

GREASE INTERCEPTOR SIZING

CAPACITY FOR FAST FOOD RESTAURANTS WITH MULTIPLE INTERCEPTORS IN SERIES = 5 GALLONS PER SEAT

SEATS = 124 (INTERIOR) + 24 (EXTERIOR) = 148

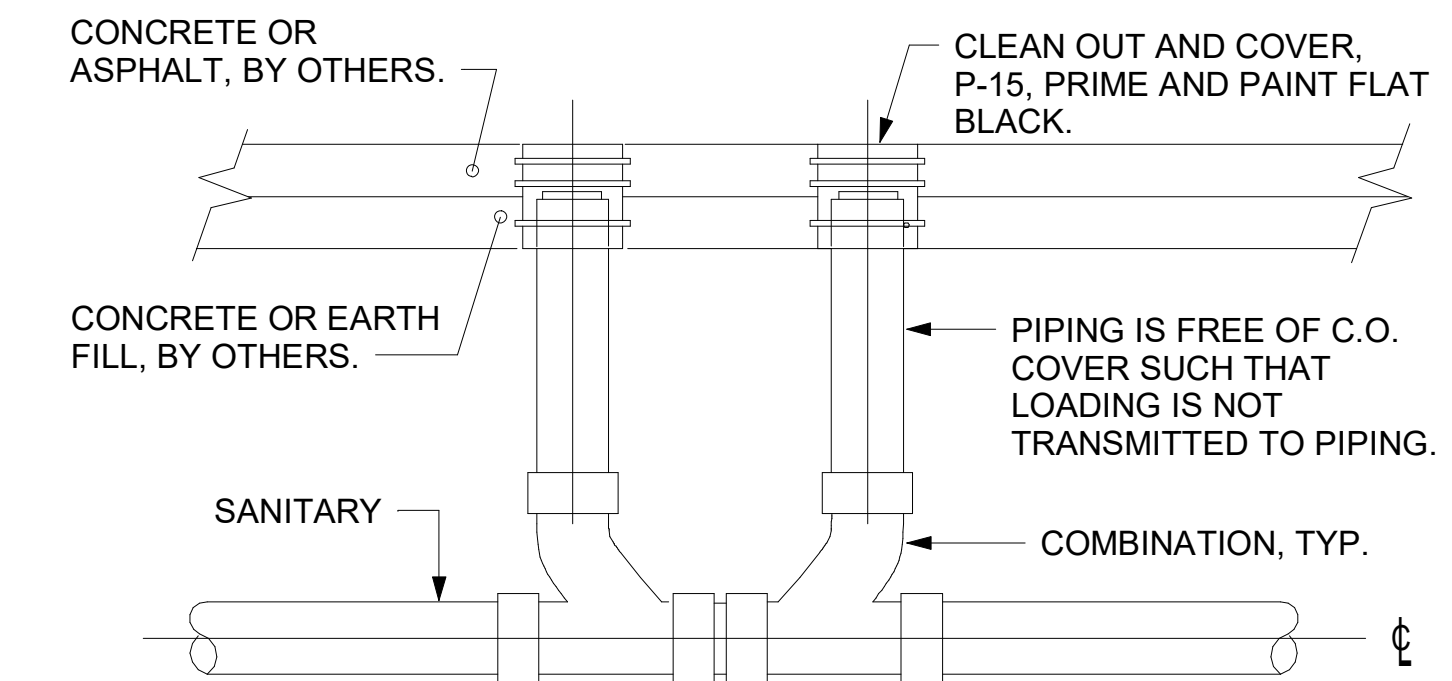
CAPACITY = 5 x 148 = 740 GALLONS

TWO (2) 1,250 GALLON GREASE INTERCEPTORS WILL BE INSTALLED

***SEE CIVIL PLANS FOR EXACT LOCATIONS.**

5. SHEET NOTES

- COORDINATE INSTALLATION OF SANITARY PIPING WITH FOOTINGS IN THE FIELD. SLEEVE PENETRATIONS IN FOOTINGS WITH PVC.
- COMBINATION WASTE AND VENT SYSTEM SHOWN HERE. WHERE REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION, PROVIDE SAFE-WASTE SYSTEM OR DEDICATED VENT SYSTEM AS OUTLINED IN STATE AND LOCAL CODE AMENDMENTS.
- ALL WATER PIPING INSTALLED WITHIN EXTERIOR WALLS SHALL BE LOCATED ON THE INTERIOR SIDE OF THE INSULATION.
- ALL VENT PIPING TO BE 2" DIAMETER MIN U.N.O. SEE 1/P-301 FOR VENT LAYOUT.

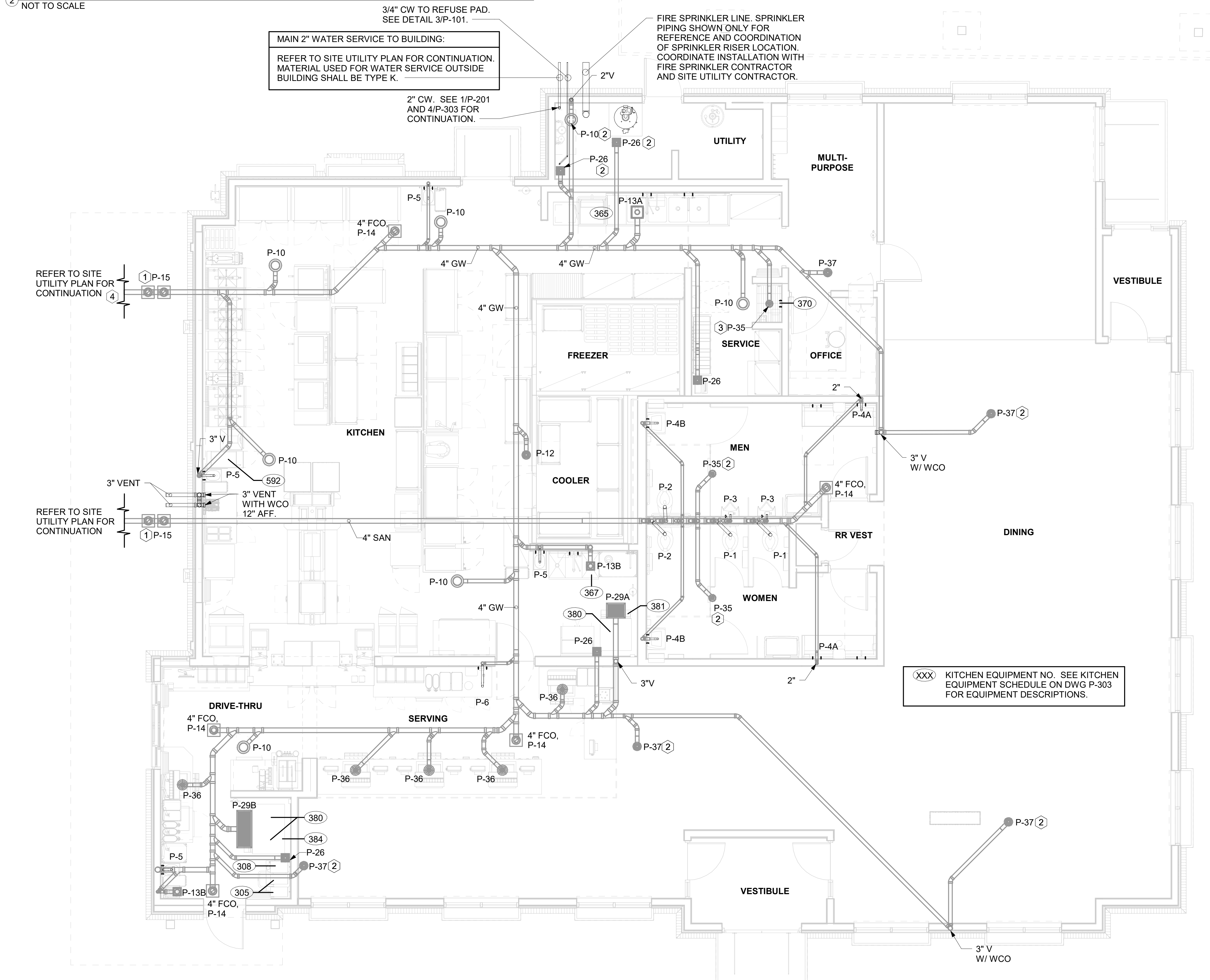


④ SAN. C.O. OUTSIDE BUILDING NOT TO SCALE

KEY NOTES

- 4" DOUBLE CO. P-15. SEE DETAIL 4/P-101.
- PROVIDE TRAP SEAL PROTECTOR P-26A.
- INSTALL FLOOR DRAIN P-35 AT MOP SINK DEPRESSION WITH TOP OF STRAINER 0'-7" BFF.
- ROUTE TO GREASE TRAP - REFER TO DETAIL 2/P-101, REFER TO SITE UTILITY PLAN SHEET FOR EXACT LOCATION.

② GREASE INTERCEPTOR NOT TO SCALE



① BELOW SLAB PLUMBING PLAN 1/4" = 1'-0"

③ REFUSE PAD PLUMBING PLAN 1/4" = 1'-0"



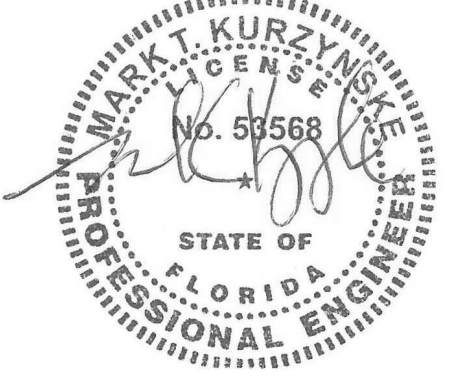
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06/01/22

CHICK-FIL-A
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FSR#04907

BUILDING TYPE / SIZE: P13 SE ALL
RELEASE: v2.20.08

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION

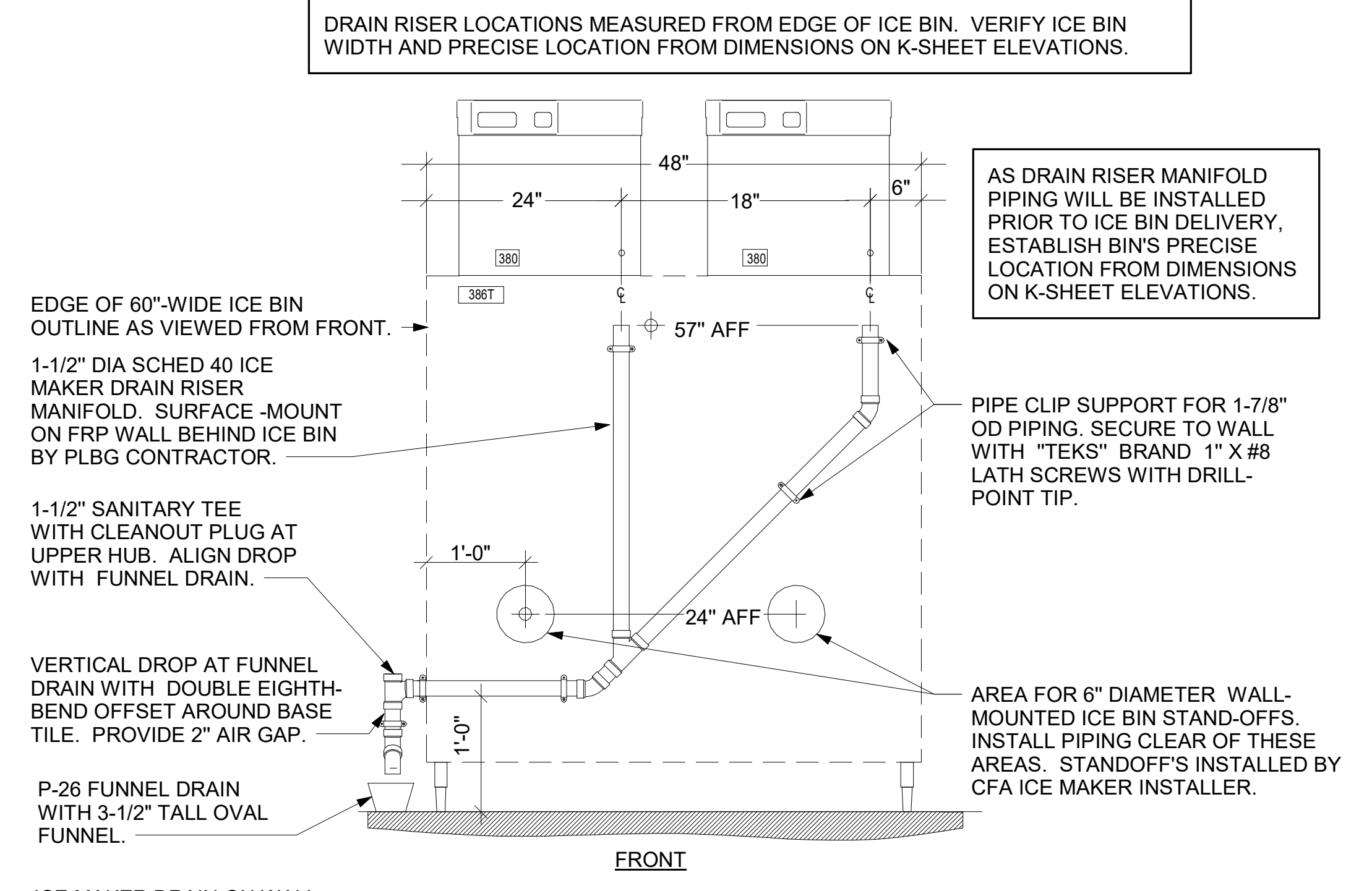
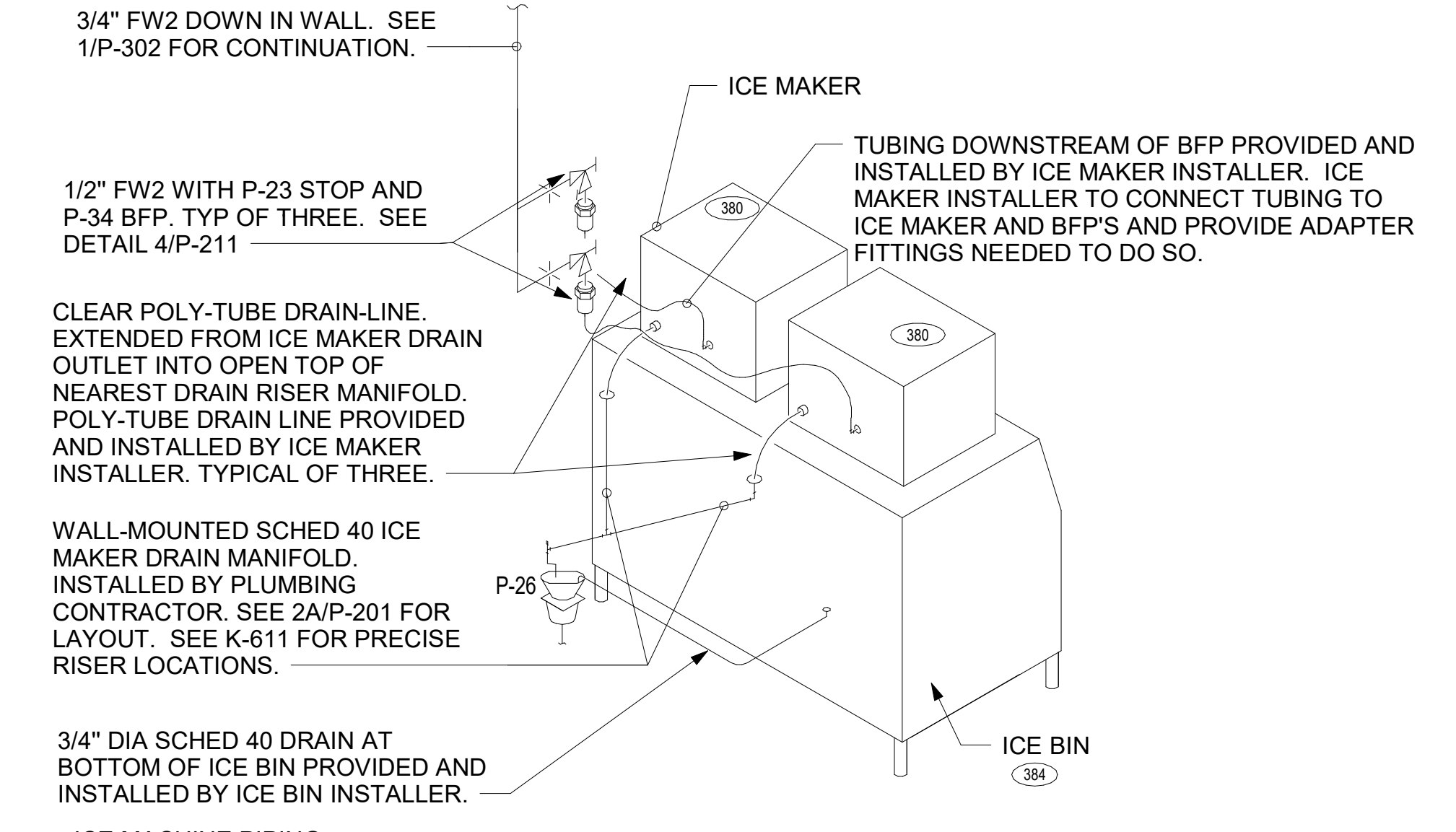
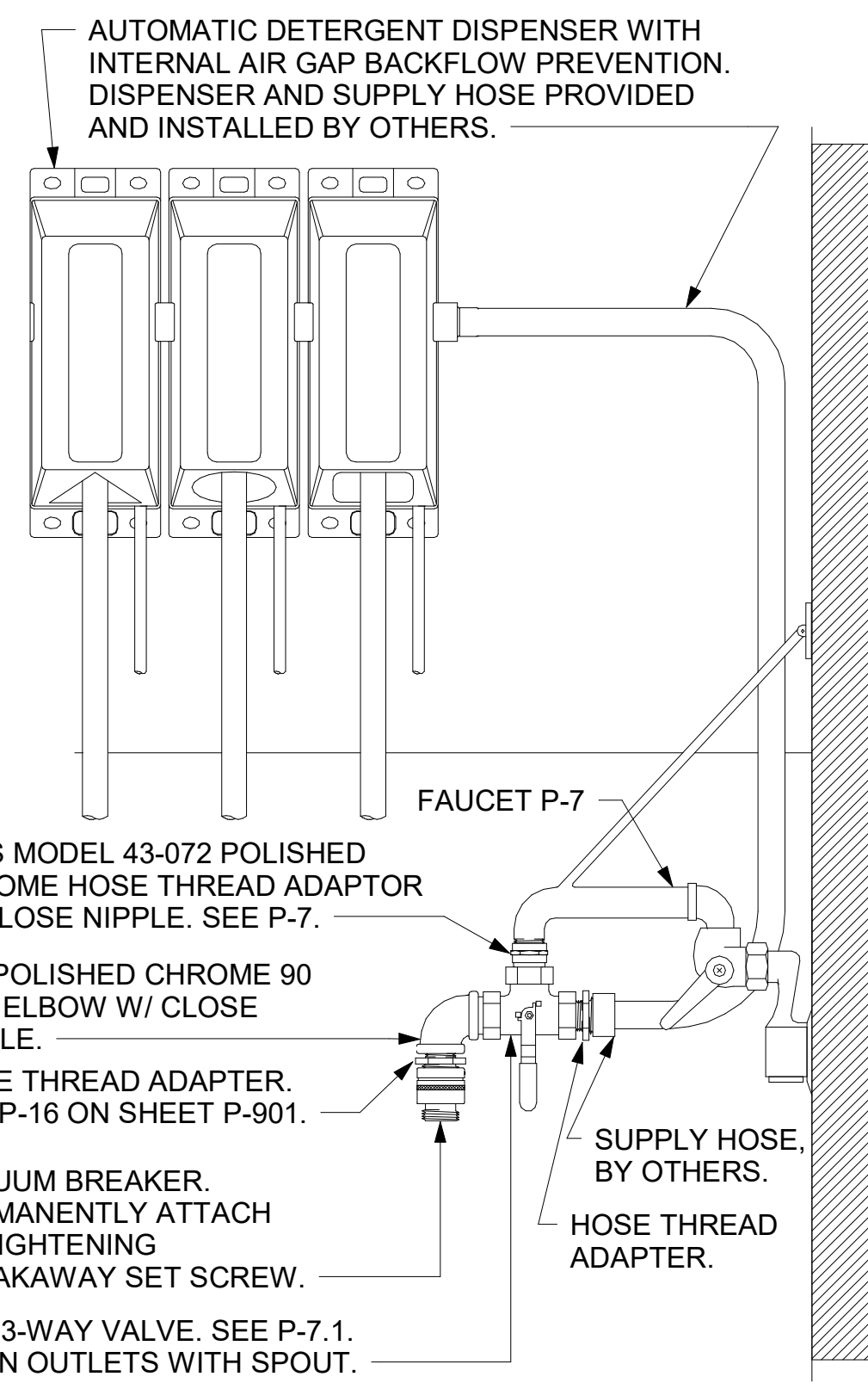
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SHEET BELOW SLAB PLUMBING PLAN

