERE "FLEX" IS CALLED FOR PROVIDE A SIX FOOT COILED LENGTH OF FOOD GRADE FLEXIBLE REINFORCED PLASTIC TUBING FROM THE ROUGH-IN TO THE EQUIPMENT, USING ADAPTERS AND HOSE CLAMPS AS REQUIRED.

A1 PLUMBING EQUIPMENT LIST AND CONNECTION SCHEDULE

W — SANITARY WASTE (W)
GW — GREASE WASTE (GW)
CW — COLD WATER (CW)
HWS — HOT WATER SUPPLY (HWS)
HWR — HOT WATER RETURN (HWR)
TWS — TEMPERED WATER SUPPLY (TWS)
FW/NSFW — FILTERED WATER (FW) / NON-SILOPHOS FILTERED WATER (NSFW)
ROW — REVERSE OSMOSIS WATER (ROW)
MGW — MULTIPLEX CHILLED WATER (MGW)
PW — POWER WASH LINE (PW)
C — CONDENSATE LINE
V — PLUMBING VENT (V)
SANITARY WASTE (W) OR STORM WATER (ST) - BELOW SLAB/GRADE
SANITARY WASTE (W) OR STORM WATER (ST) - ABOVE SLAB/GRADE
PIPE TURNING UP/DOWN PIPE
UNION
BALL VALVE
CIRCUIT SETTER TYPE BALANCING VALVE
CV — "CV" CHECK VALVE (DIRECTION OF FLOW)
FIXTURE OR EQUIPMENT IDENTIFICATION
PLAN NOTE

AFF / AFG	ABOVE FINISHED FLOOR/GRADE
IW	INDIRECT WASTE
VTR	VENT THRU ROOF
AAV	AIR ADMITTANCE VALVE
CO	CLEANOUT
WCO	WALL CLEANOUT
FFCO/FGCO	FINISHED FLOOR/GRADE CLEANOUT
FD	FLOOR DRAIN (SQUARE SCORIATION COVER)
RI	ROUGH-IN
OC	ON CENTERS
BFP	BACKFLOW PREVENTER
EMS	ENERGY MANAGEMENT SYSTEM (RE: GT EMS INSTALL DRAWINGS.)
BV	BALANCE VALVE
SW	SOFTENED WATER
N/O	NORMALLY OPEN
N/C	NORMALLY CLOSED

H13 PLUMBING SYMBOLS LEGEND

1. SPECIFICATIONS: RE: PLUMBING SPECIFICATIONS FOR FURTHER INFORMATION AND REQUIREMENTS FOR CONTRACTOR.
2. QUIKTRIP EQUIPMENT CONTRACTOR: REFER TO OTHER PORTIONS OF PLANS AND SPECIFICATIONS FOR FURTHER INFORMATION ABOUT ITEMS FURNISHED AND WORK PERFORMED BY QUIKTRIP EQUIPMENT CONTRACTOR. VERIFY ROUGH-IN AND CONNECTION REQUIREMENTS WITH OWNER REPRESENTATIVE.
3. HEALTH DEPARTMENT: COMPLY WITH LOCAL HEALTH DEPARTMENT (HD) REGULATIONS. OMIT ESCUTCHEONS IN FOOD SERVICE AREAS. SEAL PIPES NEATLY WITH GROUT AT WALL, FLOOR, OR CEILING PENETRATIONS. OMIT INSULATION ON EXPOSED PIPING BEHIND AND UNDER EQUIPMENT. PROVIDE CLEARANCE BEHIND AND UNDER EXPOSED PIPING AS REQUIRED BY HD. WHEREVER POSSIBLE, INSTALL PIPING IN FOOD SERVICE AREAS CONCEALED. CONFORM TO HD REQUIREMENTS FOR LOCATIONS OF FLOOR SINKS.
4. WORKMANSHIP SHALL BE FIRST CLASS, ACCEPTABLE TO THE OWNER.
5. MAKE COMPLETE: PROVIDE ITEMS AND WORK AS REQUIRED TO COMPLETE THE INSTALLATION OF PLUMBING SYSTEMS TO FIXTURES AND EQUIPMENT; TRAPS, STRAINERS, GAUGES, GAS AND WATER PRESSURE REGULATORS, FLEXIBLE CONNECTIONS, STOP VALVES, UNIONS, ETC. PROVIDE AND CONNECT PLUMBING PIPE FROM ROUGH-INS TO ITEMS AS SHOWN, SPECIFIED AND REQUIRED.
6. BACKFLOW PREVENTION: PROVIDE BACKFLOW PREVENTERS (BFP) IN WATER LINES ONLY IF REQUIRED BY LOCAL AUTHORITIES. USE DEVICES OF TYPE (VACUUM BREAKER, DOUBLE CHECK, REDUCED PRESSURE) AND MANUFACTURER APPROVED BY LOCAL AUTHORITIES, ONLY IN LOCATIONS REQUIRED.
7. TRAP PRIMERS: PROVIDE TRAP PRIMERS ONLY IF REQUIRED BY LOCAL AUTHORITIES. USE PRECISION PLUMBING PRODUCTS OR APPROVED EQUIVALENT TRAP PRIMER VALVE, INSTALLED IN AN EXPOSED BUT UNOBJECTIONABLE LOCATION, OR ABOVE THE CEILING. PROVIDE A CONTINUOUS LENGTH OF 1/2" SOFT COPPER TUBE FROM PRIMER TO TRAP, SLOPING TO TRAP. PROVIDE ELASTOMERIC INSULATION ON PIPE INSTALLED BELOW FLOOR SLAB. USE PRECISION PLUMBING PRODUCTS DISTRIBUTION UNITS TO CONNECT MORE THAN ONE FLOOR SINK TO ONE PRIMER.
8. ALL UNDERSLAB WATER PIPING SHALL BE TYPE "K" WATER ANNEALED COPPER TUBING OR PEX WITH INSULATION PER SPEC. NO JOINTS PERMITTED UNDER SLAB.
9. ALL INTERIOR CLEANOUTS TO BE CONTRACTOR-FURNISHED, CONTRACTOR-INSTALLED.
   - FINISHED FLOOR: JOSAM #55000-1-SG CAST IRON, HUB OUTLET WITH GASKET, AND SQUARE SECURED NICKEL BRONZE SCORIATED COVER.
   - WALL: JOSAM #58600-CO STAINLESS STEEL ACCESS PLATE TYPE.
11. PLUMBING CONTRACTOR TO USE A COMPLETE SYSTEM OF PVC OR ABS DWV DRAIN, WASTE, AND VENT PIPING FOR ALL WASTE, INDIRECT DRAIN, VENT AND CONDENSATE PIPING.
12. ALL PIPING & CONDUIT TRENCHES ENTERING THE BUILDING TO BE FILLED WITH CLAY OF FLOWABLE FILL.
13. WATER SERVICE: PLUMBING CONTRACTOR TO VERIFY EXISTING WATER PRESSURE PRIOR TO CONSTRUCTION. WATER PRESSURE AT BUILDING ENTRANCE PRIOR TO THE BACKFLOW PREVENTER DETERMINES PRESSURE BOOSTER REQUIREMENTS. REFER TO CRITERIA ON SHEET A6-P102.

A13 GENERAL NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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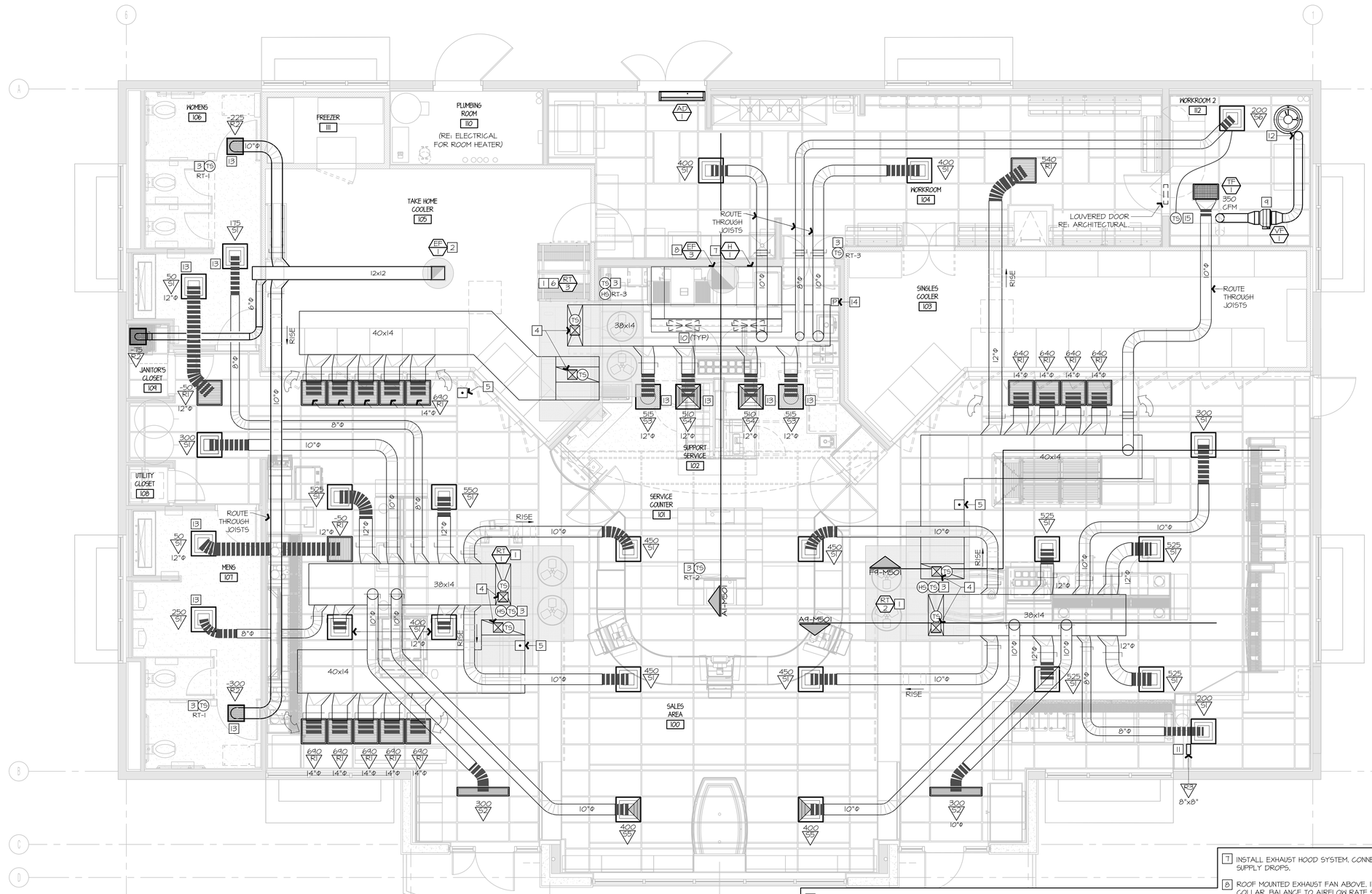
SHEET TITLE:
PLUMBING SCHEDULES & NOTES

SHEET NUMBER:
P600



OWNER RESPONSIBLE FOR INITIAL START UP OF RTU'S. COORDINATE WITH QT REPRESENTATIVE FOR LATEST CONTACT INFORMATION TO SECHEDULE START UP. ONE WEEK NOTIFICATION REQUIRED.

STARTUP REQUIREMENTS:
1. PERMANENT POWER
2. SUPPLY TEMP SENSORS INSTALLED IN DUCTWORK

HOLD TOP OF DUCTWORK TO UNDERSIDE OF STRUCTURE WHEREVER POSSIBLE, ALLOWING ADEQUATE SPACE FOR DUCT WRAP INSULATION PER SPECS.

PAINT INSIDE OF HARD DUCTS OR PLENUMS BLACK WHERE VISIBLE THROUGH GRILLE FACE.

ALL BRANCH DUCTS SHALL HAVE BALANCING DAMPER INSTALLED AS INDICATED ON DRAWINGS. HANDLE SHALL BE ACCESSIBLE AND BE CAPABLE OF OPENING OR CLOSING FULLY. PROVIDE RECTANGULAR DAMPERS TYPICAL OF RUSKIN MD35. PROVIDE ROUND DAMPERS TYPICAL OF RUSKIN MDRS25 WITH 2" STAND-OFF BRACKET. RE: SPECS.
RE: DIFFUSER CONNECTION DETAIL M1-M501.

1. ROOFTOP UNIT ABOVE. RE: M103 FOR CONTINUATION.
2. ROOF MOUNTED EXHAUST FAN ABOVE. RE: M103 FOR CONTINUATION.
3. TEMPERATURE SENSOR (TS) AND/OR HUMIDITY SENSOR (HS). RE: LOW VOLTAGE DRAWINGS FOR EXACT QUANTITY AND LOCATION.
4. SUPPLY & RETURN DUCT MOUNTED SMOKE DETECTOR SYSTEM MEETING THE REQUIREMENTS OF U.L. 268A. DETECTORS SHALL BE INTERLOCKED VIA RELAYS TO SHUT DOWN ALL ROOFTOP UNITS UPON DETECTION OF SMOKE BY ANY ONE DETECTOR. SYSTEM SENSOR SMOKE DETECTOR CONTROLLER #D4P120B AND SENSORS #D45B.
5. AAON SHALL FURNISH ANNUNCIATOR/REMOTE TEST STATION COMBO MODEL RTS-2A05 MULTI-SIGNALING DEVICE WITH STROBE, ONE PER EACH RTU, COMPATIBLE WITH 4-WIRE CONVENTIONAL DUCT SMOKE DETECTORS FOR VISIBLE AND AUDIBLE ALARM SIGNAL, VISIBLE TROUBLE SIGNAL, AND REMOTE TESTING. CONTRACTOR SHALL INSTALL ANNUNCIATORS AND PROVIDE ALL CONTROL WIRING AND RELAYS BETWEEN SMOKE DETECTORS AND RESPECTIVE ANNUNCIATORS. MOUNT ANNUNCIATORS ON ROOM SIDE OF CEILING. LABEL EACH WITH THE NAME OF THE UNIT AND DETECTOR IT SERVES AS FOLLOWING:
   "RTU-1 SUPPLY / RETURN AIR DUCT DETECTOR TROUBLE"
   "RTU-2 SUPPLY / RETURN AIR DUCT DETECTOR TROUBLE"
   "RTU-3 SUPPLY / RETURN AIR DUCT DETECTOR TROUBLE"
6. INTERLOCK RTU VIA RELAY TO HOOD CONTROL PANEL. RTU SHALL SHUT DOWN UPON ACTIVATION OF HOOD FIRE SUPPRESSION SYSTEM.
7. INSTALL EXHAUST HOOD SYSTEM. CONNECT PERFORATED SUPPLY PLENUM TO SUPPLY DUCT WITH (2) 28"X10" SUPPLY DROPS.
8. ROOF MOUNTED EXHAUST FAN ABOVE. INSTALL 12" GREASE DUCT TO ROOF MOUNTED FAN. EXTEND HOOD COLLAR. BALANCE TO AIRFLOW RATE SCHEDULED ON M601. COORDINATE WITH ELECTRICAL CONTRACTOR FOR FAN CONTROLS BETWEEN HOOD AND FAN. RE: QT INSTALL DRAWINGS AND HOOD MANUFACTURER'S INSTRUCTIONS. RE: M103 FOR CONTINUATION.
9. CO2 TANK, EXHAUST FAN, AND VENT PIPING. MOUNT VENTILATION FAN TO ALLOW FOR CEILING ACCESS TO CONTROLS AND DISCONNECTS. ROUTE 8" DUCT, PAINTED TO MATCH WALL. TERMINATE 8" DUCT @ 12" AFF WITH 1/4" x 1/4" GALVANIZED SCREEN ON OPENING AT THE BOTTOM. PROVIDE GOOSENECK WITH 1/4" x 1/4" GALVANIZED SCREEN AT TOP. RE: K9-M501 FOR CO2 EXHAUST DUCTWORK DETAIL. RE: A1-M601 FOR FAN SCHEDULE.
10. PROVIDE MANUAL BALANCING DAMPER AT SUPPLY DROPS BALANCED AT 575 CFM. RE: A1-M501 FOR SECTION VIEW.
11. PROVIDE TRANSFER GRILLE MOUNTED @ 12" AFF TO TOP OF GRILLE, AND CENTERED IN ACCESS DOOR BETWEEN FOUNTAIN WALL AND FREEZONI SPACE.
12. PROVIDE 8" BACKDRAFT DAMPER LOCATED IN VERTICAL DUCT @ 9'-6" TO TOP OF DAMPER. PROVIDE DUCT CLAMP FITTING OR COUPLING TO TEMPORARILY REMOVE DUCT WITHIN SPACE FOR CLEANING/MAINTENANCE OF EQUIPMENT IN THIS AREA.
13. RE: E504 FOR EXACT GRILLE/DIFFUSER LOCATIONS WITHIN HARD CEILINGS.
14. INSTALL HOOD SUPPRESSION PUSH STATION. RE: F11-E501 FOR ELEVATION.
15. PROVIDE VAV DIFFUSER WITH ROOM THERMOSTAT. DAMPER TO CLOSE WHEN ROOM TEMPERATURE EXCEEDS 85 DEGREES.

A1 MECHANICAL DUCTWORK FLOOR PLAN
3/8" = 1'-0"

NORTH

A9 PLAN NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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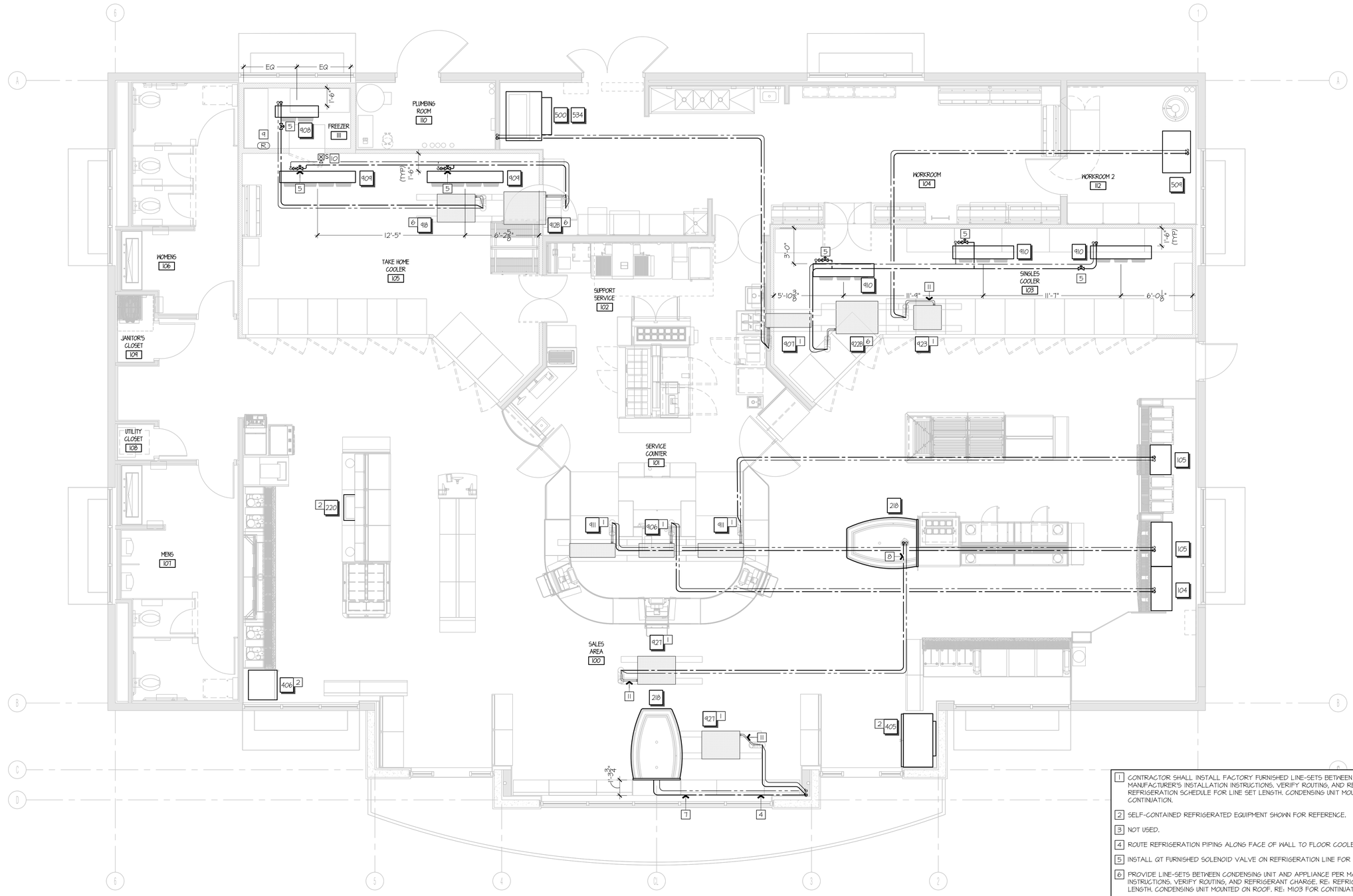
SHEET TITLE:
MECHANICAL DUCTWORK FLOOR PLAN

SHEET NUMBER:
M101



PROVIDE P-TRAPS ON SUCTION RISERS PER DETAIL E12-M502.

HOLD REFRIGERATION PIPING AS HIGH AS POSSIBLE ALLOWING ADEQUATE SPACE FOR TRAPS, HANGERS, PROPER SLOPING, AND PIPE INSULATION.

CONTRACTOR SHALL INSULATE ALL LINE SET SUCTION AND LIQUID LINES WITH 1" PIPE INSULATION WITH FIELD-APPLIED **ARMAFLEX AB FINISH** UV PROTECTION ON ALL EXPOSED SEGMENTS PER SPECIFICATIONS.

1. CONTRACTOR SHALL INSTALL FACTORY FURNISHED LINE-SETS BETWEEN CONDENSING UNIT AND APPLIANCE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. VERIFY ROUTING, AND REFRIGERANT CHARGE. RE: REFRIGERATION SCHEDULE FOR LINE SET LENGTH. CONDENSING UNIT MOUNTED ON ROOF. RE: M103 FOR CONTINUATION.
2. SELF-CONTAINED REFRIGERATED EQUIPMENT SHOWN FOR REFERENCE.
3. NOT USED.
4. ROUTE REFRIGERATION PIPING ALONG FACE OF WALL TO FLOOR COOLER.
5. INSTALL QT FURNISHED SOLENOID VALVE ON REFRIGERATION LINE FOR ALL EVAPORATORS.
6. PROVIDE LINE-SETS BETWEEN CONDENSING UNIT AND APPLIANCE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. VERIFY ROUTING, AND REFRIGERANT CHARGE. RE: REFRIGERATION SCHEDULE FOR LINE SET LENGTH. CONDENSING UNIT MOUNTED ON ROOF. RE: M103 FOR CONTINUATION.
7. INSTALL QT-FURNISHED HEAT EXCHANGER ON COOLER REFRIGERATION LINES HORIZONTALLY ALONG THE WALL IN THIS VICINITY. RE: QT INSTALL DRAWINGS.
8. INSTALL QT-FURNISHED HEAT EXCHANGER ON COOLER REFRIGERATION LINES ABOVE CEILING IN THIS VICINITY. RE: QT INSTALL DRAWINGS.
9. INSTALL REFRIGERANT LEAK SENSOR INSIDE FREEZER BOX AT 14" AFF. RE: P9-M602 FOR MORE INFORMATION.
10. INSTALL HORN/STROBE AT 80" AFF ON THE OUTSIDE OF FREEZER. INSTALL ASSOCIATED SILENCE BUTTON AT 48" AFF. PROVIDE SIGNAGE THAT READS, "REFRIGERATION LEAK DETECTION. DO NOT ENTER FREEZER IF FLASHING." RE: LOW VOLTAGE DRAWINGS FOR MORE INFORMATION.
11. INSTALL EPR VALVE FURNISHED WITH EQUIPMENT ON THE SUCTION LINE CONNECTION TO THE CONDENSING UNIT.

A1 MECHANICAL PIPING FLOOR PLAN

¼" = 1'-0"

NORTH

A13 PLAN NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
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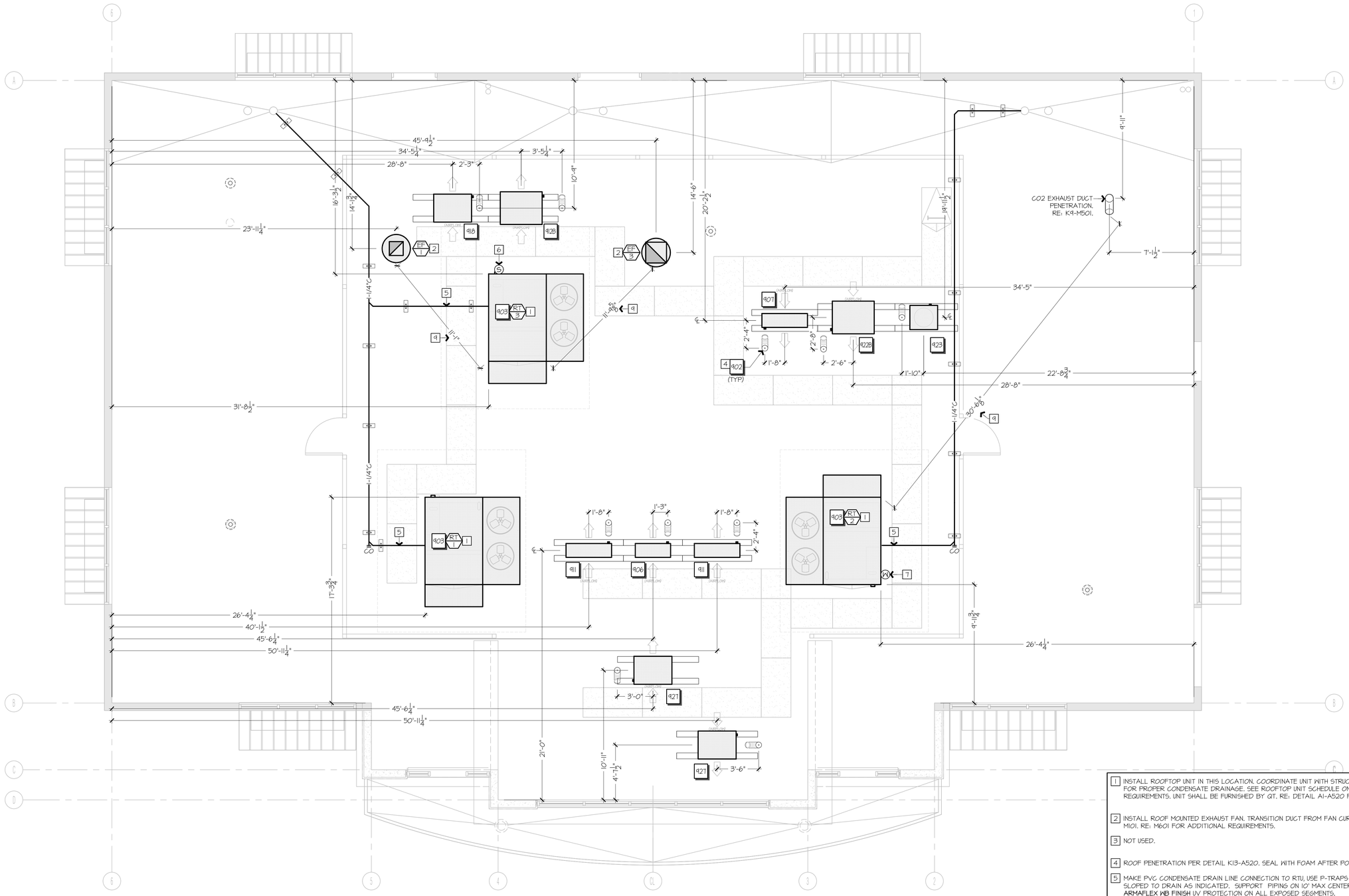
SHEET TITLE:
MECHANICAL PIPING FLOOR PLAN

SHEET NUMBER:
M102



1. INSTALL ROOFTOP UNIT IN THIS LOCATION. COORDINATE UNIT WITH STRUCTURE. INSTALL UNIT AND CURB LEVEL FOR PROPER CONDENSATE DRAINAGE. SEE ROOFTOP UNIT SCHEDULE ON SHEET M601 FOR ADDITIONAL REQUIREMENTS. UNIT SHALL BE FURNISHED BY QT. RE: DETAIL A1-A520 FOR CURB ROOFING DETAIL.
2. INSTALL ROOF MOUNTED EXHAUST FAN. TRANSITION DUCT FROM FAN CURB DOWN TO DUCT SIZE INDICATED ON M101. RE: M601 FOR ADDITIONAL REQUIREMENTS.
3. NOT USED.
4. ROOF PENETRATION PER DETAIL K13-A520. SEAL WITH FOAM AFTER POWER AND REF. LINES ARE COMPLETE.
5. MAKE PVC CONDENSATE DRAIN LINE CONNECTION TO RTU, USE P-TRAPS FURNISHED WITH UNIT, ROUTE LINES SLOPED TO DRAIN AS INDICATED. SUPPORT PIPING ON 10' MAX CENTERS PER SPECS. PROVIDE FIELD-APPLIED **ARMAFLEX WB FINISH** UV PROTECTION ON ALL EXPOSED SEGMENTS.
6. QT IRRIGATION WEATHERMATIC SENSOR MOUNTED TO RTU. RE: IRRIGATION DRAWINGS.
7. QT WEATHER STATION MOUNTED TO RTU PER EMS. RE: A9-M501.
8. NOT USED.
9. MAINTAIN MIN 10'-0" SEPARATION BETWEEN ALL EXHAUST FANS AND RTU INTAKES. (TYP)

A1 MECHANICAL ROOF PLAN

$\frac{3}{16}$" = 1'-0"

NORTH

A13 PLAN NOTES

STATE OF MISSOURI
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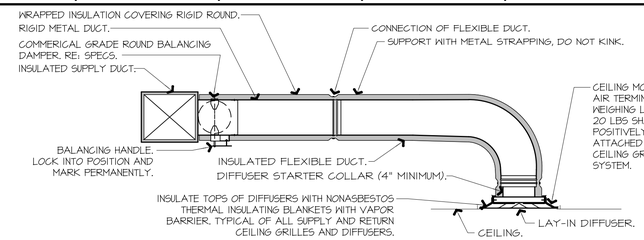
SHEET TITLE:
MECHANICAL ROOF PLAN

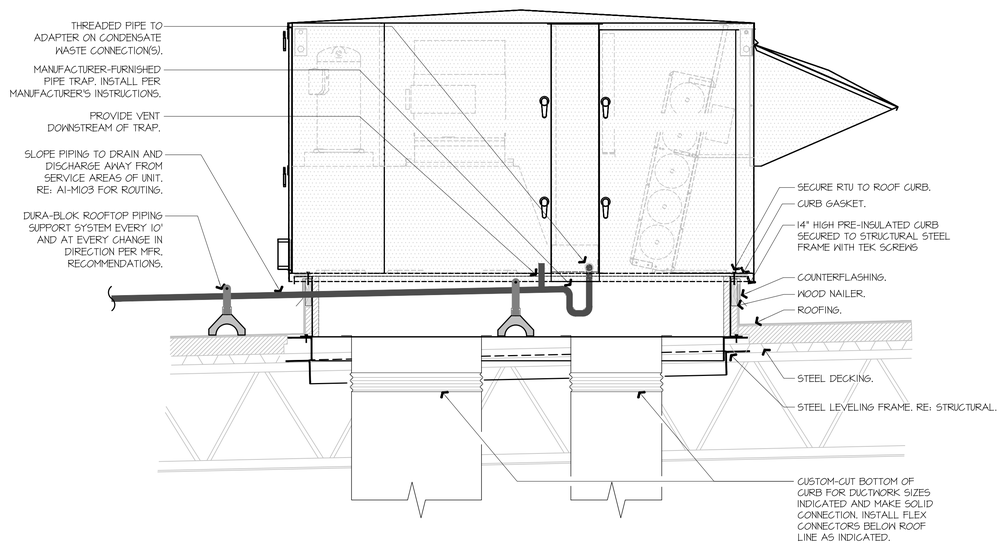
SHEET NUMBER:
M103



NOTES:
1. PROVIDE AT FLEXIBLE DUCT CONNECTION METAL OR "PANDUIT" DRAWBAND ON THE INTERIOR FLEXIBLE DUCT HELIX. SECURE THE INSULATION OVER THE DRAWBAND WITH AN ADDITIONAL DRAWBAND.
2. PROVIDE BEADING ON ROUND METAL DUCT 12" OR LARGER IN DIAMETER.
3. PROVIDE MINIMUM 4" COLLARS FOR ATTACHMENT OF THE FLEX DUCT TO ROUND DUCT, DAMPERS AND DIFFUSERS.
4. BAND RIGID ROUND DUCT INSULATION TO DUCT AND PROVIDE FIBER REINFORCED FOIL BACKED TAPE FOR INSULATION OVERLAP.

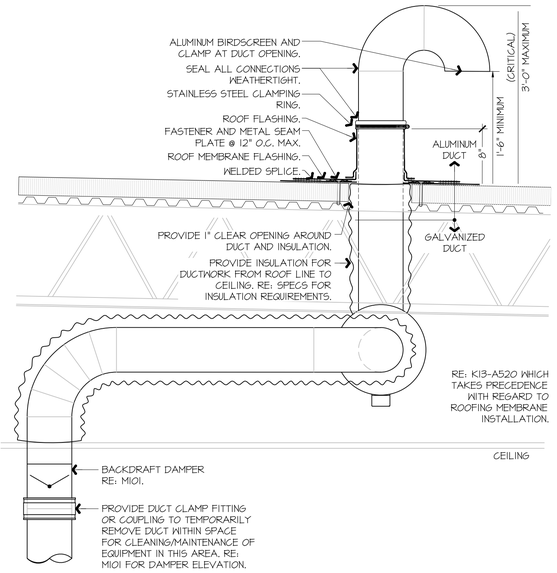
M1 DIFFUSER CONNECTION DETAIL

NOT TO SCALE | A1-M101



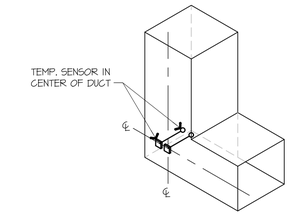
F1 ROOFTOP UNIT CURB DETAIL

NOT TO SCALE | A1-M501, A9-M501, F9-M501, A4-S510, A1-A520



K9 CO2 EXHAUST DUCTWORK

NOT TO SCALE | A1-M101, A1-M103

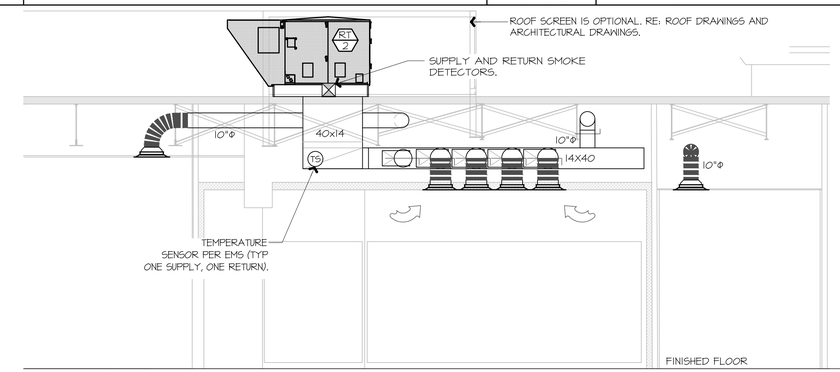


NOTES:
- DETAIL APPLIES FOR BOTH SUPPLY DUCT SENSORS.
- SUPPLY AIR SENSORS WILL TERMINATE AT RESPECTIVE ROOF TOP UNITS.
- (1) SENSOR TO TERMINATE AT THE 88A0 BOARD, INPUT #2
- (1) SENSOR TO TERMINATE AT THE LVTB TERMINALS G&1C1
- RETURN AIR SENSORS ARE FACTORY MOUNTED AND TERMINATED.

(RE: QT EMS DRAWINGS FOR MORE INFORMATION)

K13 HVAC SUPPLY TEMPERATURE SENSOR - ISO

NOT TO SCALE | A1-M101, A1-M501, A9-M501, F9-M501



F9 ROOFTOP SECTION THROUGH RETURN

$\frac{1}{4}$" = 1'-0" | A1-M101

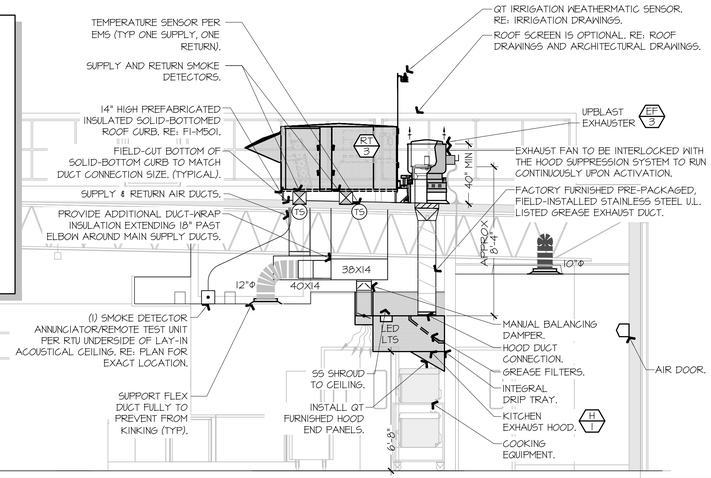
GENERAL NOTES:

HOOD TO BE A TYPE-I SYSTEM COMPLETE WITH FIRE SUPPRESSION SYSTEM, FIRE-WRAPPED DUCT, AND SHUT DOWN CONTROL ON UNDER-HOOD APPLIANCES.

- OVENTION "SHUTTLE" OVEN:
  INTERNAL CATALYTIC FILTRATION TO LIMIT SMOKE, GREASE, AND ODOR EMISSIONS.
  UL197 (KNLZ) LISTED FOR VENTLESS OPERATION
  EPA202 TESTED FROM SECTION 59 OF UL710B.
- CONVOTHERM "EASYTOUCH" COMBI OVEN:
  UL LISTED TO GUIDES KNLZ AND CONFORMS TO VENTLESS OPERATION RECOMMENDATIONS SET FORTH BY NFPA 96 USING EPA METHOD 202 TESTING.

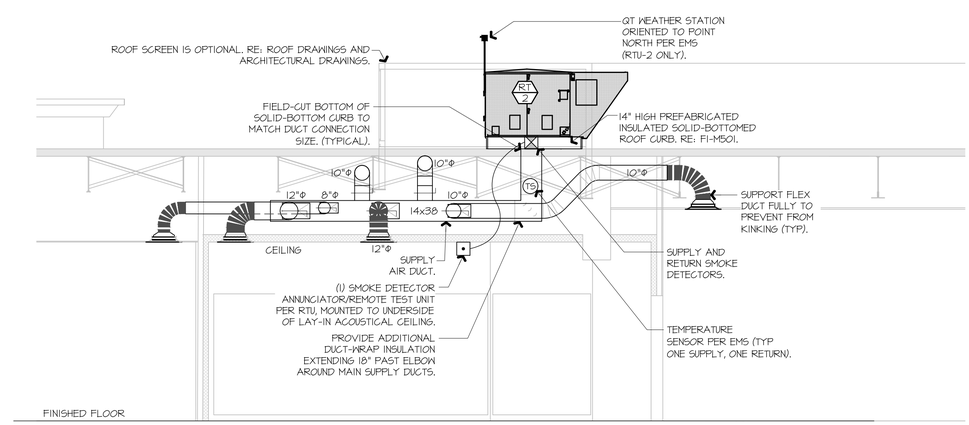
CURRENT TRANSFORMERS AT EQUIPMENT UNDER HOOD TO CONTROL ROOF EXHAUST FAN & INTERLOCK WITH BUILDING HVAC SYSTEM TO PROVIDE MAKE-UP-AIR.

LAYOUT SHOWN IS SCHEMATIC AND INTENDED TO SHOW GENERAL REQUIREMENTS. RE: PLANS AND ADDITIONAL HOOD DETAILS FOR MORE INFORMATION.