SHEET NUMBER

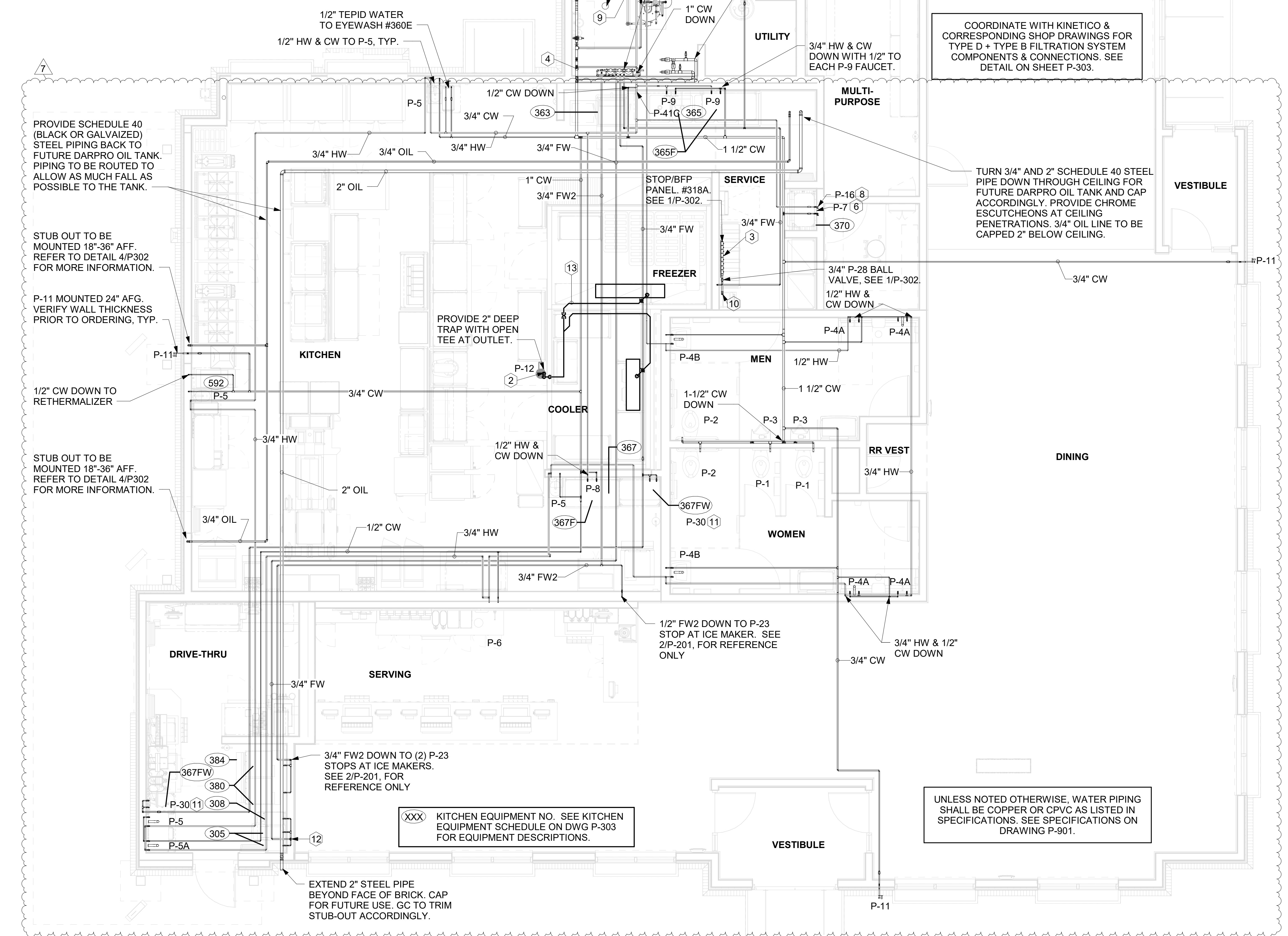
P-101



3-WAY VALVE AT MOP SINK NOT TO SCALE

ICE MACHINE PIPING NOT TO SCALE

ICE MAKER DRAIN ON WALL NOT TO SCALE



KEY NOTES

- SEE 6/P-303 FOR P-19 WATER HEATER, AND P-38 HOT WATER CIRCULATING PUMP. COORDINATE WATER AND DWV PIPING IN THIS AREA WITH HVAC DUCT. SEE M-201 FOR DUCT LAYOUT.
- TURN 3/4" CONDENSATE PIPING OUT OF COOLER AND EXTEND OUTLET TO P-12 FUNNEL DRAIN. SECURE PIPING TO COOLER/FREEZER WALL WITH RUBBER INSULATED PIPE CLAMPS TO PREVENT GALVANIC CORROSION. SEAL ALL PENETRATIONS IN WALLS WITH PERMAGUM CORD. TERMINATE ABOVE FUNNEL WITH ELBOW AND AIR GAP. PROVIDE P-TRAP IN CONDENSATE DRAIN OUTSIDE COOLER WITH OPEN-TOPPED TEE AT TRAP OUTLET.
- OWNER PROVIDED, PLUMBER INSTALLED STOP/BFP PANEL. SEE K-SHEET ELEVATIONS FOR EXACT LOCATION. PROVIDE EXPOSED 3/4" BALL VALVE AT CONNECTION TO PANEL. ROUTE 1" PVC DRAIN FROM FACTORY PANEL DRAIN CONNECTION TO P-26 FUNNEL DRAIN AT END OF BEVERAGE RACK AND TERMINATE WITH ELBOW AND AIR GAP.
- 2" CW. SEE 4/P-303 FOR EXACT ROUTING LOCATIONS OF CW PIPING IN THIS AREA.
- OWNER PROVIDED, PLUMBER INSTALLED WATER FILTERS. SEE DETAIL 5/P-303.
- 1/2" HW AND CW DROPS TO MOP SINK FAUCET SET P-7. PROVIDE BALL VALVE FOR EACH ABOVE CEILING WITH P-22 BALL CHECK VALVE IN EACH DROP. SEE RISER DIAGRAM 1/P-302.
- FW AND FW2 FROM WATER FILTERS. SEE DETAIL 5/P-303.
- INSTALL P-16 3-WAY VALVE WITH BACKFLOW PREVENTER ON P-7 FAUCET SPOUT FOR CONNECTION TO ECOLAB DETERGENT DISPENSER. SEE DETAIL 4/P-201.
- 1" GAS DOWN FROM ROOF FOR P-19. SEE 6/P-303 FOR CONTINUATION. OFFSET DROP WITHIN WALL ABOVE MECH ROOM CEILING.
- 1" DIAMETER PVC DRAIN FROM BACKFLOW PREVENTER PANEL. CONNECT 1" PVC TO FACTORY PROVIDED COUPLING MOUNTED ON BACK PANEL. ROUTE DRAIN TO P-26 FUNNEL DRAIN AT END OF BAG-N-BOX. MOUNT PIPING TIGHT TO WALL WITH STRUT AND CLAMP.
- 3/4" FW DROP TO TWO-HANDLE FAUCET, P-30. MOUNT FAUCET ON WALL. SEE K-SHEETS FOR EXACT LOCATION. PIPE 1/2" FW TO EACH FAUCET INLET WITH 6" SPREAD. PROVIDE BALL VALVE ABOVE CEILING. SEE RISER DIAGRAM 1/P-302.
- 1/2" FW TO P-24 & P-34 AT TWO TEA BREWERS AND ONE COFFEE MAKER. SEE 4/P-211 AND 1/P-302.
- APPLY RAYCHEM XL-TRACE, MODEL 5XL-1, SELF REGULATING HEATING CABLE. USE END SEAL KIT FROM MFR. PROVIDE P-TRAP IN CONDENSATE DRAIN ON COOLER SIDE OF COOLER-FREEZER PANEL WALL WITH OPEN-TOPPED TEE AT TRAP OUTLET. PROVIDE 6" OF FALL IN FREEZER DRAIN LINE PRIOR TO PENETRATING PANEL WALL. EXTEND HEAT TRACE TO P-TRAP OUTLET IN COOLER.

3. SHEET NOTES

- COORDINATE VENT TERMINAL LOCATIONS WITH FRESH AIR HOODS ON ROOFTOP EQUIPMENT SO AS TO MAINTAIN MINIMUM 15'-0" CLEARANCE.
- HOLD ALL PIPING ABOVE THE CEILING TIGHT TO STRUCTURE. DUCT LOCATIONS TAKE PRIORITY. SEE DRAWING M-201 FOR DUCT LAYOUT. COORDINATE CONFLICTS WITH GC.
- SEE K-SHEET ELEVATIONS FOR KITCHEN EQUIPMENT WATER PIPING ROUGH-IN LOCATIONS.
- SEE SHEET P-211 FOR BEVERAGE CONDUIT PIPING.
- SEE RISER DIAGRAM 1/P-301 FOR VENT PIPING. SEE ROOF PLAN 1/P-250 FOR VENT THRU ROOF (VTR) LOCATION.
- VERIFY WALL TYPE AND WALL THICKNESS AT EXTERIOR HOSE BIBBS PRIOR TO ORDERING EQUIPMENT.
- WATER HEATER PIPING IS SHOWN FOR STATE/A.O. SMITH MODELS WITH SIDE INLET/OUTLET CONNECTIONS. ADJUST PIPING AS NEEDED TO ACCOMMODATE OTHER CONNECTION POINTS WHEN ALTERNATE MODELS ARE PROVIDED.
- COORDINATE ABOVE-CEILING PIPING LOCATIONS AND ROUTING WITH HVAC CONTRACTOR AND M-SHEETS PRIOR TO INSTALLATION. ALL MAIN DUCT TRUNK LOCATIONS SHALL TAKE PRIORITY. PIPING MAY REQUIRE REMOVAL AND REINSTALLATION AT PLUMBING CONTRACTOR'S EXPENSE IF PIPING OBSTRUCTS THE M-SHEET DUCT LAYOUT AS SHOWN OR PREVENTS ACCESS TO GREASE DUCT CLEANOUT OPENINGS.

WALK-IN CONDENSATE PIPING NOTES:
 INSTALL PIPING TIGHT TO WALL SO AS NOT TO INTERFERE WITH COOLER AND FREEZER SHELVES. PROVIDE UNION FITTINGS IMMEDIATELY DOWNSTREAM OF CONNECTION TO EVAPORATORS.

NOTE TO WATER HEATER INSTALLER:
 POSITION VALVES AND TRIM IN WATER HEATER CLOSET SUCH THAT VISIBLE OBSERVATION OF VALVES AND TRIM IS UNOBSTRUCTED AND SUCH THAT ACCESS FOR OPERATION OR REPAIR IS POSSIBLE WITHOUT USE OF STEP LADDERS OR ANY NEED TO DISASSEMBLE ANY COMPONENTS.

1 WATER PIPING PLAN PLUMBING
 1/4" = 1'-0"



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FSR#04907
 BUILDING TYPE / SIZE: P13 SE ALL
 RELEASE: v2.20.08

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
7	08/03/2022	OIL REMOVAL SYSTEM

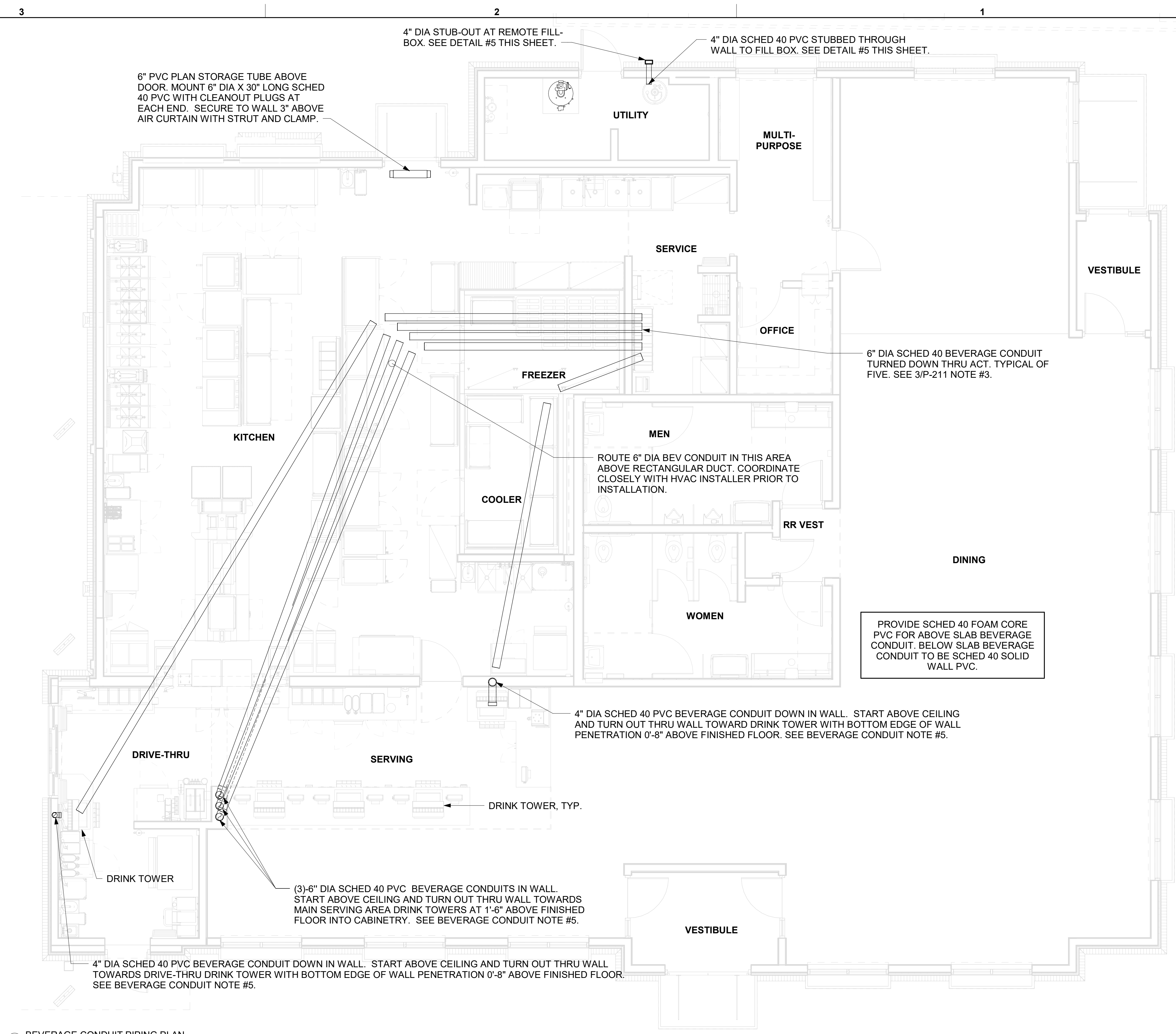
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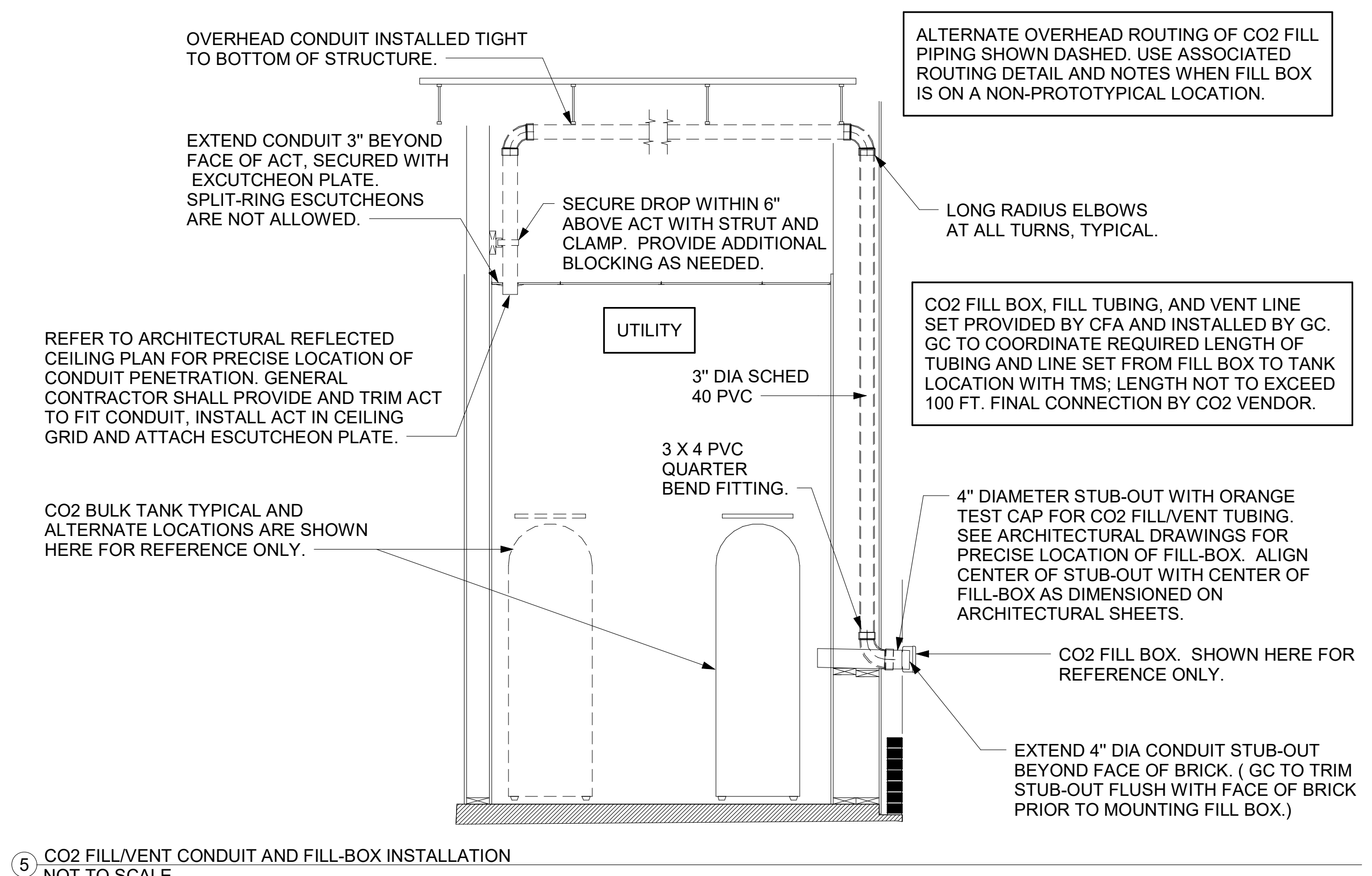
SHEET WATER PIPING PLAN
 SHEET NUMBER

2. BEVERAGE CONDUIT NOTES

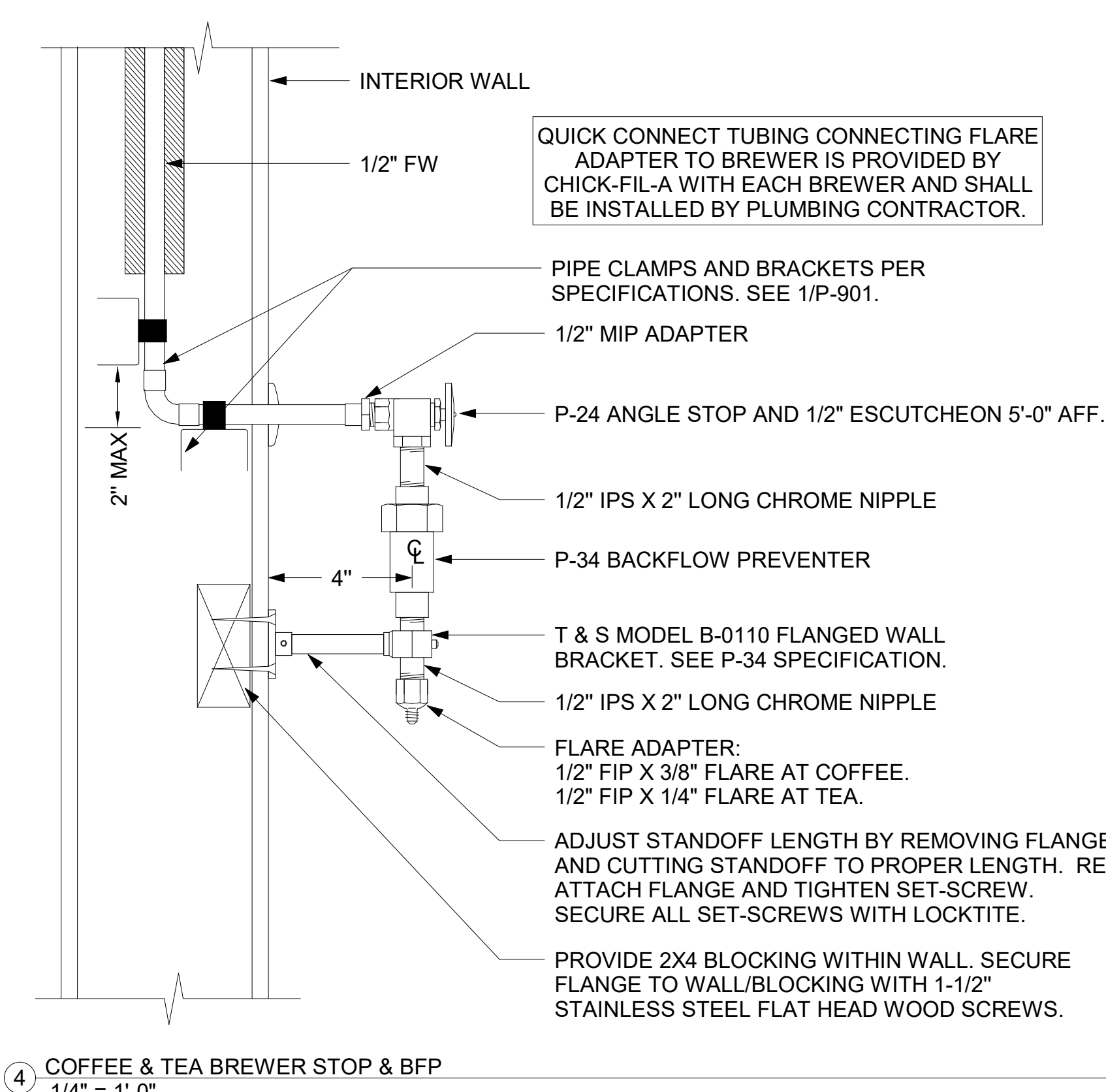
- ROUTE BEVERAGE SYSTEM PIPING OVERHEAD FROM THE BEVERAGE RACK TO DRINK TOWERS IN FIVE (5)-6" DIA SCH 40 PVC DWV CONDUITS. ALL CONDUIT SHALL BE HELD TIGHT TO STRUCTURE AND SUPPORTED WITH THREADED ROD AND CLEVIS HANGERS AT INTERVALS SHOWN IN SPECIFICATIONS FOR HORIZONTAL OVERHEAD PIPING. COORDINATE ROUTING WITH THE GENERAL CONTRACTOR TO AVOID MECHANICAL AND ELECTRICAL SYSTEMS. SEE 1/P-101 AND 1/P-221 FOR BELOW-SLAB BEVERAGE CONDUIT.
- COORDINATE ROUTING OF ALL CONDUITS WITH HVAC DUCT IN KITCHEN. SEE SHEET M-201 FOR LOCATION OF AC UNITS AND DUCT ROUTING.
- TURN THE 6" DIA CONDUIT DOWN THROUGH THE CEILING AT THE BEVERAGE RACK AND PROVIDE CHROMED ESCUTCHEONS AT CEILING PENETRATIONS. TERMINATE OPPOSITE END ABOVE CEILING WHERE SHOWN ON PLANS.
- AT 6" DIA CONDUIT DROP IN DRIVE-THRU, PROVIDE 1/8TH BEND FITTING WITH SHORT PIPE STUB AT BASE OF DROP. CUT STUB AND FITTING FLUSH WITH FINISHED WALL.
- FOR BEVERAGE CONDUIT DROPS AT WALLS WITH SHEATHING EXTENDED ABOVE THE CEILING, PROVIDE APPROPRIATE FITTING AT UPPER END OF CONDUIT DROP TO EXTEND CONDUIT THROUGH SHEATHING.
- INSTALL CONTINUOUS CONDUIT FROM CO2 FILL-BOX LOCATION TO BULK CO2 TANK AS SHOWN ON PLANS AND DETAILS. COORDINATE 4" CONDUIT WALL STUB INSTALLATION CLOSELY WITH GENERAL CONTRACTOR AND BRICK MASON. PRIOR TO COVERING UP OF CONDUIT, VERIFY WITH GENERAL CONTRACTOR THE FULL LENGTH OF FILL/VENT TUBING MAY BE INSTALLED AND SUBSEQUENTLY REMOVED FROM CONDUIT. SEE PLAN AND DETAIL #5 THIS SHEET.



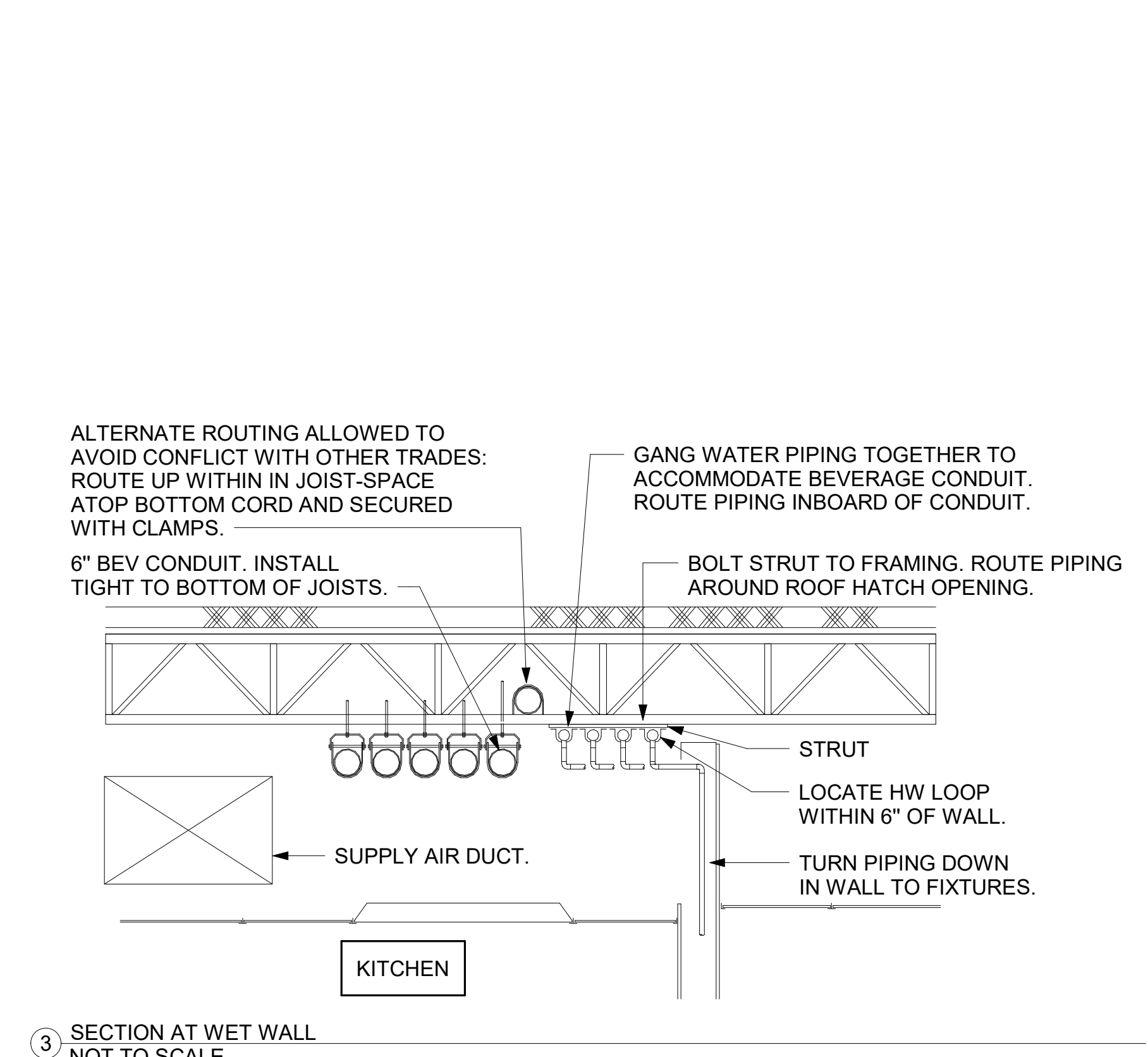
1 BEVERAGE CONDUIT PIPING PLAN
1/4" = 1'-0"



5 CO2 FILL/VENT CONDUIT AND FILL-BOX INSTALLATION
NOT TO SCALE



4 COFFEE & TEA BREWER STOP & BFP
1/4" = 1'-0"

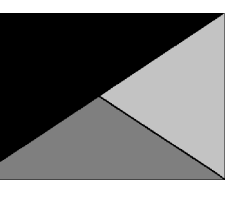


3 SECTION AT WET WALL
NOT TO SCALE



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REVISION SCHEDULE

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SHEET BEVERAGE CONDUIT PLAN

SHEET NUMBER **P-211**

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5/27/2022 8:14:19 AM
40-SE-04907-P-211-BEVERAGE CONDUIT PLAN

NOTE OF SPECIAL IMPORTANCE:

BELOW-SLAB BEVERAGE CONDUIT SHALL BE 6" DIAMETER SCHED 40 DWV SOLID WALL, NO FOAM CORE ALLOWED. USE LONG RADIUS ELBOWS (A.K.A. SWEEPS) ON ALL BEVERAGE CONDUIT. PLEASE NOTE BEVERAGE CONDUIT ROUGH-IN LOCATIONS ARE MEASURED TO THE FRACTION OF AN INCH. CARE MUST BE TAKEN WHEN INSTALLING 6" DIAMETER CONDUIT LOCATED WITHIN A 2X8 WALL. THE MARGIN FOR ERROR IS ONLY 1/16TH INCH.

IMPORTANT NOTE TO INSTALLER

EXERCISE CAUTION WHEN LOCATING ROUGH-INS AT:
 -DRIVE THRU AREA
 -CUSTOMER WAIT AREA
 DO NOT PULL TAPE FROM THE SLAB EDGE AT THESE AREAS WITHOUT COMPENSATING FOR DIFFERENCE IN OFFSETS. NOTE OFFSET AT BACK CORNER OF BUILDING.

FLOOR FIXTURE ELEVATIONS

IMPORTANT: INSTALL THE FLOOR FIXTURE SUCH THAT THE TOP-OF-RIM ELEVATION IS AS FOLLOWS:

FIXTURE	TYPE	RIM ELEVATION
P-10	FLOOR DRAIN	1/2" BFF
P-35	RESTROOM FLOOR DRAIN	1/4" BFF
P-35	MOP SINK DRAIN	7" BFF
P-36	INDIRECT WASTE RECEIVER	1/4" BFF
P-37	FLOOR DRAIN	1/4" BFF

NOTE: FIXTURE RIM/GRATE SHALL SET BE FLUSH WITH ADJACENT FLOOR. SEE ARCHITECTURAL PLANS FOR FLOOR SLOPE AT SLAB DEPRESSION FOR FIXTURES INSTALLED BELOW FINISHED FLOOR ELEVATION. FLOOR FIXTURES NOT LISTED HERE SHALL BE INSTALLED FLAT AND FLUSH WITH FINISHED FLOOR ELEVATION.

MOP SINK NOTE

IMPORTANT: INSTALL P-35 FLOOR DRAIN WITH TOP OF DRAIN 0'-7" BFF. COORDINATE WITH GENERAL CONTRACTOR. SEE ARCHITECTURAL AND STRUCTURAL PLANS.

COORDINATE LEGEND

TYPE	EXAMPLE	PIPE COORDINATES
#1	CW X=43'8" Y=14'7"	APPLIES TO WATER PIPING ROUGH-IN PENETRATION ONLY. SEE P-101 FOR CONTINUATION.
#2	VENT X=43'8" Y=14'7"	APPLIES TO DWV PENETRATION ONLY.
#3	6" BEV COND X=43'8" Y=27'3"	APPLIES TO 6" BEVERAGE CONDUIT PENETRATION ONLY.

NOTE: TRAP PRIMER PIPING NOT SHOWN ON THIS PLAN. SEE 1/P-101 FOR TRAP PRIMER LOCATIONS.

NOTES ABOUT (0,0) BENCHMARK ORIGIN

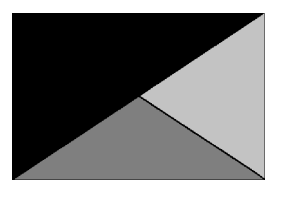
- THE (X=0, Y=0) BENCHMARK ORIGIN IS LOCATED AT THE OUTSIDE FACE OF FRAMING FOR THE EXTERIOR WALL AT THE CORNER WHERE SHOWN ON THE ADJACENT PLAN.
- IT IS EXTREMELY IMPORTANT FOR THE PLUMBING INSTALLER TO BECOME COMPLETELY FAMILIAR WITH THE FACE-OF-FRAMING POSITION AND ITS RELATION TO THE FLOOR SLAB CONSTRUCTION PRIOR TO BEGINNING THE UNDERSLAB PLUMBING ROUGH-IN.
- PLUMBING CONTRACTOR SHALL REVIEW STRUCTURAL DETAIL "TYPICAL SECTION @ EXTERIOR WALL" FOR PRECISE LOCATION OF FACE-OF-FRAMING WITH RESPECT TO THE SLAB INSTALLATION PRIOR TO LOCATING SLAB ROUGH-INS.



1 SLAB ROUGH-IN PLAN
 1/4" = 1'-0"

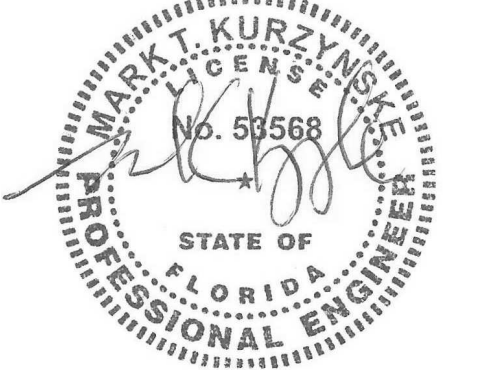


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FSR#04907

BUILDING TYPE / SIZE: P13 SE ALL
 RELEASE: v2.20.08

REVISION SCHEDULE

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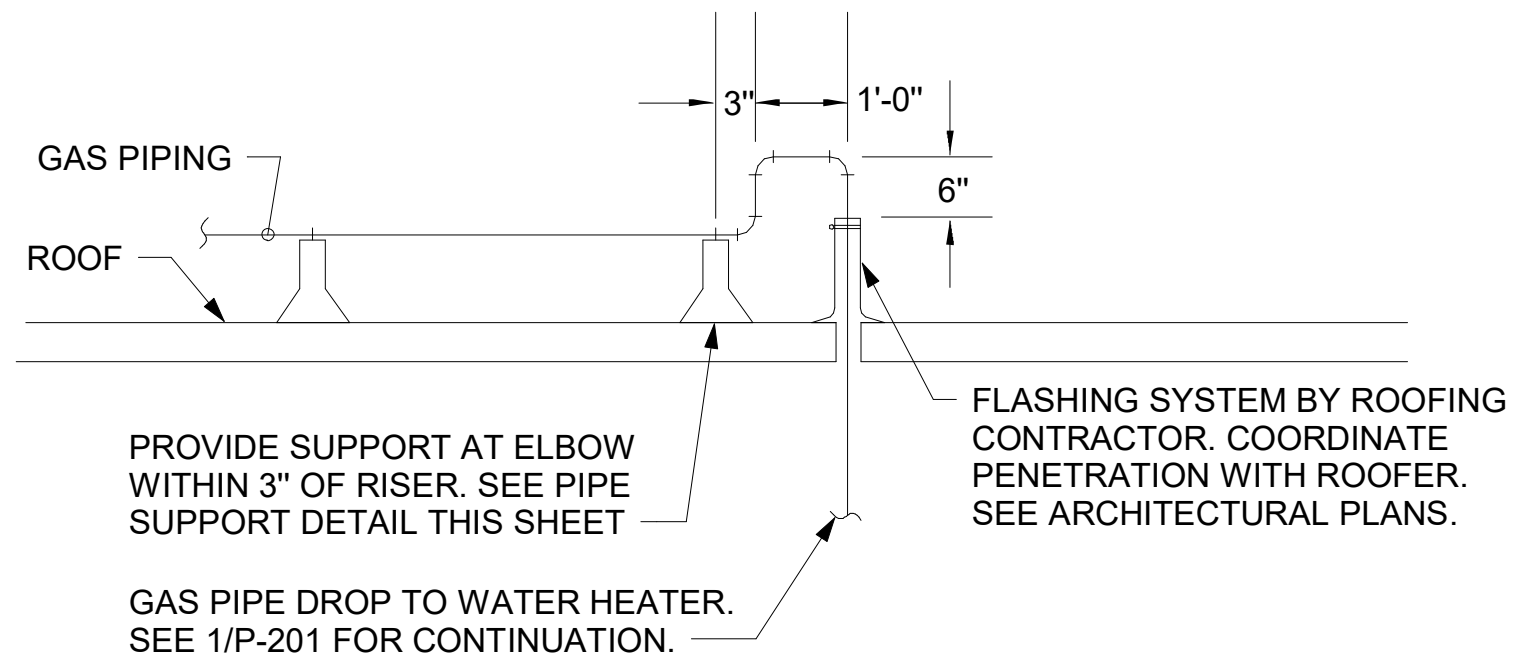
SHEET SLAB ROUGH-IN PLAN

SHEET NUMBER

P-221

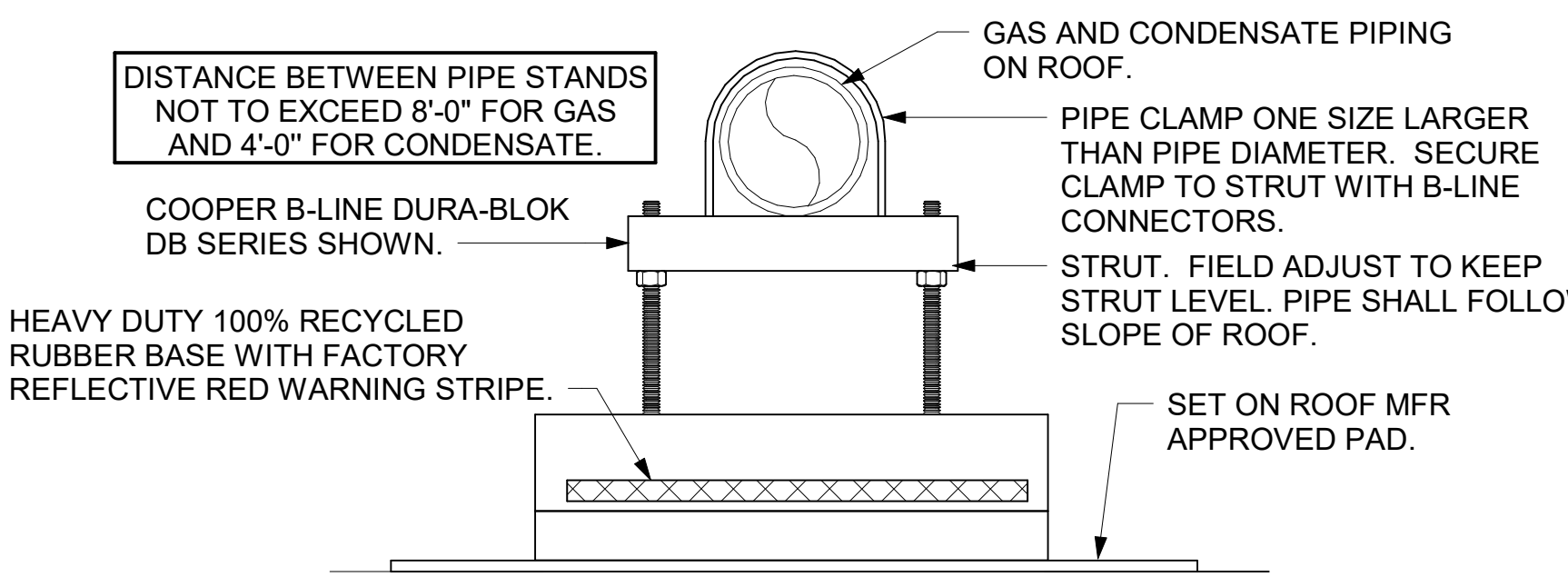
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 5/27/2022 8:14:25 AM
 40-SE-04907-P-221-SLAB ROUGH-IN PLAN

OFFSET PIPING A MINIMUM OF 6" ABOVE TOP EDGE OF FLASHING.



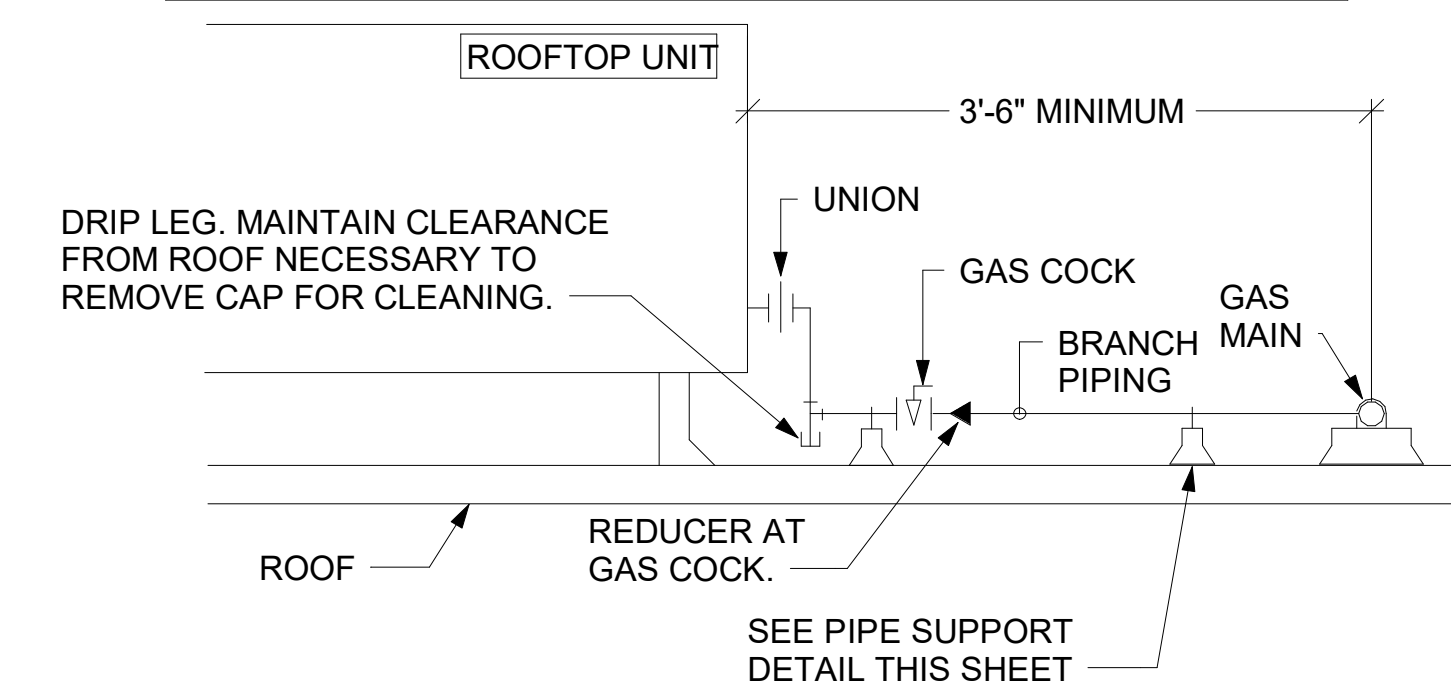
6 GAS PIPE DROP TO WATER HEATER NOT TO SCALE

- NOTES:**
- NON ADJUSTABLE MODEL DB610 PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
 - PROVIDE MODEL DBE 10-8 OR DBE 10-12 OR DBE 10-16 AS NEEDED FOR ELEVATING CONDENSATE PIPING TO MAINTAIN PROPER SLOPE AND FOR GAS PIPING CROSSING OVER CONDENSATE PIPING.
 - ENSURE GAS AND CONDENSATE PIPING DO NOT OBSTRUCT ROOFTOP EQUIPMENT ACCESS OPENINGS. RE-PIPING OF SYSTEMS DUE TO CONFLICTS WITH EQUIPMENT ACCESS OPENINGS SHALL BE DONE AT PLUMBING CONTRACTOR'S EXPENSE.



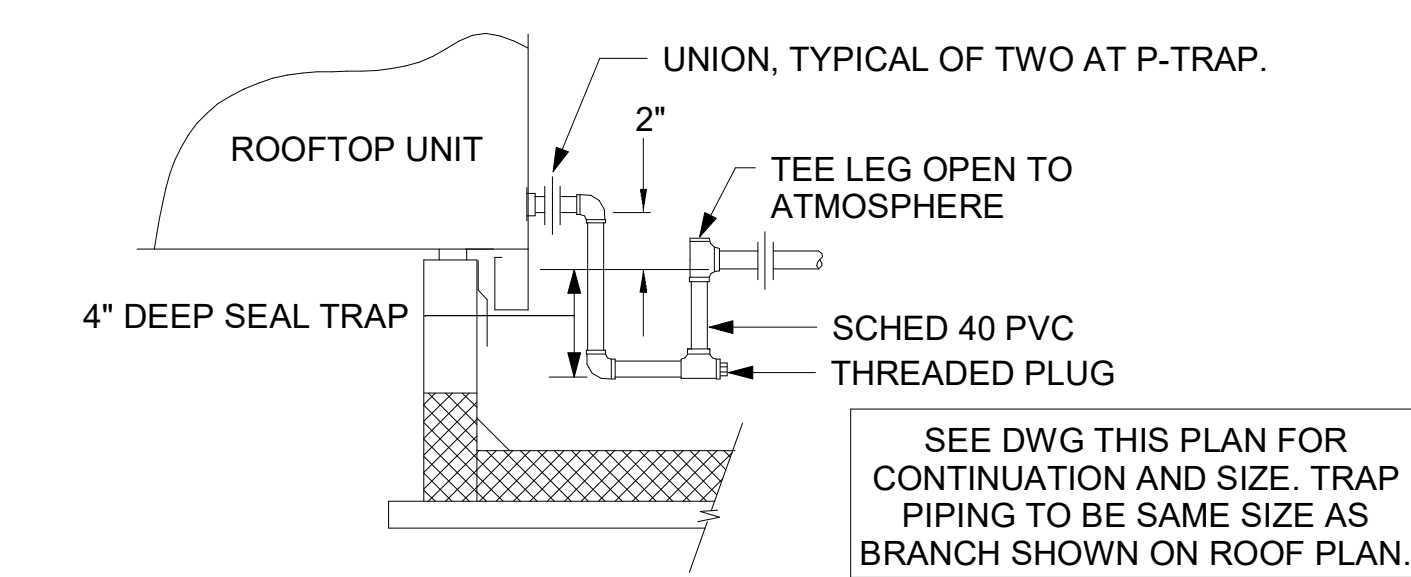
3 PIPING SUPPORT ON ROOF NOT TO SCALE

- NOTES:**
- INSTALL GAS PIPING SUCH THAT HVAC EQUIPMENT ACCESS PANELS AND/OR DOORS ARE IN NO WAY OBSTRUCTED BY PIPING, VALVES, OR SUPPORTS.
 - TO AVOID CONFLICT WITH AC UNIT ACCESS DOORS, INSTALL GAS PIPING NO CLOSER THAN 3'-6" FROM AC UNIT. (EXCEPT FOR BRANCH LINE CONNECTED TO AC UNIT.)
 - ROUTE BRANCH TAKE-OFF DIRECTLY FROM MAIN TO ROOFTOP UNIT AS SHOWN ON PLAN AND DETAILS WITHOUT LATERAL OFFSETS WHICH MAY OBSTRUCT UNIT ACCESS DOORS.