A1 ROOFTOP SECTION THROUGH SERVICE COUNTER

$\frac{1}{4}$" = 1'-0" | A1-M101



A9 ROOFTOP SECTION THROUGH SUPPLY

$\frac{1}{4}$" = 1'-0" | A1-M101

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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QuikTrip No. 0183R

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PROTOTYPE	P-120
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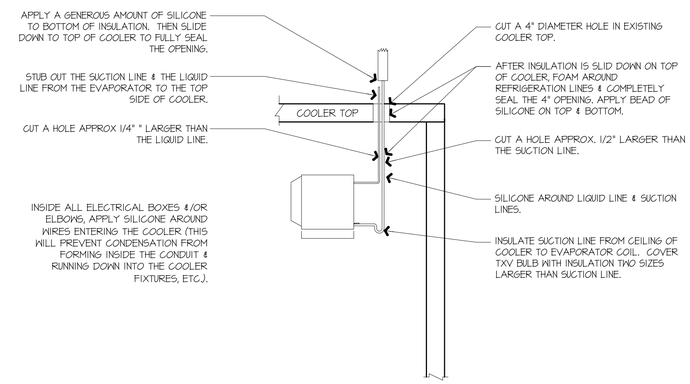
SHEET TITLE:
MECHANICAL SECTIONS & DETAILS

SHEET NUMBER:
M501

K1 NOT USED

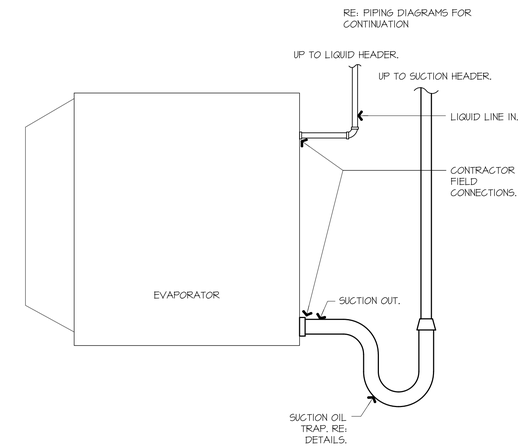
K7 PIPE PENETRATION THROUGH COOLER BOX DETAIL

NOT TO SCALE



K13 COOLER EVAPORATOR COIL PIPING

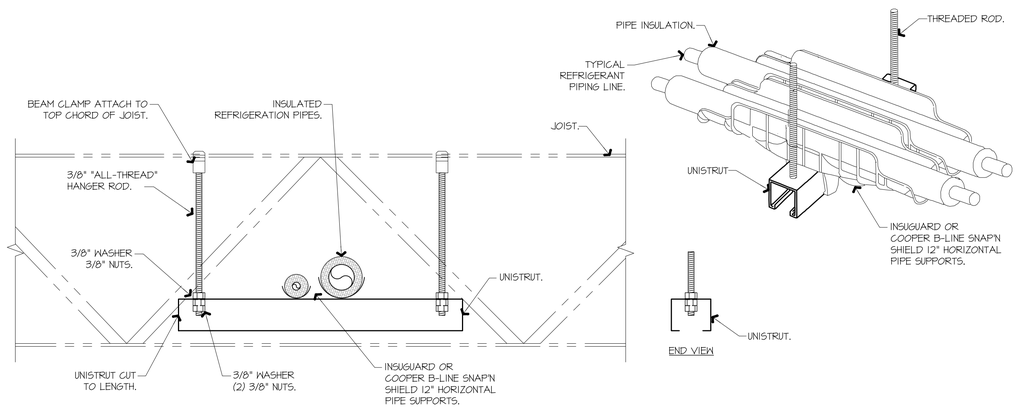
NOT TO SCALE



E1 NOT USED

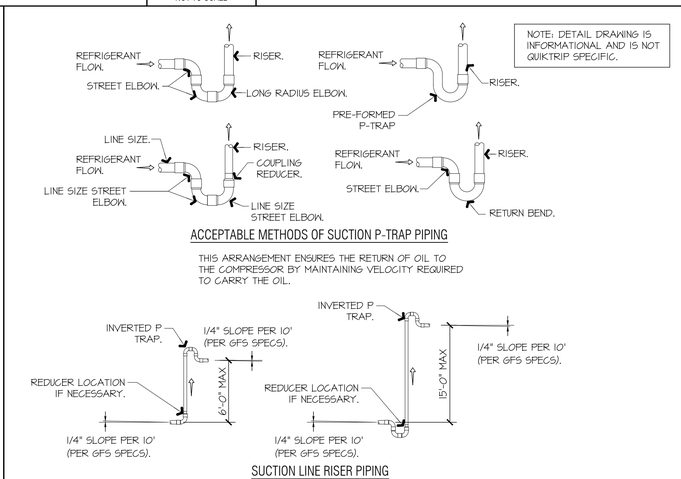
E4 REFRIGERATION PIPE HANGER DETAIL THROUGH JOISTS

NOT TO SCALE



E12 SUCTION RISERS AND P-TRAP PIPING

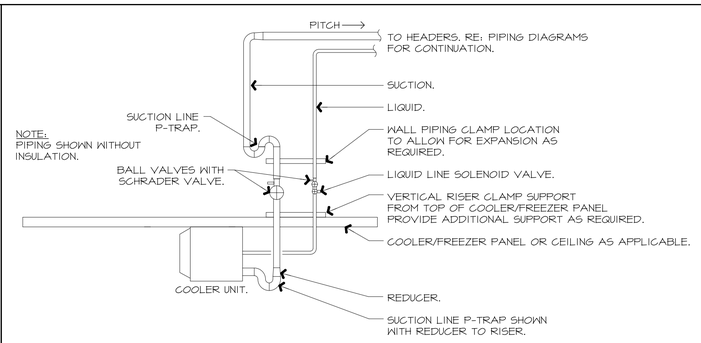
NOT TO SCALE



A1 NOT USED

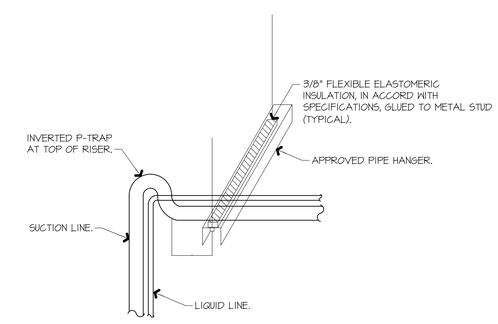
A7 UNIT COOLER SUCTION & LIQUID TYPICAL BRANCH PIPING DETAIL

NOT TO SCALE



A12 TOP OF RISER DETAIL

NOT TO SCALE



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SHEET TITLE:
MECHANICAL DETAILS

SHEET NUMBER:
M502

EXHAUST AND AIR BALANCE SCHEDULE

CODE: INTERNATIONAL MECHANICAL CODE - CHAPTER 4, TABLE 403.3.1.1

	NUMBER OF FIXTURES	EXHAUST PER FIXTURE CFM	CODE EXHAUST CFM	MINIMUM DESIGNED CFM	IDLE DESIGNED CFM	MAXIMUM DESIGNED CFM
RT-1 OUTSIDE AIR	-	-	-	300	525	750
RT-2 OUTSIDE AIR	-	-	-	300	525	750
RT-3 OUTSIDE AIR	-	-	-	300	525	750
EF-1 RR/JANITOR EXHAUST	7	50	350	-600	-600	-600
EF-3 KITCHEN EXHAUST HOOD	-	-	-	0	-675	-1350
			BUILDING PRESSURE:	300	300	300

ROOFTOP AIR HANDLING UNIT SCHEDULE

RT #	MANUFACTURER	MODEL NUMBER	SUPPLY FAN CFM	SUPPLY FAN ESP IN WG	SUPPLY FAN HP	OUTSIDE AIR CFM MIN / MAX	COOLING TOTAL MBH	COOLING SENS MBH	COOLING EAT DB/WB F	COOLING LAT DB/WB F	HEATING TYPE	HEATING INPUT KW	HEATING OUTPUT MBH	ELECTRICAL V/PH	ELECTRICAL MCA	ELECTRICAL MOCP	IEER	NOTES
RT-1	AAON	RNA-013	4,200	1.25	3.0	300 / 750	151	117	80/67	55/55	ELEC	376 KW	128	208/3	144	150	14.9	
RT-2	AAON	RNA-013	4,200	1.25	3.0	300 / 750	151	117	80/67	55/55	ELEC	376 KW	128	208/3	144	150	14.9	
RT-3	AAON	RNA-013	4,200	1.25	3.0	300 / 750	151	117	80/67	55/55	ELEC	376 KW	128	208/3	144	150	14.9	

GENERAL NOTES (APPLY TO ALL THE ABOVE):

A) UNITS SHALL BE OWNER-FURNISHED, CONTRACTOR-INSTALLED AS SPECIFIED ABOVE. NO SUBSTITUTIONS WILL BE ALLOWED.
B) UNITS SHALL BE CONTROLLED BY BUILT-IN TEMPORARY CONSTRUCTION-MODE THERMOSTAT AND SWITCHED OVER TO BUILDING ENERGY MANAGEMENT SYSTEM DURING EMS COMMISSIONING - RE: QT EMS INSTALL DRAWINGS.
C) UNITS SHALL CONTAIN FACTORY MOUNTED AND INTERLOCKED REFRIGERANT LEAK SENSOR, RETURN AIR SMOKE DETECTOR, AND SMOKE DETECTOR CONTROLLER. MANUFACTURER FURNISHED SUPPLY AIR SMOKE DETECTOR AND ANNUNCIATOR/REMOTE TEST STATION SHALL BE FIELD INSTALLED/WIRED BY CONTRACTOR.
D) UNITS SHALL HAVE MODULATING ECONOMIZER WITH SENSIBLE LIMIT & 2ND MIN POSITION POTENTIOMETER. SET MINIMUM OUTSIDE AIR AS SPECIFIED ABOVE.
E) UNITS SHALL BE FURNISHED WITH INSULATED PREFABRICATED 14" HIGH ROOF CURBS WITH SOLID BOTTOM PANEL.
F) UNITS SHALL BE FURNISHED WITH FACTORY-INSTALLED NON-FUSED DISCONNECT SWITCH.
G) UNITS SHALL HAVE MODULATING HOT GAS REHEAT AND MODULATING COMPRESSORS.
H) UNITS SHALL HAVE DIRECT-DRIVE BLOWER WITH VFD CONTROL.
I) UNITS SHALL UTILIZE R-454B REFRIGERANT.
J) UNITS SHALL BE FURNISHED WITH FACTORY MOUNTED, FIELD-WIRED CONVENIENCE OUTLET.
K) CONTRACTOR SHALL PERFORM AAON STARTUP PROCEDURES FOR ALL UNITS AND COORDINATE WITH QT REP FOR CONTROLS & COMMISSIONING.
L) RE: THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
M) UNITS SHALL BE FURNISHED WITH 35K SCCR RATING.

VENTILATION SCHEDULE

CODE: INTERNATIONAL MECHANICAL CODE - CHAPTER 4, TABLES 403.3.1.1, 403.3.1.1.1.2 AND 403.3.1.1.2.3.2

ROOM NUMBER	ROOM NAME	ZONE AREA AZ (SF)	OCCUPANCY CLASSIFICATION	OCCUPANT DENSITY (#/1000SF)	ZONE POPULATION PZ (# PEOPLE)	OCCUPANT OA AIRFLOW RP (CFM/OCC)	AREA OA AIRFLOW RA (CFM/SF)	OCCUPANT OA AIRFLOW CFM	AREA OA AIRFLOW CFM	BREATHING ZONE OA VBZ (CFM)	DISTRIBUTION EFFECTIVENESS EZ	ZONE OA VOZ (CFM)	PRIMARY AIRFLOW VPZ (CFM)	PRIMARY OA FRACTION ZP	MINIMUM DESIGNED OA (CFM)
RTU-1															
100	SALES AREA LEFT	1,167	SUPERMARKET	8	9	7.5	0.06	68	70	138	0.8	172	3,775	4.55%	270
106	WOMENS RESTROOM	188	RESTROOM					0	0	0	0.8	0	175	0.00%	13
107	MENS RESTROOM	168	RESTROOM					0	0	0	0.8	0	250	0.00%	18
108,109	UTILITY/JANITORS CLOSET	27	CORRIDOR/UTILITY								0.8	0		0.0%	
			Totals:		9			68	70	138	0.8	172	4,200	4.6%	300
			SYSTEM POPULATION (PS):		9						SYSTEM VENTILATION EFFICIENCY (EV):			1.0	-
			OCCUPANT DIVERSITY (D):		1.00						UNCORRECTED OA INTAKE (VOU) CFM:			172	-
											OUTDOOR INTAKE FLOW (VOT) CFM:			172	300
											OUTDOOR INTAKE FLOW %:			4.1%	7.1%
RTU-2															
100	SALES AREA RIGHT	1,403	SUPERMARKET	8	11	7.5	0.06	83	84	167	0.8	208	4,200	4.96%	300
			Totals:		11			83	84	167	0.8	208	4,200	5.0%	300
			SYSTEM POPULATION (PS):		11						SYSTEM VENTILATION EFFICIENCY (EV):			1.0	-
			OCCUPANT DIVERSITY (D):		1.00						UNCORRECTED OA INTAKE (VOU) CFM:			208	-
											OUTDOOR INTAKE FLOW (VOT) CFM:			208	300
											OUTDOOR INTAKE FLOW %:			5.0%	7.1%
RTU-3															
102	SUPPORT SERVICE	365	KITCHEN	20	7	7.5	0.12	53	44	96	0.8	120	3,200	3.8%	229
104	WORKROOM	667	SHIPPING/RECEIVING	2	2	10.0	0.12	20	80	100	0.8	125	1,000	12.5%	71
			Totals:		9			73	124	196	0.8	245	4,200	12.5%	300
			SYSTEM POPULATION (PS):		9						SYSTEM VENTILATION EFFICIENCY (EV):			1.0	-
			OCCUPANT DIVERSITY (D):		1.00						UNCORRECTED OA INTAKE (VOU) CFM:			245	
											OUTDOOR INTAKE FLOW (VOT) CFM:			245	300
											OUTDOOR INTAKE FLOW %:			5.8%	7.1%

AIR DOOR SCHEDULE

AD #	MANUFACTURER	MODEL NUMBER	SUPPLY FAN CFM	SUPPLY FAN MAX VELOCITY FPM	SUPPLY FAN NOZZLE WIDTH	ELECTRICAL (NO HEAT) V/PH	ELECTRICAL (NO HEAT) AMPS	WEIGHT	NOTES
AD-1	BERNER	CLC08-1042AA-R	1,180	3,340	40.6	120/1	3.4	45	1,2,3,4

NOTES:

1) AIR DOORS SHALL BE OWNER-FURNISHED, CONTRACTOR-INSTALLED.
2) INSTALL WITH WALL MOUNTING HARDWARE AND EVEN WITH TOP OF DOOR OPENING.
3) AIR DOOR SHALL BE FURNISHED WITH BASIC 24 VOLT CONTROL PACKAGE, INCLUDING 24 VOLT CONTROL TRANSFORMER (FACTORY INSTALLED/WIRED) AND MAGNETIC REED DOOR SWITCH, COLOR BROWN (FIELD INSTALLED/WIRED).
4) AIR CURTAIN MOTOR TO BE WIRED TO SINGLE SPEED (HIGH SPEED). AIR CURTAIN SHALL NOT BE EQUIPPED WITH ANY FACTORY INSTALLED SWITCHES.

FAN SCHEDULE

EF #	MANUFACTURER	MODEL	CFM	S.P.	DRIVE	WATTS	HP	RPM	WEIGHT	V/PH	NOTES
EF-1	CAPTIVEAIRE	DR33HFA	600	0.5"	DIRECT	516 W	0.33	1220	61	120/1	1,2,3,4
TF-1	CAPTIVEAIRE	CFA 500CA	350	0.5"	DIRECT	264 W	0.31	1125	35	120/1	1,5
VF-1	CAPTIVEAIRE	DFA-300-CA	600	0.4"	DIRECT	288 W	0.40	2321	12	120/1	1

NOTES:

1) EXHAUST FANS SHALL BE OWNER-FURNISHED, CONTRACTOR-INSTALLED.
2) FAN SHALL HAVE DS-DISCONNECT SWITCH, FAN SPEED CONTROL MOUNTED ACCESSIBLE ON UNIT.
3) FAN SHALL HAVE BS-BIRD SCREEN, BD-BACKDRAFT DAMPER.
4) FAN SHALL HAVE HINGE KIT, SC-PREFABRICATED INSULATED ROOF CURB.
5) INSTALL EXHAUST FAN WITH MANUFACTURER FURNISHED ALUMINUM GRILLE, PLUG DISCONNECT, FAN SPEED CONTROL MOUNTED ACCESSIBLE ON UNIT.

GRILLE, REGISTER, & DIFFUSER SCHEDULE

CFM **	MANUFACTURER	MODEL	SERVICE	FACE SIZE	NECK SIZE	DESCRIPTION	NOTES
S1	TITUS	TMS-3	SUPPLY	24" X 24"	SEE PLAN	LAY-IN SQUARE CONE DIFFUSER, ALL WHITE.	1
S2	TITUS	TBD1-80	SUPPLY	8" X 48"	SEE PLAN	4-SLOT PLENUM DIFFUSER, ALL WHITE.	2
S3	TITUS	PAR	SUPPLY	24" X 24"	SEE PLAN	PERFORATED DIFFUSER, NO DEFLECTORS, ALL WHITE.	1
S4	TITUS	TMS-3	SUPPLY	24" X 24"	SEE PLAN	LAY-IN SQUARE CONE DIFFUSER, ALL WHITE.	4
S5	TITUS	TMS-3	SUPPLY	24" X 24"	SEE PLAN	LAY-IN SQUARE CONE DIFFUSER, ALL WHITE.	5
S6	TITUS	T35Q-2	SUPPLY	24" X 24"	SEE PLAN	LAY-IN SQUARE CONE VAV DIFFUSER, ALL WHITE.	
R1	TITUS	350RL	RETURN	24" X 24"	SEE PLAN	LAY-IN 3/4" 35° BLADE RETURN GRILLE, ALL WHITE.	1
R2	TITUS	350RL	EXHAUST	16"X16"	14"X14"	3/4" 35° BLADE EXHAUST GRILLE, ALL WHITE.	3
R3	TITUS	350RL	TRANSFER	8"X8"	N/A	3/4" 35° BLADE EXHAUST GRILLE, ALL WHITE.	

NOTES:

1) PROVIDE TRIM RINGS FOR ALL DIFFUSERS OR GRILLES IN GYP. BOARD CEILINGS.
2) (4) 1" SLOTS. ADJUST (2) DIRECTIONAL BLADES CLOSEST TO THE STORE INTERIOR TO DELIVER AIR HORIZONTALLY TOWARDS THE INTERIOR, AND AIM THE OTHER (2) BLADES CLOSEST TO THE PERIMETER TO DELIVER AIR VERTICALLY.
3) PROVIDE PLASTER FRAME IN HARD CEILINGS.
4) PROVIDE DIFFUSER WITH 2-WAY THROW PATTERN AS SHOWN ON PLANS.
5) PROVIDE DIFFUSER WITH 3-WAY THROW PATTERN AS SHOWN ON PLANS.

GENERAL NOTES (APPLY TO ALL THE ABOVE):

A) GRILLES, REGISTERS, AND DIFFUSERS SHALL BE CONTRACTOR-FURNISHED, CONTRACTOR-INSTALLED.
B) MAXIMUM NC OF 30 FOR ALL GRILLES, REGISTERS, AND DIFFUSERS.
C) FOUR-WAY THROW PATTERN FOR SQUARE DIFFUSERS UNLESS SHOWN OTHERWISE.
D) PROVIDE SQUARE-TO-ROUND ADAPTER ON ALL GRILLES AND DIFFUSERS AS REQUIRED PER THE DRAWINGS.
E) PROVIDE NONASBESTOS THERMAL INSULATING BLANKETS WITH VAPOR BARRIER FOR ALL SUPPLY DIFFUSERS AND RETURN GRILLES.
F) REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
G) REFER TO DRAWINGS FOR FURTHER INSTALLATION AND APPLICATION DETAILS.

EXHAUST FAN CONTROL SETTINGS / RTU-1, 2, 3 O/A CONTROL SETTINGS / BALANCE

CONDITION	EXHAUST FAN CFM	PERCENTAGE OF MAX EXHAUST	CONTROL VOLTAGE Vdc *	CONTROL VOLTAGE Vdc *	OUTSIDE AIR CFM	O/A DAMPER POSITION **	BUILDING PRESSURE
HOOD OFF	0	0.0%	0	0	300	300 / (FAN& X 4200)	300
HOOD IDLE	675	50.0%	1	0.5	525	525 / (FAN& X 4200)	300
HOOD MAX	1350	100.0%	10	5	750	750 / (FAN& X 4200)	300

* CONTROL VOLTAGE SIGNAL RECEIVED FROM HOOD CONTROL PANEL

** OA CFM / (SUPPLY FAN& X 4200)

REFRIGERATION EQUIPMENT LIST

TAG ##	DESCRIPTION	MANUFACTURER & MODEL	QUANTITY	LINE SET LENGTH	FURNISHED BY
104	CUBED ICE MAKER	HOSHIZAKI KM-1100MRJZ	1	-	QT
106	CUBED ICE MAKER CONDENSER UNIT	HOSHIZAKI URC-14FZ	1	55'	QT
105	CRUSHED ICE MAKER	HOSHIZAKI F-2001MRJZ-G	2	-	QT
111	CRUSHED ICE MAKER CONDENSER UNIT	HOSHIZAKI URC-22FZ	2	55'	QT
218	END CAP FLOOR COOLER	OASIS FSE663R	2	-	QT
121	END CAP FLOOR COOLER CONDENSING UNIT	KEEPRITE KEZA035LB-HT3D	2	50'	QT
220	COLD WELL	THERMELL REFRIGERATION 14ROB	1	-	QT
405	ICE MERCHANDISER	TRUE GDM-49NT-LD	1	-	QT
406	NOVELTY ICE CREAM FREEZER	TRUE GDM-26-HC-TSL01	1	-	QT
500	ICE BAGGER	FOLLETT #DBI000	1	-	QT
534	ICE MAKER FOR BAGGER	HOSHIZAKI KM-1900SRJZ3	1	-	QT
407	ICE MAKER CONDENSER UNIT	HOSHIZAKI URC-22FZ	1	55'	QT
509	MULTIPLEX	MULTIPLEX #50MR04	1	-	QT
123	MULTIPLEX CONDENSING UNIT	MULTIPLEX TS-0845	1	50'	QT
207	NOT USED		-	-	
117	NOT USED		-	-	
908	WALK-IN FREEZER EVAPORATOR	RUSSELL RL6E07TDDAL	1	-	QT
918	WALK-IN FREEZER CONDENSING UNIT	RUSSELL RF0250L45EB	1	-	QT
909	TAKE HOME COOLER EVAPORATOR	RUSSELL RL6AI15ADAL	2	-	QT
912B	TAKE HOME COOLER CONDENSING UNIT [110 DEG]	RUSSELL RF0600E45EB	1	-	QT
910	SINGLES COOLER EVAPORATOR	RUSSELL RL6AI41ADAL	3	-	QT
922B	SINGLES COOLER CONDENSING UNIT [110 DEG]	RUSSELL RF0600E45EB	1	-	QT
902	CANDY CANE ROOF PENETRATION	ROOF PENETRATION	-	-	GC
903	ROOF TOP UNIT	AAON RN-SERIES	3	-	QT

GENERAL NOTES:

A) ALL EQUIPMENT SHALL BE OWNER FURNISHED, CONTRACTOR INSTALLED.
B) VERIFY MODEL NUMBERS ON SITE AND COORDINATE WITH QT REPRESENTATIVE ANY DISCREPANCIES. PROVIDE REFRIGERANT TYPE AND CHARGE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

HOOD / EXHAUST FAN SCHEDULE

H # / EF #	MANUFACTURER	MODEL	SIZE	CFM OFF/MAX	MISC.	LIGHTS	FIRE SYSTEM	WEIGHT	NOTES
H-1	CAPTIVEAIRE	4824ND-2-PSP-F	(9') 48"X24"	0 / 1350	12"Φ EXHAUST CXN	(6) LED	YES	749 LBS	1-4
EF-3	CAPTIVEAIRE	DU50HFA	1/2 HP	0 / 1350	DIRECT-DRIVE	-	-	74 LBS	1,10,11

NOTES:

1) HOODS, FANS, AND ACCESSORIES SHALL BE OWNER-FURNISHED, CONTRACTOR-INSTALLED.
2) HOOD SHALL BE 430 STAINLESS STEEL.
3) HOOD SHALL BE FURNISHED WITH FAN INDICATOR AND LIGHTSWITCH MOUNTED ON FRONT PANEL.
4) FACTORY FURNISHED U.L. LISTED STAINLESS STEEL DUCT KIT AND ALL REQUIRED CONNECTION ACCESSORIES FOR FIELD-INSTALLATION FROM HOOD TO FAN.
5) HOOD SHALL HAVE RIGHT AND LEFT QUARTER END PANELS.
6) HOOD SHALL HAVE FRONT, LEFT, RIGHT STAINLESS STEEL FIELD WRAPPER.
7) DUCT MOUNTED HEAT SENSORS AND AUTOMATIC FAN CONTROLS MOUNTED IN 12" SIDE-CABINET.
8) SYSTEM SHALL BE CAPABLE OF MODULATING FAN AS SCHEDULED, AND INTERLOCK WITH BUILDING HVAC SYSTEM FOR MAKEUP AIR.
9) EQUIPMENT SHUT DOWN CONTACTORS ARE FACTORY-FURNISHED WITHIN SIDE-CABINET.
10) FAN SHALL BE FURNISHED WITH VENTED AND HINGED CURB AND DISCONNECT.
11) VARIABLE SPEED CONTROLLER MOUNTED IN FAN HOUSING.

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MECHANICAL SCHEDULES & NOTES

SHEET NUMBER:
M601

K1 NOT USED

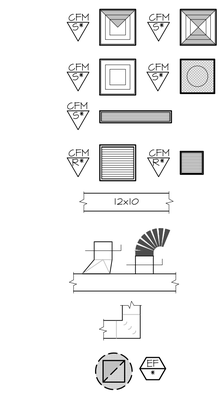
F9 MECHANICAL PIPING GENERAL NOTES

1. ALL REFRIGERATION LINES TO GO OVERHEAD UNLESS OTHERWISE NOTED.
2. INSULATE ALL LOW TEMPERATURE SUCTION LINES WITH MINIMUM 1" INSULATION. INSULATE ALL MEDIUM TEMPERATURE SUCTION LINE WITH MINIMUM 1" INSULATION. INSULATE ALL LINES FROM CONDENSING UNIT TO COIL INCLUDING HEAT EXCHANGER.
3. INSULATE ALL LIQUID LINES WITH MINIMUM 1/2" INSULATION.
4. REFER TO SPECIFICATIONS SECTION 23 07 19 - HVAC PIPING INSULATION FOR MORE INFORMATION ON INSULATION AND PVC JACKETS ON OUTDOOR LINES AND FILTER CANISTERS.
5. SLOPE ALL SUCTION LINES TOWARD CONDENSING UNIT (COMPRESSOR RACKS/UNITS) AT A MINIMUM OF 1" PER 20'.
6. ALL TUBING SHOULD BE REFRIGERATION GRADE CLEANED AND CAPPED.
7. CONTRACTOR TO COORDINATE REFRIGERATION LINE RUN WITH FIRE SPRINKLER CONTRACTOR, DUCTWORK, POWER, AND ALL OTHER TRADES THAT MAY BE INVOLVED.
8. REFRIGERATION LEAK SENSORS INDICATED SHALL BE OWNER-FURNISHED, CONTRACTOR-INSTALLED IN CONDUIT, WIRED TO EMERSON BUILDING MANAGEMENT SYSTEM (RE: GT EMERSON INSTALL DRAWINGS) TO PROVIDE BI-LEVEL WARNING. UPON DETECTION OF LOW-LEAK, A NOTIFICATION WILL BE SENT TO FACILITY SUPPORT. UPON DETECTION OF A HIGH-LEAK, ALL SOLENOID VALVES TO AFFECTED AREA WILL BE CLOSED TO ISOLATE THE LEAK AND AN ALARM WILL BE SENT TO FACILITY SUPPORT. (SEAL CONDUITS PENETRATING COOLER OR FREEZER WALLS, INSIDE AND OUT).

A9 MECHANICAL DUCTWORK GENERAL NOTES

1. RE: SPECIFICATIONS, DETAILS, AND SCHEDULES FOR ADDITIONAL REQUIREMENTS NOT SHOWN ON THE PLAN.
2. ALL TEMPERATURE CONTROL WIRING SHALL BE TAPPAN OR BELDEN CABLE BY THE EMS INSTALLER AND SHALL MEET NFPA 70 REQUIREMENTS. RE: ROOFTOP UNIT SCHEDULE FOR ADDITIONAL REQUIREMENTS. CONCEAL ALL WIRING IN WALL CAVITIES OR ABOVE CEILING.
3. MECHANICAL CONTRACTOR SHALL REMOVE ALL FILTERS AND REPLACE WITH NEW FILTERS WHEN CONSTRUCTION IS FINISHED.
4. CONTRACTOR TO FIELD REVIEW AND VERIFY EXISTING CONDITIONS AS APPLICABLE AND COORDINATE WITH OTHER TRADES.
5. TRANSITION AS REQUIRED FROM BRANCH DUCT TO DIFFUSER NECK. COORDINATE BETWEEN PLANS AND SCHEDULES.
6. DUCTWORK DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
7. FLEXIBLE DUCTWORK NOT ALLOWED OVER 5' IN LENGTH.
8. HOLD TOP OF DUCTWORK TO UNDERSIDE OF STRUCTURE WHEREVER POSSIBLE.
9. ALL BRANCH DUCTS SHALL HAVE BALANCING DAMPER INSTALLED AS INDICATED ON DRAWINGS. HANDLE SHALL BE ACCESSIBLE AND BE CAPABLE OF OPENING OR CLOSING FULLY. RE:DIFFUSER CONNECTION DETAIL.
10. RE: REFLECTED CEILING PLANS FOR FINAL GRILLE AND DIFFUSER LOCATIONS AND COORDINATE AS REQUIRED.
11. FINAL LOCATION OF TEMPERATURE CONTROLS TO BE FIELD DETERMINED BY OWNER AT JOB SITE.
12. MECHANICAL CONTRACTOR SHALL CLEAN ALL CONDENSERS AFTER CONSTRUCTION HAS BEEN COMPLETED.
13. MECHANICAL CONTRACTOR SHALL TEST AND VERIFY THE OPERATION OF ALL SMOKE DETECTORS AND OR SENSORS.
14. ALL DUCTWORK SHALL RECEIVE DUCT WRAP INSULATION PER SPECIFICATIONS. LINED DUCTWORK IS NOT ACCEPTABLE.

A13 MECHANICAL SYMBOLS LEGEND



	SUPPLY DIFFUSER WITH SECTORIZED BAFFLE
	SUPPLY DIFFUSERS WITH TYPE AND CFM AMOUNT
	SUPPLY DIFFUSERS WITH TYPE AND CFM AMOUNT
	RETURN OR EXHAUST GRILLE WITH TYPE AND CFM AMOUNT
	RECTANGULAR DUCTWORK WIDTH INCHES X DEPTH INCHES
	TAKE-OFF WITH GASKET AND DAMPER 45° OR 90° AS SHOWN ON PLAN FLEXDUCT RUNOUT
	ELBOW WITH TURNING VANES
	ROOF MOUNTED EXHAUST FAN
	ROOFTOP UNIT (DASHED OUTLINE REPRESENTS SERVICE CLEARANCE)
EMS	ENERGY MANAGEMENT SYSTEM
TS	REMOTE TEMPERATURE SENSOR (PER EMS)
H	HUMIDISTAT (PER EMS)
	DUCT SMOKE DETECTOR
	SMOKE DETECTOR ANNUNCIATOR & REMOTE TEST STATION (WHITE FINISH)
S	IRRIGATION WEATHERMATIC SENSOR
W	WEATHER STATION
XX-XX.X	SECTION TAG
X-X	INTERIOR ELEVATION TAG
#	EQUIPMENT IDENTIFICATION
	REFRIGERATION LIQUID PIPING
	REFRIGERATION SUCTION PIPING
R	REFRIGERANT LEAK SENSOR
	HORN/STROBE ALARM
S	LIQUID LINE SOLENOID VALVE
P	HOOD SUPPRESSION PUSH STATION

A1 NOT USED

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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REV	DATE	DESCRIPTION

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SHEET TITLE:
MECHANICAL GENERAL NOTES & SYMBOLS

SHEET NUMBER:
M602

LIGHT FIXTURE SCHEDULE

TYPE	IMAGE	SYMBOL	QUANTITY	MANUFACTURER	CATALOG NUMBER	LAMPS	MOUNTING HEIGHT	MOUNTING	VOLTS	WATTS	REMARKS
A			8	LSI INDUSTRIES	SLM-LED-12L-SIL-FT-UNV-DIM-40-TGRI "SLICE"	LED	22'	POLE MTD.	208	94	SINGLE - FORWARD THROW
B			2	LSI INDUSTRIES	SLM-LED-12L-SIL-FT-UNV-DIM-40-TGRI "SLICE"	LED	22'	POLE MTD.	208	188	DOUBLE 90 (D90) - FORWARD THROW
C			0	LSI INDUSTRIES	SLM-LED-12L-SIL-FT-UNV-DIM-40-TGRI "SLICE"	LED	22'	POLE MTD.	208	188	DOUBLE 180 (D180) - FORWARD THROW
D			2	LSI INDUSTRIES	SLM-LED-12L-SIL-FT-UNV-DIM-40-TGRI "SLICE"	LED	22'	POLE MTD.	208	282	TRIPLE 90 (T90) - FORWARD THROW
E			32	LSI INDUSTRIES	GRVS-SC-LED-SS-40-UE-WHT "SCOTTSDALE LEGACY"	LED	15' TO 19'	SURFACE	208	93	WHITE
V			1	LSI INDUSTRIES	LOW VOLTAGE POLE	N/A	N/A	N/A	N/A	N/A	USED FOR SECURITY CAMERA MOUNTING PROVIDE SAME POLE BASE AS LIGHT POLES

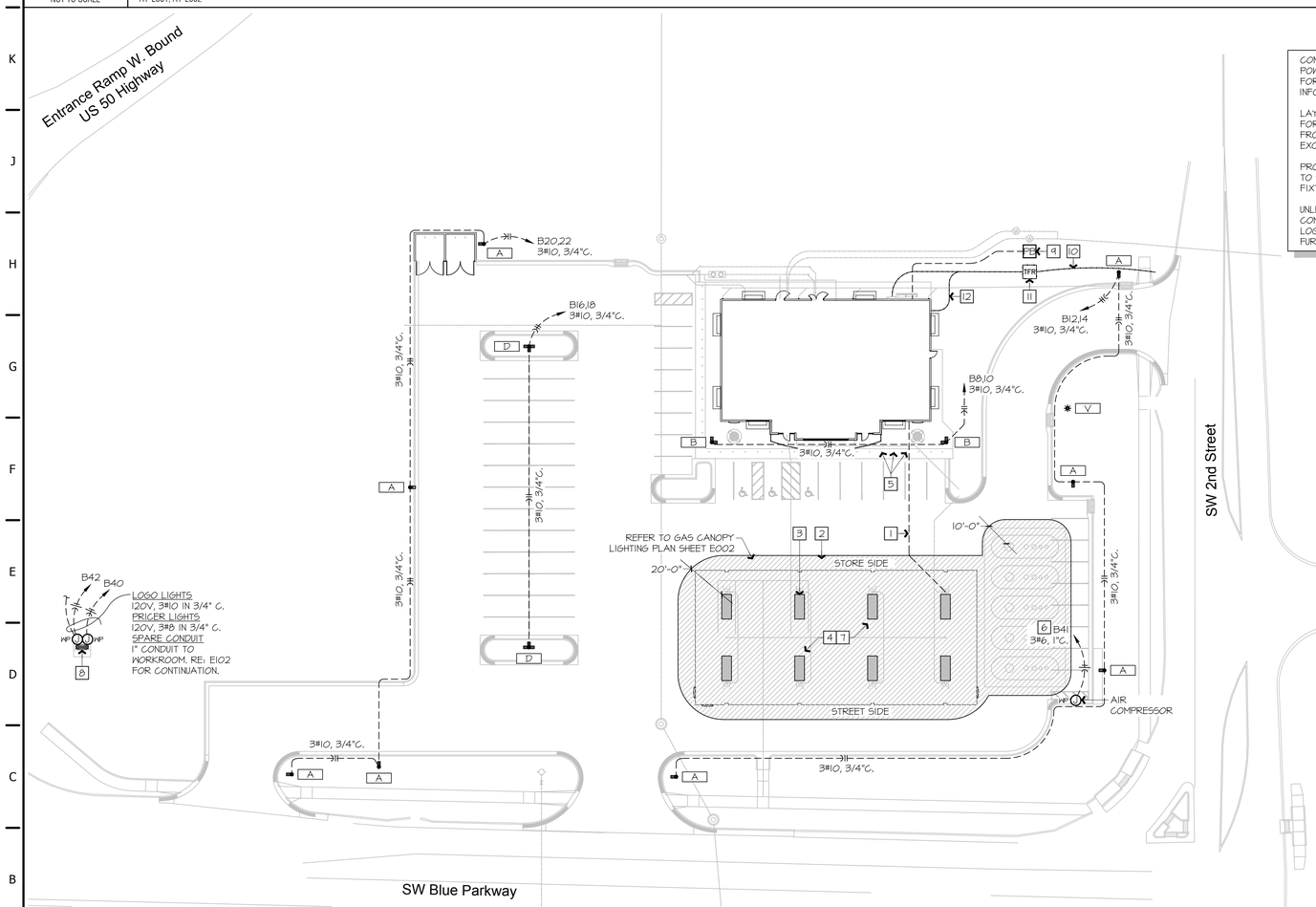
GENERAL NOTES (APPLY TO ALL THE ABOVE):

1) ALL LIGHT FIXTURES ARE OWNER-FURNISHED, CONTRACTOR-INSTALLED.
2) ALL ADJUSTABLE LIGHT HEADS SHALL BE POSITIONED STRAIGHT DOWN.
3) ALL LIGHT FIXTURES ARE FULLY SHIELDED.

L1 SITE LIGHTING FIXTURE SCHEDULE

NOT TO SCALE

A1-E001, A1-E002



CONTRACTOR SHALL REFER TO FUEL INSTALLATION PLANS FOR POWER TO FUEL EQUIPMENT AND ADDITIONAL CONDUITS AND WIRING FOR CONTROL, DATA, COMMUNICATIONS, ETC., AND MORE DETAILED INFORMATION ON FINAL CONNECTIONS.

LAYOUT BRANCH CIRCUIT WIRING AND ARRANGEMENT OF HOME RUNS FOR MAXIMUM ECONOMY AND EFFICIENCY. IF CIRCUITING VARIES FROM DESIGN, CONTRACTOR TO CONFIRM VOLTAGE DROP DOES NOT EXCEED 3%.

PROVIDE IN EVERY CIRCUIT A SEPARATE EQUIPMENT GROUND WIRE TO SOURCE PANEL AND BOND EVERY EQUIPMENT AND OR LIGHT FIXTURE TO METAL STRUCTURE PER NEC 514.16.

UNLESS NOTED OTHERWISE, ALL OWNER FURNISHED AIR COMPRESSORS, MONUMENT SIGNS, HIGH RISE SIGNS, PRICER SIGNS, LOGO SIGNS, SCALE SIGNAGE, AND DIRECTIONAL SIGNS ARE FURNISHED WITH A FACTORY MOUNTED DISCONNECT SWITCH.

HAZARDOUS LOCATION LEGEND

- NON-HAZARDOUS
- CLASS I, DIVISION I, GROUP D.
- CLASS I, DIVISION 2, GROUP D.

NOTE: PROVIDE A CONDUIT SEAL RATED FOR CLASS I, GROUP D, AT EACH END OF ANY CONDUIT ORIGINATING IN OR PASSING THRU ANY HAZARDOUS LOCATION SHOWN HERE.

SIGNAGE APPROVED UNDER SEPARATE APPLICATION.

REFER TO SHEET E002 FOR GAS CANOPY LIGHTING.
REFER TO SHEET E003 FOR SECURITY CAMERA CONDUIT LAYOUT.

A1 ELECTRICAL SITE PLAN

1" = 30'-0"

NORTH

F13 NOT USED

1. #3/0 GROUNDING ELECTRODE CONDUCTOR IN 1-1/4" CONDUIT FROM BUILDING SERVICE ENTRANCE GROUNDING ELECTRODE CAD-WELD BONDED TO CANOPY STRUCTURAL STEEL. RE: J1-E504.
2. CLASS I, DIVISION 2 AREA WITHIN 18" OF ANY EDGE OF THE DISPENSER TO GRADE AND FROM GRADE TO 1'-6" ABOVE GRADE WITHIN 20'-0" OF ANY EDGE OF THE DISPENSER.
3. CLASS I, DIVISION 1 AREA WITHIN THE DISPENSER ENCLOSURE AND WITHIN THE PIT BELOW THE DISPENSER. (TYP).
4. CLASS I, DIVISION 2 AREA WITHIN 10'-0" OF PUMPS OR FILL OPENINGS FROM GRADE TO 1'-6" ABOVE GRADE.
5. ROUTE CONDUITS TO GAS ISLANDS AROUND BOLLARDS.
6. ROUTE SO THAT NO PART OF THE CONDUIT RUN PASSES BENEATH THE HAZARDOUS LOCATION BOUNDARIES IDENTIFIED ON THIS PLAN. IF UNAVOIDABLE, SEAL ANY CONDUIT PASSING UNDER A HAZARDOUS LOCATION AT THE POINTS WHERE IT EXITS THE GROUND. (BOTH ENDS).
7. RE: FUEL DRAWINGS FOR DISPENSER AND FUEL TANK CIRCUITING.
8. SITE SIGNAGE - 120V POWER TO SIGN LTS, 120V POWER TO PRICER AT SIGN. RE: SIGNAGE MANUFACTURER INSTRUCTIONS FOR FINAL CONNECTIONS, ETC.
9. PROVIDE (1) 1" EMPTY CONDUIT WITH PULL STRINGS TO PULL BOX FOR FUTURE EQUIPMENT. PROVIDE HUBBELL QUAZITE BOX PEDESTRIAN RATED (LANDSCAPE AREAS). BOX #PG1118BA12 & LID #PG1118GA00.
10. EXTEND TO UTILITY CONNECTION POINT AT PROPERTY LINE. VERIFY EXACT LOCATION OF UTILITY CONNECTION POINT PRIOR TO INSTALLATION.
11. THE CONTRACTOR SHALL PROVIDE PRIMARY AND SECONDARY UTILITY CONDUITS AND THE TRANSFORMER PAD AS SPECIFIED BY THE UTILITY CO.
12. (2) 4" EMPTY CONDUITS FOR TELCO UTILITY COMPANY USE. PROVIDE PULL BOXES AS REQUIRED BY THE SERVING UTILITY. CAP BOTH ENDS OF ANY UNUSED CONDUITS AND LEAVE IN PLACE FOR FUTURE USE.

A13 PLAN NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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SHEET TITLE:
ELECTRICAL SITE PLAN

SHEET NUMBER:
E001

SIGNAGE APPROVED UNDER SEPARATE APPLICATION.

RUN LIGHTING CIRCUITS THROUGH OUTSIDE LIGHTING CONTROL SYSTEM. STAGE NUMBER INDICATED IN PARENTHESIS. STAGING PER EMS PROGRAMMING. REFER TO PANEL SCHEDULES FOR STAGE LIGHTING LOADS.