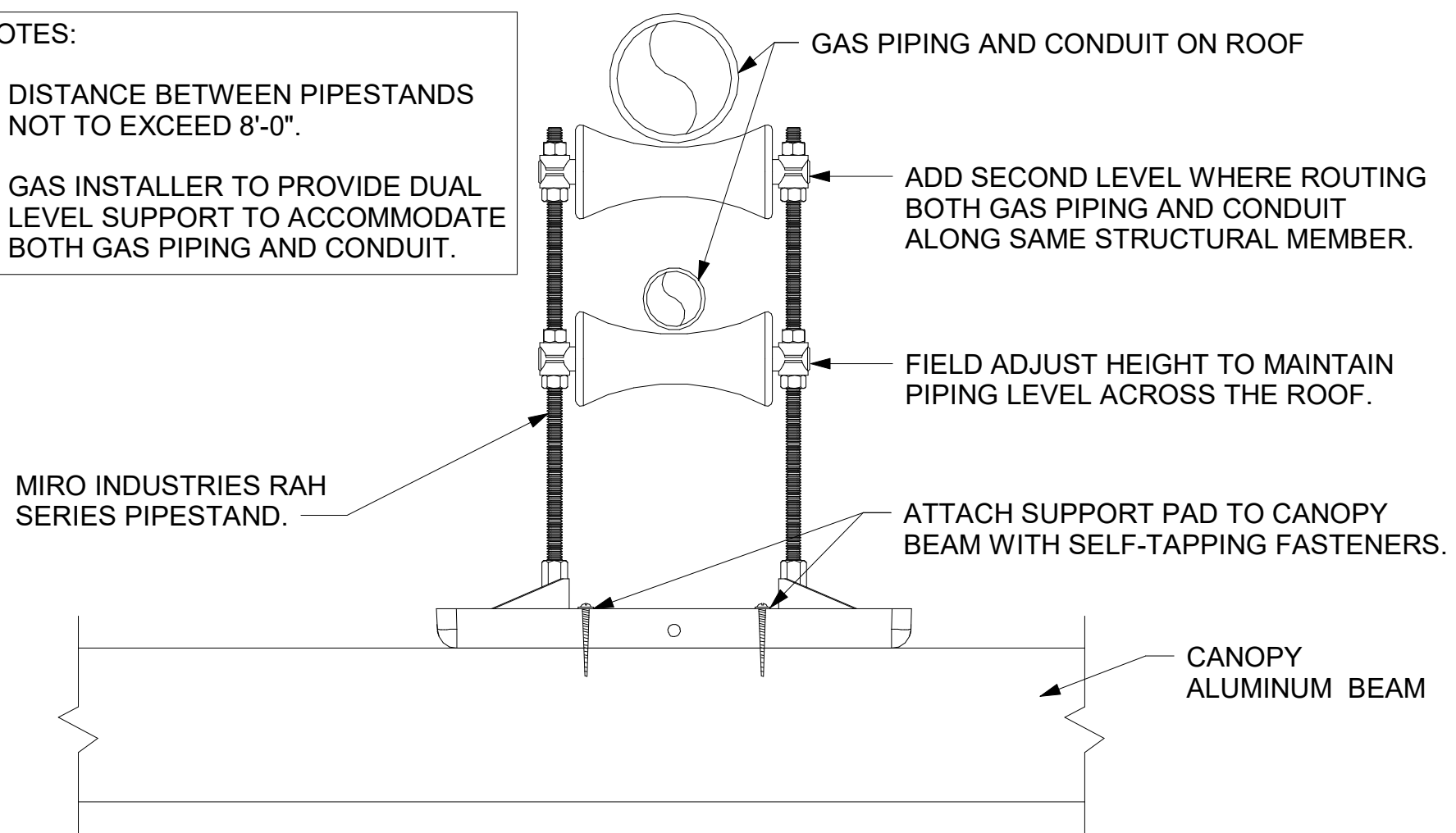
2 CONDENSATE DRAIN PIPING 1/4" = 1'-0"

5. GAS CONNECTION SCHEDULE	
EQUIPMENT	GAS LOAD
AC#1	260,000 BTUS
AC#2	260,000 BTUS
AC#3	260,000 BTUS
WATER HEATER	125,000 BTUS
TOTAL CONNECTED LOAD	905,000 BTUS
REMARKS:	1) EQUIVALENT TO 905.0 CFH 2) 7" W.C. DELIVERY PRESSURE 3) DEVELOPED LENGTH: 175 FT. (METER TO AC#3.)

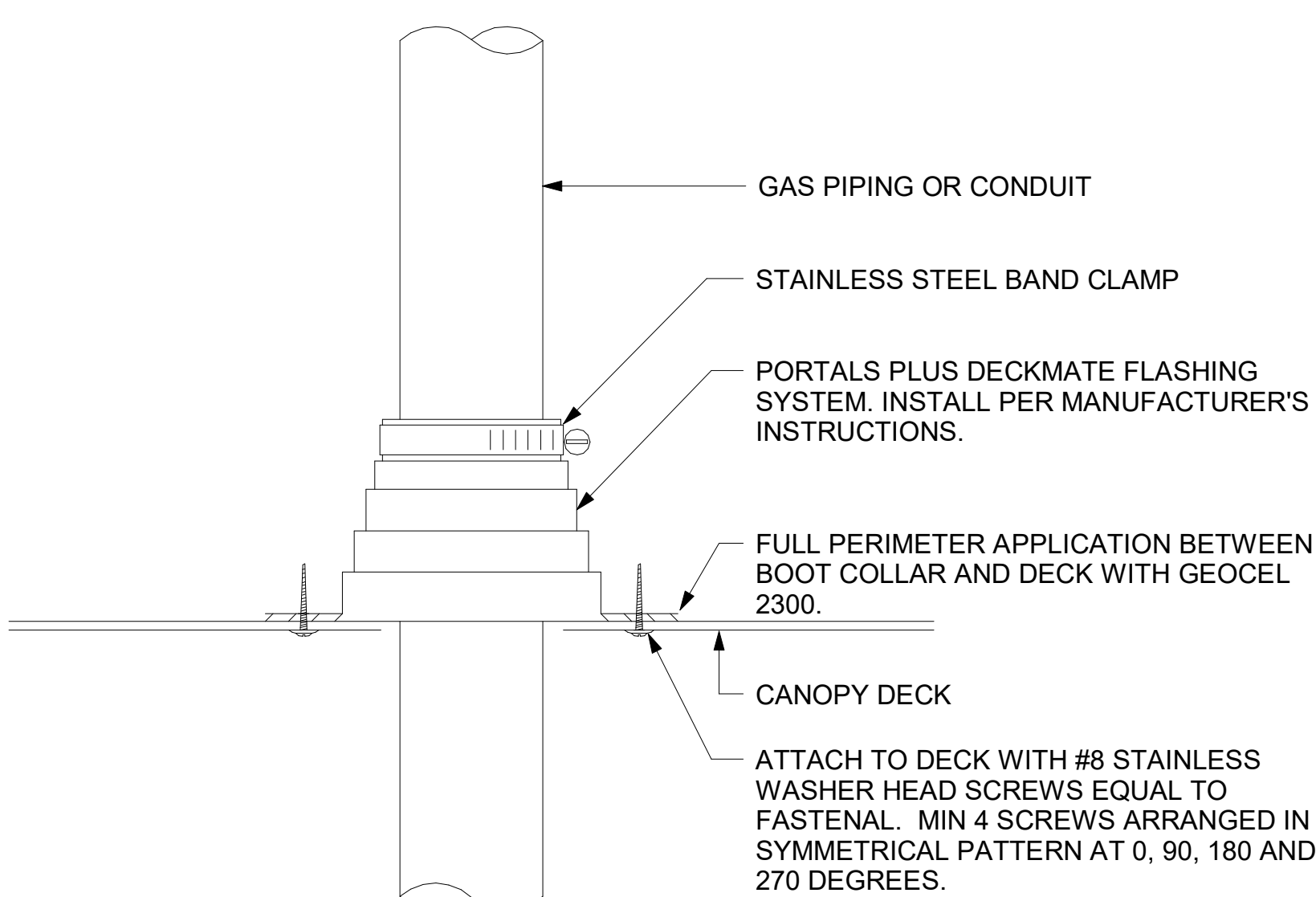


1 GAS PIPING AT RTU 1/4" = 1'-0"

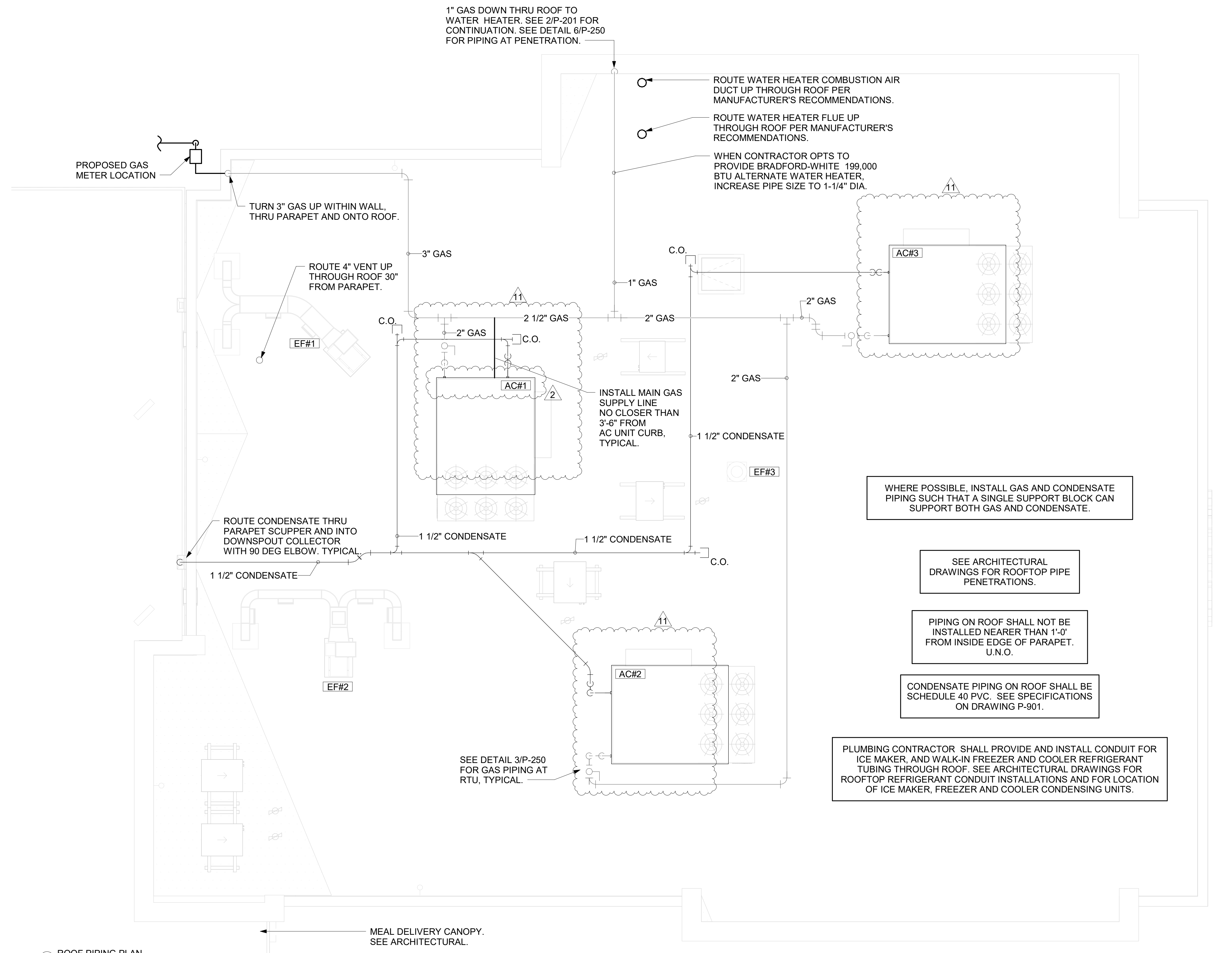
- NOTES:**
- DISTANCE BETWEEN PIPESTANDS NOT TO EXCEED 8'-0".
 - GAS INSTALLER TO PROVIDE DUAL LEVEL SUPPORT TO ACCOMMODATE BOTH GAS PIPING AND CONDUIT.



8 PIPING SUPPORT ON CANOPY NOT TO SCALE



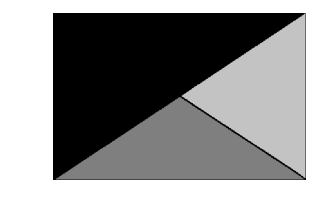
9 WEATHERPROOFING AT CANOPY PENETRATION NOT TO SCALE



1 ROOF PIPING PLAN 1/4" = 1'-0"



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FSR#04907

BUILDING TYPE / SIZE: P13 SE ALL
 RELEASE: v2.20.08

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
2	04/18/2022	RTU UPDATE
11	12/21/2022	LENNOX UNITS

CONSULTANT PROJECT # 21059.MA.S
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SHEET ROOF PLAN AND DETAILS

SHEET NUMBER

P-250

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 40-SE-04907-P-250-ROOF PLAN AND DETAILS

1. SECTION C15100 - PLUMBING SPECIFICATIONS

PART I - PRODUCTS (C15100)

1.01 GENERAL REQUIREMENTS

A. THE FOLLOWING SPECIFICATIONS ARE THE MINIMUM REQUIREMENT. WHERE FEDERAL, STATE OR LOCAL REQUIREMENTS DIFFER FROM THIS SPECIFICATION, THE MORE STRINGENT OF THE TWO SHALL BE FOLLOWED.

1.02 SCOPE

- A. HOT AND COLD POTABLE WATER PIPING ABOVE SLAB SHALL BE TYPE 'L' HARD DRAWN COPPER OR FLOWGUARD GOLD CPVC AS MANUFACTURED BY NIBCO OR CHARLOTTE PIPE & FOUNDRY AND MEETING ASTM D-2846. FILTERED WATER PIPING SHALL BE FLOWGUARD GOLD CPVC. HOT AND COLD PIPING WITHIN WALLS BEHIND KITCHEN HOODS SHALL BE COPPER.
- B. POTABLE WATER PIPING BELOW SLAB AND OUTSIDE BELOW GRADE SHALL BE TYPE "K" SOFT ANNEALED SEAMLESS. NO JOINTS SHALL BE ALLOWED BELOW SLAB. POTABLE WATER PIPING BELOW GRADE SHALL BE SLEEVED FOR ITS ENTIRE LENGTH WITH POLY SLEEVE AS MADE BY IPS WATER-TITE. ALL SLAB PENETRATIONS SHALL BE SLEEVED WITH POLY SLEEVE TO PROTECT PIPING FROM CORROSION BY CONCRETE.
- C. COPPER PIPE FITTINGS SHALL BE WROUGHT COPPER SWEEP PATTERN FITTINGS SOLDERED USING 95-5 LEAD-FREE SOLDER MEETING ASTM B-32 OR BRAZED WITH SIL-FOS. SOLDER FLUXES SHALL MEET ASTM B-813 AND SHALL BE LEAD FREE. BRAZING FLUXES SHALL MEET AWS FB3-A OR FB3-C.
- D. WATER PIPING DOWNSTREAM OF SOFT DRINK CARBONATORS SHALL BE PROVIDED AND INSTALLED BY LOCAL SOFT DRINK VENDOR.
- E. CPVC FITTINGS FOR PIPING SHALL BE SOLVENT WELD TYPE MEETING ASTM D-2846 WITH CEMENTS MEETING ASTM F-493 AND PRIMER MEETING ASTM F-656. CURE TIME MUST COMPLY WITH MANUFACTURER'S RECOMMENDATIONS. FOR CPVC PIPING INSTALLATION, WALL STUBS AT FIXTURES AND EQUIPMENT SHALL BE COPPER AND SHALL BE SERIES 630-C. CPVC-TO-COPPER STUB OUT ELBOWS BY SIOUX CHIEF.
- F. NIPPLES, ELBOWS, AND OTHER ACCESSORY FITTINGS REQUIRED TO COMPLETE ANY WATER PIPING CONNECTION SHALL BE BRASS OR OF SIMILAR TYPE METAL AS THE FITTING TO WHICH IT IS CONNECTED. GALVANIZED FITTINGS ARE PROHIBITED. (EXCEPTION: GALVANIZED HEAT TRAP WATER HEATER NIPPLES IF INTERNALLY PROTECTED WITH TEFLON OR POLYMER CORROSION-RESISTANT COATING.)
- G. ALL HVAC CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC DWV AS MANUFACTURED BY CHARLOTTE PIPE AND MEETING ASTM D-1784, D-1785 AND D-2665.
- H. U.N.O., ALL SANITARY WASTE, VENT, STORM DRAINAGE PIPING AND FITTINGS INSIDE THE BUILDING, ABOVE AND BELOW GRADE, AND FOR ROOFTOP CONDENSATE, SHALL BE SOLID WALL SCHEDULE 40 PVC DWV AS MANUFACTURED BY CHARLOTTE PIPE AND MEETING ASTM D-2665 AND D-2949. FOAM CORE AND/OR CELLULAR CORE PVC PIPING SHALL NOT BE ALLOWED. PVC PIPING OUTSIDE THE BUILDING, BELOW GRADE, SHALL BE TYPE SDR-35 MEETING ASTM D-3034, U.N.O.

I. DWV PIPE AND FITTINGS WITHIN WALLS BEHIND KITCHEN HOODS SHALL BE SERVICE WEIGHT HUBLESS CAST IRON WITH SLEEVE, SHIELD, AND DRAWBAND JOINTS MEETING ASTM A-888 AND ASTM C-564.

J. PVC-DWV FITTINGS FOR PIPING SHALL BE SOLVENT WELD TYPE INSIDE AND UNDERSLAB MEETING ASTM D-2665, D-3311 AND F-186. CEMENTS SHALL MEET ASTM D-2664 AND PRIMER MEETING ASTM F-656. CURE TIME MUST COMPLY WITH MANUFACTURER'S RECOMMENDATIONS. EXTERIOR PIPING JOINTS SHALL BE NEOPRENE PUSH-ON TYPE.

K. PROVIDE 1" THICK PIPE INSULATION FOR ALL ABOVE SLAB HOT AND TEMPERED WATER PIPING. PROVIDE 1/2" THICK INSULATION FOR ALL ABOVE SLAB COLD WATER, FILTERED WATER, CONDENSATE PIPING, AND HORIZONTAL RAIN WATER CONDUCTORS INSIDE THE BUILDING. PIPING INSULATION SHALL BE KNAUF 1000F 25/50 FIBERGLASS PIPE COVERING, WHITE KRAFT PAPER VAPOR BARRIER (.02 PERMS) BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBERS. MAXIMUM THERMAL CONDUCTIVITY OF 0.23 AT 75F. LONGITUDINAL LAP SHALL BE SELF SEALING. INSULATION FOR WALK-IN COOLER/FREEZER CONDENSATE PIPING SHALL BE ARMACELL A/P ARMAFLEX WITH MINIMUM 3/4" WALL THICKNESS.

L. PIPE INSULATION AND COVERINGS SHALL HAVE A RATING OF NOT GREATER THAN 25 FLAME SPREAD, NO HIGHER THAN 50 SMOKE DEVELOPED, AND NO MORE THAN 50 FUEL CONTRIBUTED. THE ONLY EXCEPTION SHALL BE ARMAFLEX AP, WHEN SPECIFIED, WHICH SHALL NOT EXCEED 100 SMOKE DEVELOPED.

M. A PVC 25/50 PRE-FORMED COVER SHALL BE PROVIDED AT ALL INSULATED PIPING FITTINGS EQUAL TO PROTO PVC CORP LOSMOKE, 800-875-7768.

N. ALL ABOVE GRADE NATURAL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL MEETING ASTM A53 WITH SCREWED OR WELDED FITTINGS AND GASKET TYPE UNIONS AND FLANGES. FOR SCREWED PIPING, PIPING SHALL BE JOINED WITH BLACK 150 POUND MALLEABLE IRON SCREWED FITTINGS AS ALLOWED BY LOCAL AUTHORITY. CONTRACTOR SHALL VERIFY THE NEED FOR WELDED PIPING AS REQUIRED BY THE LOCAL GAS CODE AND/OR APPLICABLE LOCAL ORDINANCES AND AMENDMENTS.

O. ALL BELOW GRADE NATURAL GAS PIPING SHALL BE MEDIUM DENSITY POLYETHYLENE (PE) MEETING ASTM D2513 AS MANUFACTURED BY GASTITE WITH JOINING SYSTEM AS MANUFACTURED BY CON-STAB. TRANSDUCTIONS FROM ABOVE GRADE RIDGID PIPING TO PE BELOW GRADE PIPING SHALL BE MADE WITH ANODE-LESS RISER ASSEMBLY AS MANUFACTURED BY CON-STAB.

P. EXPOSED SUPPORTS AND ATTACHMENTS SHALL BE STAINLESS STEEL, CHROME OR CHROME PLATED. GALVANIZED ATTACHMENTS WILL NOT BE ACCEPTED.

Q. USE MATERIALS SPECIFIED ON THESE PLANS. SUBSTITUTIONS ARE ALLOWED ONLY IF SPECIFIED MATERIALS ARE UNAVAILABLE. PRODUCT SUBSTITUTIONS WILL NOT BE ACCEPTED WITHOUT PRIOR APPROVAL. ALL WATER PIPING, FITTINGS, FIXTURES AND ACCESSORIES SHALL BE CERTIFIED LEAD FREE AS DEFINED IN, AND PER THE INTENT OF, THE "REDUCTION IN LEAD IN DRINKING WATER ACT".

PART II - EXECUTION (C15100)

2.01 TRENCHING (C15100)

A. EXCAVATION, BACKFILLING, AND TRENCH WORK SHALL BE DONE IN ACCORDANCE WITH LATEST O.S.H.A. AND APPLICABLE SAFETY STANDARDS.

B. PROVIDE NECESSARY SHORING AND CLEANING TO KEEP TRENCHES IN GOOD WORKING CONDITION, INCLUDING PUMPING OUT WATER.

C. IN MOSTLY ROCK MATERIAL, TRENCHES SHALL BE EXCAVATED TO 6" BELOW THE ELEVATION OF THE BOTTOM OF THE PIPES. AFTER EXCAVATION, TRENCH SHALL THEN BE FILLED TO THE PROPER ELEVATION WITH CRUSHED LIMESTONE. GRAVEL SHALL BE REMOVED FROM UNDER PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.

D. IN MOSTLY EARTH OR SAND MATERIAL, TRENCHES SHALL BE EXCAVATED TO 6" BELOW THE ELEVATION OF THE BOTTOM OF THE PIPES. AFTER EXCAVATION, TRENCH SHALL THEN BE FILLED TO THE PROPER ELEVATION WITH FINE SAND OR GRAVEL. TRENCH BOTTOM SHALL BE REMOVED AT PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.

E. BACKFILLING AND TAMPING SHALL BE CAREFULLY DONE BY HAND SIMULTANEOUSLY ALONG BOTH SIDES OF THE PIPE USING ROCK FREE EARTH, CRUSHED STONE OR SAND UNTIL THE PIPE IS COVERED TO A DEPTH OF AT LEAST 12". BACKFILL SHALL BE ACCOMPLISHED IN SUCCESSIVE 6" LAYERS. THE REST OF THE FILL-UP TO THE TOPSOIL LAYER MAY BE GRAVEL OR ROCK FREE EARTH.

F. ACCEPTABLE SOIL MATERIALS FOR BACKFILL AND FILL SHALL BE FREE OF CLAY, ROCK OR GRAVEL LARGER THAN 2" IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS AND OTHER DELETERIOUS MATTER HAVING A PLASTICITY INDEX LESS THAN 30. BACKFILL SHALL BE ACCOMPLISHED IN LAYERS OF NOT MORE THAN 6" AND EACH LAYER SHALL BE COMPACTED. THE LAST 12" OF BACKFILL SHALL BE ROCK FREE TOPSOIL.

G. SURFACE SHALL BE RESTORED TO ITS ORIGINAL CONDITION.

2.02 INSTALLATION (C15100)

- A. WATER PIPING IN EXTERIOR WALL SHALL BE INSTALLED ON THE HEATED SIDE OF WALL INSULATION.
- B. EXPOSED HOT AND COLD WATER TRIM FITTINGS AND ACCESSORIES IN FINISHED AREAS SHALL BE CHROME FINISHED.
- C. ACCEPTABLE METHODS OF PIPE SUPPORT WITHIN WALLS SHALL BE THE SUMNER SYSTEM, POSIFIX, STAKFIX, PIPEFIX, HILDORIT OR CHANNEL.

D. PROVIDE J.R. SMITH OR APPROVED EQUAL SHOCK ABSORBERS #5005 THRU 5050 SIZE AS RECOMMENDED BY MANUFACTURER INSTALLED ON HOT AND COLD WATER BRANCH LINES CONTAINING SINGLE LEVER FAUCETS, FLUSH VALVES OR EQUIPMENT WITH QUICK CLOSING VALVES BETWEEN THE LAST TWO FIXTURES AS SHOWN ON THE CONTRACT DRAWINGS. SHOCK ABSORBERS SERVICING FIXTURES WITH FLUSH VALVES SHALL BE SECURELY ANCHORED IN THEIR VERTICAL POSITION.

E. SANITARY WASTE LINES SHALL BE UNIFORMLY GRADED TO ELEVATIONS SHOWN. IF NO ELEVATIONS ARE GIVEN, SEWERS SHALL BE PITCHED NOT LESS THAN 1/4" PER FOOT FOR ALL PIPING 2-1/2" IN DIAMETER AND SMALLER AND 1/8" PER FOOT FOR ALL PIPING 3" IN DIAMETER AND LARGER.

F. STORM PIPING SHALL BE SLOPED AT 1/4" PER FT (2%) UNLESS NOTED OTHERWISE ON PLANS.

G. SUPPORT HORIZONTAL PIPING ACCORDING TO LOCAL PLUMBING CODE. HANGER RODS SHALL BE SIZED AS FOLLOWS:

NOMINAL PIPE SIZE (IN)	MINIMUM HANGER DIAMETER (IN)
1/2	3/8
3/4 TO 1-1/2	3/8
2 TO 2-1/2	3/8
3 TO 6	1/2

H. HANGERS FOR PIPING GREATER THAN 1" SHALL PASS OVER THE INSULATION, PROVIDE SADDLES FOR INSULATED PIPING.

I. INSULATION SHALL BE APPLIED WITH JOINTS TIGHTLY BUTTED. OPEN CRACKS, VOIDS AND DEPRESSIONS SHALL BE FILLED WITH HYDRAULIC SETTING CEMENT, LAPPING MATCHING THE FINISH SHALL BE PASTED NEATLY OVER JOINTS. FITTINGS AND VALVES SHALL BE INSULATED WITH THE SAME TYPE.

J. PROVIDE AND INSTALL A CUT-OFF VALVE, UNION AND FULL SIZE DIRT LEG AT CONNECTION TO EACH GAS-FIRED PIECE OF EQUIPMENT. INSTALL PIPING AT AND AROUND EQUIPMENT SO AS TO NO WAY OBSTRUCT EQUIPMENT ACCESS PANELS AND/OR ACCESS DOORS.

K. COORDINATE ABOVE-CEILING PIPING LOCATIONS AND ROUTING WITH HVAC CONTRACTOR AND M-SHEETS PRIOR TO INSTALLATION. ALL MAIN DUCT TRUNK LOCATIONS SHALL TAKE PRIORITY. PIPING MAY REQUIRE REMOVAL AND REINSTALLATION AT PLUMBING CONTRACTOR'S EXPENSE IF PIPING OBSTRUCTS THE M-SHEET DUCT LAYOUT AS SHOWN OR PREVENTS ACCESS TO GREASE DUCT CLEANOUT OPENINGS.

L. ALL GAS PIPING ABOVE ROOF SHALL BE CLEANED FREE OF RUST AND PAINTED WITH COAT OF ZINC RUST PRIMER AND ONE COAT OF ALUMINUM BASE PAINT. METER AND GAS RISER SHALL BE PRIMED AND PAINTED TO MATCH BUILDING.

2.03 TESTING (C15100)

A. POTABLE WATER PIPING SHALL BE PRESSURE TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

B. THE POTABLE WATER SYSTEM SHALL BE FLUSHED OUT PROGRESSIVELY BY OPENING OUTLETS AND FLOWING WATER UNTIL IT RUNS CLEAR. AFTER PIPE CLEANING IS COMPLETED, THE STRAINERS SHALL BE REMOVED, CLEANED, AND REPLACED. THEN THE ENTIRE POTABLE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION.

C. THE SANITARY WASTE SYSTEM SHALL BE FLUSHED OUT PROGRESSIVELY WITH FLOWING WATER UNTIL IT RUNS CLEAR.

D. THE ENTIRE SANITARY WASTE SYSTEM AND STORM DRAINAGE SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

E. NATURAL GAS PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

PART III - MANUFACTURERS

3.01 PRODUCTS - PIPING SYSTEMS, ETC (C15100)

A. HYDRANTS, CARRIERS, DRAINS, AND SHOCK ABSORBERS: ZURN. ACCEPTABLE ALTERNATES: JAY R. SMITH, JONES STEPHENS CORP, WATTS, OR JOSAM.

B. ALTERNATES TO ZURN (ZRN) FIXTURES: ONLY AS SHOWN ON PLANS. APPROVED JAY R. SMITH (JRS), WATTS (WTS), MODEL NUMBERS LISTED ON FIXTURE SCHEDULE, THIS SHEET.

3.02 PRODUCTS - RESTROOM FIXTURES PORCELAIN & VALVES (C15405)

A. PREFERRED FIXTURES: TOTO. NO EXCEPTION.

B. ALTERNATE FIXTURES: ONLY AS SHOWN ON PLANS.

C. FITTINGS: AS SPECIFIED ON THE PLANS. NO SUBSTITUTIONS ALLOWED.

D. FLUSH VALVES AND LAVATORY FAUCETS: TOTO MANUFACTURING. NO SUBSTITUTIONS ALLOWED.

E. PREFERRED TOILET SEATS: TOTO. ALTERNATE TOILET SEATS: CHURCH, BEMIS, AND BENEKE.

F. FLOOR SINKS: ZURN WITH ALUMINUM SEDIMENT BUCKETS. NO SUBSTITUTIONS ALLOWED.

COORDINATION NOTE

1. CONTRACTOR SHALL THOROUGHLY REVIEW THE KITCHEN EQUIPMENT DRAWINGS TO ENSURE ALL ITEMS REGARDING THE PLUMBING SCOPE ARE FULLY UNDERSTOOD. MOST NOTABLY, ALL FAUCETS ARE REQUIRED TO BE PROVIDED (THROUGH HJC) & INSTALLED BY THE CONTRACTOR AS OUTLINED IN THE KITCHEN EQUIPMENT SCHEDULES.

NATIONAL ACCOUNTS

1. TOTO VALVES AND FIXTURES (NO SUBSTITUTIONS). HAINES, JONES & CADBURY LLC. (HJC DISTRIBUTORS). PLEASE CONTACT HJC-CFA CUSTOMER SERVICE REPRESENTATIVE AT (800) 459-7099 OR VIA E-MAIL AT: **CF@HJCCNC.COM** FOR NATIONAL ACCOUNT PRICING AND DELIVERY FOR ALL ITEMS ON PLUMBING FIXTURE SCHEDULE.

2. PLUMBING FIXTURES

RESTROOM FIXTURES (C15405) AND PLUMBING (15100)

P-1 WATER CLOSET: TOTO MODEL CT705ULN#01 BOWL WITH 1.28 GPF TET1LA32#CP ECO-POWER FLUSH VALVE AND SC534 SEAT (ALL PROVIDED BY HJC). NO SUBSTITUTIONS. WHITE, FLOOR MOUNTED, FLUSH VALVE TYPE, VITREOUS CHINA, 1-1/2" TOP SPUD, ELONGATED BOWL, ELECTRONIC SENSOR OPERATED HANDS-FREE FLUSH VALVE, WHITE OPEN FRONT SEAT WITH CHECK HINGE. CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

P-2 WATER CLOSET (ADA): TOTO MODEL CT705ULN#01 BOWL WITH 1.28 GPF TET1LA32#CP ECO-POWER FLUSH VALVE AND SC534 SEAT (ALL PROVIDED BY HJC). NO SUBSTITUTIONS. H.C. ACCESSIBLE, WHITE, FLOOR MOUNTED, 17-1/2" HIGH, FLUSH VALVE TYPE, VITREOUS CHINA, 1-1/2" TOP SPUD, ELONGATED BOWL, ELECTRONIC SENSOR OPERATED HANDS-FREE FLUSH VALVE, WHITE OPEN FRONT SEAT WITH CHECK HINGE. CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

P-3 URINAL: TOTO MODEL UT445U#01 URINAL WITH TEU1UA12#CP 0.125 GPF SELF SUSTAINED HYDROPOWER SELF-GENERATING ELECTRONIC SENSOR-OPERATED FLUSH VALVE (BOTH PROVIDED BY HJC). NO SUBSTITUTIONS. VITREOUS CHINA, 3/4" TOP SPUD, SENSOR OPERATED WITH MANUAL OVERRIDE BUTTON, INTERNAL VALVE FILTER PROTECTION, PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO PRODUCTS.

P-4A LAVATORY FAUCET: (BUILT-IN COUNTERTOP LAVATORY PROVIDED BY OWNER) TOTO MODEL TEL155-D10ET#CP CHROME PLATED FAUCET WITH THERMOSTATICALLY CONTROLLED ASSE 1070 MIXING VALVE FAUCET, 0.09 GALLONS PER CYCLE, NO SUBSTITUTIONS. PROVIDE MCGUIRE LF175 SUPPLY WITH STOP, MCGUIRE 155-WC GRID DRAIN WITH OFFSET TAILPIECE. MCGUIRE 8872C POLISHED CHROME P-TRAP. P-TRAP SHALL BE PARALLEL WITH BACK WALL. TRUEBRO INC., HANDI LAV-GUARD INSULATION KITS MODELS 101EZ AND 105EZ. (ALL PROVIDED BY HJC). CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

P-4B LAVATORY FAUCET: (LAVATORY PROVIDED BY HJC) TOTO MODEL TEL105-D10ET#CP ECO-POWER SENSOR HOT/COLD FAUCET WITH THERMOSTATICALLY CONTROLLED ASSE 1070 MIXING VALVE FAUCET, 0.09 GALLONS PER CYCLE, NO SUBSTITUTIONS. MCGUIRE LF175 SUPPLY WITH STOP, MCGUIRE 155-WC GRID DRAIN WITH OFFSET TAILPIECE. MCGUIRE 8872C POLISHED CHROME P-TRAP. P-TRAP SHALL BE PARALLEL WITH BACK WALL. TRUEBRO INC., HANDI LAV-GUARD INSULATION KITS MODELS 101EZ AND 105EZ. (ALL PROVIDED BY HJC). CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

P-5 KITCHEN HAND SINK ROUGH IN: SINK BY TMS; FAUCET: TOTO MODEL #TEL165-C20E#CP - PROVIDED BY HJC WITH THP3094 NOZZLE. CONTRACTOR SHALL INSTALL WALL HUNG, STAINLESS STEEL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. MCGUIRE LF175 SUPPLIES WITH STOPS AND A MCGUIRE 8912C POLISHED CHROME P-TRAP (PROVIDED BY HJC). ADJUST FAUCET OUTLET TEMPERATURE TO 110 DEGREES F (OR HIGHER AS REQUIRED BY LOCAL JURISDICTION).

P-5A KITCHEN DUMP SINK ROUGH IN: (SINK BY TMS; FAUCET: TOTO MODEL #TEL165-C20E#CP - PROVIDED BY HJC WITH THP3094 NOZZLE) CONTRACTOR SHALL INSTALL WALL HUNG, STAINLESS STEEL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. MCGUIRE LF175 SUPPLIES WITH STOPS AND A MCGUIRE 8912C POLISHED CHROME P-TRAP (PROVIDED BY HJC).

P-6 SERVING COUNTER DROP IN SINK ROUGH IN: (SINK PROVIDED BY CLAYTON FIXTURE; FAUCET-T&S EC-3100-7XF1THG WITH 1.0 GPM AERATOR PROVIDED BY HJC) CONTRACTOR SHALL INSTALL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. MCGUIRE 8912C POLISHED CHROME P-TRAP AND MCGUIRE LF175R20 STOPS WITH 20" CHROME PLATED 3/8" COPPER RISERS (PROVIDED BY HJC). ADJUST FAUCET OUTLET TEMPERATURE TO 110 DEGREES F (OR HIGHER AS REQUIRED BY LOCAL JURISDICTION).

P-7 MOP SINK FAUCET: (MOP SINK BASIN BUILT BY GENERAL CONTRACTOR) PROVIDE T&S BRASS MODEL B-2345 FAUCET WITH CERAMA SPRING CHECK VALVE CARTRIDGE, HOSE THREAD SPOUT OUTLET, TOP BRACE, ADJUSTABLE INLET SPREAD FROM 3" TOP 8", INCLUDE T&S BRASS MODEL 43-072 HOSE THREAD X 3/4" FEMALE NPT CHROME ADAPTOR (ALL PROVIDED BY HJC). NO SUBSTITUTIONS. SEE ALSO P-16.

P-8 VEGETABLE PREP SINK ROUGH-IN: (SINK PROVIDED BY TMS; FAUCET T&S B-0152-14-CRBCBT WITH 0.65 GPM SPRAY HEAD BY HJC) CONTRACTOR SHALL INSTALL SINK AND MAKE FINAL CONNECTIONS. MCGUIRE LFST08 STOPS AND BRASSCRAFT 36" CHROME PLATED 1/2" OD COPPER RISERS MODEL 3-36AC (PROVIDED BY HJC). ASSEMBLE AND MOUNT TWO HANDLE FAUCET WITH PRE-RINSE SPRAY ARM. INSTALL ADD-ON FAUCET WITH SPOUT AT BASE OF PRE-RINSE RISER. SEE K-SHEET ELEVATIONS. PROVIDE 1-1/2" SCHED 80 PVC (PIPE AND FITTINGS) INDIRECT WASTE LINES FROM SINK BASINS TO FLOOR SINK P-13B. NO P-TRAPS REQUIRED. HJC TO PROVIDE FISHER #22209 DRAINS WITH FLAT STRAINERS.

P-9 FOUR COMPARTMENT POT SINK ROUGH-IN: (SINK PROVIDED BY TMS; FAUCETS: T&S B-0152-14CRBCBT & B2299-CR WITH 0.65 GPM SPRAY HEAD PROVIDED BY HJC) CONTRACTOR SHALL INSTALL SINK, ASSEMBLE & MOUNT TWO FAUCETS, AND MAKE FINAL CONNECTIONS. MCGUIRE LFST08 STOPS AND BRASSCRAFT 36" CHROME PLATED 1/2" OD COPPER RISERS MODEL 3-36AC (PROVIDED BY HJC). ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH PRE-RINSE SPRAY. INSTALL ADD-ON FAUCET WITH SPOUT AT BASE OF PRE-RINSE RISER. ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH DOUBLE JOINT SPOUT ON OPPOSITE SIDE. SEE K-SHEET ELEVATIONS FOR FAUCET LOCATIONS. PROVIDE 1-1/2" SCHED 80 PVC (PIPE AND FITTINGS) INDIRECT WASTE LINES FROM EACH SINK BASIN TO FLOOR SINK P-13A, NO P-TRAPS REQUIRED. HJC TO PROVIDE FISHER #22209 DRAINS WITH FLAT STRAINERS.

P-10 FLOOR DRAIN (3"): ZURN EZ1-PV3-R8 PVC BODY, BRONZE SPUD WITH 8" DIAMETER NICKEL BRONZE STRAINER (PROVIDED BY HJC). ALT: JONES STEPHENS CORP D53-144.

P-11 WALL HYDRANT (NON-FREEZE): WOODFORD MODEL 67C AUTOMATIC DRAINING WALL HYDRANT WITH DUAL CHECK BFP, ASSE 1052 APPROVED, WALL CLAMP, POLISHED BRASS FINISH (PROVIDED BY HJC). "C" STYLE INLET. SEE WALL HYDRANT NOTES ON 1/P-201 FOR WALL THICKNESS AT WALL HYDRANTS. ALT: (WTS) HY-42.

P-12 FUNNEL DRAIN (3"): ZURN MODEL ZN415-3NL-6S-4 FLOOR DRAIN W/FUNNEL. INDIRECT WASTE RECEIVER WITH NICKEL BRONZE STRAINER AND FUNNEL. PROVIDE 6" SQUARE STRAINER WITH 4" ROUND FUNNEL AT WALK-IN COOLER (PROVIDED BY HJC). ALT: 4" ROUND FUNNEL (ZURN) ZN328-4.

P-13A FLOOR SINK (POT SINK): ZURN MODEL Z1901-4NL-1-23-KC CAST IRON INDIRECT WASTE RECEIVER WITH 12" SQUARE BODY, FLASHING CLAMP, 8" DEEP, ALUMINUM SEDIMENT BUCKET, AND NO GRATE. NO SUBSTITUTIONS (PROVIDED BY HJC).

P-13B FLOOR SINK (VEGETABLE SINK): ZURN MODEL Z1910-KC-3NL-1-23 CAST IRON INDIRECT WASTE RECEIVER WITH FLASHING CLAMP, 8" SQ. BODY, ALUMINUM SEDIMENT BUCKET, AND NO GRATE (PROVIDED BY HJC). NO SUBSTITUTIONS.

P-14 CLEANOUTS INSIDE BUILDING: ZURN ZN1400-XNL-T-BP CLEANOUT WITH 6" SQUARE NICKEL BRONZE TOP AND TAPER THREAD BRONZE PLUG. SEE PLAN FOR SIZE. (X=PIPE DIA) (PROVIDED BY HJC).

P-15 CLEANOUTS OUTSIDE BUILDING: ZURN Z1474-NX EXTRA HEAVY DUTY CAST IRON CLEANOUT, "C.O." CAST IN COVER, ABS PLUG, NEO-LOCKOUT. (X=PIPE DIA) (PROVIDED BY HJC). ALT: (ZURN) Z1474-X-N.

P-16 3-WAY DIVERTER VALVE ASSEMBLY: WATTS MODEL LFB 6780 ROUGH BRASS LEAD-FREE DIVERTER BALL VALVE WITH 3/4" FIP INLET AND OUTLETS AND QUARTER TURN LEVER HANDLE. PROVIDE WITH TWO (2) FORGED BRASS 3/4" MIP X 3/4" MALE GARDEN HOSE THREAD ADAPTERS (LUMBERT MODEL C20-103 OR EQUAL). PROVIDE WITH ONE ASSE 1011 APPROVED CHROME PLATED VACUUM BREAKER (WOODFORD MODEL 34H-CH OR EQUAL) (ALL PROVIDED BY HJC). FOR INSTALLATION AT MOP SINK, SEE 4/P-201. PROVIDE ALSO TWO 3/4" CLOSE CHROME PLATED BRASS NIPPLE AND 3/4" POLISHED CHROME 90 DEGREE ELBOW.

P-17 VACUUM RELIEF VALVE: WATTS MODEL ALFN36M1, 3/4" CONNECTION. (PROVIDED BY HJC)

P-18 EXPANSION TANK: AO SMITH MODEL TW12-5, ACCEPTANCE 2.19 GALLONS (PROVIDED BY HJC) AT 40 PSI PRECHARGE, 3/4" CONNECTION. ALTERNATE MODELS SIZED PER WATER HEATER MANUFACTURER RECOMMENDATIONS ARE ACCEPTABLE.

P-19 WATER HEATER: BRADFORD-WHITE EF-60T-125E-3N STORAGE TYPE GAS FIRED 60 GALLON WATER HEATER, 125MBH INPUT, 145 GPH RECOVERY AT 100F RISE, DIRECT VENT, BLOWER POWERED, CONDENSING TYPE WITH THREE-YEAR WARRANTY (PROVIDED BY HJC). CONTRACTOR TO PROVIDE DIELECTRIC HEAT TRAP NIPPLES. STATE INDUSTRIES SUR-100-199-NE, RHEEM GHE80-130, AND BRADFORD-WHITE EF-60T-199-3N MODELS ARE ACCEPTABLE SUBSTITUTES. (ANY SUBSTITUTIONS PROVIDED ON REQUEST FROM HJC.)

P-20 THERMOMETER: PROVIDE TRERICE MODEL B83404 - 04 3" DIAL TYPE THERMOMETER WITH BOTTOM 1/2" N.P.T. CONNECTION, 4" STEM AND 0 DEG F TO 200 DEG F RANGE, LEAD FREE. (PROVIDED BY HJC.)

P-21 BACKFLOW PREVENTERS: COORDINATE LOCATION WITH CIVIL SITE UTILITY PLAN. BACKFLOW PREVENTER TYPE AND MODEL IS DETERMINED BY CIVIL ENGINEER IF LOCATED OUTSIDE THE BUILDING.

DOUBLE CHECK TYPE: WATTS NO. LFU07M1QT 1-1/2" DUAL CHECK MODULAR TYPE BACKFLOW PREVENTER MEETING ASSE 1015 AND AWWA C510-92. WHERE REQUIRED BY LOCAL AUTHORITY, USE THE RPZ TYPE BFP SHOWN BELOW. ALT: (ZRN) 112-350XL.

REDUCED PRESSURE ZONE (RPZ) TYPE: WATTS NO. LFU09M2 1-1/2" MODULAR TYPE WITH TEST PORTS AND INTERMEDIATE RELIEF VALVE MEETING ASSE 1013 AND AWWA C511-89. PROVIDE WATTS NO. 909-AG-C AIR GAP DEVICE. ALT: (ZRN) 112-975XL72U. (ANY AND ALL PROVIDED BY HJC.)

P-22 MOP SINK CHECK VALVES: T&S BRASS 1/2" MODEL B-CVV1-2 BALL CHECK. (PROVIDED BY HJC)

P-23 UTILITY CONNECTION (ICEMAKER): PROVIDE A MCGUIRE MODEL LFHST06SB LEAD-FREE CHROME WHEEL ANGLE STOP, 1/2" FIP INLET AND OUTLET (PROVIDED BY HJC). PROVIDE CHROME WALL ESCUTCHEON. INSTALL WITH BFP P-34. (SEE DETAIL 3/P-201 FOR PIPING AT ICE MAKERS.)

P-24 UTILITY CONNECTION (COFFEE & TEA BREWERS): PROVIDE A MCGUIRE MODEL LFHST06SB LEAD-FREE CHROME WHEEL ANGLE STOP, 1/2" FIP INLET AND OUTLET (PROVIDED BY HJC). PROVIDE CHROME WALL ESCUTCHEON. INSTALL WITH BFP P-34.

P-25 SHOCK ABSORBER: ZURN Z1700-100 THRU Z1700-300 AS NEEDED, SIZE AS RECOMMENDED BY MANUFACTURER (PROVIDED BY HJC). ALT: (WTS) SSA + SSB; (JRS) 5005 THROUGH 5050.