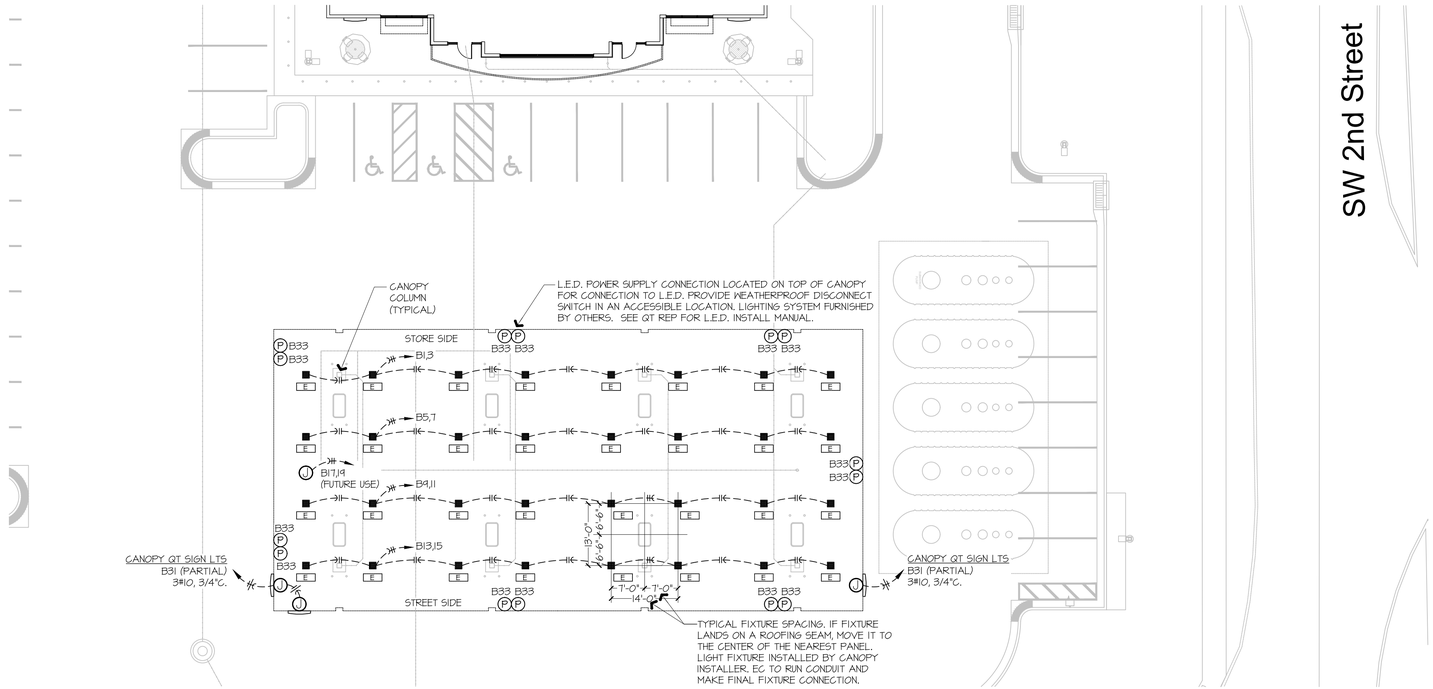
LAYOUT BRANCH CIRCUIT WIRING AND ARRANGEMENT OF HOME RUNS TO UTILIZE (6) 1" CONDUITS AS FOLLOWS (UNLESS NOTED OTHERWISE ON PLAN):

- STAGE 2 LIGHTING MAX (9) #10 WIRES IN (1) 1" CONDUIT.
- STAGE 3 LIGHTING MAX (9) #10 WIRES IN (1) 1" CONDUIT.
- LED & CANOPY SIGN MAX (9) #10 WIRES IN (1) 1" CONDUIT.
- SPARE CONDUITS WITH PULL STRINGS (3) 1" CONDUITS.

#10 WIRE SIZE IS SUFFICIENT FOR VOLTAGE DROP UP TO 300' AND UP TO 9 CURRENT-CARRYING CONDUCTORS IN A CONDUIT FOR ALL LIGHTING AND SIGNAGE CIRCUITS AT CANOPIES.

RE: E001 FOR HAZARDOUS LOCATIONS AND REQUIRED CONDUIT SEALING.

ROUTE ALL ABOVE GRADE WIRING RELATED TO LIGHTING, SECURITY, AND LOW VOLTAGE WITHIN CONDUIT. CONDUIT TO BE RIGID STEEL, INTERMEDIATE METAL, OR SCHEDULE 80 PVC. RE: SPECIFICATIONS.



REFER TO SHEET E001 FOR [*] FIXTURE CALLOUTS.

A1 | GAS CANOPY LIGHTING PLAN

1"=15'-0"

NORTH

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023888
PROFESSIONAL ENGINEER

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REV	DATE	DESCRIPTION

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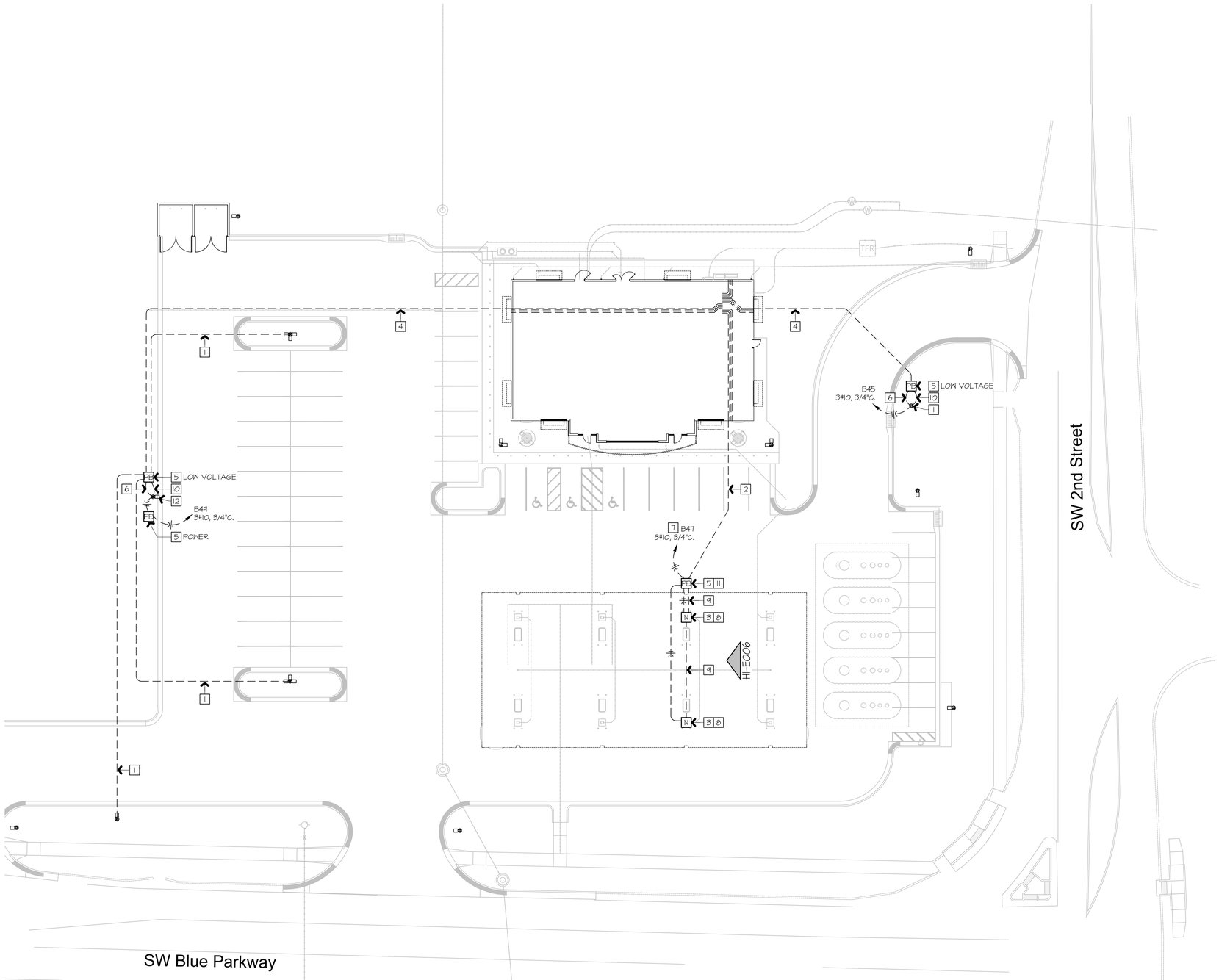
SHEET TITLE:

GAS CANOPY LIGHTING PLAN

SHEET NUMBER:

E002



RE: E001 FOR HAZARDOUS LOCATION IDENTIFICATION AND CONDUIT SEALING REQUIREMENTS.

ROUTE ALL ABOVE GRADE WIRING RELATED TO CANOPY LIGHTING, SECURITY, AND LOW VOLTAGE WITHIN CONDUIT. CONDUIT TO BE RIGID STEEL, INTERMEDIATE METAL, OR SCHEDULE 80 PVC. RE: SPECIFICATIONS.

1. PROVIDE 3/4" EMPTY CONDUIT WITH PULL STRING TO POLE-MOUNTED SECURITY CAMERA. RE: A12-E006.
2. PROVIDE 1" EMPTY CONDUIT WITH PULL STRING TO PULLBOX OR CANOPY MOUNTED NETWAY AS DETAILED ON HI-E006 FOR GAS CANOPY. RE: FUEL DRAWINGS AND FOR CONDUIT LAYOUT WITHIN CANOPY COLUMN. RE: A1-E102 FOR CONTINUATION TO BUILDING. ROUTE SO THAT NO CONDUIT RUN PASSES BENEATH THE HAZARDOUS LOCATION BOUNDARIES. IF UNAVOIDABLE, SEAL ANY CONDUIT PASSING UNDER A HAZARDOUS LOCATION AT THE POINTS WHERE IT EXITS THE GROUND. (BOTH ENDS).
3. RE: E004 FOR DOWNSTREAM CAMERA LOCATIONS AT GAS CANOPY.
4. PROVIDE 2" EMPTY CONDUIT WITH PULL STRING TO PULL BOX. RE: A12-E006 & A1-E102 FOR CONTINUATION.
5. PROVIDE HUBBELL QUAZITE BOXES AS REQUIRED BELOW. RE: A12-E006.
   PEDESTRIAN RATE BOX (LANDSCAPE AREAS) : BOX #PG1118BA12 & LID #PG1118GCA00.
   TRAFFIC RATED BOX (TRAFFIC RATED AREAS) : BOX #PG1120BG12 & LID #PG1120HG00.
6. PROVIDE 3/4" EMPTY CONDUIT WITH PULL STRING TO NETWAY AT LIGHT POLE. RE: A12-E006.
7. ROUTE SO THAT NO PART OF THE CONDUIT RUN PASSES BENEATH THE HAZARDOUS LOCATION BOUNDARIES IDENTIFIED ON THIS PLAN. IF UNAVOIDABLE, SEAL ANY CONDUIT PASSING UNDER A HAZARDOUS LOCATION AT THE POINTS WHERE IT EXITS THE GROUND. (BOTH ENDS).
8. PROVIDE POWER FOR CANOPY MOUNTED NETWAY. RE: E004 FOR QUANTITIES. RE: HI-E006.
9. PROVIDE 3/4" EMPTY CONDUIT WITH PULL STRING TO NETWAY AT CANOPY COLUMN. RE: HI-E006.
10. PROVIDE (2) 1" CONDUITS FOR CAT-6 CABLES FROM NETWAY TO DOWNSTREAM CAMERAS. RE: A12-E006.
11. PULLBOX TO BE USED FOR NETWAY POWER AND FIBER ONLY. DO NOT INSTALL POWER OR LOW VOLTAGE FOR CANOPY IN THIS BOX.
12. PROVIDE 1" EMPTY CONDUIT WITH PULL STRING TO POLE-MOUNTED SECURITY CAMERA. RE: A12-E006.

A1 — SECURITY POWER & CONDUIT PLAN
1" = 20'-0"

NORTH

A13 — PLAN NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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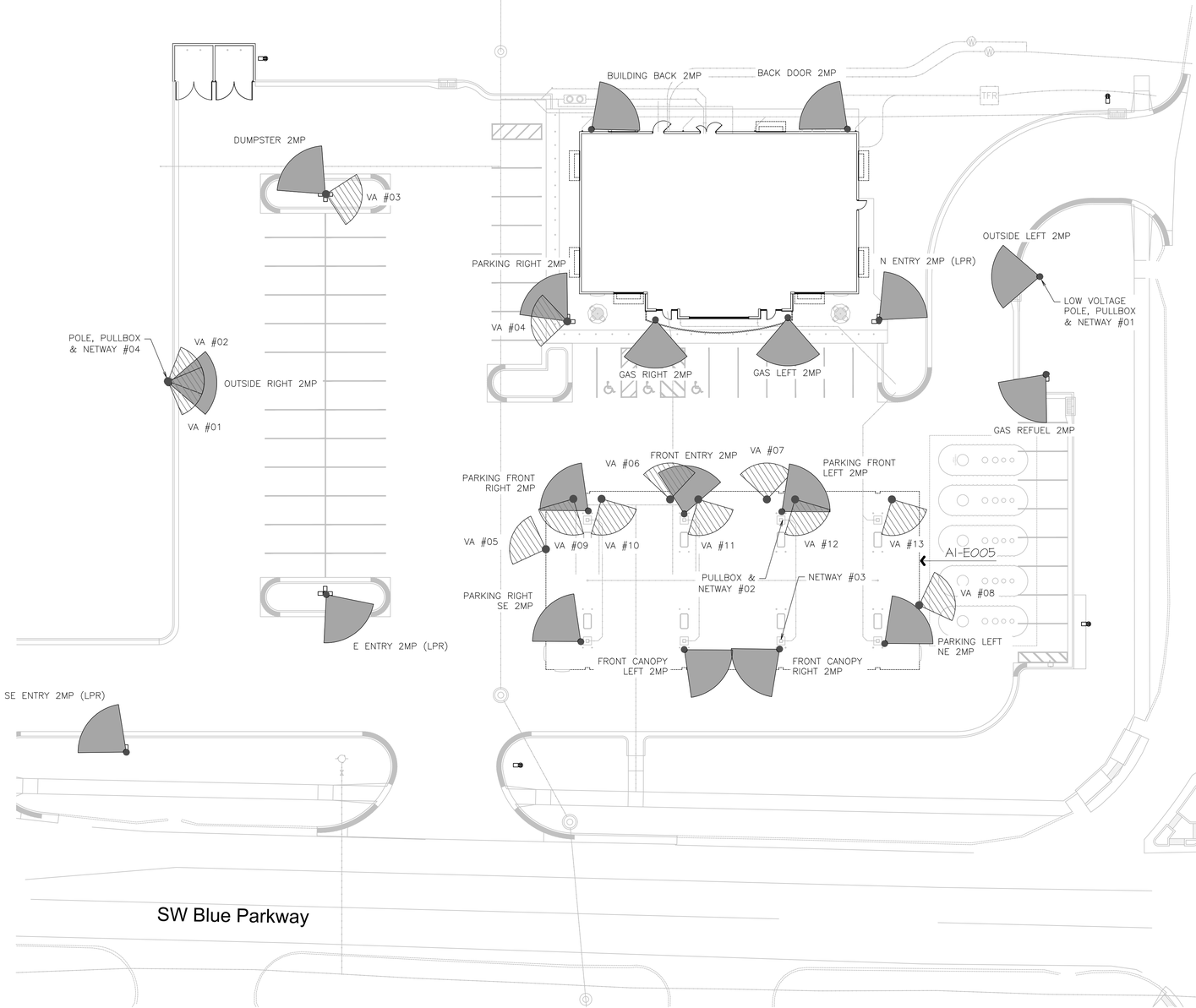
SHEET TITLE:
SECURITY POWER & CONDUIT PLAN

SHEET NUMBER:
E003



SITE CAMERAS

CAMERA NAME	RESOLUTION	POWER REQUIREMENT	CONDUIT LOOP	TERMINATION	MOUNTED TO	MOUNTING TYPE
OUTSIDE LEFT	2MP	30W	1	NETWAY 01 (240W)	POLE	PENDANT
N. ENTRY	2MP	30W	1	NETWAY 01 (240W)	POLE	PENDANT
GAS REFUEL	2MP	30W	1	NETWAY 01 (240W)	POLE	PENDANT
PARKING RIGHT	2MP	30W	1	NETWAY 01 (240W)	POLE	PENDANT
VA #04	2MP	13W	1	NETWAY 01 (240W)	POLE	PENDANT
PARKING FRONT LEFT	2MP	30W	2	NETWAY 02 (240W) - DAISYCHAIN	CANOPY COLUMN	PENDANT
PARKING LEFT NE	2MP	30W	2	NETWAY 02 (240W) - DAISYCHAIN	CANOPY COLUMN	PENDANT
FRONT CANOPY RIGHT	2MP	30W	2	NETWAY 02 (240W) - DAISYCHAIN	CANOPY COLUMN	PENDANT
FRONT CANOPY LEFT	2MP	30W	2	NETWAY 02 (240W) - DAISYCHAIN	CANOPY COLUMN	PENDANT
VA #07	2MP	13W	2	NETWAY 02 (240W) - DAISYCHAIN	CANOPY COLUMN	PENDANT
VA #08	2MP	13W	2	NETWAY 02 (240W) - DAISYCHAIN	CANOPY COLUMN	PENDANT
VA #12	2MP	13W	2	NETWAY 02 (240W) - DAISYCHAIN	CANOPY COLUMN	PENDANT
VA #13	2MP	13W	2	NETWAY 02 (240W) - DAISYCHAIN	CANOPY COLUMN	PENDANT
PARKING RIGHT SE	2MP	30W	2	NETWAY 03 (240W)	CANOPY COLUMN	PENDANT
PARKING FRONT RIGHT	2MP	30W	2	NETWAY 03 (240W)	CANOPY COLUMN	PENDANT
FRONT ENTRY	2MP	30W	2	NETWAY 03 (240W)	CANOPY COLUMN	PENDANT
VA #05	2MP	13W	2	NETWAY 03 (240W)	CANOPY COLUMN	PENDANT
VA #06	2MP	13W	2	NETWAY 03 (240W)	CANOPY COLUMN	PENDANT
VA #09	2MP	13W	2	NETWAY 03 (240W)	CANOPY COLUMN	PENDANT
VA #10	2MP	13W	2	NETWAY 03 (240W)	CANOPY COLUMN	PENDANT
VA #11	2MP	13W	2	NETWAY 03 (240W)	CANOPY COLUMN	PENDANT
SE ENTRY	2MP	30W	3	NETWAY 04 (240W)	POLE	PENDANT
E. ENTRY	2MP	30W	3	NETWAY 04 (240W)	POLE	PENDANT
OUTSIDE RIGHT	2MP	30W	3	NETWAY 04 (240W)	POLE	PENDANT
DUMPSTER	2MP	30W	3	NETWAY 04 (240W)	POLE	PENDANT
VA #01	2MP	13W	3	NETWAY 04 (240W)	POLE	PENDANT
VA #02	2MP	13W	3	NETWAY 04 (240W)	POLE	PENDANT
VA #03	2MP	13W	3	NETWAY 04 (240W)	POLE	PENDANT

BUILDING EXTERIOR CAMERAS

CAMERA NAME	RESOLUTION	POWER REQUIREMENT	CONDUIT LOOP	TERMINATION	MOUNTED TO	MOUNTING TYPE
BUILDING BACK	2MP	30W	N/A	COPPER/48-PORT SWITCH	BUILDING	PENDANT
BACK DOOR	2MP	30W	N/A	COPPER/48-PORT SWITCH	BUILDING	PENDANT
GAS LEFT	2MP	30W	N/A	COPPER/48-PORT SWITCH	BUILDING	SURFACE
GAS RIGHT	2MP	30W	N/A	COPPER/48-PORT SWITCH	BUILDING	SURFACE

SITE CAMERA MATERIAL LIST

DESCRIPTION	PART NUMBER	QUANTITY
LINKPOWER - 300W 4PORT (95W PER PORT)	LPS3400ATMP-300-T1	0
LINKPOWER - 240W 8PORT (30W PER PORT)	LPS3802ATM-T1	4
CISCO SFP	GLC-SX-MMD	3
LINKPOWER - INDUSTRIAL MULTIMODE SFP	LPS MM 2630i LC	5
NETWAY - RACK-MOUNT 8-PORT	NETWAY8BT	0
LINKPOWER - POLE-MOUNT KIT	MMK0001-S	0

LABEL BOTTOM OF NETWAY ENCLOSURES WITH CIRCUIT BREAKER NUMBER AND CAMERA LOOP NUMBER AS INDICATED ON PANEL SCHEDULES. LABELING SHALL BE LEGIBLE FROM GROUND HEIGHT.

CAMERA LEGEND

VIDEO ANALYTICS CAMERA

SECURITY CAMERA

SECURITY GENERAL NOTES

RE: E003 FOR REQUIRED CONDUITS.

OUTDOOR SECURITY CAMERA EQUIPMENT SUMMARY TABLE

# INSIDE MONITORS RQD	2
LICENSES TO ORDER	19

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

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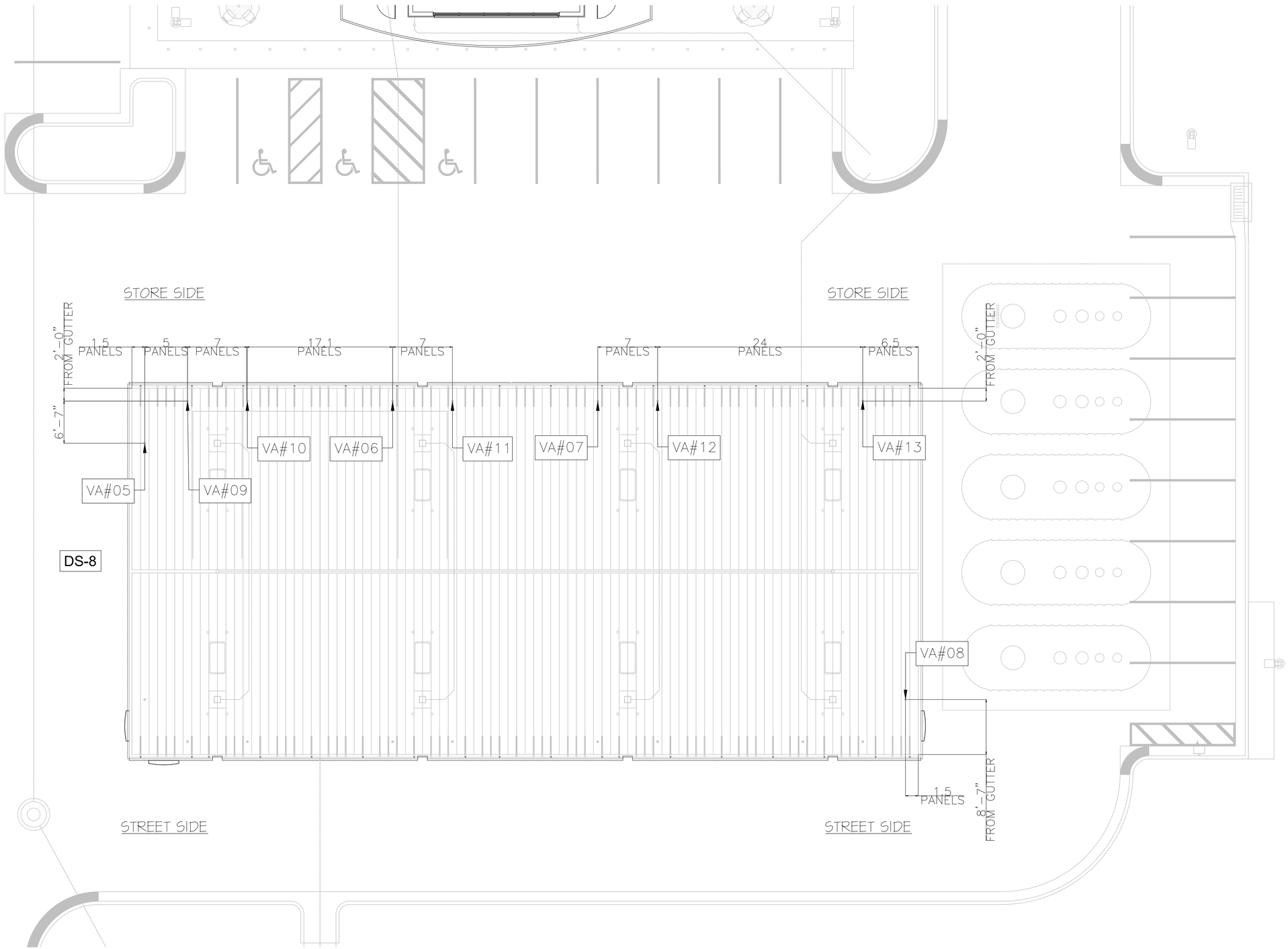
SHEET TITLE:
SECURITY CAMERA PLAN

SHEET NUMBER:
E004

A1 SECURITY CAMERA PLAN

1" = 20'-0"

NORTH



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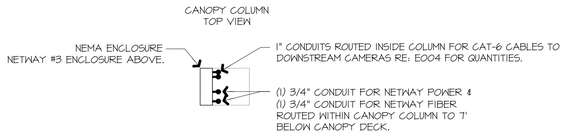
SHEET TITLE:
GAS CANOPY VA CAMERA LOCATIONS

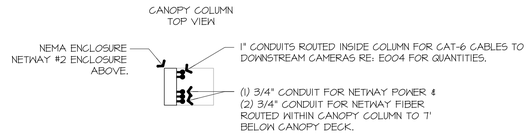
SHEET NUMBER:
E005

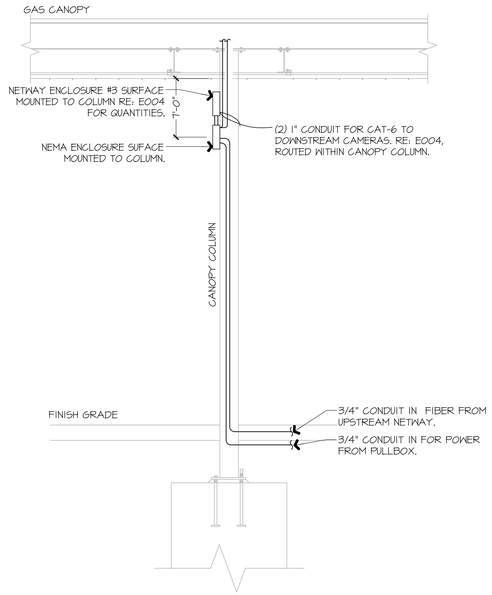
A1 — GAS CANOPY VA CAMERA LOCATIONS

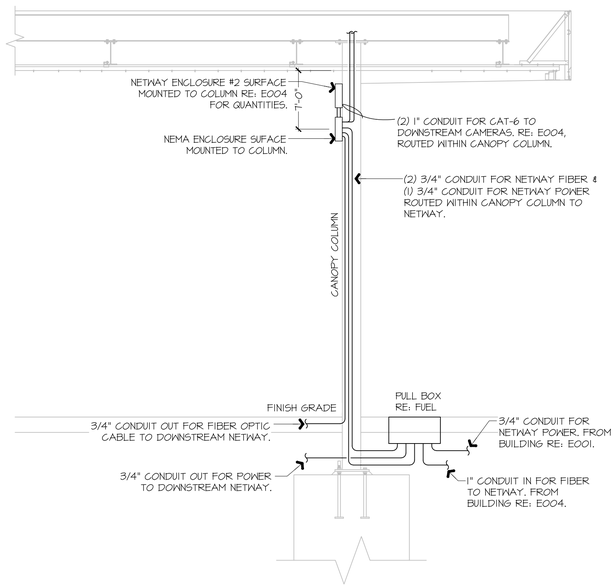
NOT TO SCALE — A1-E004

NORTH



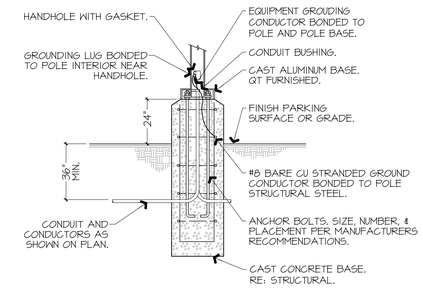






H1 GAS CANOPY SECURITY CONDUIT DETAIL

NOT TO SCALE | A1-E003



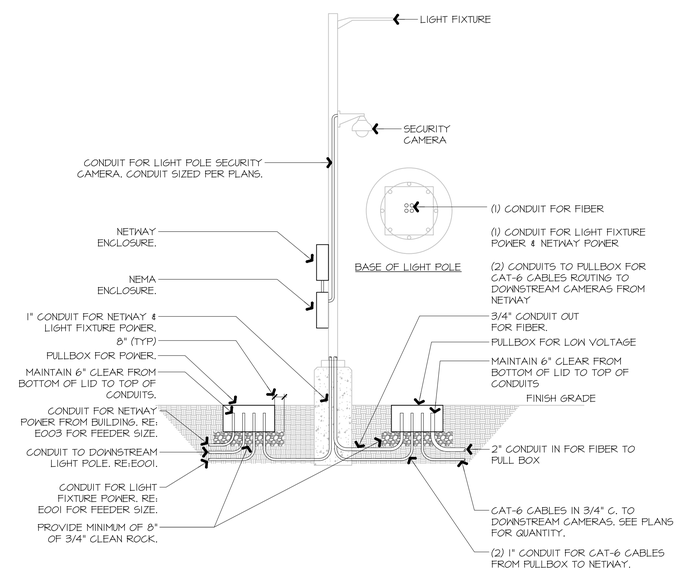
NOTE:
DIAMETER & DEPTH OF CONCRETE BASE TO BE DETERMINED ON A REGIONAL BASIS. STRUCTURAL ENGINEER SHALL DETERMINE REBAR AND CONCRETE BASED ON REGIONAL WEATHER AND SOILS CONDITIONS.

FOR ANY LIGHT POLE CONTAINING MORE THAN ONE CIRCUIT, PROVIDE GROUNDING ELECTRODE PER NEC 250.32.

H13 ELECTRICAL POLE BASE DETAIL

NOT TO SCALE | A1-E001

A1 NOT USED



A12 LIGHT POLE SECURITY CONDUIT DETAIL

NOT TO SCALE | A1-E003

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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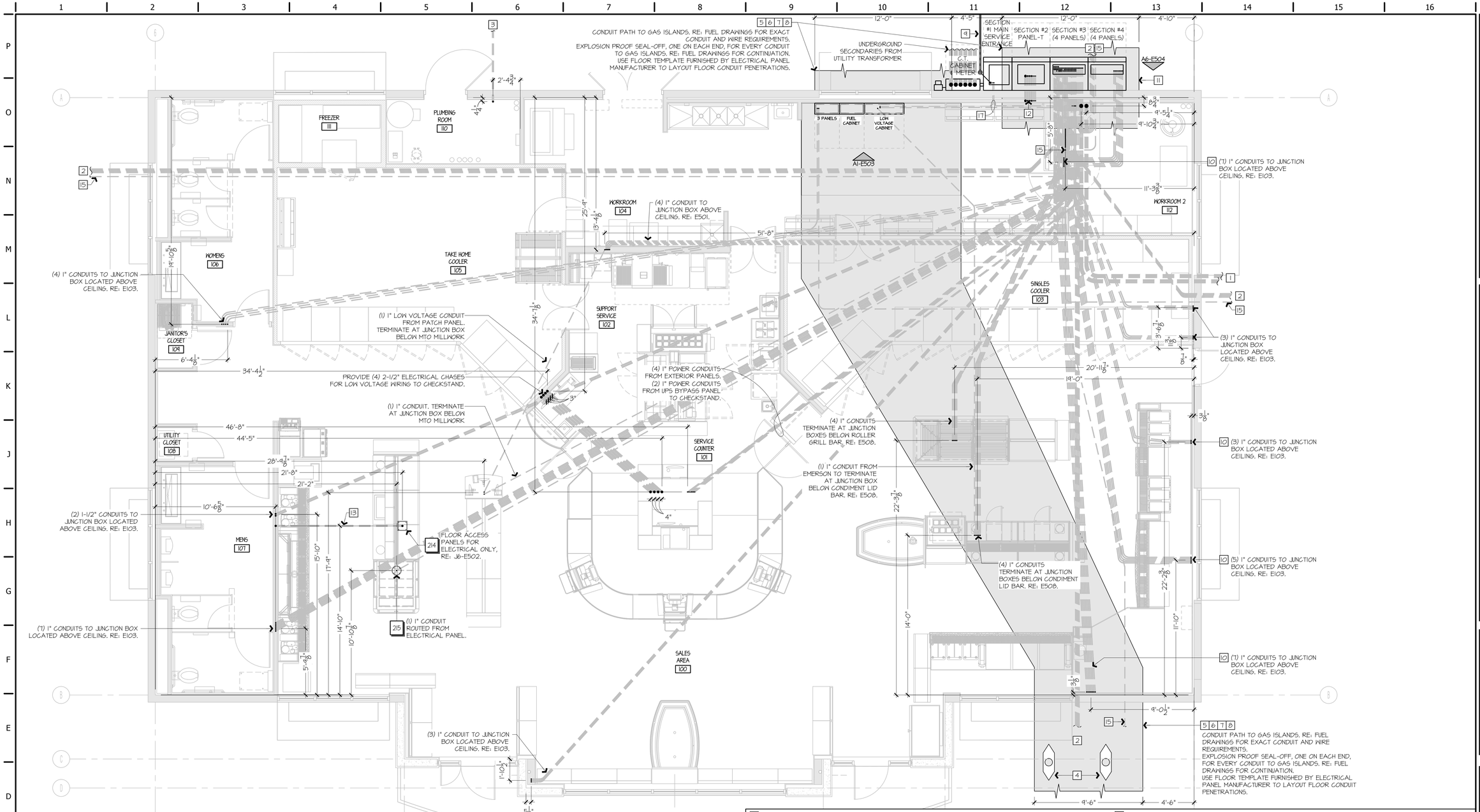
ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE:
ELECTRICAL SITE DETAILS

SHEET NUMBER:
E006



ALL ABOVE GRADE INTERIOR CONDUITS SHALL BE EMT, UNLESS NOTED OTHERWISE. MC CABLING SHALL NOT BE USED WITHIN FURRED OUT WALLS. TRANSITION FROM PVC TO EMT CONDUIT WITHIN 12" OF SLAB FOR UNDERGROUND CONDUITS STUBBING THROUGH SLAB. PROVIDE PROPER PVC TO EMT TRANSITION FITTINGS.

ALL CONDUCTORS ROUTED WITHIN BELOW GRADE CONDUITS SHALL BE DERATED AND SIZED PER NEC TABLE 310.15(C)(1) REQUIREMENTS.

THE INTENT OF BELOW GRADE CONDUITS FOR BRANCH CIRCUITS IS TO KEEP SALES FLOOR CEILINGS AVAILABLE FOR OTHER UTILITIES. ALL POWER SHALL BE ROUTED BELOW GRADE UNLESS OTHERWISE NOTED. EXACT ROUTING AT CONTRACTOR'S DISCRETION.

RE: SPECIFICATIONS FOR MINIMUM CONDUIT DEPTHS. MAINTAIN AT LEAST 16" COVER BELOW SLABS.

1. PROVIDE (2) EMPTY 4" PVC PHONE SERVICE CONDUITS WITH PULL STRING STUBBED UP 6" ABOVE FLOOR FOR USE BY PHONE INSTALLER. COORDINATE DIRECTION WITH LOCAL TELEPHONE COMPANY. CAP BOTH ENDS OF ANY UNUSED CONDUITS AND LEAVE IN PLACE FOR FUTURE USE. PROVIDE FOR PHONE SYSTEM ONE #6 COPPER GROUND WIRE FROM MAIN SERVICE GROUND POINT AND TERMINATE AS DIRECTED BY PHONE COMPANY. INSTALL PHONE LINE CONDITIONER FOR EACH INCOMING PHONE LINE. COORDINATE WITH QUIKTRIP REPRESENTATIVE.
2. PROVIDE EMPTY CONDUIT WITH PULL STRINGS STUBBED UP 4" ABOVE CEILING FOR SECURITY CAMERAS. RE: E003 FOR CONTINUATION AND EXACT QUANTITY. ROUTE CONDUITS UP IN FURRED OUT WALL.
3. PROVIDE 2" EMPTY CONDUIT TO LAWN IRRIGATION SYSTEM.
4. ROUTE CONDUITS TO GAS ISLANDS AROUND BOLLARDS. RE: CIVIL PLANS FOR MORE INFORMATION.
5. PROVIDE (4) 1" CONDUITS FOR INTERCOM. (1) HOMERUN TO FIRST DISPENSER OF EACH ROW AND (1) EMPTY CONDUIT WITH PULL STRING TO EACH ROW OF COLUMNS FOR FUTURE USE. RE: FUEL DRAWINGS FOR MORE INFORMATION.
6. PROVIDE INTERCOM WIRE, FINAL HOOKUP BY OTHERS. COORDINATE WITH QT REPRESENTATIVE.
7. PROVIDE 3/4" CONDUIT FOR DISPENSER COMMUNICATION (HOMERUN FOR EACH DISPENSER). RE: FUEL DRAWINGS.
8. PROVIDE EXPLOSION PROOF SEAL-OFF AT ALL PENETRATIONS THROUGH SLAB AND ALL OPEN CONDUITS STUBBED OUTSIDE OF BUILDING FOR GAS PUMP ISLANDS.
9. INSTALL OWNER FURNISHED ELECTROLYTIC GROUND ROD PER DETAIL J1-E504 AND MANUFACTURER INSTALLATION INSTRUCTIONS.
10. ROUTE CONDUITS FROM BELOW GRADE, CONCEALED IN OR EXPOSED ON WALL, UP TO JUNCTION BOX. PROVIDE PULLSTRINGS IN UNUSED CONDUITS.
11. CONDUIT PATH TO INTERIOR BRANCH PANEL CIRCUITS THROUGH FOUNDATION BLOCKOUT.
12. ROUTE CONDUIT FOR PANEL "G", RTU'S, AND CONDENSING UNITS BELOW GRADE THROUGH FOUNDATION BLOCKOUT. TURN UP IN WALL.
13. 2" UNDERFLOOR CHASE FOR ELECTRICAL ONLY. COORDINATE WITH PLUMBING IN THE SAME VICINITY.
14. NOT USED.
15. PROVIDE (1) 1" EMPTY CONDUIT WITH PULL STRING STUBBED 4" ABOVE CEILING FOR MONUMENT OR HIGH RISE SIGN. RE: E001 FOR CONTINUATION AND EXACT QUANTITY AND LOCATION. LOCATE WITH EXTERIOR CAMERA CONDUITS.
16. NOT USED.
17. PROVIDE CONDUITS FROM INTERIOR TO EXTERIOR ELECTRICAL PANELS AS SHOWN. RE: A1-E503 FOR MORE INFORMATION.

A1 ELECTRICAL UNDER FLOOR PLAN

3/8" = 1'-0"

NORTH

A9 PLAN NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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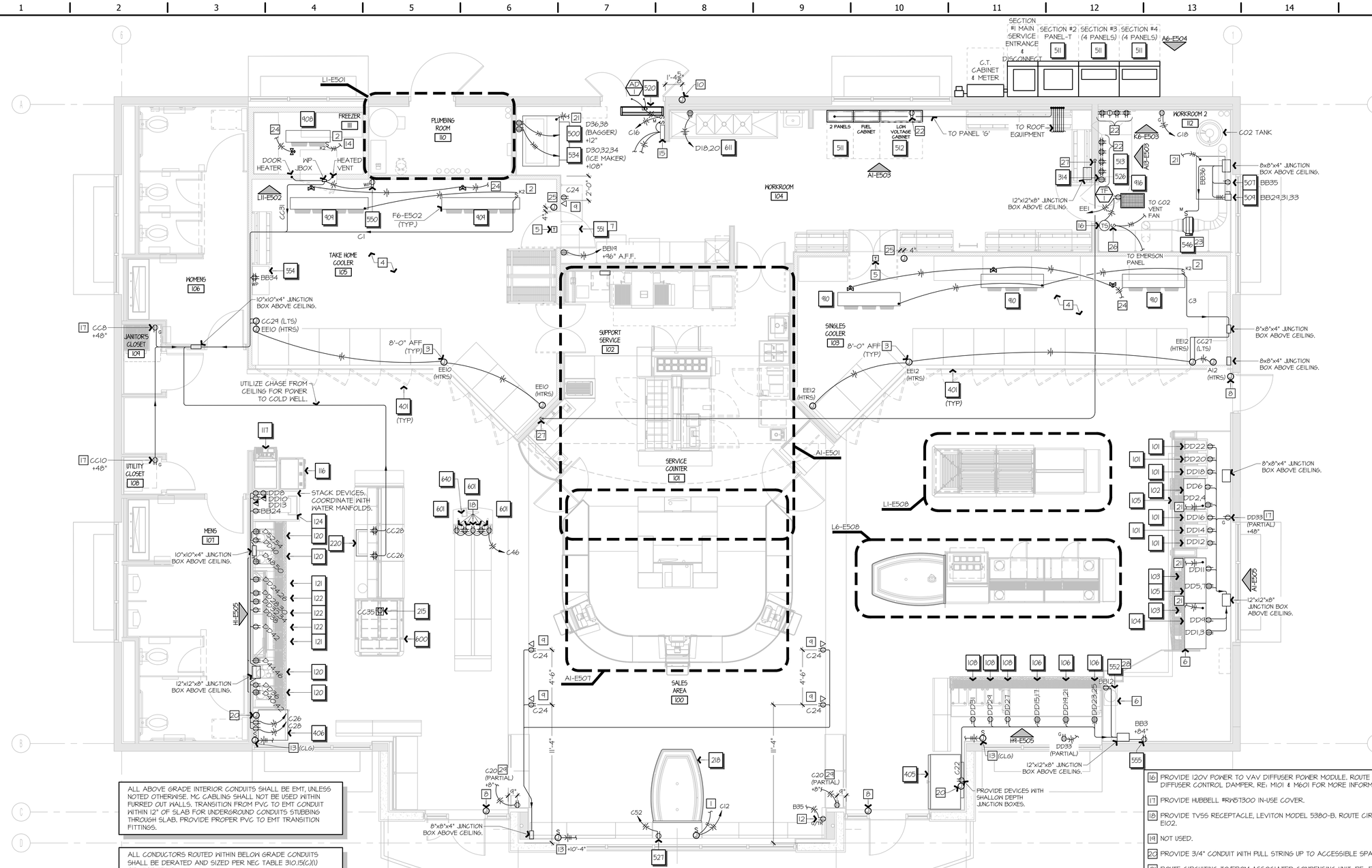
ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE:
ELECTRICAL UNDERFLOOR PLAN

SHEET NUMBER:
E102



ALL ABOVE GRADE INTERIOR CONDUITS SHALL BE EMT, UNLESS NOTED OTHERWISE. MC CABLING SHALL NOT BE USED WITHIN FURRED OUT WALLS. TRANSITION FROM PVC TO EMT CONDUIT WITHIN 12" OF SLAB FOR UNDERGROUND CONDUITS STUBBING THROUGH SLAB. PROVIDE PROPER PVC TO EMT TRANSITION FITTINGS.

ALL CONDUCTORS ROUTED WITHIN BELOW GRADE CONDUITS SHALL BE DERATED AND SIZED PER NEC TABLE 310.15(C)(1) REQUIREMENTS.

THE INTENT OF BELOW GRADE CONDUITS FOR BRANCH CIRCUITS IS TO KEEP SALES FLOOR CEILINGS AVAILABLE FOR OTHER UTILITIES. ALL POWER SHALL BE ROUTED BELOW GRADE UNLESS OTHERWISE NOTED. EXACT ROUTING AT CONTRACTOR'S DISCRETION.

REFER TO "QT LOW VOLTAGE/SECURITY INSTALLATION MANUAL" FOR ADDITIONAL WIRING REQUIREMENTS PRIOR TO WALLS AND CEILINGS BEING FINISHED. COORDINATE WITH QT REP.

PROVIDE BLACK OUTLETS AND BLACK COVER PLATES WHERE MOUNTED ON DARK-COLORED WALLS, INCLUDING EXTERIOR BLOCK WALLS.

REFER TO SHEET E602 FOR # EQUIPMENT CALLOUTS.

ALL DEVICES SHOWN WITH CIRCUIT PANEL DESIGNATION SHALL BE HOME-RUN WITH 3#12 IN 1/2" CONDUIT UNLESS OTHERWISE NOTED. DO NOT SHARE NEUTRALS UNLESS SPECIFICALLY NOTED.

1. ROUTE CONTROL WIRING TO ASSOCIATED CONDENSING UNIT. RE: MANUFACTURERS WIRING DIAGRAMS. RE: E105.
2. PROVIDE 120V KEYED SWITCH LABELED "EVAPORATORS" AS POWER DISCONNECT FOR EVAPORATOR FANS. RE: F6-E502 (TYP).
3. HARDWIRE TO SINGLE POINT CONNECTION FOR DOOR LIGHT/HEATER J-BOXES. LIGHTS SHALL BE ON ONE CIRCUIT & HEATERS SHALL BE ON OTHER. LIGHTS SHALL REMAIN OFF DURING CONSTRUCTION UNTIL COOLERS ARE PERMANENTLY COLD. REWIRE THE FACTORY INSTALLED COOLER HEATERS TO BYPASS THE FURNISHED COOLER DOOR ENERGY CONTROLLER. COOLER HEATERS ARE CONTROLLED BY PMAC UNITS. ALL LIGHTS AND HEATERS CONTROLLED BY EMS THROUGH PMAC UNITS. RE: L11-E510. COORDINATE WITH QT REPRESENTATIVE.
4. ELECTRICAL WIRING FOR COOLERS AND FREEZERS TO RUN EXTERIOR OF BOX WHEN POSSIBLE. DO NOT RUN CONDUITS ON INTERIOR CEILING OF BOX. SEAL ALL COOLER/FREEZER PENETRATIONS WITH CLEAR SILICONE INCLUDING SEAL-OFF FITTINGS WITH LISTED SEALANT FOR CONDUIT INTERIORS.
5. PROVIDE TAYLOR 1106J WALL THERMOMETER ABOVE EMPLOYEE DOOR.
6. ALL RECEPTACLES FOR DRINK BARS FED WITH CONDUIT RUNS FROM ABOVE THROUGH MILLWORK CAVITY. RE: E505.
7. INSTALL EQUIPMENT ABOVE DOOR, SUSPENDED FROM STRUCTURE ABOVE. RE: A1-E602 AND QT INSTALL DRAWINGS FOR MORE INFORMATION.
8. PROVIDE J-BOX ABOVE CEILING WITH 3/4" CONDUIT INTO STOREFRONT FRAME MINIMUM OF 6" FOR LOW VOLTAGE CABLING TO PINHOLE CAMERAS. RE: INSTALL DRAWINGS FOR CAMERA LOCATIONS.
9. PROVIDE POWER/DATA OUTLETS FOR VIDEO MONITOR MOUNTED AT 10'-6" AFF, RE: M1-E502. PROVIDE TV55 RECEPTACLE LEVITON MODEL 5380-GY. VERIFY EXACT LOCATION AND QUANTITY WITH ARCHITECTURAL DRAWINGS AND QT REP. RE: LOW VOLTAGE DRAWINGS FOR MORE INFORMATION ON LOW VOLTAGE WIRING.
10. MOUNT TWO GANG J-BOX FLUSH MOUNTED 58" AFG WITH 3/4" CONDUIT AND PULL STRING UP TO ACCESSIBLE SPACE ABOVE CEILING FOR SECURITY CAMERA / BUZZER FURNISHED BY QT.
11. NOT USED.
12. PROVIDE RECEPTACLE FOR CANOPY DRAIN HEAT TRACE CABLE. RE: E105 FOR CONTINUATION. RE: F1-E502 FOR DETAIL.
13. PROVIDE J-BOX WITH LEVITON #1221-DL TOGGLE SWITCH AND COVER PLATE FOR MOTORIZED SHADE, RECESSED IN WALL OR CEILING AS INDICATED ON DETAIL. ROUTE 50-CORD FROM SHADE EXPOSED NEATLY AND TERMINATED INTO FACEPLATE OF J-BOX. RUN 12/3 MC CABLE TO WINDOWSHADE CONTROLLER IN ELECTRICAL ROOM. RE: A1-E503 FOR LOCATION OF CONTROLLER AND E506 FOR WIRING DIAGRAM & DETAILS.
14. ROUTE CIRCUITING THROUGH EMERSON CONTROL BOARD LOCATED IN CONDENSING UNIT. RE: QT INSTALL DRAWINGS FOR WIRING DIAGRAM.
15. ELECTRONIC DOOR HARDWARE - MOUNT POWER SUPPLY ABOVE CEILING AND FEED WITH UNSWITCHED LEG OF NEAREST 120V LIGHTING CIRCUIT. RUN LOW VOLTAGE WIRING BETWEEN HINGE SET, RELEASE SWITCHES, MAGNETS, AND SENSORS, AND CONTROL UNIT AT CHECKSTAND. RE: F11-E502.
16. PROVIDE 120V POWER TO VAV DIFFUSER POWER MODULE. ROUTE CONTROL WIRING TO THERMOSTAT AND DIFFUSER CONTROL DAMPER. RE: M101 & M601 FOR MORE INFORMATION.
17. PROVIDE HUBBELL #RK57300 IN-USE COVER.
18. PROVIDE TV55 RECEPTACLE, LEVITON MODEL 5380-B. ROUTE CIRCUIT THROUGH BELOW GRADE CONDUIT. RE: E102.
19. NOT USED.
20. PROVIDE 3/4" CONDUIT WITH PULL STRING UP TO ACCESSIBLE SPACE ABOVE CEILING FOR EMERSON.
21. ROUTE CIRCUITING TO/FROM ASSOCIATED CONDENSING UNIT. RE: E105 FOR CONTINUATION.
22. RE: ELEVATION FOR CIRCUIT NUMBER AND DEVICE LOCATION.
23. CO2 VENTILATION EXHAUST FAN BY MECHANICAL CONTRACTOR. RE: M101 & E106 FOR MORE INFORMATION.
24. ROUTE SOLENOID POWER THROUGH EMERSON CONTROL BOARD LOCATED IN CONDENSING UNIT. RE: QT INSTALL DRAWINGS FOR WIRING DIAGRAM.
25. PROVIDE SURFACE MOUNTED J-BOX AND 1/2" CONDUIT FOR COOLER SECURITY DEVICE. RE: QT SECURITY DRAWINGS.
26. PROVIDE CO2 EXHAUST FAN MANUAL START SWITCH. ROUTE CIRCUIT THROUGH RELAY WITHIN EMERSON PANEL. RE: F13-E510 FOR RELAY WIRING DIAGRAM.
27. PROVIDE EMPTY CONDUIT(S) WITH PULL STRING ROUTED ABOVE CEILING FOR MONUMENT OR HIGH RISE SIGN. ROUTE CONDUIT THROUGH FURRED OUT WALL IN BACK ROOM, ABOVE CEILING, AND DOWN TO ELECTRICAL CHASES SERVING CHECKSTAND. RE: E102 FOR CONTINUATION.
28. INSTALL QT-FURNISHED LOCK BOX WITHIN 3' OF NITROGEN GENERATOR. CONNECT LOCKOUT TO NITROGEN GENERATOR WITH INCLUDED POWER CORDS. RE: LOW VOLTAGE DRAWINGS.
29. PROVIDE RECESSED RGPT TYPICAL OF LEVITON #010-00684-00E. MOUNT RGPT FLUSH WITH TILE.

A1 ELECTRICAL POWER FLOOR PLAN

1/4" = 1'-0"

NORTH

A5 PLAN NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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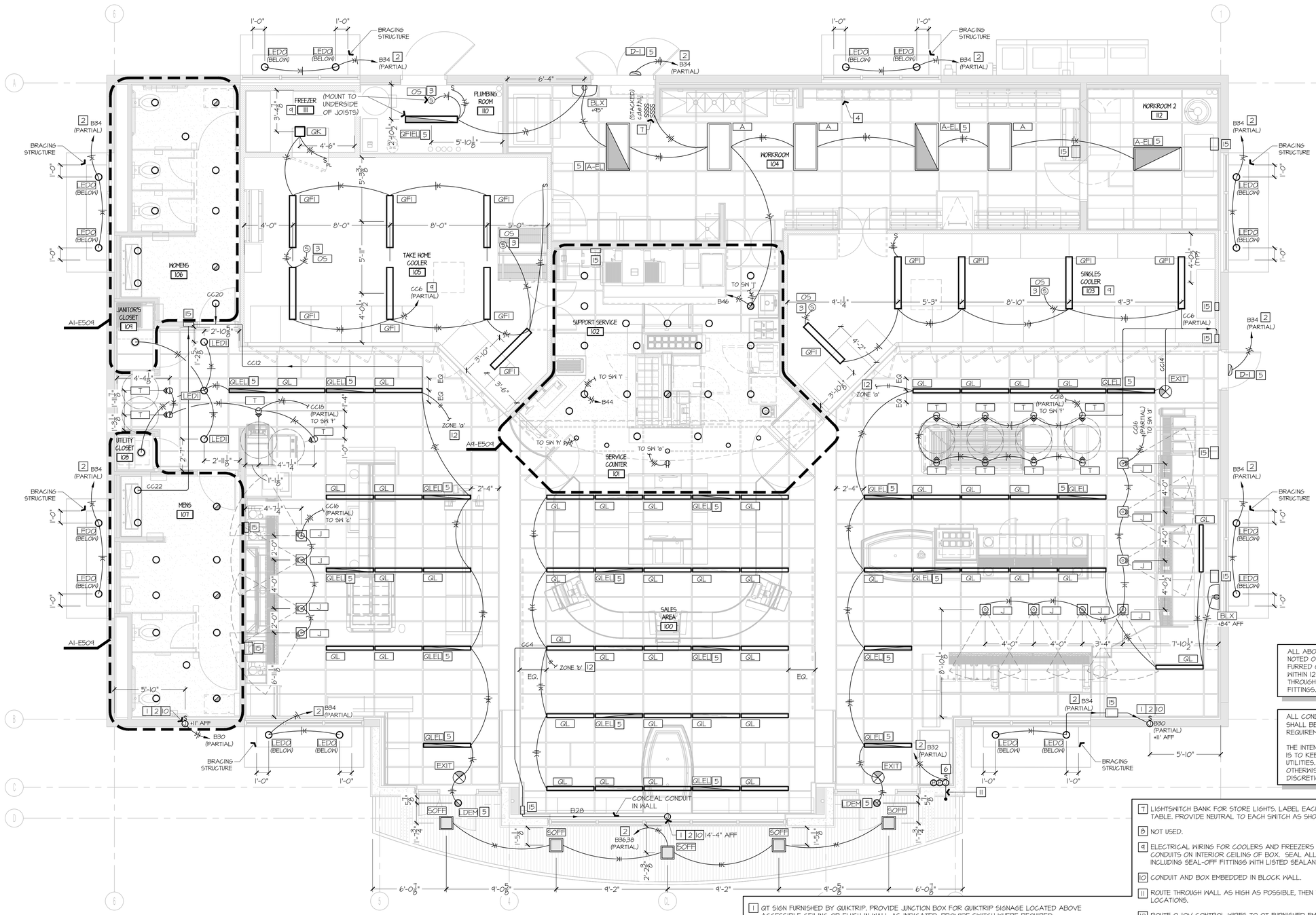
ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE:

ELECTRICAL POWER FLOOR PLAN

SHEET NUMBER:

E103



REFER TO SHEET E601 FOR LIGHTING CONTROLS.

REFER TO SHEET E601 FOR [•] LIGHT FIXTURE CALLOUTS.

REFER TO SHEET E602 FOR [•] EQUIPMENT CALLOUTS.

ALL DEVICES SHOWN WITH CIRCUIT PANEL DESIGNATION SHALL BE HOME-RUN WITH 3#12 IN 1/2" CONDUIT UNLESS OTHERWISE NOTED. DO NOT SHARE NEUTRALS UNLESS SPECIFICALLY NOTED.

CONTROL ZONES:

a. SALES FLOOR SIDES EMERSON CONTROL
b. SALES FLOOR CENTER EMERSON CONTROL
c. COFFEE DIRECTIONAL LIGHTS
d. FOUNTAIN DIRECTIONAL LIGHTS
e. "KITCHENS" SIGN
f. ROLLER GRILL LIGHTS
g. NOT USED
h. FRONT FSC COUNTER DOWNLIGHTS
i. FSC CEILING DOWNLIGHTS
j. FSC HOOD DOWNLIGHTS

ALL LIGHTING FIXTURES LOCATED ABOVE FOOD/BEVERAGE HANDLING, PREPARATION, STORAGE, DISPLAY, AND UTENSIL WASH AREAS HAVE INTEGRAL SHIELDING. ILLUMINATION LEVELS WILL MEET MINIMUM LEVELS PRESCRIBED BY HEALTH DEPT.

CONDUITS FEEDING COOLER CEILING LIGHTS MUST BE SEALED WITH SEALANT WHICH IS LISTED AND LABELED FOR THE USE TO PREVENT CONDENSATION IN GLOBES.

1. QT SIGN FURNISHED BY QUIKTRIP. PROVIDE JUNCTION BOX FOR QUIKTRIP SIGNAGE LOCATED ABOVE ACCESSIBLE CEILING OR FLUSH IN WALL AS INDICATED. PROVIDE SWITCH WHERE REQUIRED.
2. RUN THROUGH EMERSON BUILDING MANAGEMENT SYSTEM OUTSIDE LIGHTING CONTROL SYSTEM.
3. CEILING MOUNTED OCCUPANCY SENSOR TO CONTROL LIGHTS INDICATED. RE: LIGHT FIXTURE SCHEDULE.
4. LIGHTING CONTROL EQUIPMENT LOCATED IN THIS AREA. RE: A1-E503 FOR ELEVATION OF THIS AREA.
5. FIXTURE EQUIPPED WITH EMERGENCY BALLAST AND BATTERY PACK FOR EGRESS LIGHTING. RUN EXTRA UNSWITCHED HOT WIRE FOR EMERGENCY FIXTURE BYPASSING LIGHTSWITCHING AS INDICATED.
6. PROVIDE JUNCTION BOX AND ALL ELECTRICAL CONNECTIONS FOR BUILDING L.E.D. LIGHTING SYSTEM. LED SYSTEM PROVIDED BY OTHERS. JUNCTION BOX SUPPLYING REMOTE POWER SUPPLIES SHALL BE LOCATED ABOVE CEILING AND ACCESSIBLE FROM LAY-IN CEILING AREA. HOLE THROUGH STRUCTURAL STEEL CHANNEL IS PROVIDED FOR CONDUIT ROUTING WHERE INDICATED.
7. LIGHTSWITCH BANK FOR STORE LIGHTS. LABEL EACH SWITCH FOR THE AREA SERVED. RE: CONTROL ZONE TABLE. PROVIDE NEUTRAL TO EACH SWITCH AS SHOWN.
8. NOT USED.
9. ELECTRICAL WIRING FOR COOLERS AND FREEZERS TO RUN EXTERIOR OF BOX WHEN POSSIBLE. DO NOT RUN CONDUITS ON INTERIOR CEILING OF BOX. SEAL ALL COOLER/FREEZER PENETRATIONS WITH CLEAR SILICONE INCLUDING SEAL-OFF FITTINGS WITH LISTED SEALANT FOR CONDUIT INTERIORS.
10. CONDUIT AND BOX EMBEDDED IN BLOCK WALL.
11. ROUTE THROUGH WALL AS HIGH AS POSSIBLE, THEN TURN UP TO ROUTE WITHIN STRUCTURE OVER TO J-BOX LOCATIONS.
12. ROUTE 0-10V CONTROL WIRES TO QT FURNISHED EMERSON LDIM BOARD AT LIGHTING PANEL. RE: A1-E503 FOR ELEVATION, RE: QT INSTALL DRAWINGS FOR LOW VOLTAGE WIRING.
13. NOT USED.
14. NOT USED.
15. JUNCTION BOX ABOVE CEILING FOR RECEPTACLE AND LIGHTING CIRCUITS. RE: E103 & E501.

ALL ABOVE GRADE INTERIOR CONDUITS SHALL BE EMT, UNLESS NOTED OTHERWISE. MC CABLING SHALL NOT BE USED WITHIN FURRED OUT WALLS. TRANSITION FROM PVC TO EMT CONDUIT WITHIN 12" OF SLAB FOR UNDERGROUND CONDUITS STUBBING THROUGH SLAB. PROVIDE PROPER PVC TO EMT TRANSITION FITTINGS.

ALL CONDUCTORS ROUTED WITHIN BELOW GRADE CONDUITS SHALL BE DERATED AND SIZED PER NEC TABLE 310.15(C)(1) REQUIREMENTS.

THE INTENT OF BELOW GRADE CONDUITS FOR BRANCH CIRCUITS IS TO KEEP SALES FLOOR CEILINGS AVAILABLE FOR OTHER UTILITIES. ALL POWER SHALL BE ROUTED BELOW GRADE UNLESS OTHERWISE NOTED. EXACT ROUTING AT CONTRACTOR'S DISCRETION.

A1 — ELECTRICAL LIGHTING REFLECTED CEILING PLAN

1/4" = 1'-0"

NORTH

A9 — PLAN NOTES

STATE OF MISSOURI — NEIL P. BARTLEY — NUMBER PE-2007023868 — PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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SHEET TITLE:
ELECTRICAL LIGHTING REFLECTED CEILING PLAN

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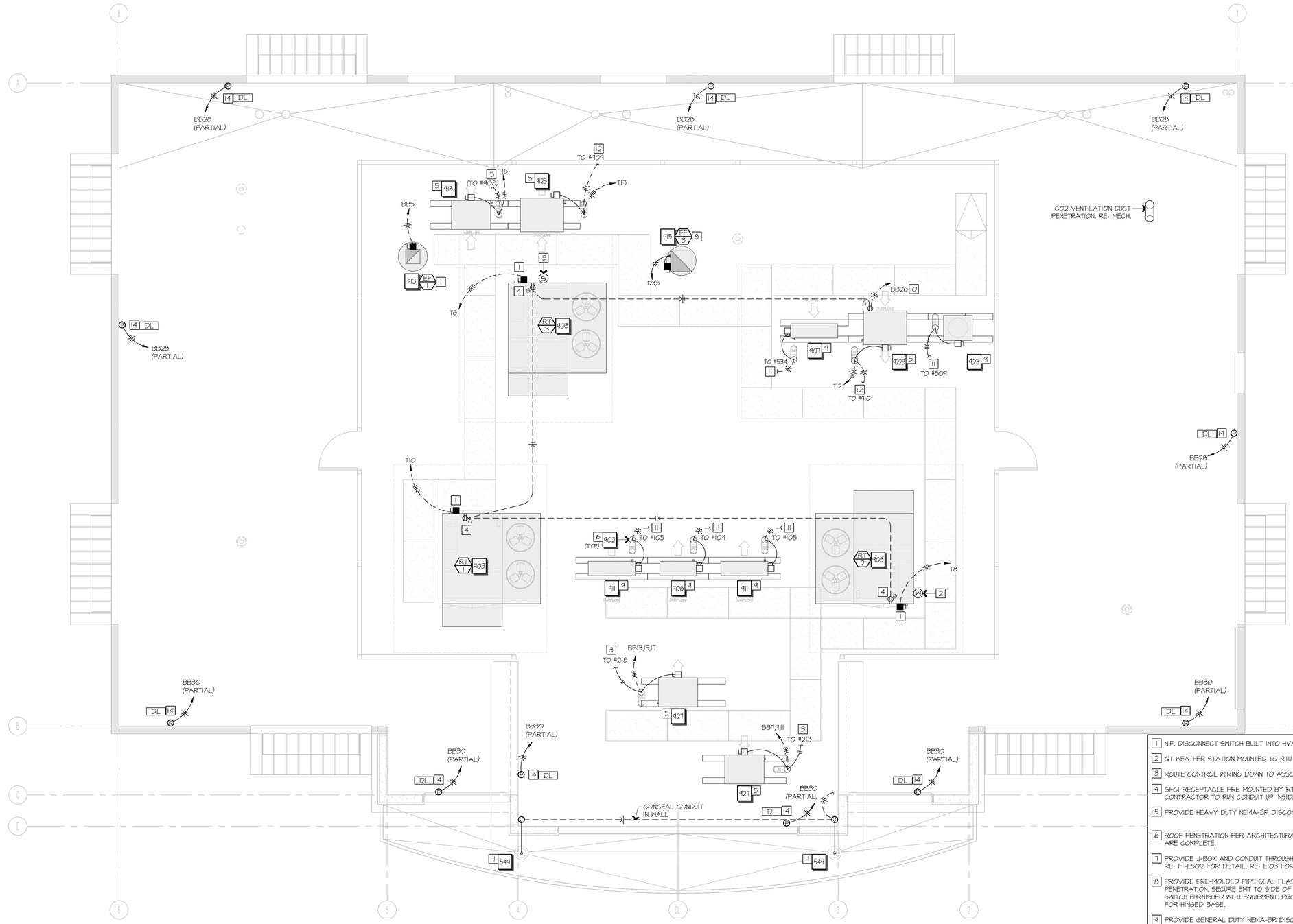
E104



NOTE: HIDDEN LINES DEPICT ELEMENTS THAT ARE BELOW THE ROOF

REFER TO SHEET E602 FOR # EQUIPMENT CALLOUTS.

ALL DEVICES SHOWN WITH CIRCUIT PANEL DESIGNATION SHALL BE HOME-RUN WITH 3#12 IN 1/2" CONDUIT UNLESS OTHERWISE NOTED. DO NOT SHARE NEUTRALS UNLESS SPECIFICALLY NOTED.

REFER TO RISER DIAGRAM, SHEET E504 FOR ADDITIONAL WIRE SIZING INFORMATION.

A1 ELECTRICAL ROOF PLAN

3/32" = 1'-0"

NORTH

A13 PLAN NOTES

1. N.F. DISCONNECT SWITCH BUILT INTO HVAC EQUIPMENT AT FACTORY.
2. QT WEATHER STATION MOUNTED TO RTU PER EMS. RE: A9-M501.
3. ROUTE CONTROL WIRING DOWN TO ASSOCIATED EQUIPMENT. RE: E103 FOR CONTINUATION.
4. GFCI RECEPTACLE PRE-MOUNTED BY RTU MANUFACTURER INSIDE ROOFTOP UNIT CABINET. ELECTRICAL CONTRACTOR TO RUN CONDUIT UP INSIDE CURB AND INTO RTU CABINET TO MAKE 120V POWER CONNECTION.
5. PROVIDE HEAVY DUTY NEMA-3R DISCONNECT SWITCH.
6. ROOF PENETRATION PER ARCHITECTURAL DETAIL K13-A520. SEAL WITH FOAM AFTER POWER AND REF LINES ARE COMPLETE.
7. PROVIDE J-BOX AND CONDUIT THROUGH WALL FOR POWER TO PC-FURNISHED CANOPY DRAIN HEAT TRACE. RE: F1-E502 FOR DETAIL. RE: E103 FOR CONTINUATION.
8. PROVIDE PRE-MOLDED PIPE SEAL FLASHING COMPATIBLE WITH ROOFING MEMBRANE FOR EMT CONDUIT PENETRATION. SECURE EMT TO SIDE OF CURB BEFORE MAKING FINAL TERMINATION INTO N.F. DISCONNECT SWITCH FURNISHED WITH EQUIPMENT. PROVIDE ENOUGH SLACK IN FLEX CONDUIT FOR FULL RANGE OF MOTION FOR HINGED BASE.
9. PROVIDE GENERAL DUTY NEMA-3R DISCONNECT SWITCH.
10. PROVIDE NEW GFCI RECEPTACLE MOUNTED TO CONDENSING UNIT.
11. CIRCUITING TO/FROM ASSOCIATED EQUIPMENT BELOW. RE: E103.
12. ROUTE POWER DOWN TO SOLENOID VALVE. RE: QT INSTALL DRAWINGS FOR WIRING DIAGRAM.
13. QT IRRIGATION WEATHERMATIC SENSOR MOUNTED TO RTU. RE: QT INSTALL DRAWINGS.
14. INSTALL DOWNLIGHTING POWER PACKS ALONG ROOF EDGE. ENSURE POWER PACKS ARE INSTALLED IN WEATHERPROOF ENCLOSURE. ROUTE EXPOSED CONDUITS AS CLOSE TO ROOF EDGE AS POSSIBLE. ENSURE ALL CONDUIT IS PROPERLY SUPPORTED ON ROOF. RE: MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR DOWNLIGHTING SECTION LOCATIONS AND POWER PACK WIRING.
15. ROUTE POWER DOWN TO EVAPORATOR AND SOLENOID VALVE. RE: QT INSTALL DRAWINGS FOR WIRING DIAGRAM.

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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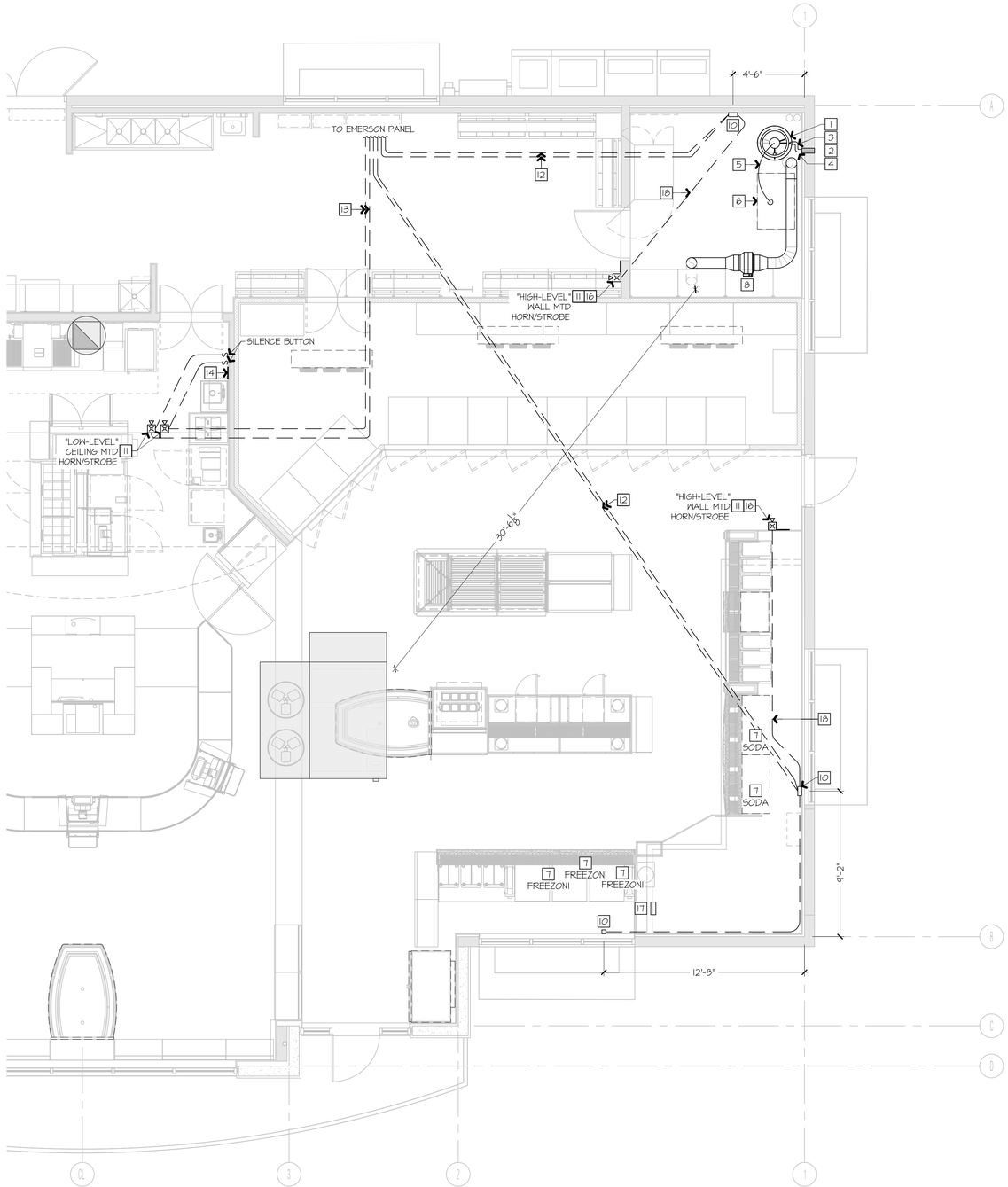
SHEET TITLE:
ELECTRICAL ROOF PLAN

SHEET NUMBER:
E105



LEGEND:

- S — SWITCH AS NOTED ON PLANS
- CO2 DETECTOR @ 12" AFG
- EXHAUST DUCT
- WARNING SIGN
- FILL BOX/VENT
- EXHAUST FAN

NOTES:

1. INSTALLATION SHALL BE IN COMPLIANCE WITH NFPA 55 CHAPTER 13 AND IFC.
2. PIPING AND FITTINGS TO BE LOCATED AND SUPPORTED TO PROTECT AGAINST DAMAGE.
3. CO2 SENSOR SENDS CO2 LEVELS TO EMERSON BUILDING MANAGEMENT MONITORING SYSTEM.

SEQUENCE OF OPERATION:

WHEN CO2 SENSOR DETECTS LOW LEVEL CO2 AT 5,000 PPM (PARTS PER MILLION) [> 3 MINUTES CONTINUOUS]:

- EXHAUST FAN ENERGIZES AND RUNS UNTIL CO2 LEVEL DROPS BELOW 5,000 PPM FOR LONGER THAN 10 MINUTES.

WHEN CO2 SENSOR DETECTS LOW LEVEL CO2 AT 5,000 PPM (PARTS PER MILLION) [> 4 HOURS CONTINUOUS]:

- EMERSON SYSTEM ACTIVATES SUPERVISORY AUDIBLE/VISUAL ALARM LOCATED IN THE FSC.
- ALARM CONTINUES UNTIL CO2 LEVEL OF THE MONITORED SPACE(S) DROPS BELOW 5,000 PPM.
- AUDIBLE ALARM MAY BE SILENCED BY PRESSING BUTTON BELOW HORN/STROBE.
- EMERSON SYSTEM CREATES A FACILITY SUPPORT "CO2 LOW LEVEL ALARM" WORK ORDER.

WHEN CO2 SENSOR DETECTS CO2 AT 20,000 PPM (PARTS PER MILLION) [INSTANTANEOUS]:

- EMERSON SYSTEM WILL CREATE A FACILITY SUPPORT "CO2 HIGH LEVEL ALARM" PRIORITY WORK ORDER.
- NO AUDIBLE/VISUAL ALERT IN THE STORE.

WHEN CO2 SENSOR DETECTS HIGH LEVEL CO2 AT 30,000 PPM (PARTS PER MILLION) [INSTANTANEOUS]:

- SENSOR SENDS CO2 LEVELS TO EMERSON BUILDING MANAGEMENT MONITORING SYSTEM WHICH NOTIFIES 24 HOUR QT SECURITY HELP DESK.
- QT SECURITY HELP DESK CALLS LOCAL EMERGENCY SERVICES AND STORE MANAGEMENT.
- SENSOR ACTIVATES AUDIBLE/VISUAL ALARM LOCATED OUTSIDE THE ROOM.
- EMERSON WILL DEACTIVATE THE LOW LEVEL ALARM.
- EMERGENCY PLAN WILL BE INITIATED BY STAFF, INCLUDING EVACUATION.
- WHEN CO2 LEVEL DROPS BELOW 28,500 PPM FOR 5 MINS THE HIGH LEVEL ALARM WILL TURN OFF.
- STORE IS NOT REOCCUPIED UNTIL FIRE DEPARTMENT INDICATES STORE IS SAFE TO DO SO.

REQUIRED TESTING:

1. ONCE THE LATEST EMERSON SET POINT FILE HAS BEEN UPLOADED BY THE QT HELPDESK, AND ONCE THE CO2 SENSOR HAS BEEN PROGRAMMED BY THE INSTALLER, THE CO2 DETECTION/ENUNCIATION SYSTEM WILL NEED TO BE TESTED AND OPERATION VERIFIED.
2. LOW VOLTAGE CONTRACTOR: REFER TO QUIKTRIP SPEC BOOK FOR THE PROPER PROCEDURE TO VERIFY SYSTEM OPERATION.
3. ENSURE THAT EXHAUST FAN ALSO RUNS WHEN MANUAL SWITCH IS TURNED ON. BE SURE THIS FAN IS NOT RUNNING DURING STORE HVAC AIR BALANCING.

QT FURNISHED ITEMS

Item	Item Description	Manufacturer & Model	Qty
A	CO2 TANK	CARBO-MIZER 750	1
B	FILL BOX	CHART #21312111	1
C	FILL PIPING	PARKER HANNIFIN 540P	*
D	RELIEF VENT PIPING	PARKER HANNAFIN SERIES NR	*
E	BEVERAGE SUPPLY PIPING	FLEX-TECH PEB FDA/NSF-51	*
F	CO2 DETECTOR	BACHARACH MGS-550	2
G	CO2 REMOTE SENSOR	BACHARACH SENSOR & CABLING	1
H	HORN/STROBE	**	4
J	SILENCE BUTTON	EMERSON #826824	2
K	VENTILATION FAN	CAPTIVEAIRE #DFA-300-CA	1
L	CO2 LEAK GUARD	EMERSON #830532	2
M	REMOTE SENSOR CAGE	EMERSON #832258	2

* - CONTRACTOR TO CUT LENGTH OF PIPING NECESSARY TO COMPLETE THE SYSTEM.
** - MODEL VARIES BASED ON JURISDICTION. RE: QT INSTALL DRAWINGS.

1. CO2 TANK. TANK SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROVIDE EMERGENCY SHUT OFF VALVE TAG ON SUPPLY LINE AND REQUIRED SIGNAGE PER NFPA REQUIREMENTS.
2. FILL BOX WITH RELIEF VENT.
3. FILL PIPING, HOSE LISTED FOR USE WITH CO2. LABEL PIPING A MINIMUM OF EVERY 20' WITH PRODUCT DESCRIPTION AND FLOW DIRECTION.
4. RELIEF VENT PIPING, HIGH STRENGTH NYLON TUBING. LABEL PIPING A MINIMUM OF EVERY 20' WITH PRODUCT DESCRIPTION AND FLOW DIRECTION.
5. SUPPLY PIPING, POLYETHYLENE BEVERAGE HOSE. LABEL PIPING A MINIMUM OF EVERY 20' WITH PRODUCT DESCRIPTION AND FLOW DIRECTION.
6. MULTIPLEX REFRIGERATION AND SYRUP MIXING UNIT BY SODA SUPPLIER.
7. FREEZONI OR SODA FOUNTAIN.
8. CO2 VENTILATION FAN FURNISHED BY QT. RE: M601, E103 & E602 FOR MORE INFORMATION.
9. NOT USED.
10. INSTALL OWNER-FURNISHED CO2 DETECTOR WITH LOCAL SENSOR, REMOTE SENSOR AND LEAK GUARD AT 1'-0" AFF WHERE INDICATED. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
11. OWNER-FURNISHED HORN/STROBE INSTALLED BY ELECTRICAL CONTRACTOR.
12. LOW VOLTAGE FROM EMERSON PANEL TO CO2 DETECTOR. (2) CO2 DETECTOR OUTPUTS AND (1) 24V EMERSON OUTPUT. RE: QT INSTALL DRAWINGS.
13. LOW VOLTAGE FROM EMERSON PANEL TO LOW LEVEL HORN/STROBE. (1) 24V EMERSON OUTPUT. RE: QT INSTALL DRAWINGS.
14. INSTALL OWNER-FURNISHED LOW LEVEL HORN/STROBE SILENCE BUTTON. LABEL AS "LOW LEVEL CO2 DETECTION SILENCE BUTTON."
15. NOT USED.
16. INSTALL OWNER-FURNISHED ACCOMPANYING SIGNAGE NEAR HORN/STROBE(S). RE: ARCHITECTURAL DRAWINGS FOR SIGNAGE.
17. MECHANICAL CONTRACTOR PROVIDED TRANSFER GRILLE. RE: A1-M101.
18. LOW VOLTAGE FROM CO2 DETECTOR TO HORN/STROBE (1) 24V OUTPUT. RE: QT INSTALL DRAWINGS.

A1 — ELECTRICAL CO2 DETECTION AND VENTILATION FLOOR PLAN
1/4" = 1'-0"

NORTH

A10 — BILL OF MATERIALS

G13 — NOTES AND SPECIFICATIONS

A13 — PLAN NOTES

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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PROTOTYPE	P-120
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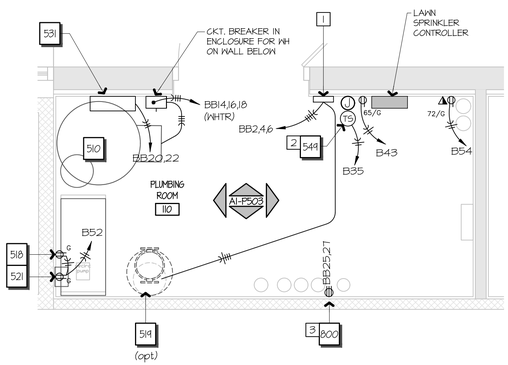
ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE:
ELECTRICAL CO2 DETECTION AND VENTILATION FLOOR PLAN

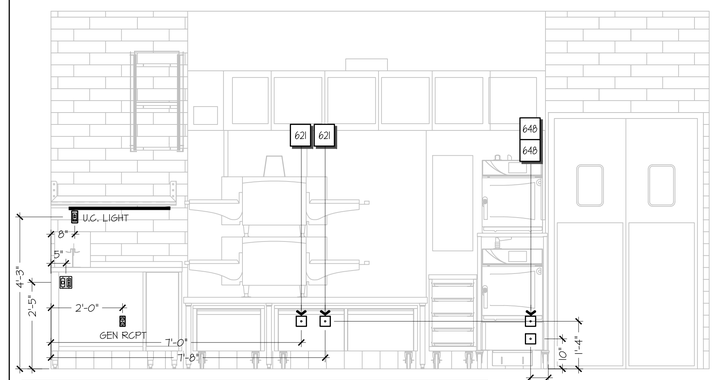
SHEET NUMBER:
E106



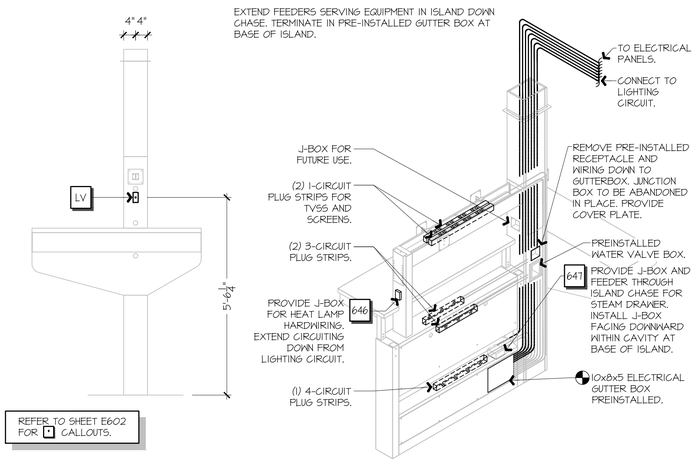
1 OPTIONAL DISCONNECT SWITCH, CONTROLLER, AND FINAL CONNECTION TO WATER BOOSTER PUMP. VERIFY ELECTRICAL REQUIREMENTS PRIOR TO INSTALLATION. RE: PLUMBING DRAWINGS FOR ELEVATIONS OF THIS WALL. IF NO BOOSTER PUMP IS BEING INSTALLED, THEN FURNISH JUNCTION BOXES AND EMPTY CONDUIT TO CEILING FOR FUTURE USE. RE: E602.

2 INSTALL PLUMBING CONTRACTOR-FURNISHED OUTDOOR AMBIENT AIR THERMOSTAT AND CONNECT WIRING AS REQUIRED TO CONTROL CANOPY DRAIN HEAT TRACE. MOUNT ON WALL WITH PILOT-LIGHT SWITCH. RE: F1-E502.

3 ROUTE L.V. WIRING ALONGSIDE POWER WASHER TUBING TO REMOTE BOXES FOR POWER WASHER CONTROLS. RE: A13-E510 FOR L.V. WIRING BETWEEN REMOTE BOXES AND POWER WASHER CONTROLLER.