P-26 FUNNEL DRAIN (3"): ZURN ZN415-3NL-8S-OF FLOOR DRAIN W/FUNNEL. INDIRECT WASTE RECEIVER WITH NICKEL BRONZE STRAINER AND FUNNEL. PROVIDE 8" ROUND STRAINER WITH 3.25" X 8.25" OBLONG FUNNEL (DRAIN AND STRAINER PROVIDED BY HJC). ALT: (JRS) 3510L03-F22NE.

P-26A TRAP SEAL PROTECTOR: PROVENT TRAP GUARD MODEL TG3H 3" TRAP SEAL INSERT FOR INTERIOR INSTALLATION AND REPLACEMENT ACCESS THROUGH STRAINER (PROVIDED BY HJC). PROVIDE AT P-35 FLOOR DRAINS IN RESTROOMS, P-37 FLOOR DRAINS DINING ROOM, AND P-26 FLOOR DRAINS IN MECH ROOM. PROVIDE PROSET MODEL TG33-ZURN WHEN USING ZURN FLOOR FIXTURES (PROVIDED BY HJC).

P-27 WATER PRESSURE GAUGE: TRERICE MODEL 800B, 2-1/2" ROUND, BOTTOM OUTLET WITH 1/4" N.P.T. CONNECTION AND 0 TO 100 PSI RANGE. (PROVIDED BY HJC.)

P-28 ISOLATION BALL VALVE (8-STOP WATER MAINFOLD PANEL): NIBCO MODEL 4660-T, 3/4", WITH IPS INLET AND OUTLET. (PROVIDED BY HJC.)

P-29A ICE MACHINE TRENCH DRAIN: ZURN STAINLESS DRAINS TR12-CFA-18 STAINLESS STEEL TRENCH DRAIN, 14.5" X 18", STAINLESS STEEL SEDIMENT CUP AND STAINLESS STEEL SERRATED LADDER GRATE (PROVIDED BY HJC). NO SUBSTITUTIONS.

P-29B ICE MACHINE TRENCH DRAIN: ZURN STAINLESS DRAINS TR12-CFA-36 STAINLESS STEEL TRENCH DRAIN, 14.5" X 36", STAINLESS STEEL SEDIMENT CUP AND STAINLESS STEEL SERRATED LADDER GRATE (PROVIDED BY HJC). NO SUBSTITUTIONS.

P-30 FILTERED WATER FAUCET: (FAUCETS: T&S B-02326-CR-063X PROVIDED BY HJC) TWO-HANDLE WALL MOUNT FAUCET WITH SWING SPOUT. MOUNT ON WALL AS SHOWN ON K-SHEETS. PIPE FILTERED WATER TO BOTH SIDES OF FAUCET. CONNECT TO SUPPLY PIPING WITH BRASS OR CHROME NIPPLES; GALVANIZED NOT ALLOWED.

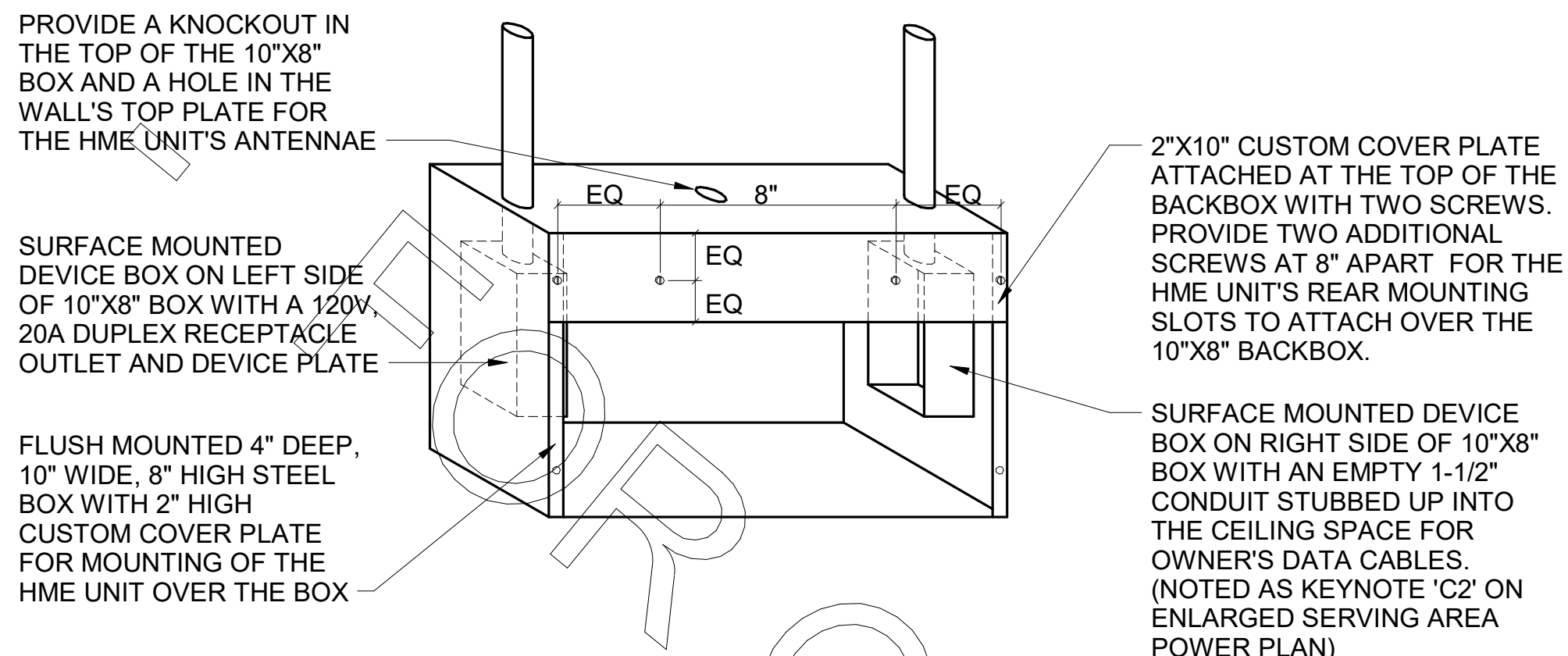
P-31 DUMPSTER POST HYDRANT (NON-FREEZE): WOODFORD MODEL Y2 LEVER TYPE POST HYDRANT, 3/4 HOSE CONNECTION, LOCKABLE LEVER HANDLE, BRASS CASING, BRASS OPERATING ROD, ASSE 1052 APPROVED AND 24" DEPTH OF BURY (PROVIDED BY HJC.)

P-32 DUMPSTER PAD DRAIN: J.R. SMITH FIGURE NO. Z280C03 3" FLOOR DRAIN WITH 7-1/2" HINGED CAST IRON SLOTTED GRATE AND SEDIMENT BUCKET (PROVIDED BY HJC.) INSTALLED BY SITE CONTRACTOR. ALT: (ZRN) Z415C-3NL-Y.

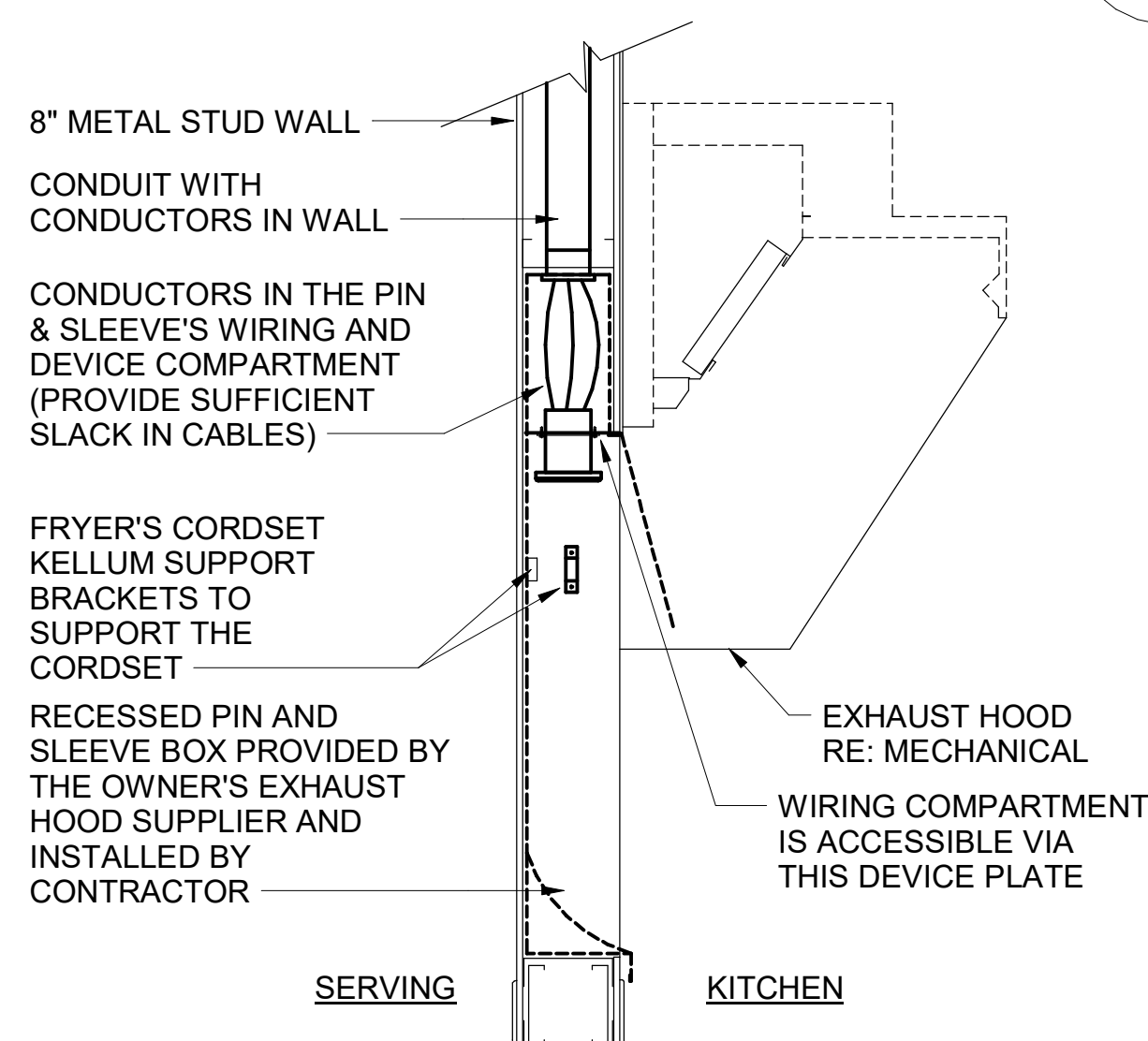
P-33 TRAP PRIMER (MECHANICAL TYPE): DO NOT USE UNLESS REQUIRED BY LOCAL AUTHORITY. PRECISION PRODUCTS PR-500. PROVIDE DISTRIBUTION UNIT DU-U WHERE SERVING MULTIPLE DRAINS. PROVIDE SCREWDRIVER STOP AT PRIMER INLET. (ALL PROVIDED BY HJC) ALT: (WTS) TP-300A-DR.

P-34 DISPENSER BACKFLOW PREVENTER: WATTS MODEL #LF7R2-2 ASSE 1024 RATED WITH 1/2" FIP INLET AND OUTLET, DUAL CHECK TYPE. PROVIDE 1/2" DIA X 2" LONG CHROME NIPPLE AT BFP INLET AND OUTLET. PROVIDE T&S BRASS MODEL B-0110 CHROME WALL BRACKET. (ALL PROVIDED BY HJC.)

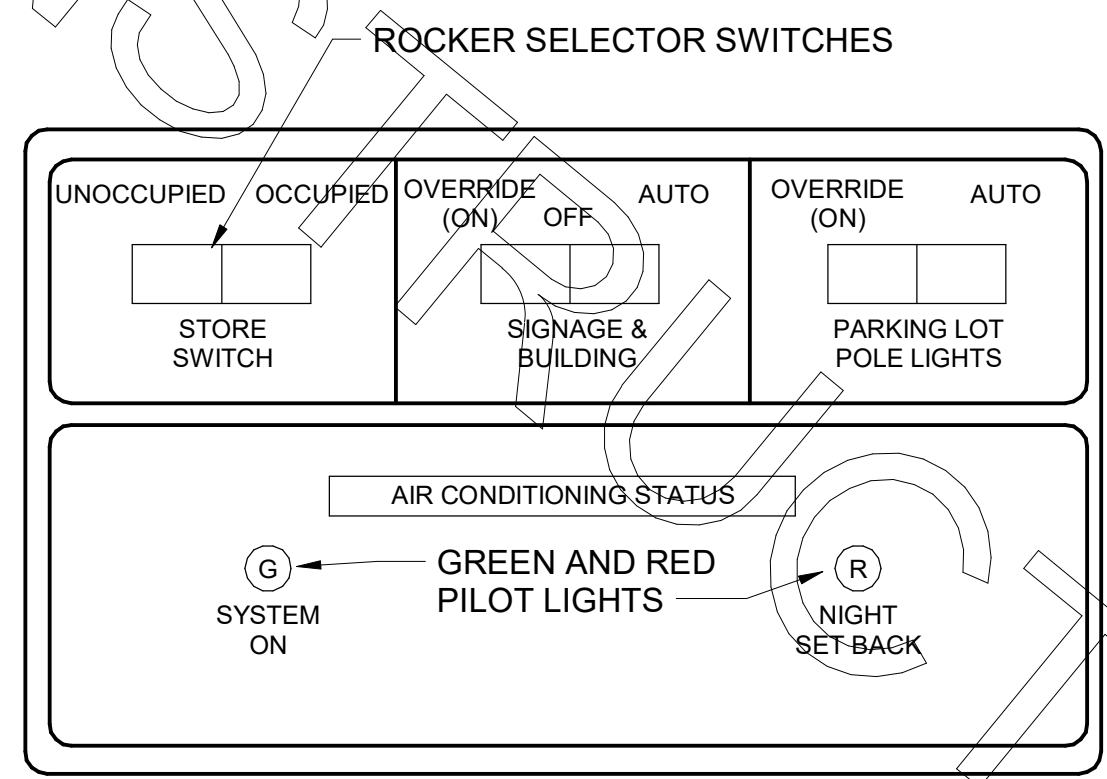
P-35 FLOOR DRAIN (3"): ZURN EZ1-PV3-R6 PVC BODY, BRONZE SPUD



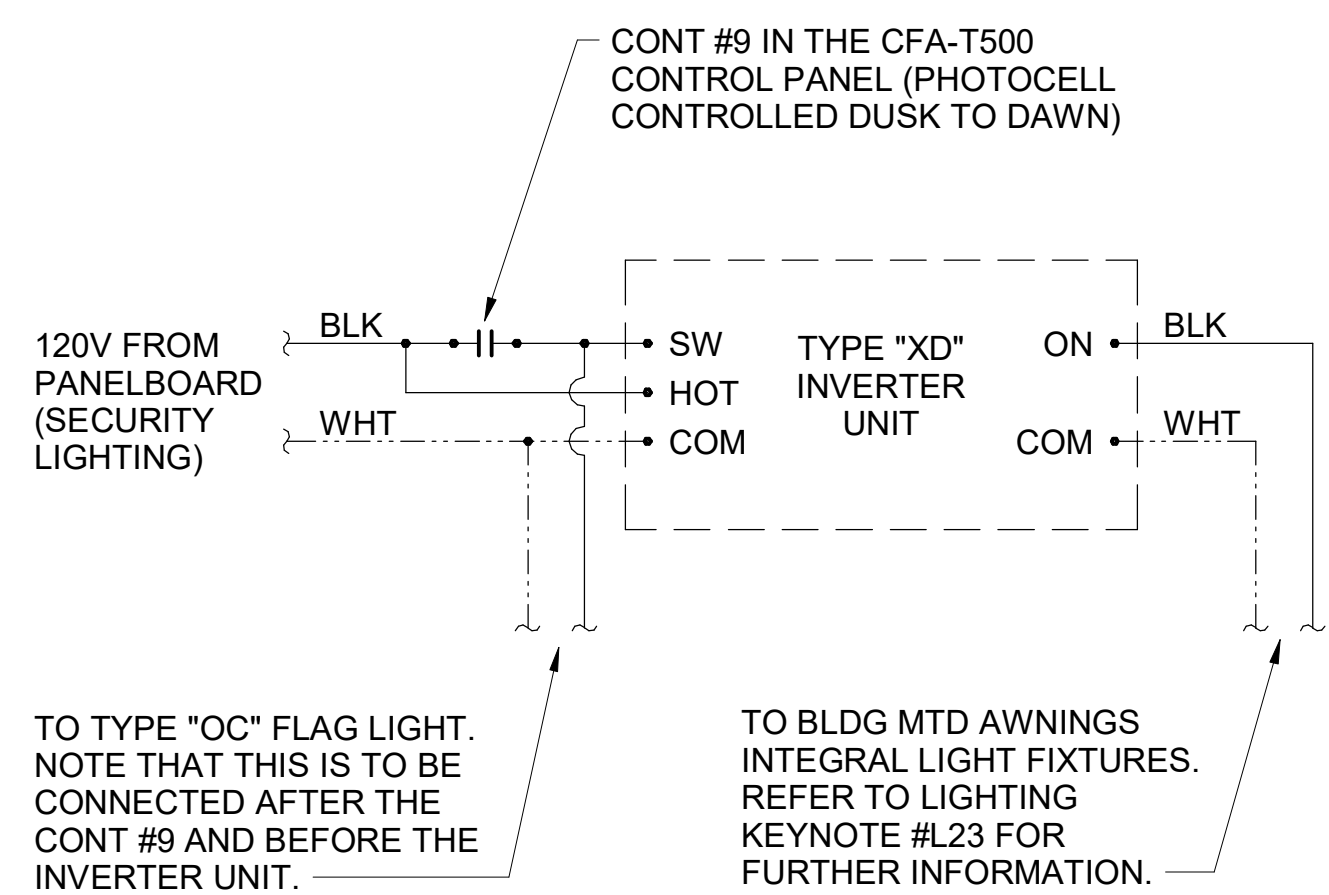
E3 HME UNIT POWER & DATA BOX DETAIL
NO SCALE