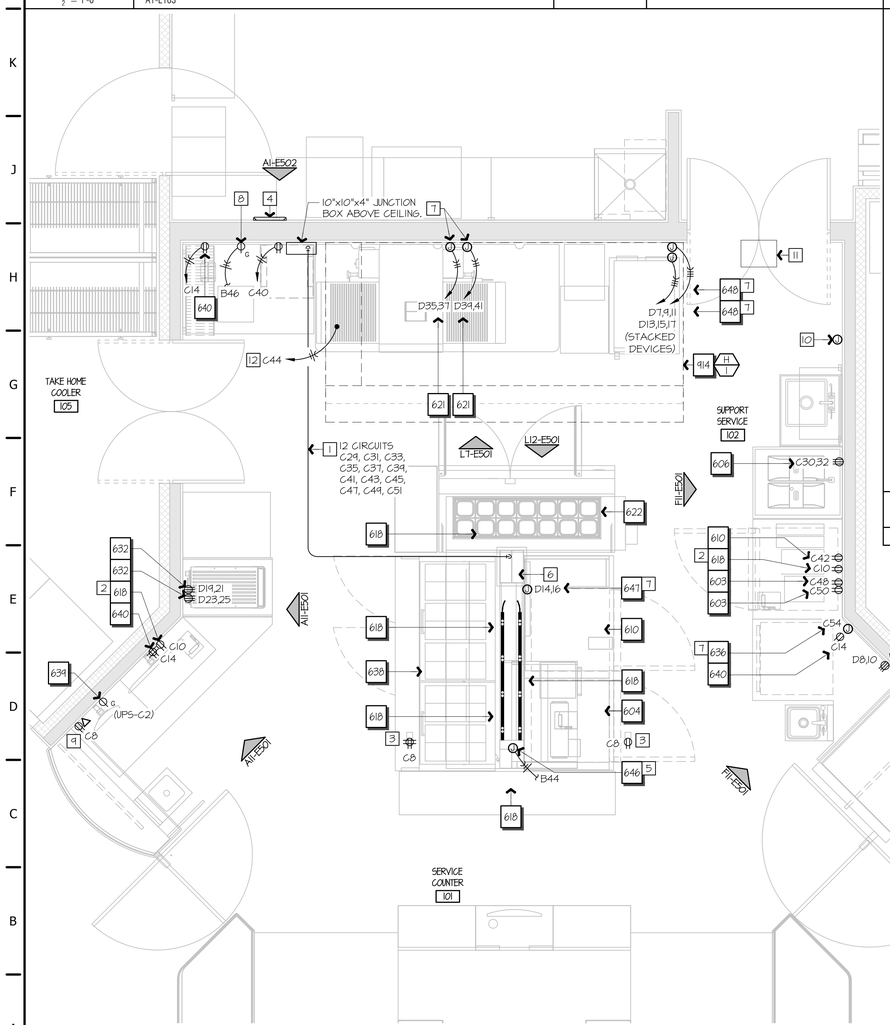


ALL SINGLE-PHASE RECEPTACLES RATED 150V TO GROUND OR LESS, 50 AMPS OR LESS AND THREE-PHASE RECEPTACLES RATED 150V TO GROUND OR LESS, 100 AMPS OR LESS IN THIS LOCATION SHALL HAVE GROUND-FAULT CIRCUIT INTERRUPTER PROTECTION FOR PERSONNEL.



REFER TO SHEET E602 FOR ✦ CALLOUTS.

L1	ELECTRICAL ENLARGED PLUMBING ROOM	L4	PLUMBING ROOM NOTES	L7	FSC REAR ELEVATION	L12	FSC ISLAND ISOMETRIC
3/4" = 1'-0"	A1-E103			3/4" = 1'-0"	A1-E501	3/4" = 1'-0"	A1-E501



1 PROVIDE CIRCUITING TO FSC ISLAND. ROUTE CIRCUITS ABOVE CEILING FROM JUNCTION BOX TO FSC ISLAND CHASE. RE: E102 FOR BELOW GRADE CONDUIT ROUTING. FIVE MULTI-CIRCUIT PLUG STRIPS WITH MC CABLE WHIPS PRE-MOUNTED IN ISLAND. RE: L12-E501.

2 PROVIDE TV55 RECEPTACLE, LEVITON MODEL 5380-B.

3 TV55 RECEPTACLE, LEVITON MODEL 5380-B SURFACE MOUNTED TO MONITOR SUPPORT. INSTALL JUST BELOW CEILING TOWARDS THE CENTER.

4 PATCH PANEL. RE: QT INSTALL DRAWINGS.

5 PROVIDE J-BOX ON THE FACE OF THE ISLAND FOR EQUIPMENT [646] HARDWIRE CONNECTION. EXTEND CIRCUITING FROM LIGHTING CIRCUIT SWITCHED LEG. RE: E104. PROVIDE LABEL ON J-BOX WITH CIRCUIT NUMBER. LOCKABLE CIRCUIT BREAKER SHALL ACT AS A MEANS OF DISCONNECT PER NEC SECTION 422.31(B).

6 REMOVE PREINSTALLED RECEPTACLE AND WIRING DOWN TO GUTTER BOX. RE: L12-E501.

7 PROVIDE HARD CONNECTION TO EQUIPMENT. PROVIDE LABEL ON JUNCTION BOX WITH CIRCUIT NUMBER. LOCKABLE CIRCUIT BREAKER SHALL ACT AS MEANS OF DISCONNECT PER NEC SECTION 422.31(B). ENSURE A MINIMUM OF 4' OF EXTRA CORD IS PROVIDED ON ALL HARDWIRED EQUIPMENT FOR MAINTENANCE.

8 PROVIDE GFCI SIMPLEX RECEPTACLE AND CONNECT TO FSC LIGHTING CIRCUIT. RE: E509.

9 TV55 RECEPTACLE, LEVITON MODEL 5380-B MOUNTED ON WALL ADJACENT TO MENU BOARD. INSTALL DATA OUTLET FOR MENU BOARD. RE: F11-E501, A11-E501.

10 PROVIDE SINGLE-GANG J-BOX AND 1/2" CONDUIT TO HOOD FOR HOOD SUPPRESSION PUSH STATION. RE: F11-E501 FOR ELEVATION.

11 INSTALL MANUFACTURER FURNISHED HOOD EQUIPMENT SHUTDOWN CONTACTOR BOX ABOVE CEILING ADJACENT TO HOOD IN AN ACCESSIBLE LOCATION. RE: F8-E510 FOR WIRING DIAGRAM.

12 EXTEND 120V POWER FROM HOOD CONTROL PANEL TO EMERSON BUILDING MANAGEMENT SYSTEM FOR HOOD ENABLE. RE: LOW VOLTAGE DRAWINGS FOR WIRING DIAGRAM. RE: HOOD MANUFACTURER WIRING DIAGRAM.

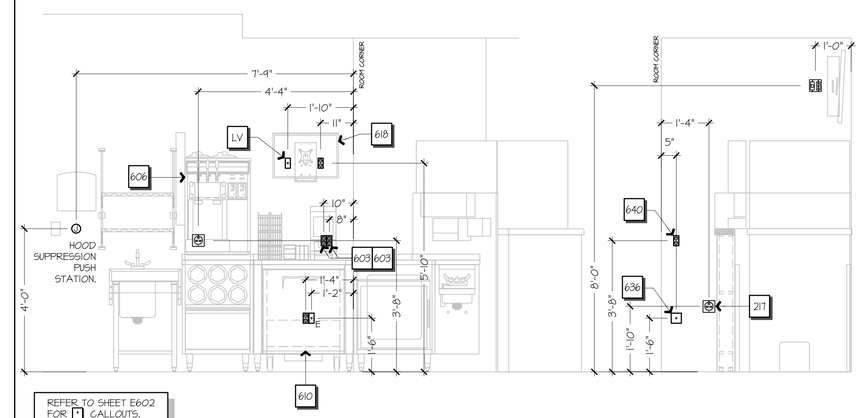
REFER TO QT INSTALL DRAWINGS FOR DETAILS OF THIS AREA WITH EXACT LOCATIONS OF DEVICES.

ALL SINGLE-PHASE RECEPTACLES RATED 150V TO GROUND OR LESS, 50 AMPS OR LESS AND THREE-PHASE RECEPTACLES RATED 150V TO GROUND OR LESS, 100 AMPS OR LESS IN THIS LOCATION SHALL HAVE GROUND-FAULT CIRCUIT INTERRUPTER PROTECTION FOR PERSONNEL.

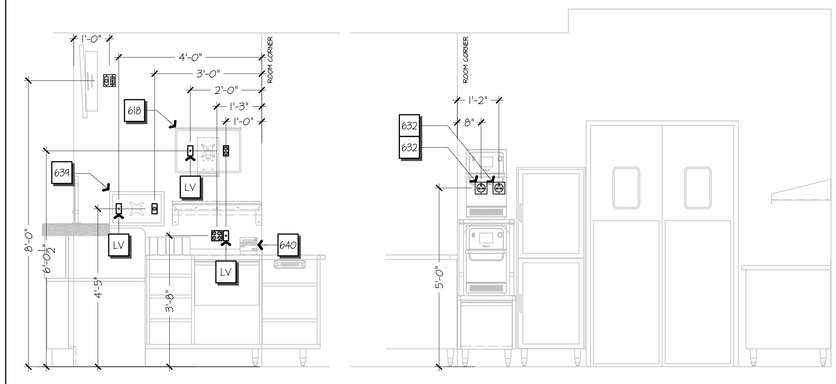
ALL ABOVE GRADE INTERIOR CONDUITS SHALL BE EMT, UNLESS NOTED OTHERWISE. MC CABLING SHALL NOT BE USED WITHIN FURRED OUT WALLS. TRANSITION FROM PVC TO EMT CONDUIT WITHIN 12" OF SLAB FOR UNDERGROUND CONDUITS STUBBING THROUGH SLAB. PROVIDE PROPER PVC TO EMT TRANSITION FITTINGS.

ALL CONDUCTORS ROUTED WITHIN BELOW GRADE CONDUITS SHALL BE DERATED AND SIZED PER NEC TABLE 310.15(C)(1) REQUIREMENTS.

THE INTENT OF BELOW GRADE CONDUITS FOR BRANCH CIRCUITS IS TO KEEP SALES FLOOR CEILINGS AVAILABLE FOR OTHER UTILITIES. ALL POWER SHALL BE ROUTED BELOW GRADE UNLESS OTHERWISE NOTED. EXACT ROUTING AT CONTRACTOR'S DISCRETION.



REFER TO SHEET E602 FOR ✦ CALLOUTS.



REFER TO SHEET E602 FOR ✦ CALLOUTS.

F7	SERVICE COUNTER PLAN NOTES	F11	FSC RIGHT ELEVATION
		3/4" = 1'-0"	A1-E501

A1	ELECTRICAL ENLARGED SERVICE COUNTER PLAN	A11	FSC LEFT ELEVATION
3/4" = 1'-0"	A1-E103	3/4" = 1'-0"	A1-E501

NORTH

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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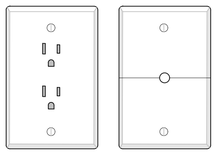
SHEET TITLE:
ELECTRICAL ENLARGED PLANS

SHEET NUMBER:
E501

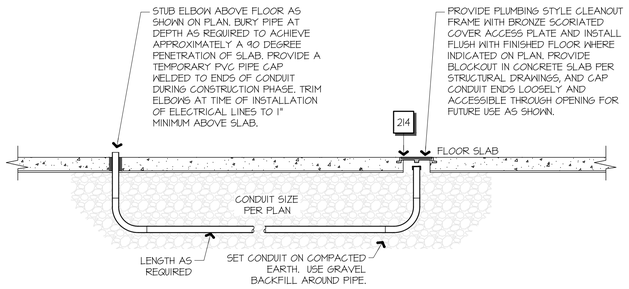


SINGLE-GANG DUPLEX TV55 RECEPTACLE (BLUE FOR TV55 RECEPTACLE WITH GRAY COVER PLATE).

LEVITON 1-GANG HORIZONTAL SPLIT PLATE WITH HOLE FOR A/V CABLE PASS-THROUGH. (GRAY TO MATCH RECEPTACLE)

M1 POWER / DATA OUTLET

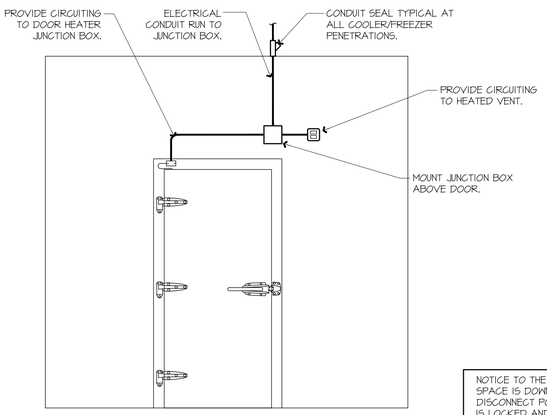
NOT TO SCALE



RIGID NON-METALLIC CONDUIT (RNC) AND FITTINGS WITH SOLVENT-WELDED JOINTS IN SIZE PER PLAN. USE MINIMUM QUANTITY OF FITTINGS REQUIRED. PROVIDE LONG SWEEP 90°S AT BOTH ENDS. AVOID ELBOWS IN HORIZONTAL RUN IF AT ALL POSSIBLE.

J6 UNDERGROUND CHASE

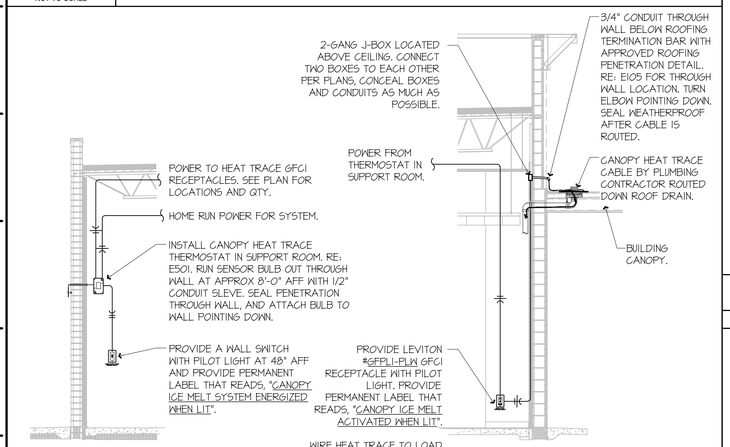
NOT TO SCALE | A1-E102



NOTICE TO THE ELECTRICAL CONTRACTOR: ENSURE REFRIGERATED SPACE IS DOWN TO TEMPERATURE BEFORE INITIALIZING HEATERS. DISCONNECT POWER TO DOOR; ENSURE CIRCUIT BREAKER IS OFF AND IS LOCKED AND TAGGED.

L11 HEATER WIRE CONNECTION ON FREEZER DOOR

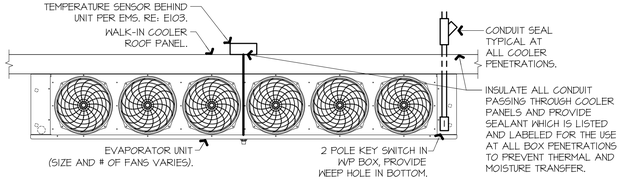
1/2" = 1'-0" | A1-E103



ELECTRICAL CONTRACTOR SHALL INSTALL ELECTRICAL JUNCTION BOX WITH EMT CONDUIT THROUGH EXTERIOR WALL, SLOPED TO DRAIN, WITH ELBOW POINTING DOWN ON OUTDOOR SIDE OF WALL. AFTER HEAT TRACE CABLE IS INSTALLED, E.G. TO SEAL CONDUIT WEATHER-TIGHTS WITH SEALANT OR SPRAY INSULATION. PROVIDE GFCI PROTECTION FOR HEAT TRACE CABLE PER NEC REQUIREMENTS.

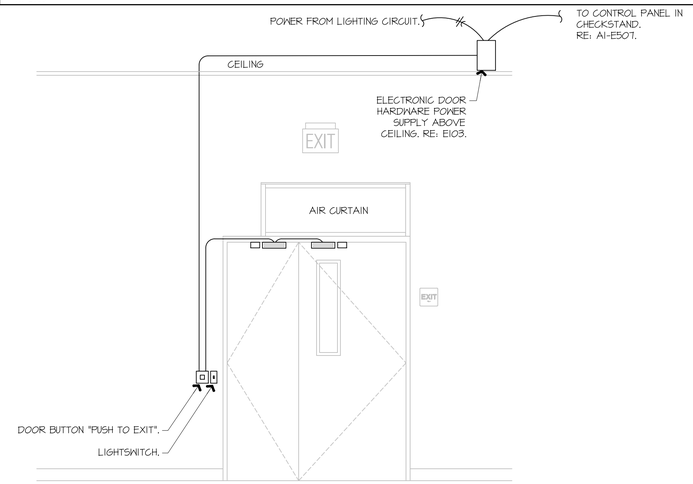
F1 CANOPY DRAIN HEAT TRACE

NOT TO SCALE | A1-E103, A1-E105



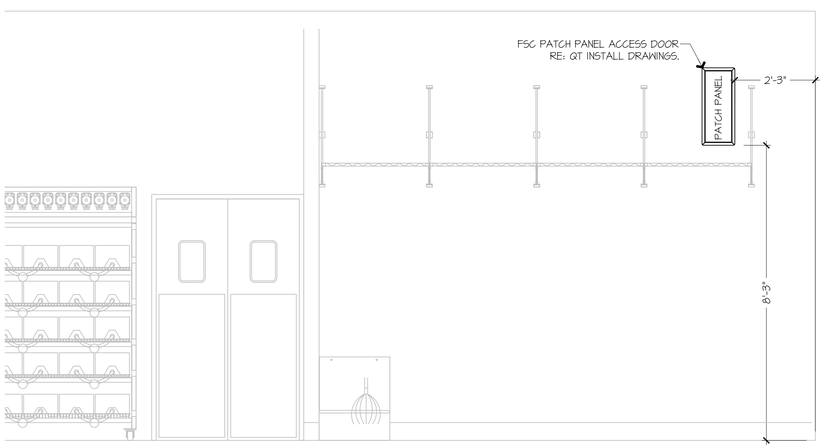
F6 EVAPORATOR POWER

NOT TO SCALE | A1-E103



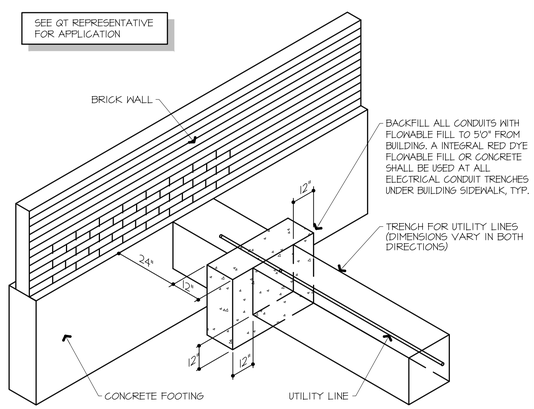
F11 REAR SECURITY DOOR WIRING DIAGRAM

$\frac{1}{4}$" = 1'-0" | A1-E103



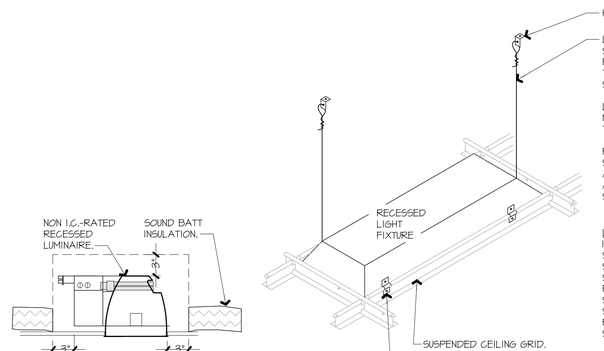
A1 WORKROOM ELEVATION

$\frac{1}{4}$" = 1'-0" | A1-E501



A7 UNDERGROUND UTILITY SERVICE

NOT TO SCALE



RESTROOM RECESSED LIGHT FIXTURES:
FOR NON I.C. RATED RECESSED LIGHT FIXTURES IN INSULATED CEILINGS, INSTALLER MUST MAINTAIN AT LEAST 1/2" CLEARANCE FROM FIXTURE (NOT INCLUDING MOUNTING HARDWARE) TO COMBUSTIBLE MATERIAL AND AT LEAST 3" CLEARANCE TO INSULATION.

A11 LIGHT FIXTURE MOUNTING DETAILS

NOT TO SCALE

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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SHEET TITLE:
ELECTRICAL DETAILS

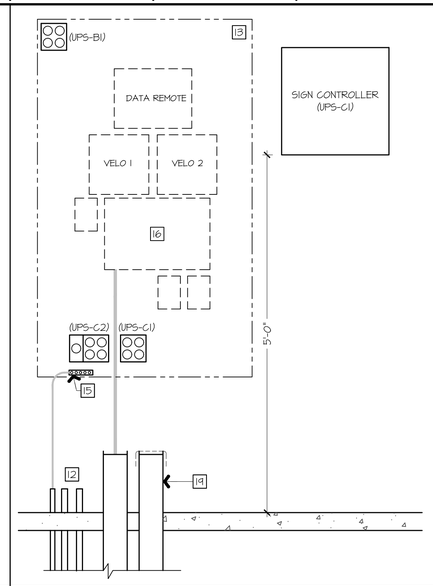
SHEET NUMBER:
E502

K1 NOT USED

K6 TELEPHONE WALL ELEVATION

1" = 1'-0"

A1-E103



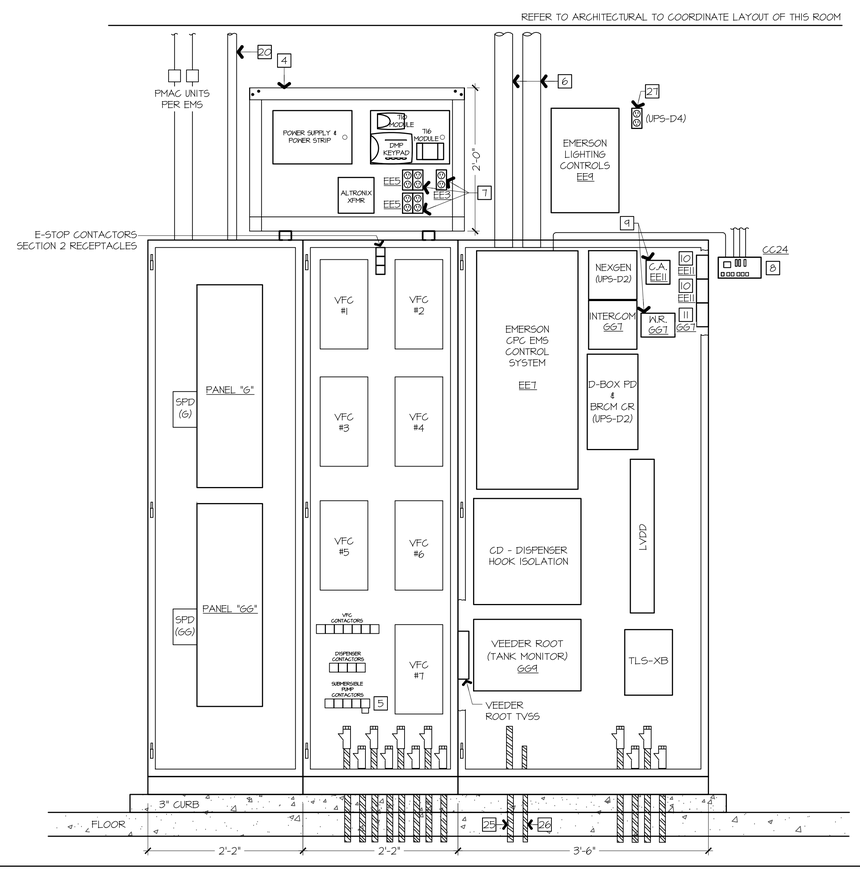
K9 PLAN NOTES

1. INSTALL QT-FURNISHED BYPASS PANEL. FIELD WIRE FROM CIRCUITS INDICATED.
2. ROUTE UPS CIRCUITS FROM UPS BYPASS PANELS TO LOADS INDICATED IN THE UPS LOAD SUMMARIES. RE: A1-E610. RE: A8-E510 FOR WIRING DIAGRAM.
3. INSTALL INLET AND OUTLET PLUGS FROM UPS DEVICES MOUNTED IN RACK TO BYPASS PANEL.
4. SECURITY SYSTEM ENCLOSURE FURNISHED BY PANEL MANUFACTURER. INSTALL ALL COMPONENTS, FURNISHED BY OTHERS. CONNECT TO RCPT IN LOW VOLTAGE CABINET.
5. CANOPY SUMP FAN MOTOR STARTER.
6. (2) 3" CONDUITS FOR WIRING TO EMERSON PANEL.
7. CONTRACTOR TO PROVIDE SURFACE MOUNTED RECEPTACLES AT THIS LOCATION.
8. WINDOWSHADE CONTROLLER. RE: K1-E506.
9. CUSTOMER ALERT & WARREN ROGERS.
10. QUAD IS PREMOUNTED IN CABINET.
11. DUPLEX IS PREMOUNTED IN CABINET.
12. (2) 1" CONDUITS FOR UPS POWER TO CHECKSTAND. RE: E102.
13. 36X60 PLYWOOD BACKBOARD FOR TELEPHONE SYSTEM COMPONENTS AS REQUIRED BY LOCAL TELEPHONE COMPANY.
14. ROUTE #6 GROUND TO GROUND BAR ON TELEPHONE BOARD. RE: K6-E503.
15. PROVIDE 3/4" CONDUIT TO GROUND BAR FOR TELEPHONE EQUIPMENT AND SECURITY RACK. BOND GROUND BAR TO SERVICE ENTRANCE GROUNDING AS NOTED ON ELECTRICAL RISER DIAGRAM.
16. TELEPHONE EQUIPMENT AS REQUIRED BY LOCAL TELEPHONE COMPANY.
17. NOT USED.
18. NOT USED.
19. (2) 4" PHONE ENTRY CONDUITS. RE: E102. (CAP ANY UNUSED CONDUITS).
20. (1) CONDUIT FOR PANEL "G" FEEDER. RE: E504.
21. SURFACE MOUNT ALL CONDUITS WITHIN THIS VICINITY.
22. PROVIDE TVSS RECEPTACLE, LEVITON MODEL 5490-W.
23. NOT USED.
24. NOT USED.
25. PROVIDE 1" CONDUIT FOR CONTROL WIRES FROM EMERSON PANEL TO HOOD ENABLE CURRENT TRANSFORMERS.
26. PROVIDE 3/4" CONDUIT FOR EMERSON PANEL GROUNDING. BOND TO SERVICE ENTRANCE GROUNDING AS NOTED ON ELECTRICAL RISER DIAGRAM.
27. PROVIDE DUPLEX TO SERVE PPD ALARM PANEL. RE: QT INSTALL DRAWINGS FOR EXACT LOCATION.

A1 INTERIOR ELECTRICAL PANEL WALL ELEVATION

1" = 1'-0"

A1-E103



ALL CONDUCTORS ROUTED WITHIN BELOW GRADE CONDUITS SHALL BE DERATED AND SIZED PER NEC TABLE 310.15(C)(1) REQUIREMENTS.

THE INTENT OF BELOW GRADE CONDUITS FOR BRANCH CIRCUITS IS TO KEEP SALES FLOOR CEILINGS AVAILABLE FOR OTHER UTILITIES. ALL POWER SHALL BE ROUTED BELOW GRADE UNLESS OTHERWISE NOTED. EXACT ROUTING AT CONTRACTOR'S DISCRETION.

EXPLOSION PROOF SEAL-OFF, ONE PER CONDUIT TO GAS ISLANDS; NOT NECESSARILY ALL CONDUITS OR WIRING REQUIRED FOR GAS SYSTEMS ARE SHOWN HERE. REFER TO GASOLINE INSTALLATION PLANS FOR FURTHER INFORMATION ON GAS EQUIPMENT, CANOPY, CONDUITS, ETC.

NOTE: SEALOFFS MUST BE OFFSET 5 INCHES TO CLEAR EQUIPMENT MOUNTED AT BOTTOM OF PANEL. 5" DEPTH MEASURED FROM BACK OF PANEL TOWARDS DOOR OF CABINET. NO WIREWAY PROVIDED.

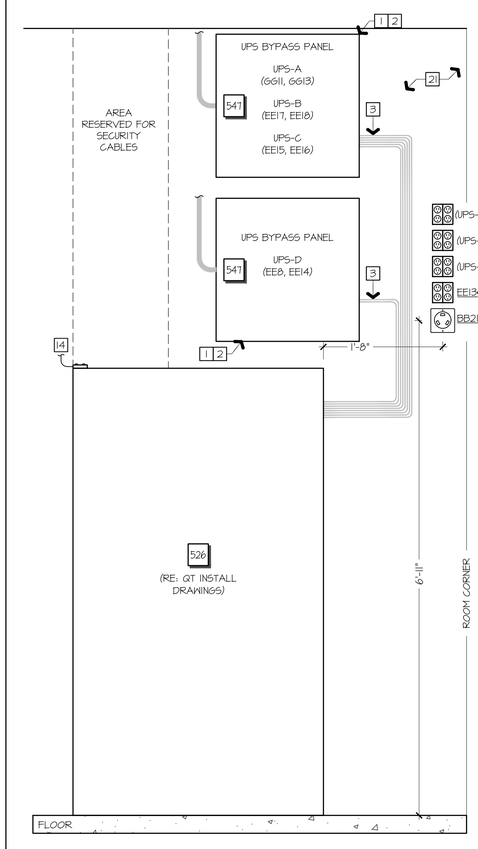
USE FLOOR TEMPLATE FURNISHED BY ELECTRICAL PANEL MANUFACTURER TO LAYOUT FLOOR CONDUIT PENETRATIONS.

RE: FUEL DRAWINGS FOR EXACT PUMP CONTROLLER AND MPD QUANTITIES.

A13 SECURITY RACK ELEVATION

1" = 1'-0"

A1-E103



STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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PROTOTYPE	P-120
DIVISION	KANSAS CITY
VERSION	GJSE
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REV	DATE	DESCRIPTION

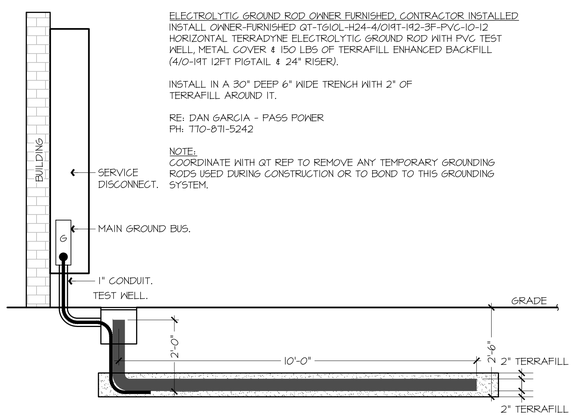
ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE:

ELECTRICAL DETAILS

SHEET NUMBER:

E503



ELECTROLYTIC GROUND ROD OWNER FURNISHED, CONTRACTOR INSTALLED
INSTALL OWNER-FURNISHED QT-T6101L-H24-4/0191T-1412-3F-PVC-10-12 HORIZONTAL TERRADYNE ELECTROLYTIC GROUND ROD WITH PVC TEST WELL, METAL COVER & 150 LBS OF TERRAFILL ENHANCED BACKFILL (4/0-191 12FT PIGTAIL & 24" RISER).

INSTALL IN A 30" DEEP 6" WIDE TRENCH WITH 2" OF TERRAFILL AROUND IT.

RE: DAN GARCIA - PASS POWER
PH: 710-871-5242

NOTE:
COORDINATE WITH QT REP TO REMOVE ANY TEMPORARY GROUNDING RODS USED DURING CONSTRUCTION OR TO BOND TO THIS GROUNDING SYSTEM.

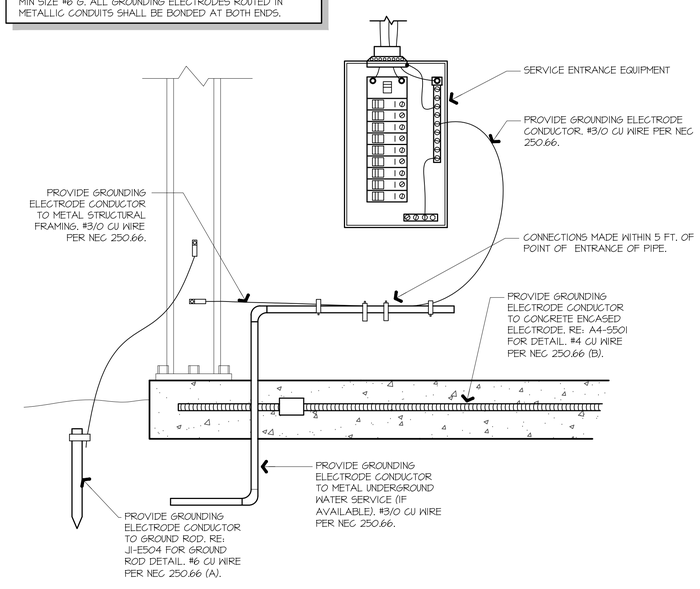
J1 ELECTROLYTIC GROUND ROD

3/8" = 1'-0"

A1-E102, A1-E504, A1-E511

J6 NOT USED

PROVIDE INTERSYSTEM BONDING TO THE TELEPHONE GROUND BARS, MIN SIZE #6 G, PROVIDE BONDING TO EMERSON PANEL, MIN SIZE #6 G. ALL GROUNDING ELECTRODES ROUTED IN METALLIC CONDUITS SHALL BE BONDED AT BOTH ENDS.



GENERAL NOTES:
1. GROUNDING AND BONDING DETAIL BASED ON NEC CODE ARTICLE 250-50. ALL INSTALLATIONS SHALL COMPLY WITH SECTION 250 IN ITS ENTIRETY OF THE MOST CURRENT ADOPTED EDITION OF THE NATIONAL ELECTRIC CODE AND ALL LOCAL AND STATE CODES.
2. THE GROUNDING SYSTEM SHALL HAVE NO GREATER THAN FIVE (5) OHMS OF RESISTANCE TO GROUND AT THE CONNECTION POINT TO SERVICE.
3. ELECTRICAL CONTRACTOR SHALL USE AN EXOTHERMIC WELD WHEN SPLICING CONDUCTORS. NO EXCEPTIONS.
4. CONNECTIONS SHALL BE MADE WITH AN EXOTHERMIC WELD WHEN IN CONCRETE OR BELOW GROUND. CONNECTIONS MADE ABOVE GROUND CAN BE MADE WITH A MECHANICAL CLAMP U.L. LISTED FOR THIS USE.
5. THE GROUNDING ELECTRODE SYSTEM SHALL INCLUDE ALL COMPONENTS NOTED ABOVE.
6. GROUNDING ELECTRODE CONDUCTORS SHALL BE PROTECTED FROM THEFT AND/OR DAMAGE WHERE EXPOSED.

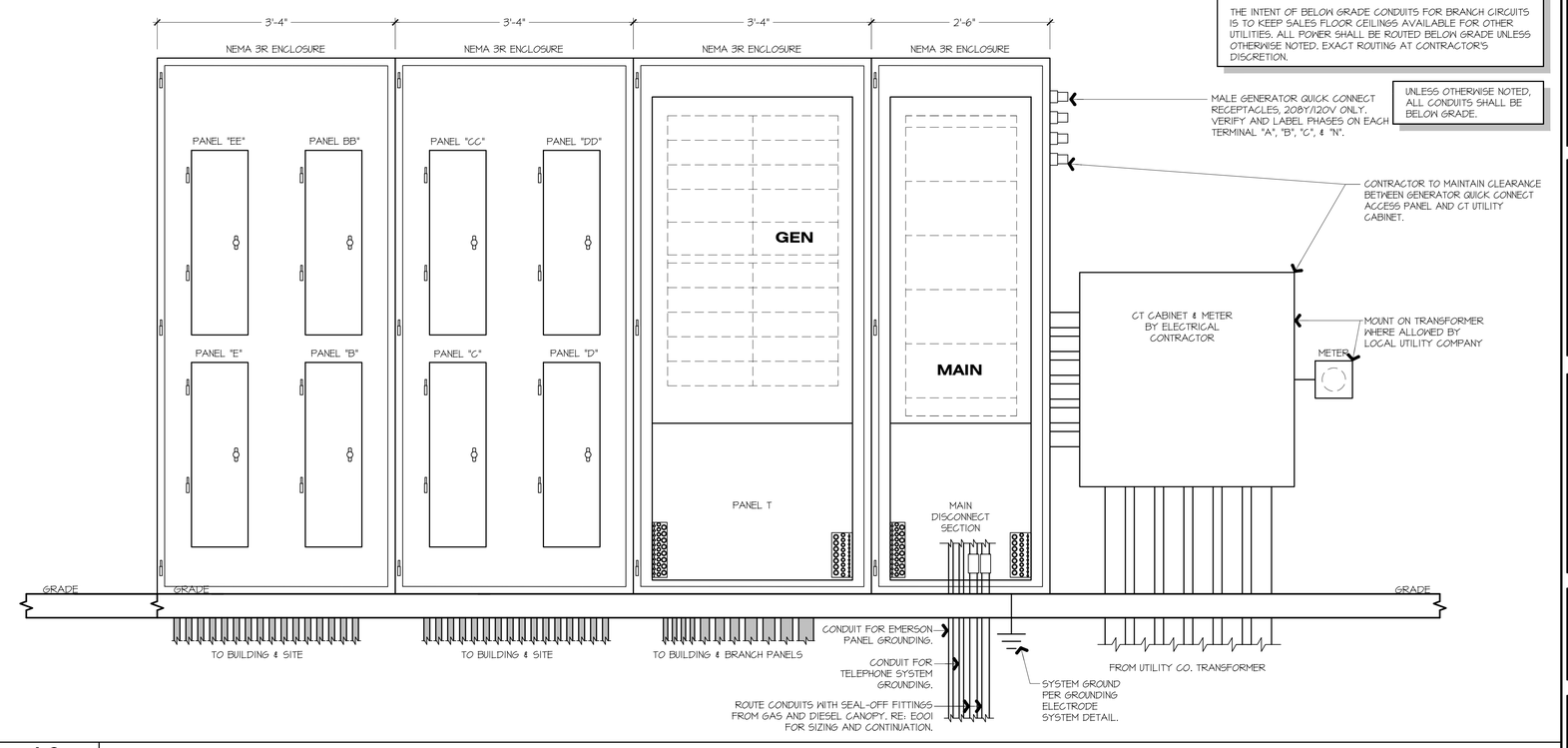
A1 GROUNDING ELECTRODE SYSTEM

NOT TO SCALE

ALL CONDUCTORS ROUTED WITHIN BELOW GRADE CONDUITS SHALL BE DERATED AND SIZED PER NEC TABLE 310.15(C)(1) REQUIREMENTS.

THE INTENT OF BELOW GRADE CONDUITS FOR BRANCH CIRCUITS IS TO KEEP SALES FLOOR CEILINGS AVAILABLE FOR OTHER UTILITIES. ALL POWER SHALL BE ROUTED BELOW GRADE UNLESS OTHERWISE NOTED. EXACT ROUTING AT CONTRACTOR'S DISCRETION.

UNLESS OTHERWISE NOTED, ALL CONDUITS SHALL BE BELOW GRADE.



A6 EXTERIOR ELECTRICAL PANEL WALL ELEVATION

1" = 1'-0"

A1-E103

STATE OF MISSOURI
NEIL P. BARTLEY
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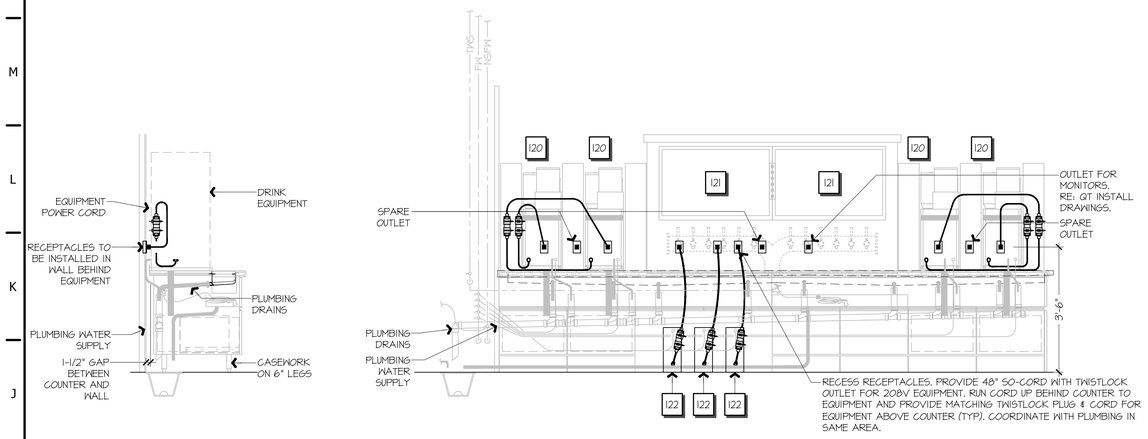
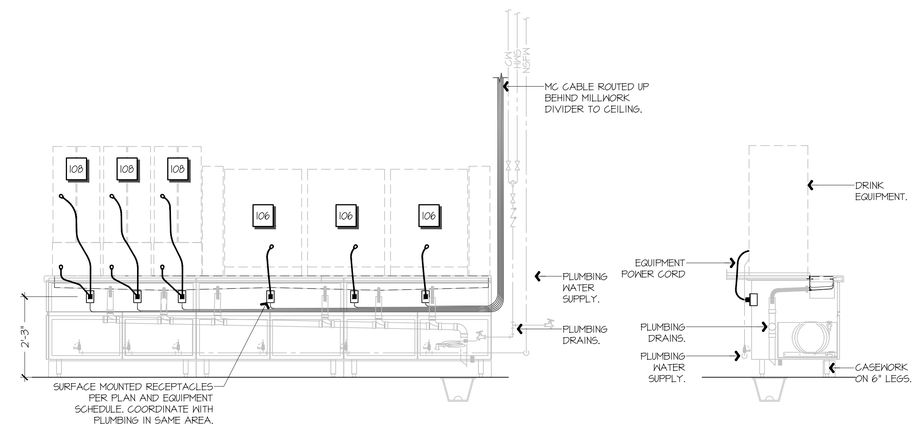
SHEET TITLE:
ELECTRICAL DETAILS

SHEET NUMBER:
E504



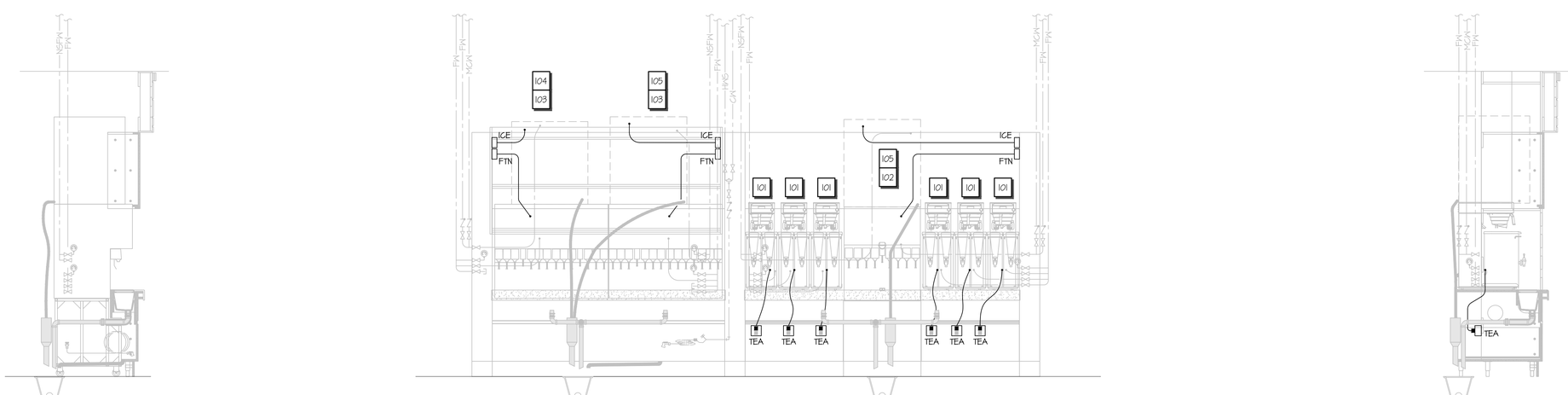
H1 COFFEE BAR REAR ELEVATION & SECTION

3/4" = 1'-0" | A1-E103



H9 FROZEN BAR REAR ELEVATION & SECTION

3/4" = 1'-0" | A1-E103



A1 FOUNTAIN WALL ELEVATION & SECTION

3/4" = 1'-0" | A1-E103

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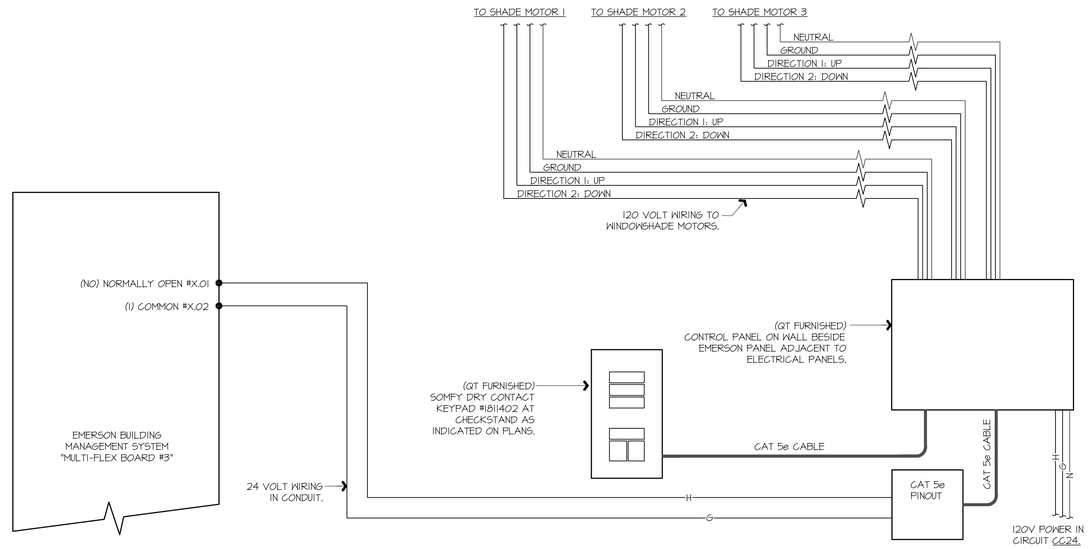
ELECTRICAL DETAILS

SHEET NUMBER:
E505



REFER TO WINDOWSHADE INSTALLATION INSTRUCTIONS, AND COORDINATE WITH QT REP FOR WIRING INTO EMERSON BUILDING MANAGEMENT SYSTEM AND COMMISSIONING THE SYSTEM.