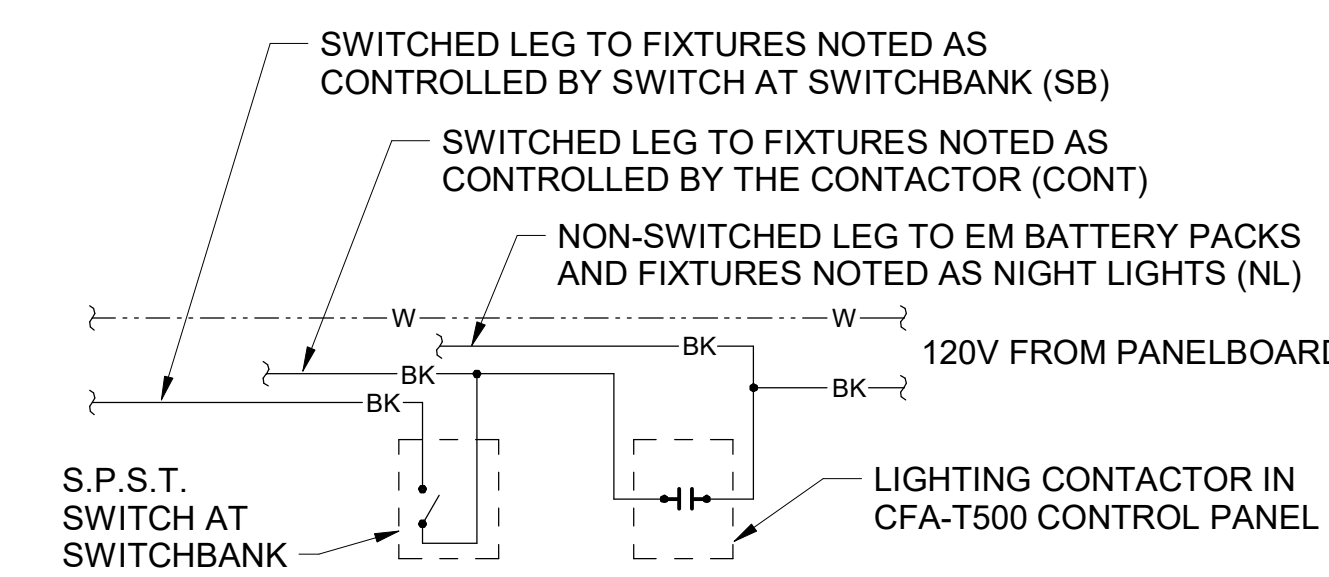
D4 PIN & SLEEVE BOX DETAIL
NO SCALE



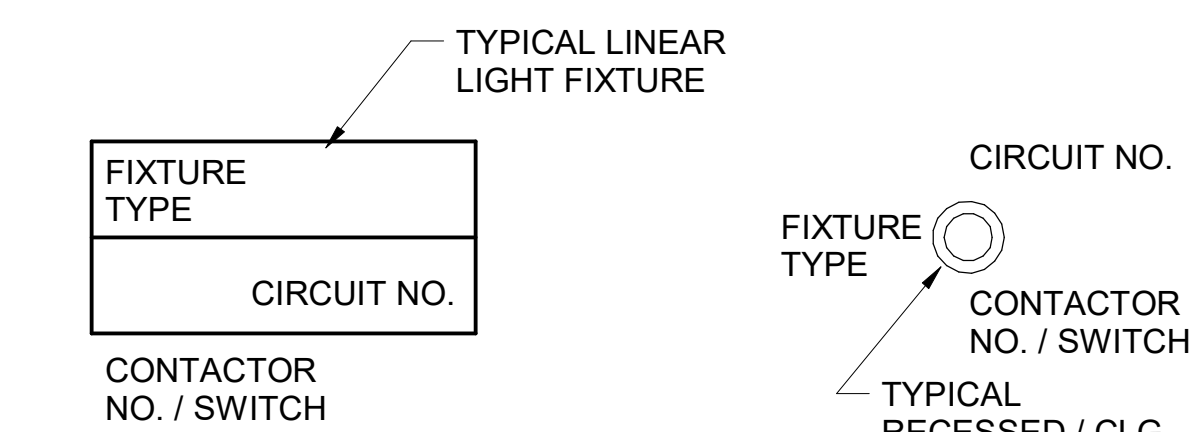
D3 OPEN-CLOSED CONTROL SWITCH
NO SCALE



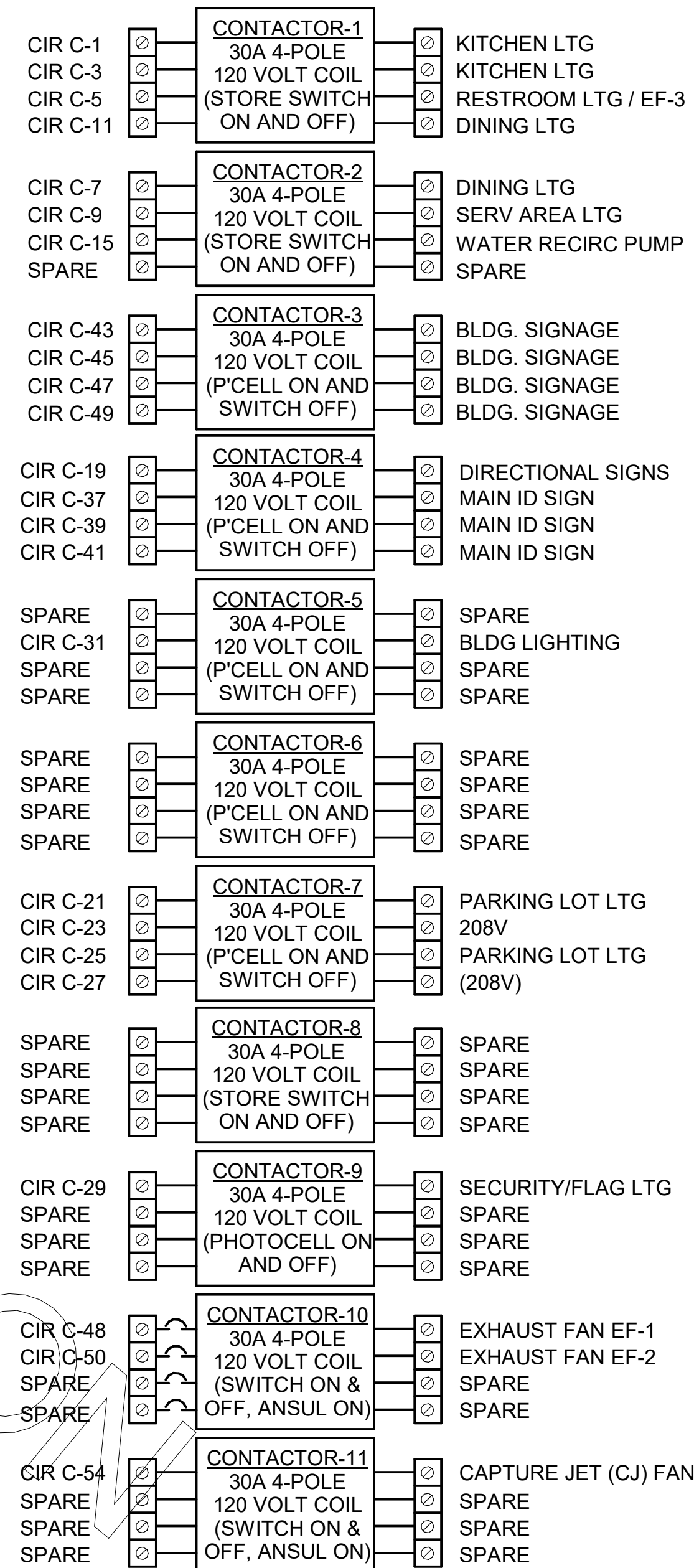
C4 DETAIL - INVERTER XD WIRING DIAGRAM
NO SCALE



B4 LIGHTING CONTROL DIAGRAM
NO SCALE



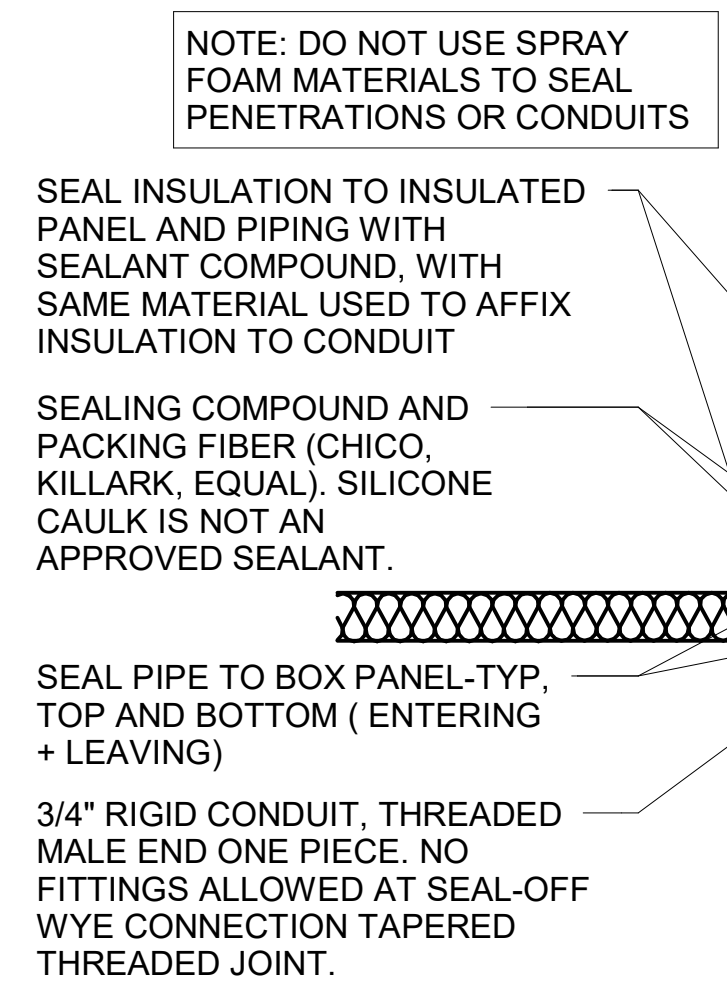
A4 LIGHT FIXTURE NOMECLATURE
NO SCALE



NOTES:
1) VERIFY WITH SUNCOAST ENVIRONMENTAL CONTROLS' SHOP DRAWINGS.
2) ONLY THE 'HOT' CONDUCTOR OF EACH CIRCUIT SHALL BE RUN THRU THE CONTACTOR.
3) ANY TAPS OR WIRING CONNECTIONS OTHER THAN TO THE TERMINALS SHALL BE DONE IN A JUNCTION BOX OUTSIDE OF THIS CABINET.
4) VERIFY WITH THE LOCAL CODE IF CONTACTORS #10 AND #11 WILL BE ON OR OFF WHEN THE ANSUL SYSTEM IS INITIATED.
5) CIRCUITS C-49, C-25, AND C-27 WILL BE SPARES IF NOT NEEDED.

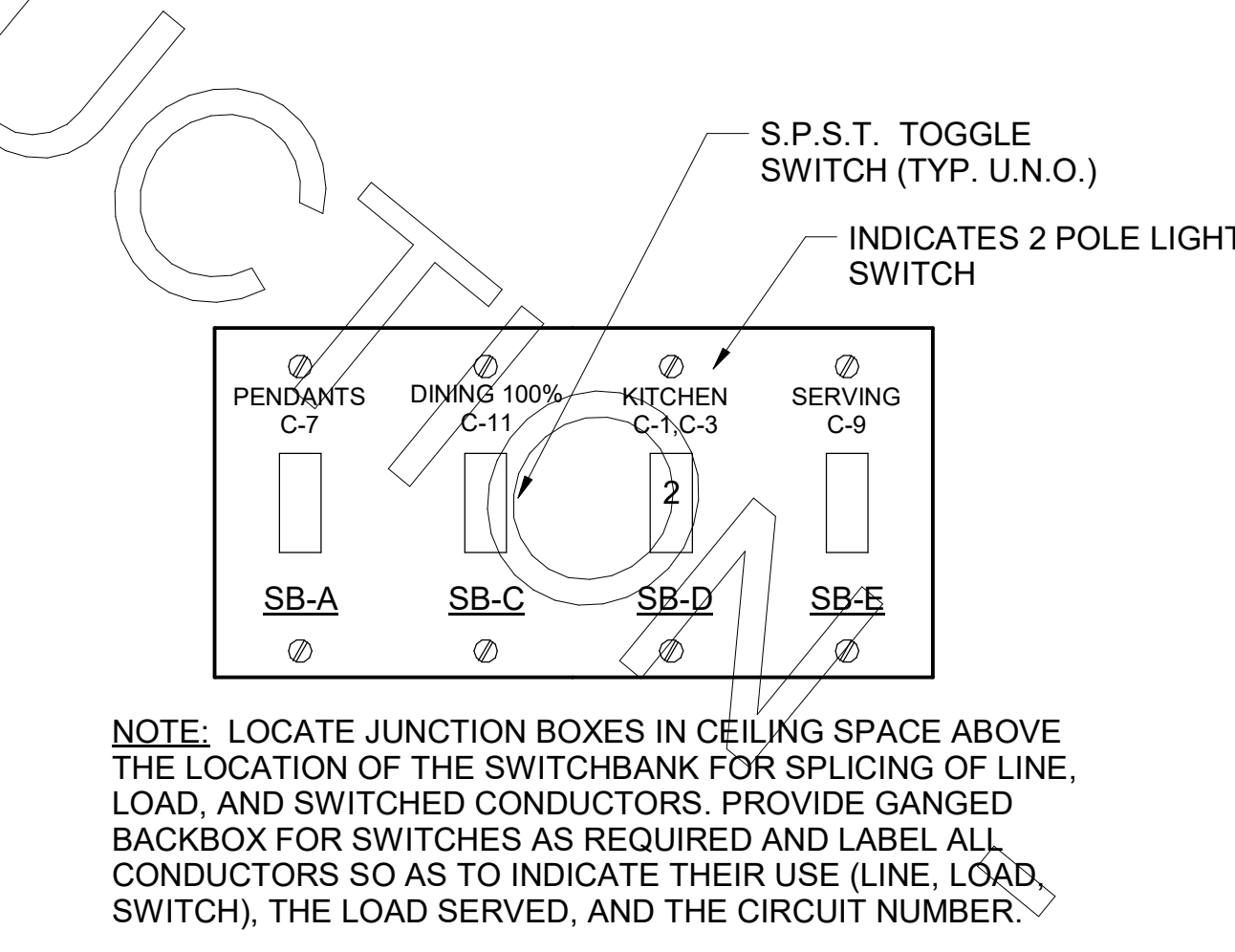
PER FBEC 2020
CONTRACTOR SHALL COORDINATE WITH SUNCOAST ON PROVIDING AN AUTOMATIC TIME SWITCH THAT COMPLIES WITH SECTION C-405.2.2.1

C2 CFA-T500 CONTROL PANEL DIAGRAM
NO SCALE

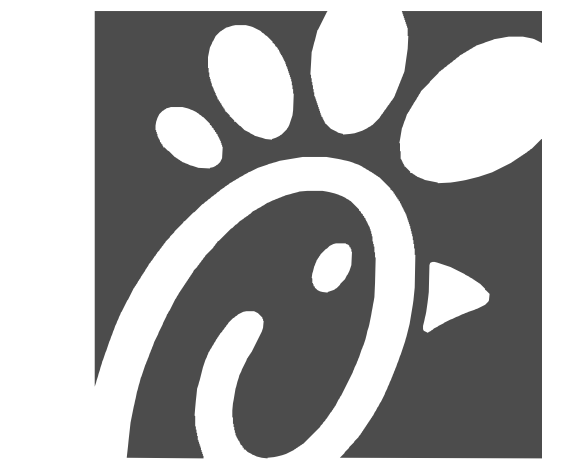


A2 WIC/WIF SEAL-OFF DETAIL
NO SCALE

C1 ELECTRICAL LEGEND					
SYMBOL	DESCRIPTION	MTG HT AFF TO CL	SYMBOL	DESCRIPTION	MTG HT AFF TO CL
LIGHTING FIXTURES			MISCELLANEOUS SYMBOLS		
[Symbol]	SURFACE MOUNTED LIGHTING FIXTURE		[Symbol]	GROUND	
[Symbol]	RECESSED LED TROFFER LIGHTING FIXTURE		[Symbol]	MOTOR	
[Symbol]	SURFACE MOUNTED LED LIGHTING FIXTURE		[Symbol]	EXHAUST FAN MOTOR	
[Symbol]	RECESSED LED LIGHTING FIXTURE		[Symbol]	JUNCTION BOX	
[Symbol]	WALL MOUNTED LIGHTING FIXTURE. SEE LIGHTING FIXTURE SCHEDULE	AS NOTED	[Symbol]	CONDUIT AND WIRE 'MARK' NUMBER. REFER TO CONDUCTORS AND CONDUIT SCHEDULE FOR SIZE	
[Symbol]	WALL MOUNTED EXIT SIGN. SHADE INDICATES FACES. PROVIDE CHEVRON DIRECTIONALS WHEN NEEDED	6" FROM CEILING TO TOP	[Symbol]	KITCHEN EQUIPMENT 'MARK' NUMBER. REFER TO KITCHEN EQUIPMENT SCHEDULE FOR REQUIREMENTS	
[Symbol]	CEILING MTD EXIT SIGN. SHADING INDICATES FACES. PROVIDE W/ CHEVRON DIRECTIONALS WHEN NEEDED		[Symbol]	NOTE NUMBER	
[Symbol]	COMBO EXIT WITH TWO LAMPHEADS		[Symbol]	HOOD EXTINGUISHING ANSUL PULL STATION	
[Symbol]	WALL MTD EMERGENCY BATTERY PACK LIGHTING FIXTURE	AS NOTED	[Symbol]	SMOKE DETECTORS REMOTE STATUS INDICATOR W/ 1/2" STUB-UP	
[Symbol]	CEILING MTD EMERGENCY BATTERY PACK LIGHTING FIXTURE		[Symbol]	PUSHBUTTON	
[Symbol]	FLUORESCENT STRIP LIGHTING FIXTURE		[Symbol]	BELL, TYPE AS NOTED ON PLANS	
[Symbol]	WALLWASHER TYPE RECESSED DOWNLIGHT, AIM LIGHT TOWARD WALL		[Symbol]	PHOTO-ELECTRIC CELL	
[Symbol]	RECESSED LIGHTING FIXTURE W/ EMERGENCY BATTERY PACK		[Symbol]	TRANSFORMER / DRIVER	
[Symbol]	PENDANT LIGHTING FIXTURE	AS NOTED	[Symbol]	LOCKABLE SINGLE POLE SWITCH	
[Symbol]	LIGHTING TRACK WITH TRACK HEADS		ABBREVIATIONS		
WIRING DEVICES			AFF	ABOVE FINISHED FLOOR	
[Symbol]	120 VOLT DUPLEX RECEPTACLE, 20 AMPS U.O.N.	14" UON	AFG	ABOVE FINISHED GRADE	
[Symbol]	120 VOLT DUPLEX AT SPECIAL MTD HEIGHT, 20 AMPS U.O.N.	44" UON	AHU	AIR HANDLING UNIT	
[Symbol]	120 VOLT QUADRUPLEX RECEPTACLE, 20 AMPS U.O.N.	14" UON	C	CONDUIT	
[Symbol]	120 VOLT QUAD. AT SPECIAL MTD HEIGHT, 20 AMPS U.O.N.	44"	CL	CENTER-LINE	
[Symbol]	120 VOLT SIMPLEX RECEPTACLE, 20 AMPS U.O.N.	14" UON	CT	CONTACTOR	
[Symbol]	SINGLE SPECIAL PURPOSE RECEPT W/ VOLTS, AMPS, & PHASE AS NOTED. NEMA CONFIGURATION AS REQUIRED BY EQUIP. RECEPTACLE MOUNTED ON DROP CORD, 120 VOLT, 20 AMP. UON. OUTLET BOX FLUSH WITH CEILING	14" UON	EF	EXHAUST FAN	
[Symbol]	SINGLE POLE TOGGLE SWITCH	48"	FLA	FULL LOAD AMPS	
[Symbol]	DOUBLE POLE TOGGLE SWITCH	48"	GF/GFI	GROUND FAULT CIRCUIT INTERRUPTER	
[Symbol]	THREE WAY TOGGLE SWITCH	48"	GND/GRD	GROUND	
[Symbol]	MANUAL MOTOR STARTER SWITCH (WP=NEMA 3R)	48"	HT	HEIGHT	
[Symbol]	SWITCH WITH PILOT LIGHT (ON WHEN SWITCH IS ON)	48"	IG	ISOLATED GRD, PROVIDE ORANGE DEVICE WHEN ADJACENT TO WIRING DEVICE	
[Symbol]	KEY OPERATED SWITCH	48"	MOCP	MAXIMUM OVER-CURRENT PROTECTION	
CONDUIT/RACEWAYS			MUA	MAKE UP AIR UNIT	
[Symbol]	CONDUIT CONCEALED ABOVE CEILING OR IN WALL		NEC	LOCALLY ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70)	
[Symbol]	CIRCUIT HOMERUN TO PANELBOARD W/ MIN 2#12, 1#12G, 3/4" C		NL	NIGHT LIGHT (ON 24 HOURS)	
[Symbol]	CONDUIT TURNING UP		OC	ON CENTER	
[Symbol]	CONDUIT TURNING DOWN		POS	POINT OF SALE EQUIPMENT	
[Symbol]	CONDUIT CONCEALED IN OR BELOW SLAB (OR UNDERGROUND)		RTU	ROOF TOP UNIT	
[Symbol]	FLEXIBLE LIGHT FIXTURE WHIP; SIX FOOT MAXIMUM LENGTH		TB	TERMINAL BLOCK	
[Symbol]	METAL CLAD CABLE ASSEMBLY - ONLY WHERE INDICATED ON DWGS OR SPECS		TL	TWIST-LOCK TYPE DEVICE	
DISTRIBUTION EQUIPMENT			TR	TAMPER-RESISTANT	
[Symbol]	NON-FUSIBLE SAFETY SWITCH, SIZE AND TYPE AS NOTED ON PLANS (AMP/POLES/ENCLOSURE) OR ON SCHEDULE. NEMA 1 ENCLOSURE UNLESS NOTED WP FOR NEMA 3R ENCLOSURE.	6'-6" *	UON	UNLESS OTHERWISE NOTED	
[Symbol]	FUSIBLE SAFETY SWITCH, SIZE & TYPE AS NOTED ON PLANS (AMP/POLES/FUSE AMPS/ENCLOSURE) OR ON SCHEDULE. NEMA 1 ENCLOSURE UNLESS NOTED WP FOR NEMA 3R.	6'-6" *	WP	WEATHERPROOF (NEMA 3R)	
[Symbol]	FLUSH MOUNTED LIGHTING PANELBOARD	6'-6" *	TELEPHONE		
[Symbol]	SURFACE MOUNTED LIGHTING PANELBOARD	6'-6" *	[Symbol]	TELEPHONE OUTLET	18" UON
* 6'-6" DISTANCE IS TO TOP-MOST DISCONNECTING DEVICE OR HIGHEST POSITION OF OPERATING HANDLE OF DISCONNECTING DEVICE			[Symbol]	TELEPHONE OUTLET AT SPECIAL MOUNTING HEIGHT	60" UON
			NOTE: EACH TELEPHONE OUTLET (FLOOR OR WALL MOUNTED) SHALL BE PROVIDED WITH A 3/4" EMPTY CONDUIT, WITH PULL WIRE, TO ACCESSIBLE CEILING SPACE.		
			CCTV / SECURITY SYSTEM		
			[Symbol]	SECURITY ALARM KEYPAD	
			[Symbol]	SECURITY SYSTEM KEY NOTE	



A1 SWITCH BANK "SB" DETAIL
NO SCALE



Chick-fil-A
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30349-2998

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2705 Lebanon Pike - Suite One
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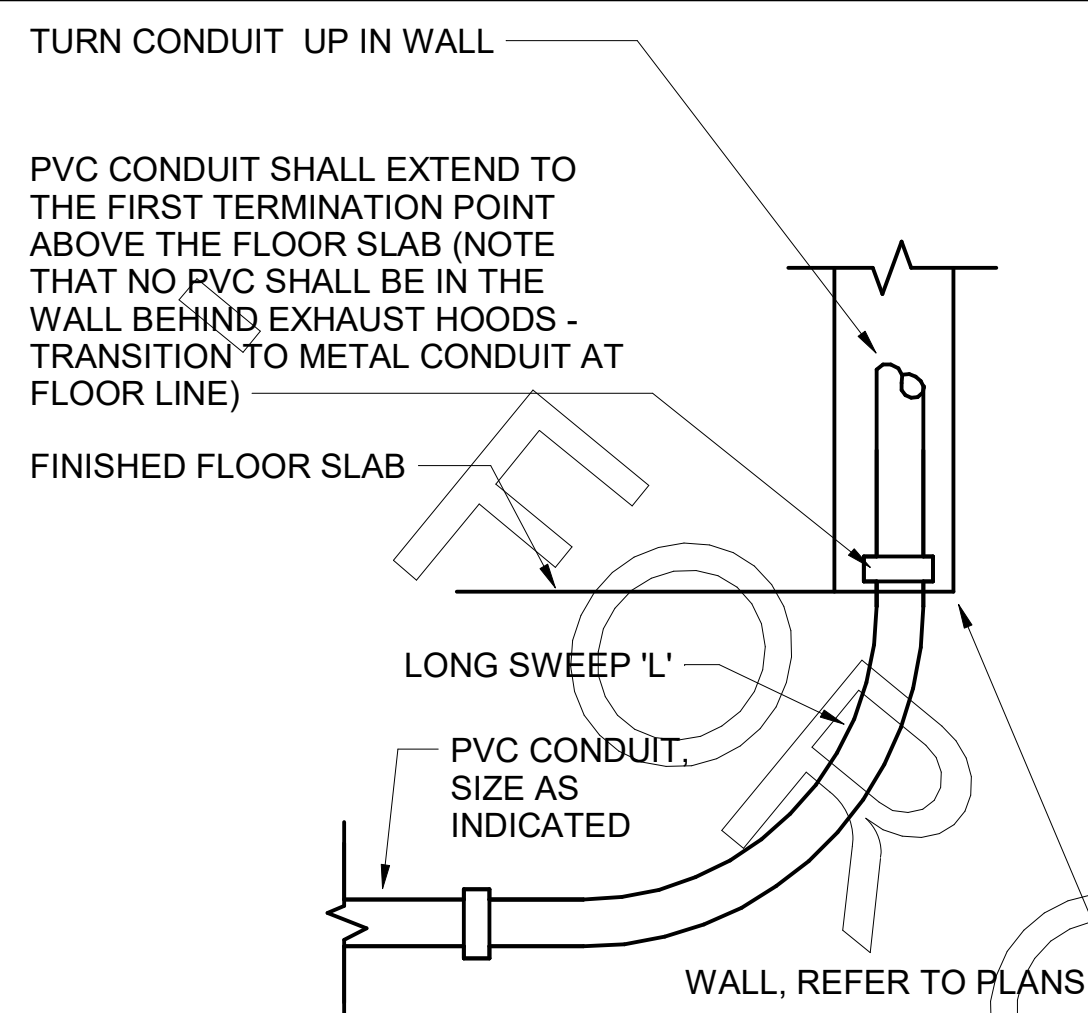
06/01/22

CHICK-FIL-A
Lake Buena Vista
13520 S Apopka Vineland Rd
Orlando, FL 32821

FSR#04907
BUILDING TYPE / SIZE: P13 SE LRG
RELEASE: v2_20_11

NO.	DATE	DESCRIPTION
3	05/11/2022	ISSUED FOR BID

CONSULTANT PROJECT # 21059.MA.S
PRINTED FOR IFC
DATE 09/01/2021
DRAWN BY BTS
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ELECTRICAL SCHEDULES AND DETAILS
SHEET NUMBER



D4 INTERIOR PVC CONDUIT DETAIL

NO SCALE

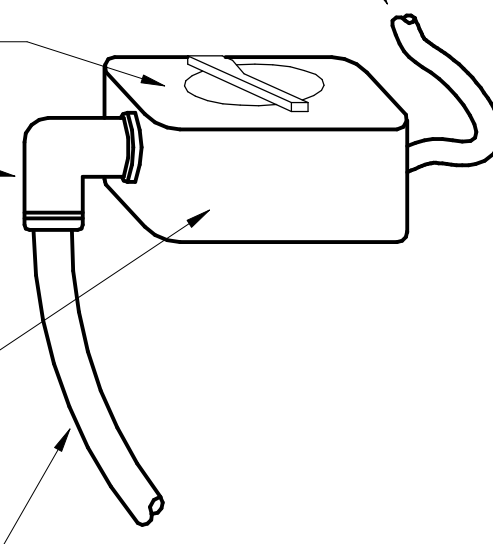
EQUIPMENT ITEM'S ELECTRICAL CORD TO BE CONNECTED TO THE BELL BOX MOUNTED ON THE TOP-REAR OF THE ITEM

COOPER #S2983 NON-METALLIC WEATHER -PROOF TYPE SWITCH COVER (TO REDUCE ADDITIONAL BUMPING AND TURNING POWER OFF) WITH SPEC GRADE SWITCH BEHIND COVER (SEE SECTION 16141 IN THE ELECTRICAL SPECIFICATIONS)

FLEXIBLE CONDUIT ELBOW CONNECTOR

SURFACE MOUNTED SINGLE GANG BELL BOX MOUNTED TO THE TOP-REAR OF THE EQUIPMENT ITEM AT THE POINT OF THE POWER CONNECTION

FLEXIBLE LIQUID-TIGHT METAL CONDUIT FROM OEP DROP CORD BOX FLUSH IN CEILING BOX TO THE KITCHEN EQUIPMENT ITEM (FIELD VERIFY LENGTH OF FLEX CONDUIT REQUIRED)



C4 DIRECT CONNECTION - ISLAND LOCATION

NO SCALE

EMT CONDUIT WITHIN WALL CAVITY WITH 90 DEGREE BEND AND THREADED FITTING THRU WALL FINISH TO ATTACH TO BACK OF BELL BOX

SURFACE MOUNTED SINGLE GANG BELL BOX

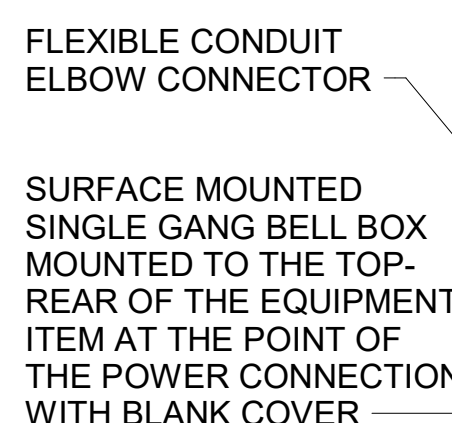
COOPER #S2983 NON-METALLIC WEATHER -PROOF TYPE SWITCH COVER (TO REDUCE ADDITIONAL BUMPING AND TURNING POWER OFF) WITH SPEC GRADE SWITCH BEHIND COVER (SEE SECTION 16141 IN THE ELECTRICAL SPECIFICATIONS.)