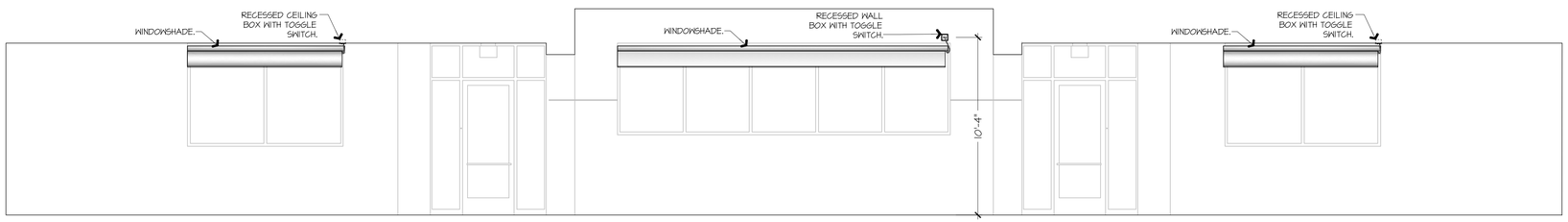
ALL EQUIPMENT TO BE U.L. LISTED WITH VISIBLE MOTOR NAMEPLATES.

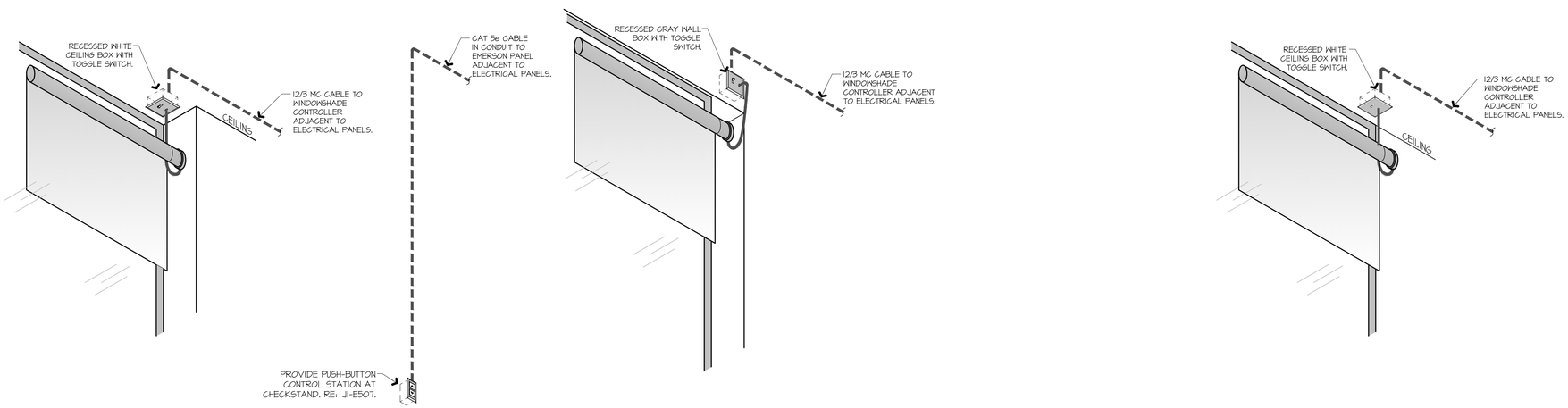
NO COMPONENTS ALLOWED WITHIN A RETURN-AIR-PLENUM. (BUILDING DOES NOT UTILIZE A RETURN-AIR PLENUM.)

SYSTEM UTILIZES 120V AC POWER WITH 24V DC CONTROL WIRING.

K1 WINDOWSHADE WIRING DIAGRAM

NOT TO SCALE | A1-E103





A1 WINDOWSHADE DETAILS

$\frac{1}{4}$" = 1'-0" | A1-E103

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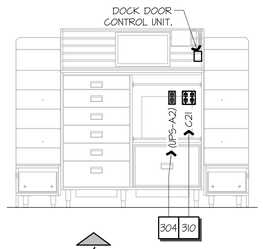
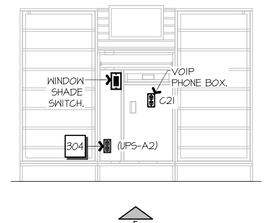
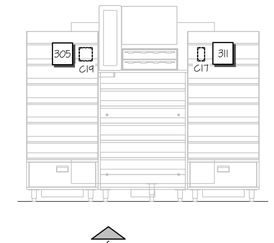
ELECTRICAL DETAILS

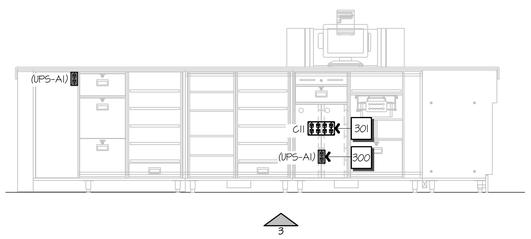
SHEET NUMBER:
E506



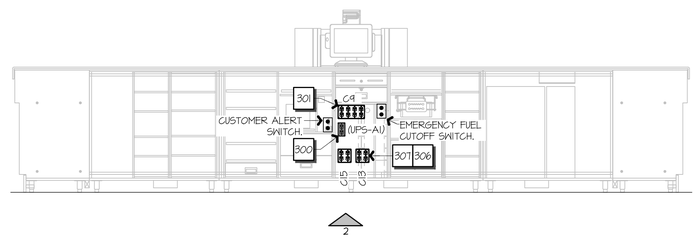




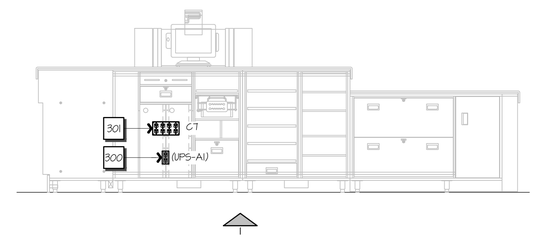
CHECKSTAND RIGHT ELEVATION



CHECKSTAND FRONT ELEVATION

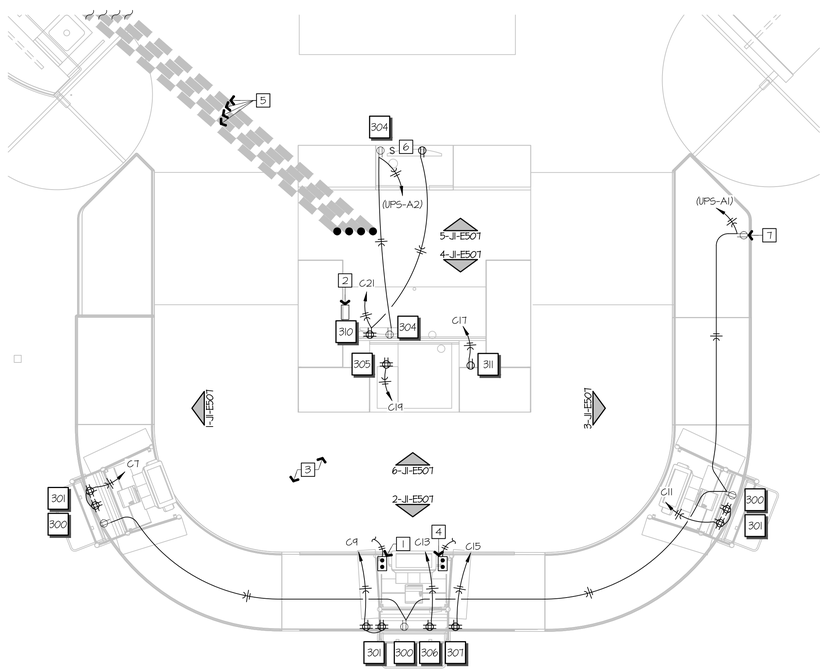


CHECKSTAND LEFT ELEVATION



J1 CHECKSTAND ELEVATIONS

$\frac{3}{8}$" = 1'-0" | A1-E507



A1 ELECTRICAL ENLARGED CHECKSTAND PLAN

$\frac{3}{8}$" = 1'-0" | A1-E103

NOTE TO CONTRACTOR:

CONTRACTOR SHALL NOT BUNDLE M.C. CABLE. MAINTAIN SPACING AS REQUIRED OR DERATE PER NEC 330.80(C).

ALL ABOVE GRADE INTERIOR CONDUITS SHALL BE EMT, UNLESS NOTED OTHERWISE. MC CABLING SHALL NOT BE USED WITHIN FURRED OUT WALLS. TRANSITION FROM PVC TO EMT CONDUIT WITHIN 12" OF SLAB FOR UNDERGROUND CONDUITS STUBBING THROUGH SLAB. PROVIDE PROPER PVC TO EMT TRANSITION FITTINGS.

PROVIDE BLACK OUTLETS AND BLACK COVER PLATES WHERE MOUNTED ON DARK-COLORED WALLS, INCLUDING EXTERIOR BLOCK WALLS.

REFER TO SHEET E602 FOR [ ] EQUIPMENT CALLOUTS.

ALL DEVICES SHOWN WITH CIRCUIT PANEL DESIGNATION SHALL BE HOME-RUN WITH 3#12 IN 1/2" CONDUIT UNLESS OTHERWISE NOTED. DO NOT SHARE NEUTRALS UNLESS SPECIFICALLY NOTED.

A13 PLAN NOTES

1. EMERGENCY FUEL SWITCH LOCATED UNDER COUNTER. RE: ELECTRICAL PANEL MANUFACTURER WIRING DIAGRAMS.
2. JA-2MECD CONTROL UNIT FOR DOCK DOOR ELECTRONIC LOCK LOCATED UNDER COUNTER. RE: LOW VOLTAGE DRAWINGS FOR EXACT LOCATION.
3. ALL CIRCUITING ROUTED WITHIN RAISED FLOOR OF CHECKSTAND. (TYP).
4. RE: LOW VOLTAGE DRAWINGS FOR CUSTOMER ALERT CIRCUITING.
5. BELOW GRADE ELECTRICAL CHASES FOR LOW VOLTAGE WIRING. RE: E102.
6. QT FURNISHED UP/DOWN WALL SWITCH FOR WINDOWSHADES. RUN LOW VOLTAGE WIRING IN CONDUIT TO WINDOWSHADE CONTROLLER IN ELECTRICAL ROOM. RE: A1-E503 FOR LOCATION AND E505 FOR WIRE DIAGRAM & DETAILS.
7. PROVIDE DUPLEX TO SERVE PPD CHARGE DEVICE. RE: QT INSTALL DRAWINGS FOR EXACT LOCATION.

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
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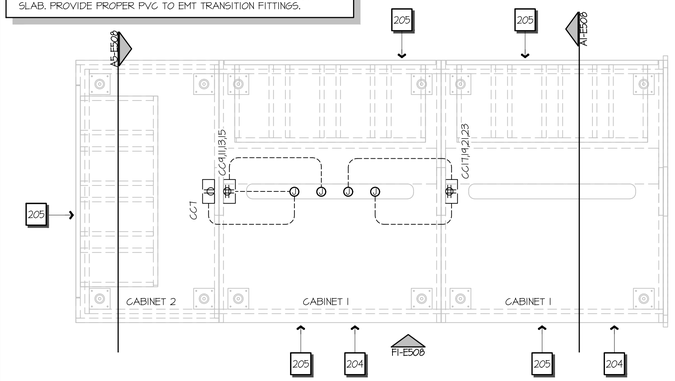
ELECTRICAL ENLARGED PLANS

SHEET NUMBER:

E507

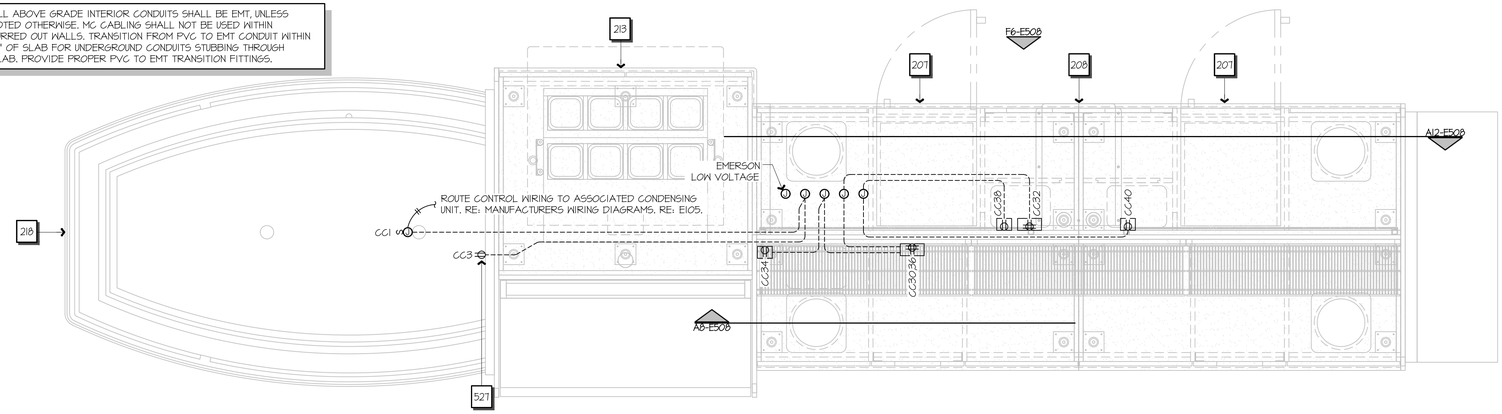
ALL ABOVE GRADE INTERIOR CONDUITS SHALL BE EMT, UNLESS NOTED OTHERWISE. MC CABLING SHALL NOT BE USED WITHIN FURRED OUT WALLS. TRANSITION FROM PVC TO EMT CONDUIT WITHIN 12" OF SLAB FOR UNDERGROUND CONDUITS STUBBING THROUGH SLAB. PROVIDE PROPER PVC TO EMT TRANSITION FITTINGS.



L1 ROLLER GRILL BAR - ENLARGED PLAN

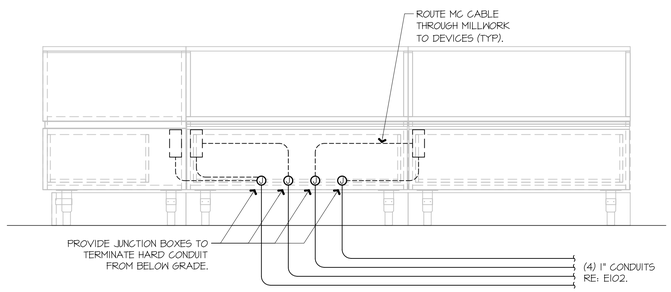
1" = 1'-0" | A1-E103

ALL ABOVE GRADE INTERIOR CONDUITS SHALL BE EMT, UNLESS NOTED OTHERWISE. MC CABLING SHALL NOT BE USED WITHIN FURRED OUT WALLS. TRANSITION FROM PVC TO EMT CONDUIT WITHIN 12" OF SLAB FOR UNDERGROUND CONDUITS STUBBING THROUGH SLAB. PROVIDE PROPER PVC TO EMT TRANSITION FITTINGS.



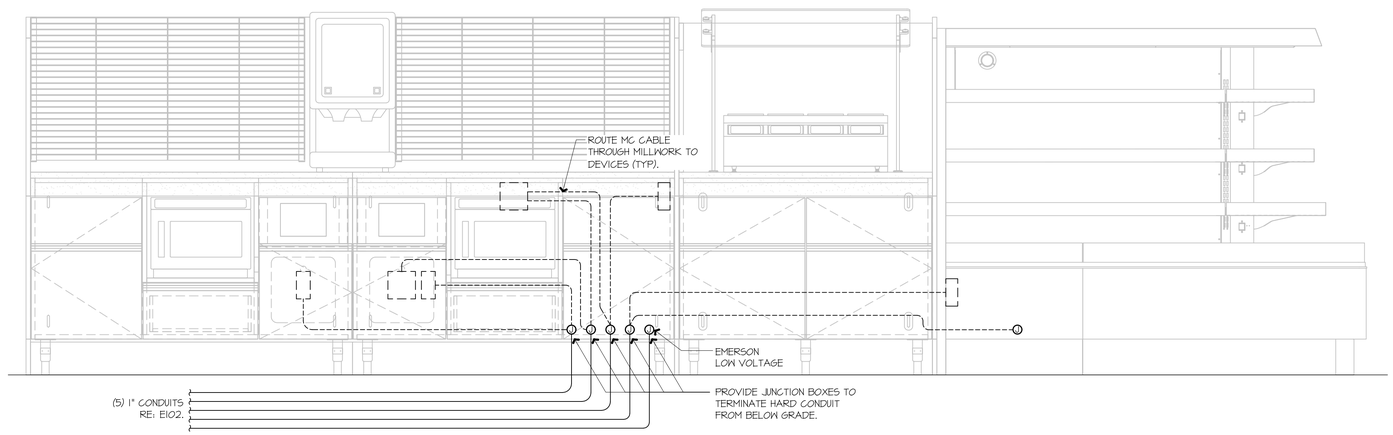
L6 CONDIMENT LID BAR - ENLARGED PLAN

1" = 1'-0" | A1-E103



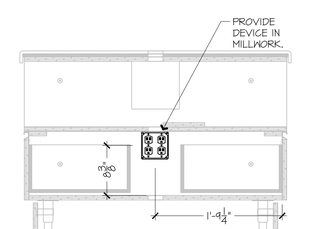
F1 ROLLER GRILL BAR - FRONT ELEVATION

1" = 1'-0" | L1-E508



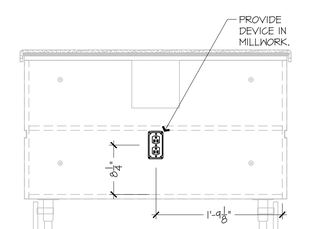
F6 CONDIMENT LID BAR - FRONT ELEVATION

1" = 1'-0" | L6-E508



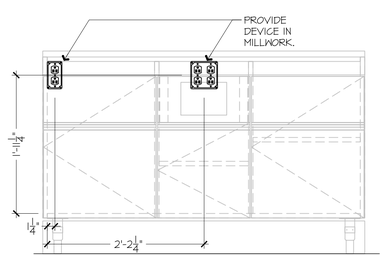
A1 ROLLER GRILL BAR - TYPICAL CABINET 1 SECTION

1" = 1'-0" | L1-E508



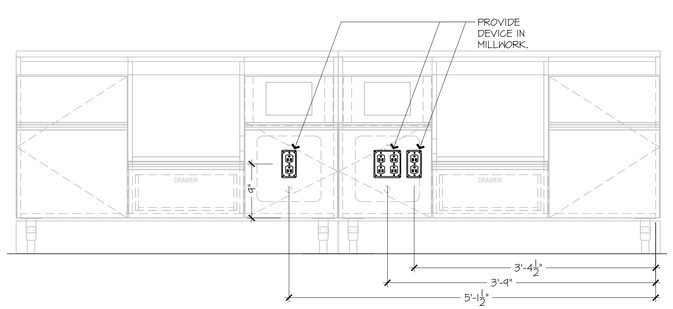
A5 ROLLER GRILL BAR - CABINET 2 SECTION

1" = 1'-0" | L1-E508



A8 CONDIMENT LID BAR - CABINET 2 SECTION

1" = 1'-0" | L6-E508



A12 CONDIMENT LID BAR - CABINET 4/5 SECTION

1" = 1'-0" | L6-E508

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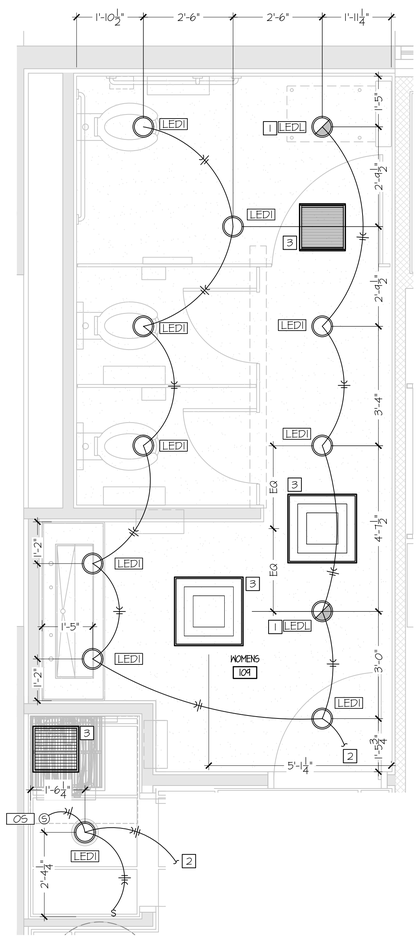
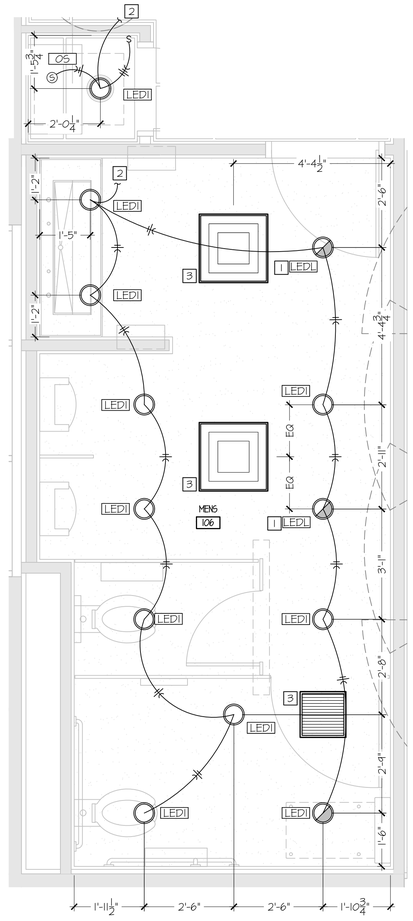
E508

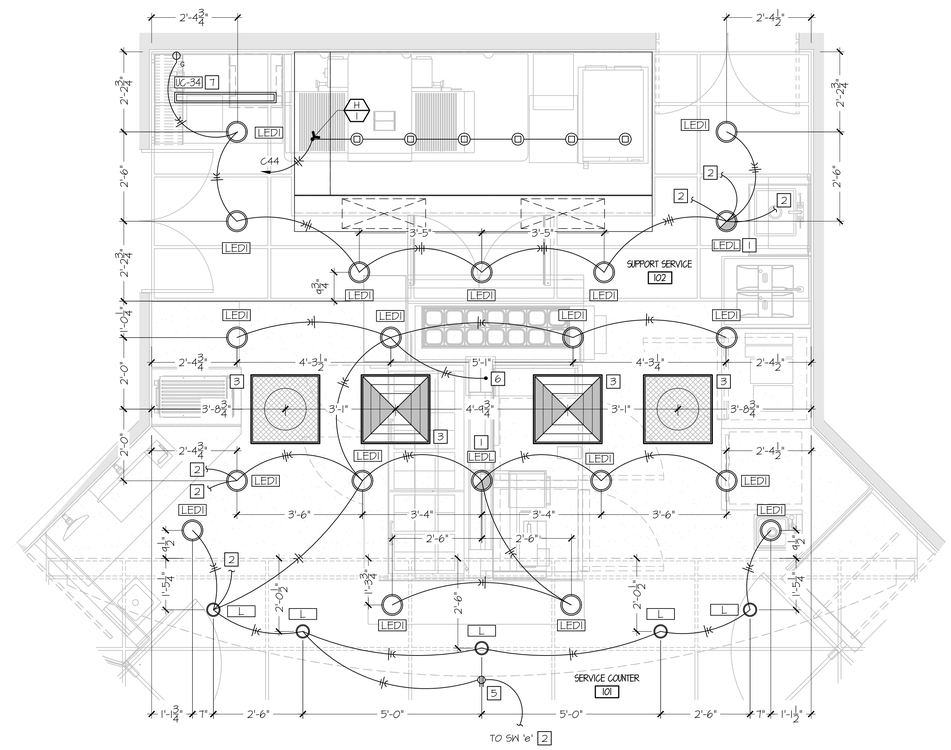




ALL ABOVE GRADE INTERIOR CONDUITS SHALL BE EMT, UNLESS NOTED OTHERWISE. MC CABLING SHALL NOT BE USED WITHIN FURRED OUT WALLS. TRANSITION FROM PVC TO EMT CONDUIT WITHIN 12" OF SLAB FOR UNDERGROUND CONDUITS STUBBING THROUGH SLAB. PROVIDE PROPER PVC TO EMT TRANSITION FITTINGS.

1. FIXTURE EQUIPPED WITH EMERGENCY BALLAST AND BATTERY PACK FOR EGRESS LIGHTING. RUN EXTRA UNSWITCHED HOT WIRE FOR EMERGENCY FIXTURE BYPASSING LIGHTSWITCHING AS INDICATED.
2. RE: E104 FOR CIRCUITING AND SWITCHING.
3. RE: M101 FOR DUCT ROUTING.

A1	LIGHTING ENLARGED RESTROOMS PLAN	A5	PLAN NOTES
3/4" = 1'-0"	A1-E104		



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1. FIXTURE EQUIPPED WITH EMERGENCY BALLAST AND BATTERY PACK FOR EGRESS LIGHTING. RUN EXTRA UNSWITCHED HOT WIRE FOR EMERGENCY FIXTURE BYPASSING LIGHTSWITCHING AS INDICATED.
2. RE: E104 FOR CIRCUITING AND SWITCHING.
3. RE: M101 FOR DUCT ROUTING.
4. NOT USED.
5. QT "KITCHENS" SIGN FURNISHED BY QUIKTRIP. PROVIDE RECEPTACLE LOCATED IN ACCESSIBLE LOCATION RECESSED WITHIN SOFFIT AS INDICATED FOR QUIKTRIP SIGNAGE. PROVIDE SWITCH AS SHOWN.
6. EXTEND LIGHTING CIRCUIT TO HEAT LAMP RECEPTACLE WITHIN FSC ISLAND. RE: E501.
7. INSTALL FIXTURE 3" FROM FRONT EDGE AND CENTERED UNDER SHELF. EXTEND LIGHTING CIRCUIT TO UNDERCABINET LIGHT RECEPTACLE. RE: E501 & E601.

A9	LIGHTING ENLARGED FSC PLAN	A13	PLAN NOTES
3/4" = 1'-0"	A1-E104		

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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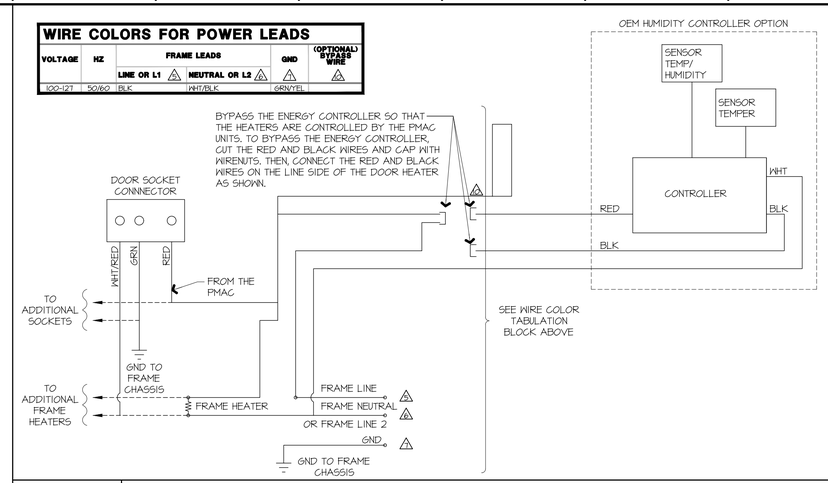
SHEET TITLE:
ELECTRICAL LIGHTING ENLARGED REFLECTED CEILING PLANS

SHEET NUMBER:
E509

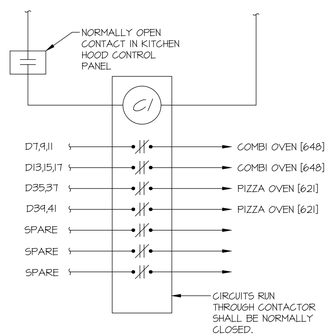
WIRE COLORS FOR POWER LEADS

VOLTAGE	HZ	FRAME LEADS		GND	(OPTIONAL) BYPASS WIRE
		LINE OR L1 △5	NEUTRAL OR L2 △6	△1	△2
100-127	50/60	BLK	WHT/BLK	GRN/YEL	



L11 — COOLER DOOR HEATER WIRING DIAGRAM

NOT TO SCALE — A1-E103



FOR EQUIPMENT UNDER HOOD, WIRE THROUGH FACTORY INSTALLED CONTACTORS IN THE HOOD CONTROL PANEL.

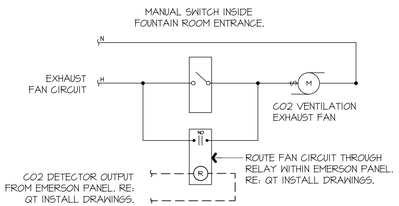
ANY KITCHEN EQUIPMENT LOCATED BELOW THE HOOD AND IS PROTECTED BY A CIRCUIT BREAKER LARGER THAN 20A WILL REQUIRE A DEDICATED CONTACTOR WITH CONTACT RATINGS EQUAL TO OR LARGER THAN THE CIRCUIT BREAKER PROTECTING THE EQUIPMENT. THE DEDICATED CONTACTOR SHALL BE WIRED IN PARALLEL TO THE 20A MULTI-POLE CONTACTOR. ANY DEDICATED CONTACTORS THAT CANNOT BE INSTALLED IN ELECTRICAL CABINET ON HOOD SHALL BE INSTALLED ABOVE CEILING ADJACENT TO HOOD IN AN ACCESSIBLE LOCATION.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONDUIT, WIRING, RELAYS, AND DEVICES AS SHOWN AND AS REQUIRED TO PROVIDE CONTROL INTERFACE BETWEEN HOOD FIRE SUPPRESSION SYSTEM TO CAUSE THE FOLLOWING TO OCCUR WHEN AGENT IS RELEASED:

- DE-ENERGIZE ALL ELECTRICAL EQUIPMENT UNDER THE HOOD.
- DE-ENERGIZE RTU SERVING THE KITCHEN.
- ENERGIZE AND RAMP EXHAUST FAN AIRFLOW TO HOOD MAX CFM SCHEDULED ON M601.

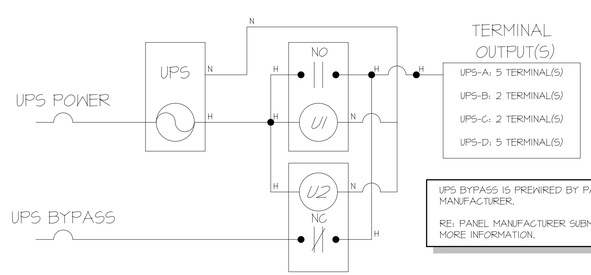
F8 — HOOD EQUIPMENT SHUT DOWN CONTACTOR

NOT TO SCALE — A1-E501



F13 — RELAY WIRING DIAGRAM

NOT TO SCALE — A1-E103

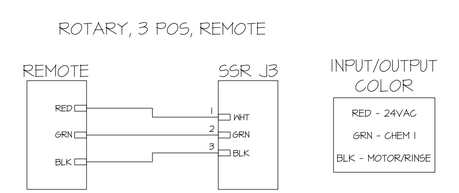


UPS BYPASS IS PREWIRED BY PANEL MANUFACTURER.

RE: PANEL MANUFACTURER SUBMITTAL FOR MORE INFORMATION.

A8 — UPS WIRING DIAGRAM

NOT TO SCALE — A1-E503



RE: MANUFACTURER'S WIRING DIAGRAMS FOR MORE INFORMATION.

A13 — POWER WASHER L.V. WIRING DIAGRAM

NOT TO SCALE — L1-E501

A1 — NOT USED

STATE OF MISSOURI — NEIL P. BARTLEY — NUMBER PE-2007023868 — PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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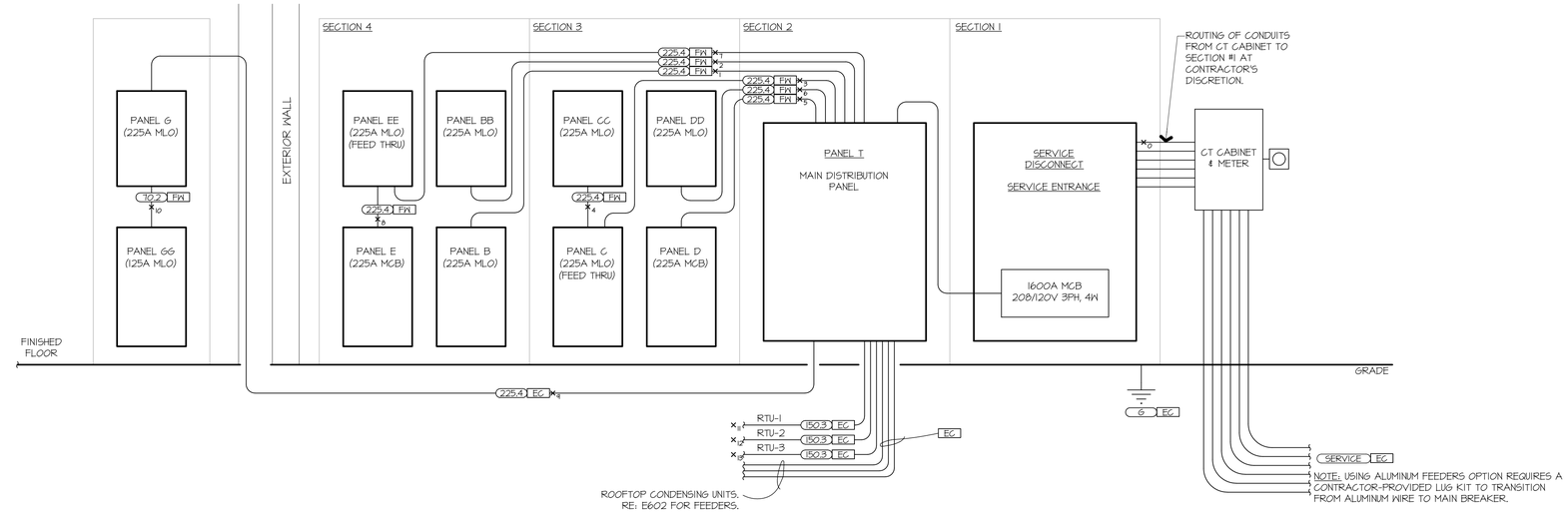
SHEET TITLE:
ELECTRICAL WIRING DETAILS

SHEET NUMBER:
E510

L1	NOT USED



FEEDER FAULT CURRENT CALCULATIONS

FAULT TAG	POINT 1	POINT 2	FEEDER RATING (A)	FEEDER VOLTAGE (V)	# OF PHASES	AVAILABLE FAULT AT POINT 1 (A)	LENGTH (FT)	# SETS	WIRE SIZE	CONDUIT TYPE	WIRE TYPE	CALCULATED AVAILABLE FAULT CURRENT AT POINT 2 (A)	PANEL/EQUIPMENT kAIC RATING	NOTES
X0	UTILITY	PANEL T	1600	208	3	38591	75	6	300	PVC	COPPER	32312	65	
X1	PANEL T	PANEL B	225	208	3	32312	10	1	4/0	PVC	COPPER	21871	65	1
X2	PANEL T	PANEL BB	225	208	3	32312	10	1	4/0	PVC	COPPER	21871	65	1
X3	PANEL T	PANEL C	225	208	3	32312	10	1	4/0	PVC	COPPER	21871	65	1
X4	PANEL C	PANEL CC	225	208	3	21871	1	1	4/0	PVC	COPPER	21489	65	1
X5	PANEL T	PANEL D	225	208	3	32312	10	1	4/0	PVC	COPPER	21871	65	2
X6	PANEL T	PANEL DD	225	208	3	32312	10	1	4/0	PVC	COPPER	21871	65	1
X7	PANEL T	PANEL EE	225	208	3	32312	10	1	4/0	PVC	COPPER	21871	65	1
X8	PANEL EE	PANEL E	225	208	3	21871	1	1	4/0	PVC	COPPER	21489	65	2
X9	PANEL T	PANEL G	225	208	3	32312	15	1	4/0	PVC	COPPER	26059	65	1
X10	PANEL G	PANEL GG	70	120	1	26059	1	1	#4	PVC	COPPER	23402	65	3
X11	PANEL T	RTU-1	150	208	3	32312	100	1	1/0	PVC	COPPER	8322	35	
X12	PANEL T	RTU-2	150	208	3	32312	80	1	1/0	PVC	COPPER	9774	35	
X13	PANEL T	RTU-3	150	208	3	32312	80	1	1/0	PVC	COPPER	9774	35	

NOTES:

1) SUB PANELS ARE SERIES RATED WITH PANEL T.
2) BRANCH CIRCUIT BREAKERS ARE SERIES RATED WITH PANELBOARD MCB.
3) ALL CIRCUIT BREAKERS WITHIN SUB PANEL ARE RATED AT LISTED kAIC RATING.

GENERAL NOTES:

A ASSUMED 3-PHASE 750 kVA, 5.4%Z, PAD MOUNTED TRANSFORMER. WORST-CASE AVAILABLE FAULT CURRENT FROM INFINITE BUS METHOD.
B SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH AVAILABLE FAULT CURRENT PER NEC 110.24.
C WIRE SIZE RESISTANCE & REACTANCE PER NEC CHAPTER 9 - TABLE 9.

FEEDER SCHEDULE

TAG	WIRE SIZES
SERVICE	CU - (6) SET OF (4) #300 IN 3"C FROM UTILITY TRANSFORMER
	AL - (6) SET OF (4) #400 IN 3"C FROM UTILITY TRANSFORMER
70.2	70A - (2) #4, (1) #8G, 1-1/2"C
150.3	150A - (3) #1/0, (1) #6G, 1-1/2"C
225.4	225A - (4) #4/0, (1) #4G, 2-1/2"C
6	RE: A1-E504 FOR SIZING.
FM	FACTORY WIRED CONDUITS & CONDUCTORS
EC	ELECTRICAL CONTRACTOR PROVIDED & INSTALLED

A1 ELECTRICAL RISER DIAGRAM

NOT TO SCALE

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023888
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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SHEET TITLE:
ELECTRICAL RISER DETAIL

SHEET NUMBER:
E511

LIGHT FIXTURE SCHEDULE

TYPE	IMAGE	SYMBOL	QUANTITY	MANUFACTURER	CATALOG NUMBER	TYPE	MOUNTING	VOLTS	WATTS	REMARKS
A			3	LITHONIA	CPANL 2X4 ALO6 SWWT M2	LED	LAY-IN	120	45	SET TO 50LM, 35K
A-EL			3	LITHONIA	CPANL 2X4 ALO6 SWWT M2	LED	LAY-IN	120	45	WITH EMERGENCY BACKUP WITH SELF DIAGNOSTIC, SET TO 50LM, 35K IOTA BATTERY PACK - ILBLP CPIO HE 5D A
D-1			2	DUAL-LITE	PG-B-HTR	LED	SURFACE CL AT 8' AFF	120	12	EMERGENCY EGRESS LIGHT WITH BATTERY BACKUP.
DL			335 FT	LSI INDUSTRIES	ARCHER	LED	OUTDOOR ROOF EDGE	120	10 W/FT	
EXIT			3	MULE LIGHTING	MD-B-1-R-BA	LED	SURFACE AT CLG	120	3	EMERGENCY EGRESS LIGHT WITH BATTERY BACKUP.
J			11	LF ILLUMINATION	MN31DN-T-40C-8035-VW-RG-DMU-WW	LED	RECESSED	120	40	LF #LBARS4PK MOUNTING SYSTEM.
L			5	JUNO LIGHTING	IG1LED63-35K-1 / SP3051I-RED-SC	LED	RECESSED	120	12	
LED1			41	JUNO LIGHTING	TC422LED-35K-1/27HZ-WH-LB2T	LED	RECESSED	120	18	
LEDL			7	JUNO LIGHTING	TC422LED-35K-1-BR/27HZ-WH-LB2T	LED	RECESSED	120	18	EMERGENCY EGRESS LIGHT WITH BATTERY BACKUP. TRASH ROOM AND JANITOR ROOM BY OCCUPANCY SENSOR
LDEM			2	SIGNTEX LIGHTING	MLD-BB-10-W-DP	LED	RECESSED	120	10	EMERGENCY ONLY EGRESS LIGHT WITH BATTERY BACKUP.
LEDO			16	JUNO LIGHTING	IC20LED63-35K-1/2130W-WH	LED	OUTDOOR RECESSED	120	14	
QF1			12	COLUMBIA	LXEM-4-40LW-RFA-EDU	LED	SURFACE	120	33	COOLERS CONTROLLED BY SENSOR SWITCH 4-CMR-9-LT AS INDICATED ON PLAN.
QF1EL			1	COLUMBIA	LXEM-4-40LW-RFA-EDU-ELL14	LED	SURFACE	120	33	EMERGENCY LIGHT WITH BATTERY BACKUP.
QK			1	HUBBELL	LSQ-25-5K7-120-GY5-SWPM-8F	LED	SURFACE	120	26	
QL			41	COLUMBIA	CWW4-930MVS-2WW-ED-U	LED	RECESSED	120	29	
QLEL			17	COLUMBIA	CWW4-930MVS-2WW-ED-U-ELL14	LED	RECESSED	120	29	EMERGENCY EGRESS LIGHT WITH BATTERY BACKUP.
SOFF			5	LSI INDUSTRIES	XSPS-S-LED-VHO-NW-208-GWT-DFL	LED	OUTDOOR RECESSED	208	49	
T			12	JUNO LIGHTING	LA4-23-35-1 LA400F-C-S-WH HB-TL	LED	RECESSED	120	33	
UC-34			1	ELITE LIGHTING	EU-LED-34-1300L-35K-WH-PCSB120	LED	SURFACE	120	14	
BLX			2	ECOLAB	STEALTH MAXIMA	SELF-CONTAINED CFL	SURFACE WALL	120	54	BUG LIGHT - PROVIDE WALL RECEPTACLE AT HEIGHT INDICATED ON PLAN. CONNECTED TO LIGHTING CIRCUIT.
OS		S	7	AGUITY CONTROLS	CMR 9 LT	OCCUPANCY SENSOR	SURFACE AT CLG	120		

GENERAL NOTES (APPLY TO ALL THE ABOVE):

A) ALL LIGHT FIXTURES ARE OWNER-FURNISHED, CONTRACTOR-INSTALLED.

B) LIGHT FIXTURES IN COOLER SHALL REMAIN OFF DURING CONSTRUCTION UNTIL COOLERS ARE PERMANENTLY COLD.

C) ALL MOUNTING HEIGHTS AND FIXTURE PLACEMENT TO BE VERIFIED WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.

LIGHTING SEQUENCE OF OPERATIONS

LIGHTING CONTROLS IECC EXCEPTIONS:

A) QUIKTRIP IS A 24/7 365 DAYS/YEAR FACILITY AND NOT SUBJECT TO HOLIDAY SCHEDULING.

B) SALES FLOOR, RESTROOMS, CHECKSTAND, AND SERVICE COUNTER AREAS ARE DESIGNATED AS SECURITY OR EMERGENCY AREAS THAT ARE REQUIRED TO BE CONTINUOUSLY LIGHTED AND MEET EXCEPTION 1 OF IECC SECTION C405.2.

C) THIS FACILITY MEETS THE DAYLIGHT-RESPONSIVE CONTROLS EXCEPTION 3 OF IECC SECTION C405.2.3 FOR SIDELIGHT DAYLIGHT ZONES ON THE FIRST FLOOR WITHIN GROUP M OCCUPANCIES.

GENERAL REQUIREMENTS:

A) CONFIRM ALL TIMECLOCK SCHEDULES AND SCENES WITH THE OWNER PRIOR TO FINAL PROGRAMMING.

B) SEE LIGHTING PLANS FOR THE EXACT LOCATION OF FIXTURES, SWITCHES, SENSORS, AND ZONING.

C) ALL EMERGENCY FIXTURES SHALL BE PROVIDED WITH UNSWITCHED POWER FOR EMERGENCY BATTERY/DRIVER OPERATION.

SALES AREA - 100 (CONTROL ZONE: A, B, G)
MANUAL CONTROL: NONE.
OCCUPANCY: ALL CONTROLLED LIGHTS SHALL AUTOMATICALLY TURN ON VIA BMS (EMERSON).
VACANCY: NONE.
EMERGENCY: EGRESS LIGHTING IS POWERED BY INTEGRAL BATTERY PACKS.
UPON LOSS OF POWER, EMERGENCY LIGHT WILL TURN ON FOR A MINIMUM OF 90 MINUTES.

SALES AREA - 100 (CONTROL ZONE: C, D, F)
MANUAL CONTROL: LIGHTS CONTROLLED VIA REMOTE SWITCH.
OCCUPANCY: NONE.
VACANCY: NONE.
EMERGENCY: NONE.

SERVICE COUNTER - 101 (CONTROL ZONE: E)
MANUAL CONTROL: LIGHTS CONTROLLED VIA REMOTE SWITCH.
OCCUPANCY: NONE.
VACANCY: NONE.
EMERGENCY: NONE.

SERVICE COUNTER - 101 (CONTROL ZONE: H, I)
MANUAL CONTROL: LIGHTS CONTROLLED VIA REMOTE SWITCH.
OCCUPANCY: NONE.
VACANCY: NONE.
EMERGENCY: EGRESS LIGHTING IS POWERED BY INTEGRAL BATTERY PACKS.
UPON LOSS OF POWER, EMERGENCY LIGHTS WILL TURN ON FOR A MINIMUM OF 90 MINUTES.

SUPPORT SERVICE - 102 (CONTROL ZONE: J)
MANUAL CONTROL: LIGHTS CONTROLLED VIA REMOTE SWITCH.
OCCUPANCY: NONE.
VACANCY: NONE.
EMERGENCY: EGRESS LIGHTING IS POWERED BY INTEGRAL BATTERY PACKS.
UPON LOSS OF POWER, EMERGENCY LIGHTS WILL TURN ON FOR A MINIMUM OF 90 MINUTES.

SINGLES COOLER - 103
MANUAL CONTROL: LIGHTS CONTROLLED VIA LOCAL SWITCH.
OCCUPANCY: ALL CONTROLLED LIGHTS SHALL AUTOMATICALLY TURN ON.
VACANCY: AFTER 20 MINUTES, ALL CONTROLLED LIGHTS SHALL TURN OFF.
EMERGENCY: NONE.

WORKROOM - 104
MANUAL CONTROL: LIGHTS CONTROLLED VIA LOCAL SWITCH.
OCCUPANCY: NONE.
VACANCY: NONE.
EMERGENCY: EGRESS LIGHTING IS POWERED BY INTEGRAL BATTERY PACKS.
UPON LOSS OF POWER, EMERGENCY LIGHTS WILL TURN ON FOR A MINIMUM OF 90 MINUTES.

TAKE HOME COOLER - 105
MANUAL CONTROL: LIGHTS CONTROLLED VIA LOCAL SWITCH.
OCCUPANCY: ALL CONTROLLED LIGHTS SHALL AUTOMATICALLY TURN ON.
VACANCY: AFTER 20 MINUTES, ALL CONTROLLED LIGHTS SHALL TURN OFF.
EMERGENCY: NONE.

WOMENS - 106
MANUAL CONTROL: NONE.
OCCUPANCY: NONE.
VACANCY: NONE.
EMERGENCY: EGRESS LIGHTING IS POWERED BY INTEGRAL BATTERY PACKS.
UPON LOSS OF POWER, EMERGENCY LIGHTS WILL TURN ON FOR A MINIMUM OF 90 MINUTES.

MENS - 107
MANUAL CONTROL: NONE.
OCCUPANCY: NONE.
VACANCY: NONE.
EMERGENCY: EGRESS LIGHTING IS POWERED BY INTEGRAL BATTERY PACKS.
UPON LOSS OF POWER, EMERGENCY LIGHTS WILL TURN ON FOR A MINIMUM OF 90 MINUTES.

UTILITY CLOSET - 108
MANUAL CONTROL: LIGHTS CONTROLLED VIA LOCAL SWITCH.
OCCUPANCY: ALL CONTROLLED LIGHTS SHALL AUTOMATICALLY TURN ON.
VACANCY: AFTER 20 MINUTES, ALL CONTROLLED LIGHTS SHALL TURN OFF.
EMERGENCY: NONE.

JANITOR'S CLOSET - 109
MANUAL CONTROL: LIGHTS CONTROLLED VIA LOCAL SWITCH.
OCCUPANCY: ALL CONTROLLED LIGHTS SHALL AUTOMATICALLY TURN ON.
VACANCY: AFTER 20 MINUTES, ALL CONTROLLED LIGHTS SHALL TURN OFF.
EMERGENCY: NONE.

PLUMBING ROOM - 110
MANUAL CONTROL: LIGHTS CONTROLLED VIA LOCAL SWITCH.
OCCUPANCY: ALL CONTROLLED LIGHTS SHALL AUTOMATICALLY TURN ON.
VACANCY: AFTER 20 MINUTES, ALL CONTROLLED LIGHTS SHALL TURN OFF.
EMERGENCY: EGRESS LIGHTING IS POWERED BY INTEGRAL BATTERY PACKS.
UPON LOSS OF POWER, EMERGENCY LIGHTS WILL TURN ON FOR A MINIMUM OF 90 MINUTES.

FREEZER - 111
MANUAL CONTROL: LIGHTS CONTROLLED VIA LOCAL SWITCH.
OCCUPANCY: NONE.
VACANCY: NONE.
EMERGENCY: NONE.

EXTERIOR
AUTO ON: AREA IS CONTROLLED BY 24HR, 7-DAY CENTRAL TIMECLOCK AND PHOTOCELL.
MANUAL CONTROL: NONE.
OCCUPANCY: NONE.
VACANCY: NONE.
EMERGENCY: EGRESS LIGHTING IS POWERED BY INTEGRAL BATTERY PACKS.
UPON LOSS OF POWER, EMERGENCY LIGHTS WILL TURN ON FOR A MINIMUM OF 90 MINUTES.

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
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PROFESSIONAL ENGINEER

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ELECTRICAL SCHEDULES

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E601

A1 LIGHTING SCHEDULES

ELECTRICAL EQUIPMENT LIST AND CONNECTION SCHEDULE

TAG	DESCRIPTION	MANUFACTURER & MODEL	VOLTAGE / PHASE / WIRE	LOAD AMPS	TYPE OF CONNECTION	WIRE AND CONDUIT	MOUNTING HEIGHT (AFF)	FURNISHED BY		ITEM REMARKS
101	BREWED TEA DISPENSER	BUNN #41400.0002	120/1/3W	14.2	NEMA 5-20R	3#12, 1/2"C	18"	QT		NOTE 8
102	FOUNTAIN MACHINE - 8 HEAD	CORNELIUS ED #250-8	120/1/3W	3.5	NEMA 5-20R	3#12, 1/2"C	18"	QT		PROVIDE CORD AND PLUG FOR DISCONNECT IF NOT ALREADY EQUIPPED.
103	FOUNTAIN MACHINE - 12 HEAD	CORNELIUS ED #350-12	120/1/3W	5.2	NEMA 5-20R	3#12, 1/2"C	18"	QT		PROVIDE CORD AND PLUG FOR DISCONNECT IF NOT ALREADY EQUIPPED.
104	CUBED ICE MAKER	HOSHIZAKI KM-1100MR.1Z	208/1/3W	12.5	NEMA L6-20R	3#12, 1/2"C	42"	QT		NOTE 8 / REMOTE CONDENSER (EQUIP #406)
105	CRUSHED ICE MAKER	HOSHIZAKI F-2001MR.1Z-C	120/208/1/4W	14.9	NEMA L14-30R	4#10, 1/2"C	42"	QT		NOTE 2 / REMOTE CONDENSER (EQUIP #411)
106	FREEZONI MACHINE	FBD #T14	208/1/3W	23.0	NEMA L6-30R	3#10, 1/2"C	*	QT		*NOTE 7, NOTE 9
108	SMOOTHIE MACHINE	BUNN #ULTRA-2 PAF	120/1/3W	15.0	NEMA 5-20R	3#12, 1/2"C	*	QT		*NOTE 7
116	LOTTO TICKET READER		120/1/3W	1.5	NEMA 5-20R	3#12, 1/2"C	12"	QT		
117	ATM		120/1/3W	2.0	NEMA 5-20R	3#12, 1/2"C	12"	QT		
120	BEAN TO CUP COFFEE	CURTIS GEN2S15	208/1/3W	13.9	NEMA L6-20R	3#12, 1/2"C	*	QT		*NOTE 7
121	KIOW MONITOR		120/1/3W	2.0	NEMA 5-20R	3#12, 1/2"C	*	QT		*NOTE 7
122	COFFEE HEAT EXCHANGER	CURTIS WB56T63000	120/208/1/4W	22.7	NEMA L14-30R	4#10, 1/2"C	42"	QT		NOTE 7, NOTE 13
124	COFFEE BAR ICE MACHINE	CORNELIUS IMD 300-15A	120/1/3W	15.0	NEMA 5-20R	3#12, 1/2"C	26"	QT		
204	BUN WARMER	STAR #55T-45HC	120/1/3W	4.3	NEMA 5-20R	3#12, 1/2"C	26"	QT		
205	ROLLER GRILLS	NEMCO DIGITAL ROLLERGRILL	120/1/3W	11.9	NEMA 5-20R	3#12, 1/2"C	26"	QT		
207	MICROWAVE	AMANA HDC12A	120/1/3W	16.8	NEMA 5-20R	3#12, 1/2"C	26"	QT		
208	CHILI & CHEESE MACHINE	STAR #HPDE2-4	120/1/3W	8.0	NEMA 5-20R	3#12, 1/2"C	26"	QT		
213	COLD BAR	APW WYOTT #RTR-8	120/1/3W	4.0	NEMA 5-20R	3#12, 1/2"C	26"	QT		
214	FLOOR ACCESS PANEL	LOSAM #S8646-10	-	-	-	-	-		GC	10"X10" ACCESS PANEL WITH SCORIATED COVER.
215	RECESSED FLOOR BOX	HUBBELL #RF406BR	120/1/3W	-	NEMA 5-20R	3#12, 1/2"C	-		GC	
217	5-TIER HOT DISPLAY	RPI NUTTALL FLEXESERVE #FXZNA10555	208/1/3W	28.7	NEMA 6-30P	3#10, 1/2"C	*	QT		*NOTE 5
218	END CAP FLOOR COOLER	OASIS PSE6663R	120/1/3W	7.8	NEMA 5-20R	3#12, 1/2"C	18"	QT		
220	COLD WELL	THERMELL REFRIGERATION 14R08	120/1/3W	8.4	NEMA 5-15R	3#12, 1/2"C	-	QT		
300	POINT OF SALE	NCR REALPOS XR7 PLUS (7103)	120/1/3W	2.2	NEMA 5-20R	3#12, 1/2"C	*	QT		*NOTE 6
301	INTERCOM MICROPHONE	TMK-41	120/1/3W	2.0	NEMA 5-20R	3#12, 1/2"C	*	QT		*NOTE 6
304	COMPUTER		120/1/3W	1.5	NEMA 5-20R	3#12, 1/2"C	*	QT		*NOTE 6
305	LOTTO MACHINE		120/1/3W	1.5	NEMA 5-20R	3#12, 1/2"C	*	QT		*NOTE 6
306	CASH CONTROLLER SAFE		120/1/3W	1.5	NEMA 5-20R	3#12, 1/2"C	*	QT		*NOTE 6
307	BILL READER SAFE		120/1/3W	1.5	NEMA 5-20R	3#12, 1/2"C	*	QT		*NOTE 6
310	PRINTER/COPIER	LASERJET PRO MFP	120/1/3W	5.0	NEMA 5-20R	3#12, 1/2"C	*	QT		*NOTE 6
311	COUNTERTOP REFRIGERATOR		120/1/3W	1.5	NEMA 5-20R	3#12, 1/2"C	30"	QT		
313	NOT USED									
314	VIDEO ANALYTICS UPS	TRIPPLITE SUINT3000RTXLCDUN	208/1/3W	4.4	NEMA L6-20R	3#12, 1/2"C	SEE PLANS	QT		RE: E503
	VIDEO ANALYTICS SERVER	SUPERMICRO A5-2014C5-TR	-	-	-	-	SEE PLANS	QT		
401	COOLER DOOR	ANTHONY	120/1/3W	6.0	N.F.D.S.	3#12, 1/2"C	TOP OF FRAME	QT		
405	ICE MERCHANDISER	TRUE GDIM-49NT-LD	120/1/3W	10.2	NEMA 5-20R	3#12, 1/2"C	18"	QT		
406	NOVELTY ICE CREAM FREEZER	TRUE GDM-26-HC-TSL01	120/1/3W	5.4	NEMA 5-20R	3#12, 1/2"C	18"	QT		
500	ICE BAGGER	FOLLETT #DBI000	208/1/3W	5.0	NEMA 6-15R	3#12, 1/2"C	SEE PLANS	QT		
507	AIR COMPRESSOR	MULTIPLEX APKV3D	120/1/3W	6.0	NEMA 5-20R	3#12, 1/2"C	26"	QT		
509	MULTIPLEX	MULTIPLEX 5CMR04	208/3/4W	11.0	HARDWIRED	4#12, 1/2"C	84"	QT		PROVIDE 20A CIRCUIT BREAKER IN ENCLOSURE FOR DISCONNECT.
510	WATER HEATER	RUUD EB5A-12-S	208/3/4W	34.1	SEE NOTE	3#6, #1(6), 1"C	34"	QT		PROVIDE 50A CIRCUIT BREAKER IN ENCLOSURE FOR DISCONNECT.
511	ELECTRICAL PANELS							QT		RE: PANEL SCHEDULES & E503
512	LOW VOLTAGE CABINET							QT		RE: SHEET E503
513	UPS	TRIPPLITE SU2200RTXLCD2U	120/1/3W	16.0	NEMA 5-20R	3#12, 1/2"C	108"	QT		RE: SHEET E503
518	WATER SOFTENER	3M/CUNO CFSM1254E	120/1/3W	1.0	NEMA 5-20R	3#12, 1/2"C	48"		PC	RE: PLUMBING SHEETS
519	BOOSTER PUMP - OPTIONAL	GOULDS #5SV	208/3/5W	15.0	N.F.D.S.	5#12, 1/2"C	60"	QT		NOTE 12 / PROVIDE SQUARE-D DU321 DISCONNECT SWITCH
	CONTROLLER	AQUAVAR CPC #20121	-	-	-	-	-	QT		INTEGRAL PRESSURE TRANSDUCER.
520	AIR DOOR	BERNER #CLC08-1042AA	120/1/3W	3.4	HARDWIRED	3#12, 1/2"C	96"	QT		PROVIDE MOTOR RATED SWITCH FOR DISCONNECT.
521	RECIRCULATION PUMP	GRUNDFOS #UP-15-18 BUCT	120/1/3W	1.7	HARDWIRED	3#12, 1/2"C	104"		PC	PROVIDE LINE CORD. RE: P503.
526	SECURITY CABINET							QT		
527	CONDENSATE PUMP	LITTLE GIANT VCCA-20ULS 554201101	120/1/3W	1.5	NEMA 5-20R	3#12, 1/2"C	18"		PC	
531	ELECTRIC HEATER	MARKEL #HF3316-T2-RPN	208/1/3W	14.4	HARDWIRED	3#12, 1/2"C	108"	QT		NOTE 3
534	ICE MAKER FOR BAGGER	HOSHIZAKI KM-1900SR.1Z3	208/3/4W	13.5	NEMA L15-20R	4#12, 1/2"C	SEE PLANS	QT		NOTE 8 / REMOTE CONDENSER (EQUIP #407)
546	CO2 VENTILATION FAN	CAPTIVEAIRE DFA-300-CA	120/1/3W	2.5	HARDWIRED	3#12, 1/2"C	SEE PLANS	QT		PROVIDE MOTOR RATED SWITCH FOR DISCONNECT ON ADJACENT STRUCTURE.
547	UPS BYPASS PANEL							QT		
549	CANOPY DRAIN HEAT TRACE	RAYCHEM #GM-1XT	120/1/3W	1.2	HARDWIRED	3#12, 1/2"C	AT ROOF LINE		PC	
550	FREEZER HEAT TRACE	RAYCHEM #FG1-18P	120/1/3W	0.8	NEMA 5-20R	3#12, 1/2"C	96"		PC	PROVIDE WP COVER WITH GFCI.
551	KIOW GLYCOL CHILLER	MICROMATIC MMPP4302-PKG	120/1/3W	21.0	NEMA L5-30R	3#10, 1/2"C	96"	QT		
552	KIOW NITROGEN GENERATOR	MICROMATIC 332880103	120/1/3W	5.0	NEMA 5-20R	3#12, 1/2"C	26"	QT		
554	KIOW AUTOCLEAN		120/1/3W	3.0	NEMA 5-20R	3#12, 1/2"C	18"	QT		
555	KIOW AIR COMPRESSOR		120/1/3W	16.0	NEMA 5-20R	3#12, 1/2"C	84"	QT		
600	PASTRY CASE	ENCORE CDR5T123	120/1/3W	3.4	NEMA 5-15R	3#12, 1/2"C	-	QT		
601	CUSTOMER ORDER MACHINE	HEWLETT PACKARD #RP9 G1 #4018	120/1/3W	1.9	NEMA 5-20R	3#12, 1/2"C	26"	QT		
603	BLENDER	VITAMIX #36019	120/1/3W	15.0	NEMA 5-20R	3#12, 1/2"C	*	QT		*NOTE 5
604	UNDERCOUNTER FREEZER	TRUE #TUC-27F	120/1/3W	3.2	NEMA 5-15R	3#12, 1/2"C	*	QT		*NOTE 5
606	ICE CREAM MACHINE	STOELTING F131-3812-QT	208/1/3W	11.0	NEMA 6-20R	3#12, 1/2"C	*	QT		*NOTE 5
610	UNDERCOUNTER REFRIGERATOR	TRUE #TUC-27	120/1/3W	3.9	NEMA 5-15R	3#12, 1/2"C	18"	QT		
611	DISHWASHER	MOYER DIEBEL #201HT-M4, 9KW BOOSTER	120/208/1/4W	45.0	NEMA 14-60R	3#4, #1(6), 1"C	18"	QT		PROVIDE CORD AND PLUG FOR DISCONNECT IF NOT ALREADY EQUIPPED.
618	LED SCREEN		120/1/3W	2.0	NEMA 5-20R	3#12, 1/2"C	*	QT		*NOTE 5
621	PIZZA OVEN	OVENTION #SHUTTLE	208/1/3W	45	HARDWIRED	3#6, 3/4"C	16"	QT		NOTE 11
622	60" PIZZA COLD PREP TABLE	TRUE #TSSU-60-16	120/1/3W	7.8	NEMA 5-15R	3#12, 1/2"C	*	QT		*NOTE 5
632	SUB OVEN	ACP #MRX2QT	208/1/3W	23.5	NEMA 6-30R	3#10, 1/2"C	*	QT		*NOTE 5
636	HOLDING CABINET	HATCO #CPHC-24	120/1/3W	9.2	HARDWIRED	3#12, 1/2"C	26"	QT		NOTE 11
638	72" SUB COLD PREP TABLE	TRUE #TFP-72-30M-D-2	120/1/3W	5.1	NEMA 5-20R	3#12, 1/2"C	*	QT		*IN UNDERSIDE OF UTILITY CHASE AT FSG ISLAND
639	KMS SCREEN		120/1/3W	-	NEMA 5-20R	3#12, 1/2"C	26"	QT		
640	PRINTER		120/1/3W	1.0	NEMA 5-20R	3#12, 1/2"C	SEE PLANS	QT		
646	HEAT LAMP	HATCO UGAHL-18	120/1/3W	5.9	HARDWIRED	3#12, 1/2"C	*	QT		*NOTE 5, NOTE 11
647	STEAM DRAWERS	ANTUNES INFINISTEAM	208/1/3W	41.0	HARDWIRED	3#6, 3/4"C	*	QT		*NOTE 5, NOTE 11
648	COMBI OVEN	CONVOTHERM EASYTOUCH	208/3/4W	17.9	HARDWIRED	4#10, 1/2"C	*	QT		*NOTE 5, NOTE 11
800	POWER WASHER	SPRAY MASTER 300-5138 PC 5.0 CB	208/1/3W	16.7	NEMA L6-30R	3#10, 1/2"C	56"	QT		NOTE 1
807	NOT USED									
810	IRRIGATION BOOSTER PUMP - OPTIONAL	INCONTROL P22-6F5	208/120/3/5W	16.7	HARDWIRED	4#4, #1(6), 1-1/4"C		QT		NOTE 4
902	CANDY CANE ROOF PENETRATION	ROOF PENETRATION							GC	PER ARCHITECTURAL PLANS
903	ROOF TOP UNIT	AAON RN-SERIES	208/3/4W	VARIES	N.F.D.S.	VARIES		QT		RE: MECHANICAL SHEETS
906	CUBED ICE MAKER CONDENSER UNIT	HOSHIZAKI URC-14FZ	120/1/3W	3.0	N.F.D.S.	3#12, 1/2"C		QT		WIRED IN CONJUNCTION WITH EQUIP #104.
907	ICE MAKER CONDENSER UNIT	HOSHIZAKI URC-22FZ	120/1/3W	3.0	N.F.D.S.	3#12, 1/2"C		QT		WIRED IN CONJUNCTION WITH EQUIP #534.
908	WALK-IN FREEZER EVAPORATOR	RUSSELL RL6EOTTDDAL	208/1/3W	1.0	HARDWIRED	3#12, 1/2"C		QT		
909	TAKE HOME COOLER EVAPORATOR	RUSSELL RL6AN15ADAL	120/1/3W	3.2	HARDWIRED	3#12, 1/2"C		QT		PROVIDE KEYED SWITCH AS DISCONNECT, RE: E103.
910	SINGLES COOLER EVAPORATOR	RUSSELL RL6A14I1ADAL	120/1/3W	2.4	HARDWIRED	3#12, 1/2"C		QT		PROVIDE KEYED SWITCH AS DISCONNECT, RE: E103.
911	CRUSHED ICE MAKER CONDENSER UNIT	HOSHIZAKI URC-22FZ	120/1/3W	3.0	N.F.D.S.	3#12, 1/2"C		QT		WIRED IN CONJUNCTION WITH EQUIP #105.
912B	TAKE HOME COOLER CONDENSING UNIT [110 DEG]	RUSSELL RF06OOE45EB	208/3/4W	30.9	60A FUSED D.S.	3#6, #1(6), 3/4"C		QT		
913	EF-1 EXHAUST FAN	CAPTIVEAIRE DR23HFA	120/1/3W	4.3	FACTORY	3#12, 1/2"C		QT		RE: MECHANICAL SHEETS
914	H-1 EXHAUST HOOD	CAPTIVEAIRE 4824ND-2-PSP-F	-	-	-	-		QT		
915	EF-3 EXHAUST FAN	CAPTIVEAIRE DU50HFA	208/1/3W	3.8	FACTORY	3#12, 1/2"C		QT		RE: MECHANICAL SHEETS
916	TF-1 TRANSFER FAN	CAPTIVEAIRE CFA 500CA	120/1/3W	2.2	NEMA 5-20R	3#12, 1/2"C		QT		RE: MECHANICAL SHEETS
917	NOT USED									
918	WALK-IN FREEZER CONDENSING UNIT	RUSSELL RF0250L45EB	208/3/4W	26.0	N.F.D.S.	4#10, 1/2"C		QT		
922B	SINGLES COOLER CONDENSING UNIT [110 DEG]	RUSSELL RF06OOE45EB	208/3/4W	30.9	60A FUSED D.S.	3#6, #1(6), 3/4"C		QT		
923	MULTIPLEX CONDENSING UNIT	MULTIPLEX TS-08R5	208/1/3W	1.3	N.F.D.S.	3#12, 1/2"C		QT		WIRED IN CONJUCTION WITH EQUIP #509.
927	END CAP FLOOR COOLER CONDENSING UNIT	KEEPRITE KEZA035L8-HT3D	208/3/4W	13.8	N.F.D.S.	4#10, 1/2"C		QT		

NOTES:
1) PROVIDE GFCI AT BREAKER. CONTRACTOR TO PROVIDE A WATER TIGHT CORD AND PLUG. (HBL26205W & HBL26215W. RECEPTACLE SHALL BE RATED FOR "WET LOCATION." RE: PLUMBING DRAWINGS FOR ELEVATIONS.
2) CONTRACTOR SHALL FURNISH AND INSTALL MATCHING CORD (#10 AWG, TYPE "SO") AND PLUG.
3) FURNISHED WITH FACTORY MOUNTED DISCONNECT, THERMOSTAT, AND SURFACE-MOUNTING ADAPTER KIT.
4) COORDINATE WITH QT REPRESENTATIVE TO DETERMINE IF IRRIGATION BOOSTER PUMP IS REQUIRED.
5) RE: FSG ELEVATIONS FOR MOUNTING HEIGHT.
6) STACK WITHIN UTILITY CHASE IN MILLWORK. COORDINATE WITH QT MILLWORK DRAWINGS.
7) RE: ELEVATIONS ON SHEET E505.
8) CONTRACTOR SHALL FURNISH AND INSTALL MATCHING CORD (#12 AWG, TYPE "SO") AND PLUG.
9) CONTRACTOR SHALL FURNISH AND INSTALL MATCHING CORD (#8 AWG, TYPE "SO") AND PLUG.
10) CONTRACTOR SHALL FURNISH AND INSTALL MATCHING CORD (48" LONG, #6 AWG, TYPE "SO") AND PLUG.
11) DISCONNECT PER LOCKABLE CIRCUIT BREAKER.
12) RE: P102 WATER SERVICE BOX NOTE TO DETERMINE IF A BOOSTER PUMP IS REQUIRED.
13) CONTRACTOR SHALL FURNISH AND INSTALL MATCHING CORD (48" LONG, #10/4 AWG, TYPE "SO") AND PLUG.

GENERAL NOTES (APPLY TO ALL THE ABOVE):
A) ALL ELECTRICAL DEVICES ARE PROVIDED BY EC. ROUGH-IN MOUNTING HEIGHTS ARE CENTER OF BOX UNLESS NOTED OTHERWISE AND SHALL BE VERIFIED WITH THE EQUIPMENT MANUALS PRIOR TO COMMENCING WORK.
B) LABEL ALL RECEPTACLES WITH THE NAME OF THE EQUIPMENT THEY SERVE AND CIRCUIT NUMBERS.
C) RECEPTACLES OR DISCONNECT SWITCHES LOCATED PER PLAN. MOUNT TO WALL OR TO BACK OF WEDGE CAVITY OR CASEWORK AS APPLICABLE.
D) FURNISHED BY: QT=QUIKTRIP, PC=PLUMBING CONTRACTOR, MC=MECHANICAL CONTRACTOR, EC=ELECTRICAL CONTRACTOR.

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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QuikTrip No. 0183R
1001 SW BLUE PARKWAY
LEE'S SUMMIT, MISSOURI

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PROTOTYPE	P-120
DIVISION	KANSAS CITY
VERSION	GJSE
DATE	11-01-2024

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE:
ELECTRICAL SCHEDULES

SHEET NUMBER:
E602

MAIN DISTRIBUTION PANEL: T

SYSTEM: 208/120V,3PH,4W — LOCATION: OUTSIDE ON BLDG. — CABINET MOUNTING: SURFACE
FEEDER: SEE RISER DIAGRAM — MAINS: 1600A M.L.O. — LUGS: TOP
OPTIONS: KEYED INTERLOCK — AIC RATING: 65,000 — NEMA ENCLOSURE: 3R

CODE	NOTE	LOAD DESCRIPTION	BKR SIZE	BKR POLE	WATTS	CK NO.	PHASE	CK NO.	WATTS	BKR POLE	BKR SIZE	LOAD DESCRIPTION	NOTE	CODE
		SPACE				15	A	16	3,122	3	30	WALK-IN FREEZER CONDENSING UNIT (R18)		K
						-	B	-	3,122					K
						-	C	-	3,122					K
K	4	TAKE HOME COOLER CONDENSING UNIT (R12B)	45	3	3,711	13	A	14	-	3	20	TV55	1	
K					3,711	-	B	-	-					
K					3,711	-	C	-	-					
		PANEL DD	225	3	20,963	11	A	12	3,711	3	45	SINGLES COOLER CONDENSING UNIT (R22B)	4	K
					19,754	-	B	-	3,711					K
					18,814	-	C	-	3,711					K
		PANEL BB	225	3	19,737	9	A	10	13,806	3	150	RTU-1		MH
					20,701	-	B	-	13,806					MH
					19,410	-	C	-	13,806					MH
		PANEL B	225	3	5,987	7	A	8	13,806	3	150	RTU-2		MH
					6,683	-	B	-	13,806					MH
					7,069	-	C	-	13,806					MH
		PANEL C	225	3	19,973	5	A	6	13,806	3	150	RTU-3		MH
					17,481	-	B	-	13,806					MH
					15,124	-	C	-	13,806					MH
		PANEL EE	225	3	2,586	3	A	4	9,723	3	225	PANEL G		
					3,114	-	B	-	9,723					
					3,611	-	C	-	13,575					
	3	PANEL D	225	3	30,182	1	A	2		3	600	EMERGENCY POWER MAIN (WITH KEYED INTERLOCK)	2	
					24,974	-	B	-						
					27,674	-	C	-						
	2,3	MAIN (WITH KEYED INTERLOCK)	1600	3		-	A							
						-	B							
						-	C							

	CONNECTED WATTS	DEMAND	WATTS / AMPS
PH A:	161,714	123,044	1026
PH B:	154,347	121,185	1010
PH C:	157,311	119,865	999

LOAD	CONNECTED	NEC FEEDER LOAD
	473422 WATTS	382507 WATTS
	1314 AMPS	1062 AMPS

NOTES: *FURNISHED WITH PANEL COVER WITH LOCKING DOOR
1 EQUIPMENT PRE-INSTALLED WITHIN PANEL SYSTEM.
2 SWITCHBOARD FURNISHED WITH EMERGENCY POWER BREAKER KEY-INTERLOCKED TO MAIN BREAKER.
3 CIRCUIT BREAKER FURNISHED WITH 100% AMPERAGE RATING.

PANEL SHALL BE FURNISHED WITH ENERGY REDUCTION MAINTENANCE SETTING (ERMS) SWITCH IN ACCORDANCE WITH NEC 240.87 ARC ENERGY REDUCTION REQUIREMENTS.

GENERAL NOTES FOR PANELBOARDS

ALL ELECTRICAL PANELS AND GENERATOR TERMINAL CONNECTIONS ARE BE OWNER-FURNISHED / CONTRACTOR-INSTALLED UNLESS OTHERWISE NOTED. COORDINATE WITH QT REPRESENTATIVE.

EMERGENCY FUEL CUTOFF

ALL FUEL DISPENSING MUST HAVE EMERGENCY POWER CUTOFF PER NEC 9411. RE: FUEL DRAWINGS FOR EMERGENCY FUEL SHUTDOWN DIAGRAM AND EMERGENCY SWITCH LOCATIONS. RE: FUEL DRAWINGS FOR ALL CIRCUITS REQUIRED FOR FUEL INSTALLATION. COORDINATE WITH QT REPRESENTATIVE.

SUB PANEL: GG

SYSTEM: 120V,3PH,3W — LOCATION: CORRIDOR — CABINET MOUNTING: SURFACE
FEEDER: SEE RISER DIAGRAM — MAINS: 125A M.L.O. — LUGS: TOP
OPTIONS: — AIC RATING: 65K FULLY RATED — NEMA ENCLOSURE: I

CODE	NOTE	LOAD DESCRIPTION	BKR SIZE	BKR POLE	WATTS	CK NO.	PHASE	CK NO.	WATTS	BKR POLE	BKR SIZE	LOAD DESCRIPTION	NOTE	CODE
		SPARE	20	1		1	C	2		1	20	TV55	1	
		SPARE	20	1		3	C	4		1	20	SPARE		
F	1	FUELING CONTROLS	15	1	50	5	C	6	200	1	20	MPD #1/2	4	F
G	1,2	INTERCOM / WARREN ROGERS	20	1	360	7	C	8	200	1	20	MPD #3/4	4	F
G	1,2	TANK MONITOR	20	1	1080	9	C	10	200	1	20	MPD #5/6	4	F
G		UPS-A POWER	20	1	1480	11	C	12	200	1	20	MPD #7/8	4	F
G		UPS-A BYPASS	20	1	0	13	C	14	200	1	20	MPD #9/10	4	F
		SPARE	20	1		15	C	16	200	1	20	MPD #11/12	4	F
		SPARE	20	1		17	C	18	200	1	20	MPD #13/14	4	F
		SPARE	20	1		19	C	20	200	1	20	MPD #15/16	4	F
		SPARE	20	1		21	C	22		1	20	SPARE		
		SPARE	20	1		23	C	24		1	20	SPARE		
		SPARE	20	1		25	C	26		1	20	SPARE		
		SPARE	20	1		27	C	28		1	20	SPARE		
		SPARE	20	1		29	C	30		1	20	SPARE		
		SPARE	20	1		31	C	32		1	20	SPARE		
		SPARE	20	1		33	C	34		1	20	SPARE		
		SPARE	20	1		35	C	36		1	20	SPARE		
		SPARE	20	1		37	C	38		1	20	SPARE		
		SPARE	20	1		39	C	40		1	20	SPARE		
G	1	TV55 STATUS LIGHTS	15	1	0	41	C	42		1	20	SPARE		

	CONNECTED WATTS	DEMAND	WATTS / AMPS
PH G:	4,570	4,570	38

LOAD	CONNECTED	NEC FEEDER LOAD
	4570 WATTS	4570 WATTS
	38 AMPS	38 AMPS

NOTES: *FURNISHED WITH PANEL COVER WITH LOCKING DOOR
*FUEL PANEL, RE: FUEL DRAWINGS FOR POWER TO EQUIPMENT
*FUEL COMPONENTS ROUTED THROUGH EMERGENCY SHUT DOWN CONTROLS.
1 EQUIPMENT PRE-INSTALLED WITHIN PANEL SYSTEM.
2 CIRCUIT BREAKER FURNISHED WITH LOCK ATTACHMENT.
3 CIRCUIT BREAKER FURNISHED WITH HANDLE LOCK-OFF.

SUB PANEL: BB

SYSTEM: 208/120V,3PH,4W — LOCATION: EXTERIOR — CABINET MOUNTING: SURFACE
FEEDER: SEE RISER DIAGRAM — MAINS: 225A M.L.O. — LUGS: BOTTOM
OPTIONS: — AIC RATING: 65K/10K SERIES RATED — NEMA ENCLOSURE: I

CODE	NOTE	LOAD DESCRIPTION	BKR SIZE	BKR POLE	WATTS	CK NO.	PHASE	CK NO.	WATTS	BKR POLE	BKR SIZE	LOAD DESCRIPTION	NOTE	CODE
		SPARE	20	1		1	A	2	1,801	3	20	BOOSTER PUMP (519) (OPTIONAL RE: PLUMBING)		G
K	2	NON AIR COMPRESSOR (555)	20	1	1,800	3	B	4	1,801					G
L		EXHAUST FAN 1 - TOILETS (R13)	20	1	756	5	C	6	1,801					G
K		END CAP FLOOR COOLER CONDENSING UNIT-1 (R21)	25	3	1,651	7	A	8		2	40	SPARE		
K					1,651	9	B	10						
K					1,651	11	C	12	600	1	20	NITROGEN GENERATOR (552)	2	K
K		END CAP FLOOR COOLER CONDENSING UNIT-2 (R21)	25	3	1,651	13	A	14	4,100	3	50	WATER HEATER (510)		K
K					1,651	15	B	16	4,100					K
K					1,651	17	C	18	4,100					K
K	2	NON GLYCOL CHILLER (551)	30	1	2,520	19	A	20	1,498	2	15	ELECTRIC UNIT HEATER (531)		H
G		UPS-VA POWER	20	2	460	21	B	22	1,498					H
G					460	23	C	24	1,800	1	20	COFFEE BAR ICE MACHINE (124)	2	K
G	2	POWER WASHER (800)	30	2	1,737	25	A	26	720	1	20	ROOFTOP RCPTS		R
G					1,737	27	B	28	1,584	1	20	BACK BLDG DOWN LIGHTING (2)	3	L
K		MULTIPLEX (504)	20	3	2,042	29	C	30	1,584	1	20	FRONT BLDG DOWN LIGHTING (2)	3	L
K					2,042	31	A	32		1	20	SPARE		
K					2,042	33	B	34	360	1	20	NON AUTOCLEAN (554)	2	K
G		AIR COMPRESSOR (507)	20	1	720	35	C	36	288	1	20	CO2 VENT FAN		G
	1	TV55	20	3		37	A	38	2,005	3	30	IRRIGATION BOOSTER PUMP (510) (OPTIONAL)		G
						39	B	40	2,005					G
						41	C	42	2,005					G

	CONNECTED WATTS	DEMAND	WATTS / AMPS
PH A:	19,737	15,545	130
PH B:	20,701	17,031	142
PH C:	19,410	15,906	133

LOAD	CONNECTED	NEC FEEDER LOAD
	59909 WATTS	48483 WATTS
	166 AMPS	135 AMPS

NOTES: *FURNISHED WITH PANEL COVER WITH LOCKING DOOR
1 EQUIPMENT PRE-INSTALLED WITHIN PANEL SYSTEM.
2 CIRCUIT BREAKER FURNISHED WITH GFCI.
3 ROUTE CIRCUIT THROUGH OUTSIDE LIGHTING CONTROL SYSTEM - STAGE NUMBER INDICATOR IN PARENTHESES.

SUB PANEL: G

SYSTEM: 208/120V,3PH,4W — LOCATION: CORRIDOR — CABINET MOUNTING: SURFACE
FEEDER: SEE RISER DIAGRAM — MAINS: 225A M.L.O. — LUGS: TOP
OPTIONS: — AIC RATING: 65K/10K SERIES RATED — NEMA ENCLOSURE: I

CODE	NOTE	LOAD DESCRIPTION	BKR SIZE	BKR POLE	WATTS	CK NO.	PHASE	CK NO.	WATTS	BKR POLE	BKR SIZE	LOAD DESCRIPTION	NOTE	CODE
F		EO FUEL PUMP	20	3	1,801	1	A	2	1,801	3	20	REGULAR #1 FUEL PUMP		F
F		4HP			1,801	3	B	4	1,801			4HP		F
F					1,801	5	C	6	1,801					F
F		PREMIUM FUEL PUMP	20	3	1,801	7	A	8	1,801	3	20	REGULAR #2 FUEL PUMP		F
F		4HP			1,801	9	B	10	1,801			4HP		F
F					1,801	11	C	12	1,801					F
F		AUTO DIESEL FUEL PUMP	20	3	1,801	13	A	14	0	3	20	RESERVED SPACE		
F		4HP			1,801	15	B	16	0					
F					1,801	17	C	18	0					
		SPARE	20	3		19	A	20	0	3	20	RESERVED SPACE		
						21	B	22	0					
						23	C	24	0					
		SPARE	20	1		25	A	26	0	3	20	RESERVED SPACE		
		SPARE	20	1		27	B	28	0					
		SPARE	20	1		29	C	30	0					
		SPARE	20	1		31	A	32	0	3	20	RESERVED SPACE		
		SPARE	20	1		33	B	34	0					
		SPARE	20	1		35	C	36	0					
		SPARE	20	1		37	A	38	0	3	20	RESERVED SPACE		
		SPARE	20	1		39	B	40	0					
		SPARE	20	1		41	C	42	0					
		SPARE	20	1		43	A	44	0	3	20	RESERVED SPACE		
		SPARE	20	1		45	B	46	0					
		SPARE	20	1		47	C	48	0					
	1	TV55	20	3		49	A	50	718	2	15	CANOPY .75 HP		L
						51	B	52	718			SUMP VENTILATION FAN		L
						53	C	54	4,570	1	70	PANEL GG		

	CONNECTED WATTS	DEMAND	WATTS / AMPS
PH A:	9,723	9,903	83
PH B:	9,723	9,903	83
PH C:	13,575	13,575	113

LOAD	CONNECTED	NEC FEEDER LOAD
	33021 WATTS	33380 WATTS
	92 AMPS	93 AMPS

NOTES: *FURNISHED WITH PANEL COVER WITH LOCKING DOOR
*FUEL PANEL, RE: FUEL DRAWINGS FOR POWER TO EQUIPMENT
*FUEL COMPONENTS ROUTED THROUGH EMERGENCY SHUT DOWN CONTROLS.
1 EQUIPMENT PRE-INSTALLED WITHIN PANEL SYSTEM.

SUB PANEL: B

SYSTEM: 208/120V,3PH,4W — LOCATION: EXTERIOR — CABINET MOUNTING: SURFACE
FEEDER: SEE RISER DIAGRAM — MAINS: 225A M.L.O. — LUGS: TOP
OPTIONS: — AIC RATING: 65K/10K SERIES RATED — NEMA ENCLOSURE: I

CODE	NOTE	LOAD DESCRIPTION	BKR SIZE	BKR POLE	WATTS	CK NO.	PHASE	CK NO.	WATTS	BKR POLE	BKR SIZE	LOAD DESCRIPTION	NOTE	CODE
L	4	GAS CANOPY LIGHTS (2)	20	2	312	1	A	2		3	20	TV55	1	
L		(STORE)			312	3	B	4						
L	4	GAS CANOPY LIGHTS (2)	20	2	312	5	C	6						
L		(STORE)			312	7	A	8	188	2	20	PARKING LOT LIGHTS (3) (4 POLE LIGHTS NEAR BLDG)	4	L
L	4	GAS CANOPY LIGHTS (3)	20	2	312	9	B	10	188					
L		(STREET)			312	11	C	12	188	2	20	PARKING LOT LIGHTS (3) (4 POLE LIGHTS NORTH)	4	L
L	4	GAS CANOPY LIGHTS (3)	20	2	312	13	A	14	188					
L		(STREET)			312	15	B	16	282	2	20	PARKING LOT LIGHTS (3) (6 POLE LIGHTS SOUTH)	4	L
L	4	GAS CANOPY LIGHTS (3)	20	2		17	C	18	282					
L		(SPARE)				19	A	20	188	2	20	PARKING LOT LIGHTS (3) (4 POLE LIGHTS SOUTH)	4	L
		SPARE	20	1		21	B	22	188					
		SPARE	20	1		23	C	24	200	1	20	LIGHTING CONTACTOR	1	L
		SPARE	20	1		25	A	26	1,200	1	20	BLDG SIDE ENTRY SIGNS (1)	4	L
		SPARE	20	1		27	B	28	1,200	1	20	BLDG FRONT CANOPY SIGN (1)	4	L
		SPARE	20	1		29	C	30	408	1	20	QT BUTTON SIGNS (1)	4	L
L	4	GAS CANOPY SIGN (1)	20	1	1,200	31	A	32	360	1	20	BUILDING L.E.D. (1)	4	L
L	4	GAS CANOPY L.E.D. (1)	20	1	960	33	B	34	248	1	20	FRONT & REAR EXTERIOR LTS (2)	4	L
L	5,6	CANOPY DRAIN HEAT TRACE (544)	20	1	1,584	35	C	36	123	2	20	STORE EXTERIOR LIGHTS (2)	4	L
		SPARE	20	1		37	A	38	123					L
		SPARE	20	1		39	B	40	1,200	1	20	QT LOGO & QT KITCHENS (1)	4	L
G	2	AIR COMPRESSOR	20	1	1,680	41	C	42	1,200	1	20	MONUMENT PRICER		L
G		LAWN SPRINKLER	20	1	180	43	A	44	1,004	1	20	FSG DOWNLIGHTS/(646) HEAT LAMP	3	L
G		EXTERIOR CAMERAS LOOP 1	20	1	240	45	B	46	497	1	20	REAR FSG LIGHTS		L
G		EXTERIOR CAMERAS LOOP 2	20	1	480	47	C	48		1	20	SPARE		
G		EXTERIOR CAMERAS LOOP 3	20	1	240	49	A	50		1	20	SPARE		
G		EXTERIOR CAMERAS LOOP (SPARE)	20	1	0	51	B	52	564	1	20	REGIRG PUMP (521)		L
		SPARE	20	1		53	C	54	180	1	20	GEN PLUMBING RM RCPT		R

	CONNECTED WATTS	DEMAND	WATTS / AMPS
PH A:	5,987	7,378	61
PH B:	6,683	8,294	69
PH C:	7,069	8,251	69

LOAD	CONNECTED	NEC FEEDER LOAD
	19738 WATTS	23423 WATTS
	55 AMPS	66 AMPS

NOTES: *FURNISHED WITH PANEL COVER WITH LOCKING DOOR
1 EQUIPMENT PRE-INSTALLED WITHIN PANEL SYSTEM.
2 CIRCUIT BREAKER FURNISHED WITH GFCI.
3 CIRCUIT BREAKER FURNISHED WITH HANDLE LOCK OFF.
4 ROUTE CIRCUIT THROUGH OUTSIDE LIGHTING CONTROL SYSTEM - STAGE NUMBER INDICATER IN PARENTHESIS.
5 ROUTE CIRCUIT THROUGH AMBIENT AIR THERMOSTAT, FURNISHED BY PC, INSTALLED BY EC. RE: CANOPY HEAT TRACE DETAIL.
6 CIRCUIT BREAKER FURNISHED WITH 30mA GFEP.

ELECTRICAL LOAD SUMMARY

CODE	DESCRIPTION	MAIN PANEL T	SUB PANELS B	BB	G	D	DD	EE	G		CONNECTED TOTAL	NEC DEMAND FACTORS	NEC FEEDER LOAD
K	KITCHEN EQUIPMENT	241254	0	35448	32958	82646	58570	0	0		241254	0.65	156815
L	CONTINUOUS LOADS (LTG)	29193	16738	3924	5805	780	0	500	1436		29193	1.25	36491
G	MISCELLANEOUS	30936	2820	16821	2328	0	0	6047	2920		30936	1.00	30936
F	FUEL PUMP,	28665	0	0	0	0	0	0	28665		28665	0.50	14333
R	RECEPTACLE	14612	180	720	11492	0	960	1260	0		10000	1.00	10000
	RECEPT OVER 10 KW										4612	0.50	2306
M	MOTORS (CONT.)	11456	0	0	0	0	0	0	0		11456	1.25	14321
C	*COOLING	67226	0	0	0	0	0	0	0		0	0.00	0
H	*ELECTRIC HEAT	117305	0	29115	0	0	0	1510	0		117305	1.00	117305
	* THE LARGER OF THESE (2) LOADS HAS A DEMAND FACTOR OF 1.00, AND THE SMALLER HAS A DEMAND FACTOR OF ZERO.												
	TOTALS (WATTS):	473422	19738	59909	52264	83436	59530	9317	33021		473422		382507
	TOTALS (AMPS):	1314	55	166	146	232	165	26	92		1314		1062

A1 ELECTRICAL PANEL SCHEDULES

STATE OF MISSOURI — NEIL P. BARTLEY — NUMBER PE-2007023868 — PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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LEE'S SUMMIT, MISSOURI

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PROTOTYPE	P-120
DIVISION	KANSAS CITY
VERSION	GJSE
DATE	11-01-2024

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE: ELECTRICAL PANEL SCHEDULES

SHEET NUMBER: E610

SUB PANEL: CC - SECTION 2

SYSTEM: 208/120V,3PH,4W
FEEDER: SEE RISER DIAGRAM
OPTIONS:
LOCATION: EXTERIOR
MAINS: 225A M.L.O.
AIC RATING: 65K/10K SERIES RATED
CABINET MOUNTING: SURFACE
LUGS: BOTTOM
NEMA ENCLOSURE:

CODE	NOTE	LOAD DESCRIPTION	BKR SIZE	BKR POLE	WATTS	CK NO.	PHASE	CK NO.	WATTS	BKR POLE	BKR SIZE	LOAD DESCRIPTION	NOTE	CODE
K		END CAP FLOOR COOLER (218)	20	1	932	1	A	2		1	20	SPARE		
K	2	CONDENSATE PUMP (527)	20	1	180	3	B	4	725	1	20	CENTER SALES LIGHTS		L
		SPARE	20	1		5	C	6	422	1	20	COOLER LIGHTS		L
K	2	ROLLER GRILL-1 (205)	20	1	1,430	7	A	8	180	1	20	GENERAL RECEPTACLE-JANITOR		R
K	2,4	BUN WARMER-1 (204)	20	1	1,430	9	B	10	180	1	20	GENERAL RECEPT-TRASH ROOM		R
K	2,4	ROLLER GRILL-2 (205)	20	1	180	11	C	12	509	1	20	SALES FLOOR COFFEE LIGHTS		L
K	2,4	ROLLER GRILL-3 (205)	20	1	516	13	A	14	621	1	20	SALES FLOOR PERIMETER LIGHTS		L
K	2,4	BUN WARMER-2 (204)	20	1	1,430	15	B	16	440	1	20	FOUNTAIN, COFFEE DIRECTION LIGHTS		L
R	2,4	GENERAL RCPT RG-1	20	1	180	17	C	18	396	1	20	R.G., ATM/LOTTO SPOT LIGHTS		L
K	2,4	ROLLER GRILL-6 (205)	20	1	1,430	19	A	20	198	1	20	WOMEN'S ROOM LIGHTS		L
K	2,4	ROLLER GRILL-7 (205)	20	1	516	21	B	22	216	1	20	MEN'S ROOM LIGHTS		L
K	2	GENERAL RCPT RG-2	20	1	180	23	C	24	1,920	1	20	WINDOW SHADES	3	G
R	2	SOLENOID VALVES	20	1	180	25	A	26	360	1	20	GENERAL RCPT COLD WELL	2	K
L		COOLER DOOR LIGHTS - SINGLES	20	1	1,234	27	B	28	1,070	1	20	COLD WELL (220)	2	K
L		COOLER DOOR LIGHTS - TH	20	1	1,044	29	C	30	180	1	20	GENERAL RCPT CB-1	2,4	K
K	5	FREEZER HEAT TRACE	20	1	240	31	A	32	960	1	20	CHILI-CHEESE (208)	2,4	K
		SPARE	20	1		33	B	34	480	1	20	COLD BAR (218)	2,4	K
K	2	PASTRY CASE (600)	15	1	408	35	C	36	180	1	20	GENERAL RCPT CB-1	2,4	K
	1	TV55	20	3		37	A	38	1,900	1	20	MICROWAVE-1 (207)	2	K
						39	B	40	1,900	1	20	MICROWAVE-2 (207)	2	K
						41	C	42		1	20	SPARE		

	CONNECTED WATTS	DEMAND WATTS / AMPS		LOAD	CONNECTED	NEC FEEDER LOAD
PH A:	8,947	6,433	54		24347 WATTS	20233 WATTS
PH B:	9,801	8,003	67		68 AMPS	56 AMPS
PH C:	5,598	5,747	48			

NOTES:
*FURNISHED WITH PANEL COVER WITH LOCKING DOOR
1 EQUIPMENT PRE-INSTALLED WITHIN PANEL SYSTEM.
2 CIRCUIT BREAKER FURNISHED WITH GFCI.
3 CIRCUIT BREAKER FURNISHED WITH LOCK ATTACHMENT.
4 CIRCUIT BREAKER FURNISHED WITH 2-POLE HANDLE TIE.
5 CIRCUIT BREAKER FURNISHED WITH 30mA GFEP.

SUB PANEL: DD

SYSTEM: 208/120V,3PH,4W
FEEDER: SEE RISER DIAGRAM
OPTIONS:
LOCATION: EXTERIOR
MAINS: 225A M.L.O.
AIC RATING: 65K/10K SERIES RATED
CABINET MOUNTING: SURFACE
LUGS: BOTTOM
NEMA ENCLOSURE:

CODE	NOTE	LOAD DESCRIPTION	BKR SIZE	BKR POLE	WATTS	CK NO.	PHASE	CK NO.	WATTS	BKR POLE	BKR SIZE	LOAD DESCRIPTION	NOTE	CODE
K	2	ICEMAKER (104, 906)	20	2	1,300	1	A	2	2070	2	30	ICEMAKER-1 (105, 911)	2	K
K		(CUBE)			1,300	3	B	4	2070			(CRUSHED)		K
K	2	ICEMAKER-2 (105, 911)	30	2	2,070	5	C	6	420	1	20	FOUNTAIN MACHINE (102)	2	K
K		(CRUSHED)			2,070	7	A	8	180	1	20	LOTTO (116)		R
L	2	FOUNTAIN MACHINE-1 (103)	20	1	620	9	B	10	240	1	20	ATM (117)		R
K	2	FOUNTAIN MACHINE-2 (103)	20	1	620	11	C	12	1,700	1	20	ICED TEA DISPENSER-1 (101)	2	K
R		LOTTO TICKET READER (116)	20	1	180	13	A	14	1,700	1	20	ICED TEA DISPENSER-2 (101)	2	K
K	2	FREEZONI MACHINE-1 (106)	30	2	2,342	15	B	16	1,700	1	20	ICED TEA DISPENSER-3 (101)	2	K
K					2,342	17	C	18	1,700	1	20	ICED TEA DISPENSER-4 (101)	2	K
K	2	FREEZONI MACHINE-2 (106)	30	2	2,342	19	A	20	1,700	1	20	ICED TEA DISPENSER-5 (101)	2	K
K					2,342	21	B	22	1,700	1	20	ICED TEA DISPENSER-6 (101)	2	K
K	2	FREEZONI MACHINE-3 (106)	30	2	2,342	23	C	24	2,500	2	30	COFFEE HEAT EXCHANGER #1 (122)	2	K
K					2,342	25	A	26	2,500					K
K	2	SMOOTHIE MACHINE-1 (108)	20	1	1,800	27	B	28	2,500	2	30	COFFEE HEAT EXCHANGER #2 (122)	2	K
K	2	SMOOTHIE MACHINE-2 (108)	20	1	1,800	29	C	30	2,500					K
K	2	SMOOTHIE MACHINE-3 (108)	20	1	1,800	31	A	32	2,500	2	30	COFFEE HEAT EXCHANGER #3 (122)	2	K
R	2	GENERAL RECEPT-FOUNTAIN	20	1	360	33	B	34	2,500					K
G	1	ERMS	15	1	0	35	C	36	180	1	20	COFFEE BAR GEN RCPT #1	2	K
	1	TV55	20	3		37	A	38	180	1	20	COFFEE BAR GEN RCPT #2	2	K
						39	B	40	180	1	20	COFFEE BAR GEN RCPT #3	2	K
						41	C	42	540	1	20	COFFEE NOW WALL RCPT #1	2	K

	CONNECTED WATTS	DEMAND WATTS / AMPS		LOAD	CONNECTED	NEC FEEDER LOAD
PH A:	20,963	13,752	115		54530 WATTS	34031 WATTS
PH B:	19,754	13,050	109		165 AMPS	108 AMPS
PH C:	18,814	12,224	102			

NOTES:
*FURNISHED WITH PANEL COVER WITH LOCKING DOOR
1 EQUIPMENT PRE-INSTALLED WITHIN PANEL SYSTEM.
2 CIRCUIT BREAKER FURNISHED WITH GFCI.

SUB PANEL: EE - SECTION 1

SYSTEM: 208/120V,3PH,4W
FEEDER: SEE RISER DIAGRAM
OPTIONS:
LOCATION: EXTERIOR
MAINS: 225A M.L.O.
AIC RATING: 65K/10K SERIES RATED
CABINET MOUNTING: SURFACE
LUGS: BOTTOM, DUAL FEED THRU LUGS
NEMA ENCLOSURE:

CODE	NOTE	LOAD DESCRIPTION	BKR SIZE	BKR POLE	WATTS	CK NO.	PHASE	CK NO.	WATTS	BKR POLE	BKR SIZE	LOAD DESCRIPTION	NOTE	CODE
G		TFI 4 VAV DIFF.	20	1	264	1	A	2		1	20	SPARE		
R		L.V. CABINET GENERAL RCPT-1	20	1	180	3	B	4		1	20	SPARE		
R		L.V. CABINET GENERAL RCPT-2	20	1	720	5	C	6		1	20	SPARE		
G	1	EMERSON EMS	20	1	540	7	A	8	1,422	1	20	UPS-D POWER	2	G
L		EMERSON LTG CONTROLS	20	1	500	9	B	10	755	1	20	COOLER DOOR HTRS-TH-1		H
G		CUSTOMER ALERT	20	1	360	11	C	12	755	1	20	COOLER DOOR HTR-SINGLES-1		H
R		IT RACK	20	1	360	13	A	14	1,070	1	20	UPS-D BYPASS	2	G
G	2	UPS-C POWER	20	1	1674	15	B	16	0	1	20	UPS-C BYPASS	2	G
G	2	UPS-B POWER	20	1	1782	17	C	18	0	1	20	UPS-B BYPASS	2	G
		SPARE	20	1		19	A	20		1	20	SPARE		
		SPARE	20	1		21	B	22		1	20	SPARE		
		SPARE	20	1		23	C	24		1	20	SPARE		
		SPARE	20	1		25	A	26		1	20	SPARE		
		SPARE	20	1		27	B	28		1	20	SPARE		
		SPARE	20	1		29	C	30		1	20	SPARE		
		SPARE	20	1		31	A	32		1	20	SPARE		
		SPARE	20	1		33	B	34		1	20	SPARE		
		SPARE	20	1		35	C	36		1	20	SPARE		
	1	TV55	20	3		37	A	38		1	20	SPARE		
						39	B	40		1	20	SPARE		
						41	C	42		1	20	SPARE		

	CONNECTED WATTS	DEMAND WATTS / AMPS		LOAD	CONNECTED	NEC FEEDER LOAD
PH A:	2,586	2,586	22		4317 WATTS	4442 WATTS
PH B:	3,114	3,294	27		26 AMPS	26 AMPS
PH C:	3,617	3,617	30			

NOTES:
*FURNISHED WITH PANEL COVER WITH LOCKING DOOR
1 EQUIPMENT PRE-INSTALLED WITHIN PANEL SYSTEM.
2 ENSURE UPS POWER AND BYPASS CIRCUITS ARE ON THE SAME PHASE.

SUB PANEL: C - SECTION 1

SYSTEM: 208/120V,3PH,4W
FEEDER: SEE RISER DIAGRAM
OPTIONS:
LOCATION: EXTERIOR
MAINS: 225A M.L.O.
AIC RATING: 65K/10K SERIES RATED
CABINET MOUNTING: SURFACE
LUGS: TOP, DUAL FEED THRU LUGS
NEMA ENCLOSURE:

CODE	NOTE	LOAD DESCRIPTION	BKR SIZE	BKR POLE	WATTS	CK NO.	PHASE	CK NO.	WATTS	BKR POLE	BKR SIZE	LOAD DESCRIPTION	NOTE	CODE
K		TAKE HOME EVAPORATORS	20	1	768	1	A	2		3	20	TV55	1	
K		SINGLES COOLER EVAPORATORS	20	1	864	3	B	4						
		SPARE	20	1		5	C	6						
R		POS-1 (300)	20	1	720	7	A	8	540	1	20	MENU BOARDS	2	R
R		POS-2 (300)	20	1	720	9	B	10	480	1	20	LCD SCREEN (618)	2	R
R		POS-3 (300)	20	1	720	11	C	12	432	1	20	END CAP FLOOR COOLER (218)	2	R
R		SAFE (306)	20	1	360	13	A	14	720	1	20	PRINTER (640)	2	K
R		SAFE (307)	20	1	360	15	B	16	408	1	15	AIR DOOR (520)	4	G
R		REF (311)	20	1	180	17	C	18	180	1	20	LACTATION OUTLET		R
R		LOTTO (305)	20	1	360	19	A	20	420	1	20	CENTER SALES COOLER	2	K
R		PRINTER (310) / VOIP	20	1	540	21	B	22	1,224	1	20	ICE MERCHANDISER (405)	2	K
		SPARE	20	1		23	C	24	1,260	1	20	SECURITY MONITOR		R
		SPARE	20	1		25	A	26	648	1	20	NOVELTY ICE CREAM (406)	2	K
		SPARE	20	1		27	B	28	180	1	20	GENERAL RECEPT AT (406)	2	R
R	2,5	ISLAND RECEPTACLES TOP-1	20	1	450	29	C	30	1,144	2	20	ICE CREAM (606)	2	K
R	2,5	ISLAND RECEPTACLES TOP-2	20	1	450	31	A	32	1,144					K
R	2,6	ISLAND RECEPTACLES MID-1	20	1	180	33	B	34		1	20	SPARE		
R	2,6	ISLAND RECEPTACLES MID-2	20	1	180	35	C	36		1	20	SPARE		
R	2,6	ISLAND RECEPTACLES MID-3	20	1	180	37	A	38		1	20	SPARE		
R	2,6	ISLAND RECEPTACLES MID-4	20	1	180	39	B	40	360	1	20	REAR FSC GENERAL RCPT	2	K
R	2,6	ISLAND RECEPTACLES MID-5	20	1	180	41	C	42	468	1	15	UC REFRIGERATOR (610)	2	K
R	2,6	ISLAND RECEPTACLES MID-6	20	1	180	43	A	44	1,800	1	20	KITCHEN HOOD (914)	3	K
K	2,5	ISLAND RECEPT BOTTOM - UC REF	15	1	468	45	B	46	1,260	1	20	CUSTOMER ORDER MACHINE	2	R
K	2,5	ISLAND REC BOTTOM - COLD PREP-1	15	1	936	47	C	48	1,800	1	20	BLENDER-1 (603)	2	K
K	2,5	ISLAND REC BOTTOM - COLD PREP-2	15	1	936	49	A	50	1,800	1	20	BLENDER-2 (603)	2	K
K	2,5	ISLAND RECEPT BOTTOM - UC FRZ	20	1	276	51	B	52	180	1	20	CONDENSATE PUMP (527)	2	K
G	1	TV55 STATUS LIGHT	15	1	0	53	C	54	1,100	1	20	PIZZA HOLDING CABINET (636)	4	K

	CONNECTED WATTS	DEMAND WATTS / AMPS		LOAD	CONNECTED	NEC FEEDER LOAD
PH A:	19,973	14,577	121		52584 WATTS	42500 WATTS
PH B:	17,481	14,502	121		146 AMPS	118 AMPS
PH C:	15,129	13,421	112			

NOTES:
*FURNISHED WITH PANEL COVER WITH LOCKING DOOR
1 EQUIPMENT PRE-INSTALLED WITHIN PANEL SYSTEM.
2 CIRCUIT BREAKER FURNISHED WITH GFCI.
3 CIRCUIT BREAKER FURNISHED WITH HANDLE LOCK OFF.
4 CIRCUIT BREAKER FURNISHED WITH LOCK ATTACHMENT.
5 CIRCUIT BREAKER FURNISHED WITH 2 POLE HANDLE TIE.
6 CIRCUIT BREAKER FURNISHED WITH 3 POLE HANDLE TIE.

SQUARE-D SUB PANEL: D

SYSTEM: 208/120V,3PH,4W
FEEDER: SEE RISER DIAGRAM
OPTIONS:
LOCATION: EXTERIOR
MAINS: 225A M.G.B.
AIC RATING: 65K/10K SERIES RATED
CABINET MOUNTING: SURFACE
LUGS: TOP
NEMA ENCLOSURE:

CODE	NOTE	LOAD DESCRIPTION	BKR SIZE	BKR POLE	WATTS	CK NO.	PHASE	CK NO.	WATTS	BKR POLE	BKR SIZE	LOAD DESCRIPTION	NOTE	CODE
		SPARE	20	1	0	1	A	2		3	20	TV55	1	
L		EX FAN 3 - HOOD (915)	15	2	3,415	3	B	4						
L					3,415	5	C	6						
K	3,4,5	COMBI OVEN-1 (648)	30	3	2,150	7	A	8	2,985	2	30	5-TIER HOT DISPLAY (217)	2	K
K					2,150	9	B	10	2,985					K
K					2,150	11	C	12		1	20	SPARE		
K	3,4,5	COMBI OVEN-2 (648)	30	3	2,150	13	A	14	4,200	2	50	STEAM DRAWER (641)	3,4	K
K					2,150	15	B	16	4,200					K
K					2,150	17	C	18	4,680	2	60	DISHWASHER (611)	2,6	K
K	2	SUBS OVEN-1 (632)	30	2	2,448	19	A	20	4,680					K
K					2,448	21	B	22		1	20	SPARE		
K	2	SUBS OVEN-2 (632)	30	2	2,448	23	C	24		3	20	SPARE		
K					2,448	25	A	26						
		SPARE	20	1		27	B	28						
		SPARE	20	1		29	C	30	1,621	3	20	BAGGER ICE MAKER		
		SPARE	20	1		31	A	32	1,621			(534,901)		K
		SPARE	20	1		33	B	34	1,621					K
K	3,4,5	PIZZA OVEN-1 (621)	50	2	4,680	35	C	36	520	2	15	ICE BAGGER (500)	2	K
K					4,680	37	A	38	520					K
K	3,4,5	PIZZA OVEN-2 (621)	50	2	4,680	39	B	40	1,450	2	20	BEAN TO CUP COFFEE-1 (120)	2	K
K					4,680	41	C	42	1,450					K
		SPARE	20	1		43	A	44	1,450	2	20	BEAN TO CUP COFFEE-2 (120)	2	K
		SPARE	20	1		45	B	46	1,450					K
		SPARE	20	1		47	C	48	1,450	2	20	BEAN TO CUP COFFEE-3 (120)	2	K
		SPARE	20	1		49	A	50	1,450					K
		SPARE	20	1		51	B	52	1,450	2	20	BEAN TO CUP COFFEE-4 (120)	2	K
		SPARE	20	1		53	C	54	1,450					K

	CONNECTED WATTS	DEMAND WATTS / AMPS		LOAD	CONNECTED	NEC FEEDER LOAD
PH A:	30,182	20,008	167		83436 WATTS	54707 WATTS
PH B:	24,979	16,473	137		232 AMPS	152 AMPS
PH C:	27,674	18,225	152			

NOTES:
*FURNISHED WITH PANEL COVER WITH LOCKING DOOR
1 EQUIPMENT PRE-INSTALLED WITHIN PANEL SYSTEM.
2 CIRCUIT BREAKER FURNISHED WITH GFCI.
3 CIRCUIT BREAKER FURNISHED WITH HANDLE LOCK OFF.
4 INSTALL OWNER-FURNISHED CURRENT TRANSFORMER TO DETECT AMP DRAW FROM ANY OVEN TO ENABLE HOOD FAN. WIRE TO EMERSON PANEL.
5 ROUTE CIRCUIT THROUGH CONTACTOR FOR SHUT DOWN CONTROL OF EQUIPMENT UNDER THE KITCHEN HOOD.
6 CONNECT NEUTRAL WIRE TO CIRCUIT BREAKER NEUTRAL TERMINAL FOR PROPER GROUND FAULT PROTECTION.

SQUARE-D SUB PANEL: E - SECTION 2

SYSTEM: 208/120V,3PH,4W
FEEDER: SEE RISER DIAGRAM
OPTIONS:
LOCATION: EXTERIOR
MAINS: 225A M.G.B.
AIC RATING: 65K/10K SERIES RATED
CABINET MOUNTING: SURFACE
LUGS: TOP
NEMA ENCLOSURE:

CODE	NOTE	LOAD DESCRIPTION	BKR SIZE	BKR POLE	WATTS	CK NO.	PHASE	CK NO.	WATTS	BKR POLE	BKR SIZE	LOAD DESCRIPTION	NOTE	CODE
		SPARE	20	1		1	A	2		3	20	TV55	1	
		SPARE	20	1		3	B	4						
		SPARE	20	1		5	C	6						
		SPARE	20	1		7	A	8		1	20	SPARE		
		SPARE	20	1		9	B	10		1	20	SPARE		
		SPARE	20	1		11	C	12		1	20	SPARE		
		SPARE	20	1		13	A	14		1	20	SPARE		
		SPARE	20	1		15	B	16		1	20	SPARE		
		SPARE	20	1		17	C	18		1	20	SPARE		
		SPARE	20	1		19	A	20		1	20	SPARE		
		SPARE	20	1		21	B	22		1	20	SPARE		
		SPARE	20	1		23	C	24		1	20	SPARE		
		SPARE	20	1		25	A	26		1	20	SPARE		
		SPARE	20	1		27	B	28		1	20	SPARE		
		SPARE	20	1		29	C	30		1	20	SPARE		
		SPARE	20	1		31	A	32		1	20	SPARE		
		SPARE	20	1		33	B	34		1	20	SPARE		
		SPARE	20	1		35	C	36		1	20	SPARE		
		SPARE	20	1		37	A	38		1	20	SPARE		
		SPARE	20	1		39	B	40		1	20	SPARE		
		SPARE	20	1		41	C	42		1	20	SPARE		
		SPARE	20	1		43	A	44		1	20	SPARE		
		SPARE	20	1		45	B	46		1	20	SPARE		
		SPARE	20	1		47	C	48		1	20	SPARE		
		SPARE	20	1		49	A	50		1	20	SPARE		
		SPARE	20	1		51	B	52		1	20	SPARE		
		SPARE	20	1		53	C	54		1	20	SPARE		

	CONNECTED WATTS	DEMAND WATTS / AMPS		LOAD	CONNECTED	NEC FEEDER LOAD
PH A:	0	0	0		0 WATTS	0 WATTS
PH B:	0	0	0		0 AMPS	0 AMPS
PH C:	0	0	0			

NOTES:
*FURNISHED WITH PANEL COVER WITH LOCKING DOOR
1 EQUIPMENT PRE-INSTALLED WITHIN PANEL SYSTEM.

UPS-A : LOAD SUMMARY

SYSTEM: 120V, 1PH
FEEDER: (2) 3#12 IN 1/2"C
NOMINAL CAPACITY: 2200 VA
AVAILABLE CAPACITY: 1800 W
LOCATION: WORKROOM 2
CABINET MOUNTING: IT RACK

TERMINAL	DESCRIPTION	LOAD	LOCATION
1	POS-1	280 W	CHECKSTAND
	POS-2	280 W	CHECKSTAND
	POS-3	280 W	CHECKSTAND
	PPD CHARGE DEVICE	180 W	CHECKSTAND
2	STORE PC	230 W	CHECKSTAND
	BUDDY PC	230 W	CHECKSTAND
3	(SPARE)		
4	(SPARE)		
5	(SPARE)		
	CONNECTED WATTAGE:	1480 W	

UPS-B : LOAD SUMMARY

SYSTEM: 120V, 1PH
FEEDER: (2) 3#12 IN 1/2"C
NOMINAL CAPACITY: 2200 VA
AVAILABLE CAPACITY: 1800 W
LOCATION: WORKROOM 2
CABINET MOUNTING: IT RACK

TERMINAL	DESCRIPTION	LOAD	LOCATION
1	ROUTER 1	25 W	TELEPHONE BOARD
	DATA REMOTE	20 W	TELEPHONE BOARD
	SWITCH 1	928 W	IT RACK
	FIREWALL 1	40 W	IT RACK
	NVR	189 W	IT RACK
2	(SPARE)		
	CONNECTED WATTAGE:	1182 W	

UPS-C : LOAD SUMMARY

SYSTEM: 120V, 1PH
FEEDER: (2) 3#12 IN 1/2"C
NOMINAL CAPACITY: 2200 VA
AVAILABLE CAPACITY: 1800 W
LOCATION: WORKROOM 2
CABINET MOUNTING: IT RACK

TERMINAL	DESCRIPTION	LOAD	LOCATION
1	ROUTER 2	25 W	TELEPHONE BOARD
	SWITCH 2	908 W	IT RACK
	FIREWALL 2	40 W	IT RACK
	LOUROE	6 W	IT RACK
	SIGN CONTROLLER	20 W	WORKROOM
2	FSC PC	230 W	FSC
	TELEPHONE	450 W	TELEPHONE BOARD
	CONNECTED WATTAGE:	1679 W	

UPS-D : LOAD SUMMARY

SYSTEM: 120V, 1PH
FEEDER: (2) 3#12 IN 1/2"C
NOMINAL CAPACITY: 2200 VA
AVAILABLE CAPACITY: 1800 W
LOCATION: WORKROOM 2
CABINET MOUNTING: IT RACK

TERMINAL	DESCRIPTION	LOAD	LOCATION
1	SWITCH 3	882 W	IT RACK
2	NEX GEN	360 W	FUEL SECTION
	BRGM BOX (GRIND)	*ALL PLUG INTO	FUEL SECTION
	GILBARCO D-BOX (12+MPD)	SINGLE QUAD	FUEL SECTION
3	(SPARE)		
4	PPD ALARM PANEL	180 W	WORKROOM
5	(SPARE)		
	CONNECTED WATTAGE:	1422 W	

UPS-VA : LOAD SUMMARY

SYSTEM: 208V, 1PH
FEEDER: (1) 3#12 IN 1/2"C
NOMINAL CAPACITY: 3000 VA
AVAILABLE CAPACITY: 2700 W
LOCATION: WORKROOM 2
CABINET MOUNTING: IT RACK

TERMINAL	DESCRIPTION	LOAD	LOCATION
1	VA SERVER	420 W	IT RACK
	CONNECTED WATTAGE:	420 W	

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER PE-2007023868
PROFESSIONAL ENGINEER
SIGNATURE DATE: 11/25/2024

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Missouri Certificate of Authority #001022

QuikTrip No. 0183R

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LEE'S SUMMIT, MISSOURI

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PROTOTYPE	P-120
DIVISION	KANSAS CITY
VERSION	GJ5E
DATE	11-01-2024

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE:
ELECTRICAL PANEL SCHEDULES

SHEET NUMBER:
E611

A1,3,5 — HOME RUN TO PANEL. CIRCUIT NUMBERS, PHASE, NEUTRAL AND GROUND CONDUCTORS INDICATED. ALL CONDUCTOR SIZES OTHER THAN 3#12 IN 1/2" CONDUIT ARE INDICATED ON PLAN OR IN EQUIPMENT SCHEDULE. MINIMUM WIRE SIZE FOR LINE VOLTAGE CIRCUITS #12. MINIMUM UNDERGROUND CONDUIT SIZE 3/4".

CONDUIT INSTALLED CONCEALED ABOVE CEILING OR IN WALL

CONDUIT INSTALLED CONCEALED BELOW

LIGHT FIXTURE (HATCH REPRESENTS EMERGENCY BATTERY BACKUP - CONNECT TO UNSWITCHED HOT LEG)

EXIT LIGHT MOUNTED AT 7'-6" OR AS NOTED (CONNECT TO UNSWITCHED HOT LEG)

S — SINGLE POLE SWITCH, +3' -10" OR AS NOTED

S — KEYED SWITCH.

PUSHBUTTON TYPE SWITCH

20 AMP DUPLEX RECEPTACLE, +16" OR AS NOTED

WP — WP (WEATHERPROOF) RECEPTACLES SHALL BE WEATHER RESISTANT AND GFCI WITH IN-USE COVERS AS FOLLOWING:
- EXTRA DUTY ROOFTOP RECEPTACLES AND VERTICAL IN FRAMED CONSTRUCTION: HUBBELL #WP26E.
- EXTRA DUTY ROOFTOP RECEPTACLES AND HORIZONTAL IN MASONRY WALLS: HUBBELL #WP26EH.
- SURFACE VERTICAL AT FREEZER HEAT TRACE: HUBBELL #RK57300.

SPECIAL RECEPTACLE, TYPE AS NOTED

20 AMP DOUBLE DUPLEX RECEPTACLE, +16" OR AS NOTED

CEILING MOUNTED RECEPTACLE.

FLOOR MOUNTED RECEPTACLE

J — JUNCTION BOX

P — REMOTE POWER SUPPLY BOX

PB — PULL BOX

N — NETWAY

J — JUNCTION BOX FURNISHED WITH EQUIPMENT

S — SENSOR FOR EMERSON MANAGEMENT SYSTEM (EMS)

H — HUMIDITY SENSOR FOR HUMASTAT SYSTEM

S — IRRIGATION WEATHERMATIC SENSOR

W — WEATHER STATION

DISCONNECT SWITCH, FURNISHED WITH EQUIPMENT

DISCONNECT SWITCH

MOTOR CONNECTION

ELECTRICAL PANELBOARD, 6'-6", MAXIMUM BREAKER HEIGHT (WITH 30"x36" CLEAR IN FRONT OF PANEL INDICATED)

GFC — GROUND FAULT INTERRUPTING

TELEPHONE/DATA OUTLET

CEILING MOUNTED DATA OUTLET

+3'-10" — HEIGHT ABOVE FLOOR TO CENTER LINE OF OUTLET BOX

CO — CONDUIT ONLY

WP — WEATHER PROOF

PL — PILOT LIGHT

TR — TAMPER RESISTANT

EMS — ENERGY MANAGEMENT SYSTEM (REFER TO QT EMS INSTALL DRAWINGS.)

DS — DISCONNECT SWITCH

N.F. — NON FUSED

F13 ELECTRICAL SYMBOLS LEGEND

1. THIS INSTALLATION SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, APPLICABLE SECTIONS OF OTHER NFPA, OSHA, LIFE SAFETY CODES AND RECOMMENDATIONS, AND THE INTERIM AMENDMENTS IN EFFECT AT THE TIME OF THE PROPOSAL.
2. CONDUCTORS INSTALLED INDOORS, #10 AWG AND SMALLER, TO BE STRANDED COPPER, TYPE "THHN" (MINIMUM #12). CONDUCTORS #8 AND LARGER TO BE TYPE "THWN", STRANDED, COPPER.
3. LIGHT SWITCHES TO BE 20 AMP PER SPECIFICATIONS. RECEPTACLES TO BE 120 VOLT, 20 AMP PER SPECIFICATIONS. RE: SPECIFICATIONS AND EQUIPMENT SCHEDULES FOR MOUNTING HEIGHTS OF DEVICES.
4. RE: REFLECTED CEILING PLANS FOR EXACT PLACEMENT OF LIGHT FIXTURES AND ANY OTHER EQUIPMENT INSTALLED IN CEILING SYSTEM.
5. ELECTRICAL CONTRACTOR TO PROVIDE TEMPORARY ELECTRICAL POWER AS REQUIRED FOR CONSTRUCTION.
6. ELECTRICAL PANELS TO BE FURNISHED BY QUIKTRIP AS PART OF A UL LISTED INTEGRATED SWITCHBOARD PRE-WIRED ASSEMBLY. CONTRACTOR SHALL INSTALL AND DO ALL FIELD-WIRING AS REQUIRED BY PANEL MANIFACTURER INSTALLATION DOCUMENTATION. COORDINATE WITH QT REPRESENTATIVE.
7. ELECTRICAL CONTRACTOR TO VERIFY EXACT LOAD AND TYPE OF CONNECTION AND MOUNTING HEIGHT FOR EACH BOX OR EQUIPMENT ITEM TO BE INSTALLED. ALL HARD-WIRED CONNECTIONS TO EQUIPMENT TO BE MADE WITH FLEXIBLE LIQUID-TIGHT METAL CONDUIT WITH GREEN GROUND CONDUCTOR INSTALLED INSIDE RACEWAY. BOTH ENDS OF GROUND CONDUCTOR TO BE BONDED.
8. ALL DISCONNECTS TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. HVAC DISCONNECTS WILL BE PROVIDED WITH EQUIPMENT AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.
9. BUILDING ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ALL CONTACTORS (BUILDING AND GAS). RE: FUEL DRAWINGS.
10. ALL PIPING AND CONDUIT TRENCHES ENTERING THE BUILDING TO BE FILLED WITH CLAY OR FLOWABLE FILL.

A13 GENERAL NOTES

A1 NOT USED

STATE OF MISSOURI
NEIL P. BARTLEY
NUMBER
PE-2007023868
PROFESSIONAL ENGINEER

SIGNATURE DATE: 11/25/2024

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REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 11/25/2024

SHEET TITLE:
ELECTRICAL GENERAL NOTES & SYMBOLS

SHEET NUMBER:
E612