FLEXIBLE CONDUIT CONNECTOR

6 FOOT FLEXIBLE LIQUID-TIGHT METAL CONDUIT FROM SURFACE BOX TO THE KITCHEN EQUIPMENT ITEM. (THE CORDSET PROVIDED WITH THE EQUIPMENT ITEM MUST BE REMOVED. THE CORD CANNOT BE USED FOR THE DIRECT CONNECTION PER NEC 400.7(B) WHICH REQUIRES A CORD TO BE EQUIPPED WITH AN ATTACHMENT PLUG AND ENERGIZED FROM THE RECEPTACLE OUTLET)

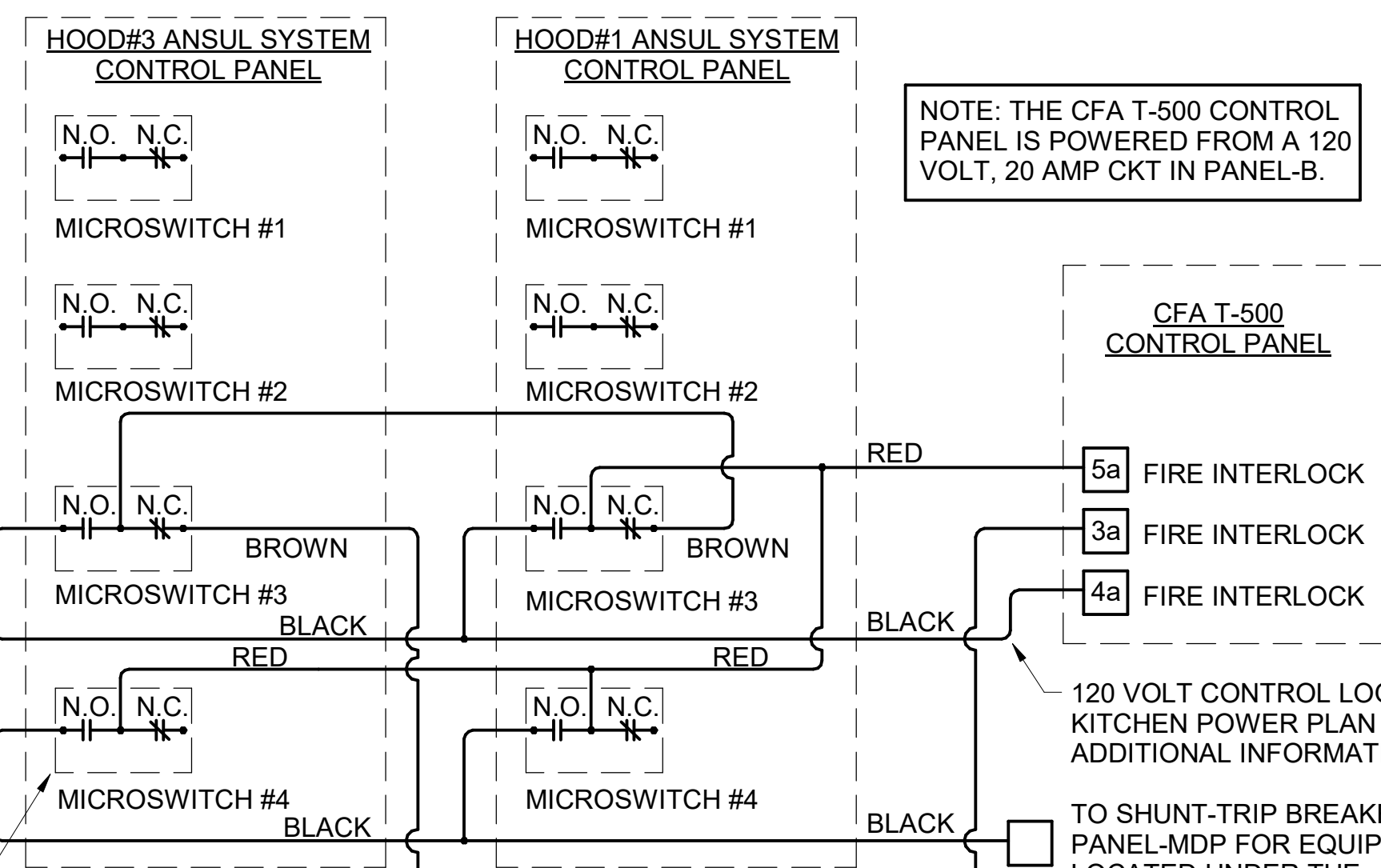
EQUIPMENT ITEM'S ELECTRICAL CORD TO BE CONNECTED TO THE BELL BOX MOUNTED ON THE TOP-REAR OF THE ITEM

88" FROM FLOOR TO CENTERLINE OF BOX



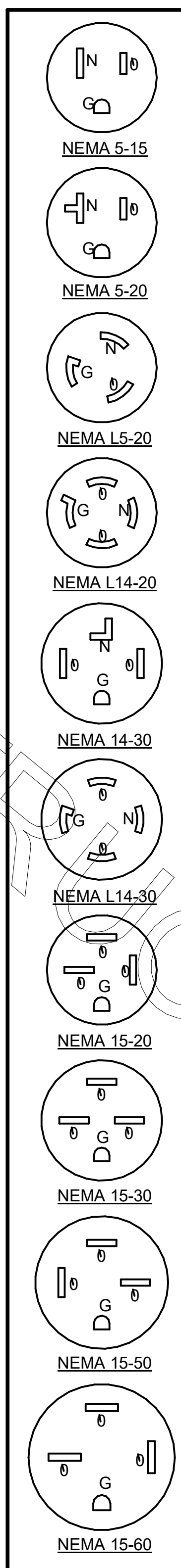
B4 DIRECT CONNECTION -WALL LOCATION

NO SCALE



A3 ANSUL SYSTEM PANEL WIRING DIAGRAM

NO SCALE



KITCHEN EQUIPMENT SCHEDULE NOTES

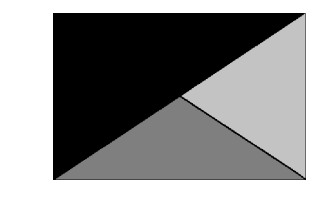
- ALL SO CORD LENGTHS SHALL BE MEASURED FROM THE REAR OF THE EQUIPMENT TO THE END OF THE CORD.
- CONTRACTOR SHALL PROVIDE GROUND-FAULT PROTECTION FOR ALL 120 VOLT 15 AMP AND 20 AMP RECEPTACLES IN THE KITCHEN / FOOD PREPARATION AREAS. GROUND-FAULT PROTECTION SHALL BE PROVIDED AT THE RECEPTACLE AS A GFCI TYPE RECEPTACLE UNLESS NOTED OTHERWISE ON THE PLANS WHERE A GFCI TYPE BREAKER IS INDICATED.
- PROVIDE GFCI TYPE BRANCH BREAKER FOR KITCHEN / FOOD PREPARATION AREA RECEPTACLES THAT ARE TWIST-LOCK, CLOCK STYLE, OR IG (ISOLATED GROUND) TYPE.

KITCHEN EQUIPMENT SCHEDULE - CHICK-FIL-A P13 EDITION

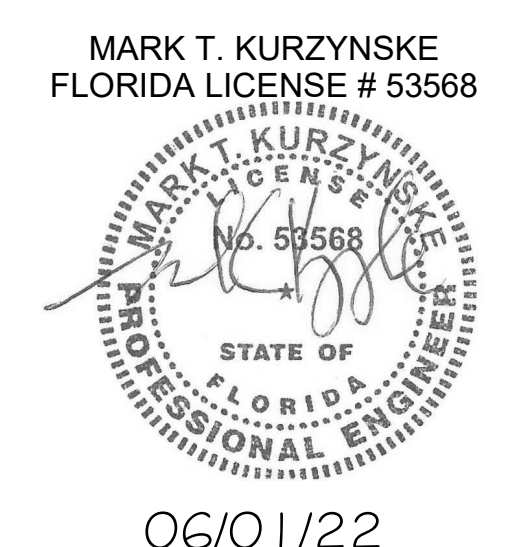
ITEM NO.	DESCRIPTION OF EQUIPMENT	VOLTS	PH	KW	AMPS	NEMA-RATING	COMMENTS AND REMARKS
120	HOT HOLDING CENTERLINE TABLE	120/208	3	3.20	16.00	DIRECT CONNECTION	60 AMP SERVICE REQUIRED TO POWER TABLE AND ADDITIONAL EQUIPMENT EXCEPT POS - ORDER WITH ITEM #27807900
120a	COLD CENTERLINE TABLE	120/208	3	0.78	6.5	DIRECT CONNECTION	60 AMP SERVICE REQUIRED TO POWER TABLE & ADDITIONAL EQUIPMENT EXCEPT POS - ORDER W/ ITEM #27808160
120c	TOASTER CENTERLINE TABLE	120/208	3			DIRECT CONNECTION	60 AMP SERVICE REQUIRED TO POWER TABLE & ADDITIONAL EQUIPMENT EXCEPT POS - ORDER W/ITEM #27802293
120d	CENTERLINE UNDERCOUNTER REFRIGERATOR	115	1	0.58	5	5-15P	LOCATED UNDER ITEM #120a - FRANKIE COLD TABLE CIRCUIT #1
180	ORDER REGISTER	120	1			5-20P	
182	RECEIPT PRINTER	other	1	1.80		5-20P	PROVIDED WITH 120V/24V POWER SUPPLY ADAPTER FOR USE WITH 120V IG OUTLET
182L	LABEL PRINTER	other	1	1.70		5-20P	PROVIDED WITH 120V/24V POWER SUPPLY ADAPTER FOR USE WITH 120V IG OUTLET
183	ORDER MONITOR	120	1	0.125		5-20P	
184	IPAD	120	1	0.120	1.00	5-20P	PROVIDED BY CONNECTION
184T	ITIMER	120	1	0.120	1.00	5-20P	PROVIDED BY CLARK
190	DRIVE-THRU VIDEO MONITOR	120	1	0.8		5-20P	
211B	FLY SYSTEM	120	1	0.078	0.65	5-15P	CLOCK STYLE RECEPTACLE REQUIRED
211C	FLY SYSTEM	120	1	.03	.25	5-15P	RE: ARCHITECTURAL SHEETS FOR MOUNTING DETAILS
269	ANSUL FIRE SUPPRESSION SYSTEM	120	1		VERIFY	DIRECT CONNECTION	REMOTE CABINET - REFER TO SHOP DRAWINGS - FED FROM CFA-T500 PANEL
270	ANSUL FIRE SUPPRESSION SYSTEM	120	1		VERIFY	DIRECT CONNECTION	LOCATED ABOVE HOOD - BEHIND CLOSURE PANEL - REFER TO SHOP DRAWINGS - FED FROM CFA-T500 PANEL
300aR	MILKSHAKE BASE DISPENSER	120	1		4.00	5-20P	MOUNTED ON ITEM #300b
300X	DOUBLE BARREL ICE CREAM MACHINE	208	3	19.00/15.00		15-30P/15-20P	PROVIDED WITH HUBBELL HBL8432C & HBL8421C ANGLE PLUGS
305	TEA BREWER	120	1	1.65	13.8	5-15P	PROVIDE QUICK DISCONNECT HOSES
308	SINGLE COFFEE MAKER	208	1	4.0	19.2	L14-30P	PROVIDE QUICK DISCONNECT HOSES
309	SINGLE LEMONADE BUBBLER	120	1		3.60	5-15P	ORDER (1) #3CRA015 BOWL KIT AND (1) #3CRA017 BASE PER BUBBLER
309R	SINGLE LEMONADE BUBBLER	120	1		3.60	5-15P	
310	DOUBLE LEMONADE BUBBLER	120	1		8.50	5-15P	ORDER (1) #3CRA016 BOWL KIT AND (1) #3CRA018 BASE PER BUBBLER AND ORDER TOTAL OF (1) #3CRA021 SET OF (2) 2.4 GAL BOWLS
310R	DOUBLE LEMONADE BUBBLER	120	1		8.50	5-15P	
315W	10-HEAD BEVERAGE DISPENSER WITH ICE BIN	115	1		10.00	5-15P/5-15P	PROVIDED WITH (2) CORDS AND PLUGS PER TOWER
320	TURBO CARBONATOR	115	1		6.2	5-20P	ORDER (8) #44231, (3) #44233, (8) DR. PEPPER PUMPS, & (3) #T5274SN-01
363	HIGH-TEMP UPRIGHT DISHWASHER	208	3		46.00	DIRECT CONNECTION	PROVIDED WITH DRAIN WATER TEMPERING KIT
380	ICE MACHINE	115	1	0.600	5.00	5-15P	INSTALLED ON TOP OF ICE BIN - PROVIDED WITH 6 FT CORD AND 35 FT LINE SETS
380a	ICE BIN SANITATION SYSTEM	120	1	0.0096		5-15P	INSTALLED ON WALL ABOVE ICE BIN - SHARES DUPLEX WITH (1) ICE MACHINE
380C	ICE MACHINE REMOTE CONDENSING UNIT	208	3	3.100	14.20	DIRECT CONNECTION	AIR COOLED UNIT - GC SHALL PLACE AND INSTALL CONDENSER ON ROOF - NOT SHOWN ON DRAWINGS
380CD	ICE MACHINE REMOTE CONDENSING UNIT	208	3	3.600	15.70	DIRECT CONNECTION	AIR COOLED UNIT - GC SHALL PLACE AND INSTALL CONDENSER ON ROOF - NOT SHOWN ON DRAWINGS
380D	ICE MACHINE	115	1	0.368	5.00	5-15P	INSTALLED ON TOP OF ICE BIN - PROVIDED WITH 6 FT CORD AND 35 FT LINE SETS
400LR	SINGLE UPRIGHT FREEZER (30" WIDE)	115	1	1.100	9.40	5-15P	
400T	SINGLE UPRIGHT FREEZER (30" WIDE)	115	1	1.100	9.40	L5-15P (BY EC)	HINGE RIGHT - PROVIDE FINISHED BACK - ORDER ON 4 5/8 IN CASTERS - EC TO CHANGE PLUG TO TWIST LOCK
410	WALK-IN FREEZER	120	1		3.3	DIRECT CONNECTION	ORDER WITHOUT FLOOR - REFER TO LIGHTING PLAN
410a	WALK-IN FREEZER CONDENSER	208	3		16.30	DIRECT CONNECTION	GC SHALL INSTALL CONDENSER ON ROOF - NOT SHOWN ON DRAWINGS
410b	WALK-IN FREEZER EVAPORATOR	208	1		1.50	DIRECT CONNECTION	POWER FED FROM CONDENSER
420	SINGLE UNDERCOUNTER REFRIGERATOR	115	1	0.564	4.7	5-20P	HINGE RIGHT - ORDER ON 4" CASTERS
420L	SINGLE UNDERCOUNTER REFRIGERATOR	115	1	0.564	4.7	5-20P	HINGE LEFT - ORDER ON 4" CASTERS
421R	DOUBLE UNDERCOUNTER REFRIGERATOR	115	1	0.756	6.30	5-15P	
422	REFRIGERATED EQUIPMENT STAND (48")	115	1	0.80	6.70	5-15P	PROVIDED W/9" CORD - ORDER ON 4" CASTERS
431	DOUBLE REFRIGERATED WORK TABLE	115	1	0.756	6.30	5-15P	ORDER ON 6" CASTERS WITH BACKSPASH TOP
431T	DOUBLE REFRIGERATED WORK TABLE	115	1	0.756	6.30	L5-15P (BY EC)	EC TO CHANGE PLUG TO TWIST LOCK - ORDER ON 6 IN CASTERS WITH BACKSPASH TOP
432T	DOUBLE REFRIGERATED WORK TABLE	115	1	0.756	6.30	L5-20P (BY EC)	EC TO CHANGE PLUG TO TWIST LOCK - ORDER ON 6 IN CASTERS WITH BACKSPASH TOP
440CT	ICE BATH BREADING TABLE	120	1		1.00	L5-15P (BY EC)	EC TO CHANGE PLUG TO TWIST LOCK - 10 FT CORD AND PLUG - LEAF INCLUDED WITH TABLE - INSTALL IF SHOWN ON PLANS
441	SALAD PREP TABLE	120	1		9.0	NEMA 5-15R	PROVIDE WITH TWIST LOCK PLUG; ORDER ON 4" CASTERS WITH PAN PKG.; SESC TO PROVIDE PAN PKG.
442WCL	SINGLE UPRIGHT REFRIGERATOR (30" WIDE)	115	1		7	L5-15P (BY EC)	HINGE LEFT - PROVIDE FINISHED BACK - ORDER ON 6 IN CASTERS - EC TO CHANGE PLUG TO TWIST LOCK
444D	DOUBLE THAWING CABINET (52" WIDE)	115	1		16.00	DIRECT CONNECTION	HINGE STANDARD - GC TO INSTALL LIQUID TIGHT FLEX CONDUIT - ORDER ON 6 IN CASTERS
449	WALK-IN COOLER	120	1		2.4	DIRECT CONNECTION	ORDER WITHOUT FLOOR - REFER TO LIGHTING PLAN
449a	WALK-IN COOLER CONDENSER	208	3		9.50	DIRECT CONNECTION	GC SHALL INSTALL CONDENSER ON ROOF - NOT SHOWN ON DRAWINGS
449b	WALK-IN COOLER EVAPORATOR	208	1	0.110	1.00	DIRECT CONNECTION	POWER FED FROM CONDENSER
500A	VERTICAL CONTACT TOASTER	120	1	1.8	15.0	5-15P	LOCATED ON ITEM #120c - FRANKIE TOASTER TABLE CIRCUITS #1 & #2
500B	RADIANT TOASTER	208	1	5.5	24.0	L6-30P	LOCATED ON ITEM #120c - FRANKIE TOASTER TABLE CIRCUITS #3 & #4 - PROVIDED W/ TWIST LOCK PLUG
503	EGG STATION	208	1	2.5	12.5	6-20P	
505VT	VECTOR OVEN	208	3	7.90	22.00	L15-30P (BY EC)	HINGE RIGHT - EC TO CHANGE PLUG TO TWIST LOCK
522	OPEN FRYER	208	3	22.0	61.0	PIN&SLEEVE	PIN&SLEEVE PROVIDED WITH EQUIPMENT AND RECEPTACLE BOX PROVIDED WITH HALTON ITEMS
522A	DOUBLE OPEN FRYER	208	3	22.0/22.0	61/61	PIN & SLEEVE	PIN & SLEEVE PROVIDED W/EQUIPMENT & RECEPTACLE BOX PROVIDED W/HALTON ITEMS - (1) POWER CONNECTION PER WELL
523	PRESSURE FRYER	208	3		15-50P		PROVIDED WITH 6 FT CORD AND PLUG
524R	DUAL SIDE CLAMSHELL GRILL	208	3	3.3	24.1/28.2/23.1	15-50P	
550	DOUBLE WARMING DRAWER	120	1	0.900	7.83	5-15P	ON CASTERS - LOCATED UNDER ITEM #120 - FRANKIE HOT HOLDING TABLE CIRCUITS #2 AND #3
560	FRY HOLDING STATION	120	1	1.90	15.4	5-20P	
563D	DOUBLE TIER SANDWICH SLIDE	120	1	1.09	9.13	5-15P	CORD EXITS RIGHT - 6' CORD AND PLUG
563SL	SINGLE TIER SANDWICH SLIDE	120	1	0.548	4.56	5-15P	CORD EXITS LEFT - 6' CORD AND PLUG
564	VISUAL HOT HOLDING CABINET (2x4)	120	1	1.32	11.1	5-15P	LOCATED ON ITEM #120a - FRANKIE COLD TABLE CIRCUIT #2 - ORDER WITH LIDS/TRAY SEALS, AMBER PANS, & FALSE BOTTOMS
565C	FOOD COOKER/WARMER	120	1	1.500	12.50	5-15P	ORDER WITH (1) 3VOL042, (2) 3VOL043, (8) 3VOL051, AND (8) 3VOL061
580R	VISUAL HOT HOLDING CABINET	120	1	2.88	24	L5-30P	
592R	RETHERMALIZER	208	3	8.000	22.00	15-30P	
600	MIXER	120	1		8.0	L5-20P	E.C. TO CHANGE PLUG TO TWIST LOCK - ORDER WITH 3HOB405, 3HOB061, 3HOB318, 3HOB319, & 3HOB058
607	COUNTER TOP LEMON JUICER	115	1			5-15P	LOCATED ON ITEM #606
669	OFFICE SAFE	120	1			5-20P	INSTALL SAFE PER MANUFACTURER'S WRITTEN INSTRUCTIONS
672	DIGITAL MENU BOARD	120	1			5-15P	PROVIDED BY COATES



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FSR#04907
BUILDING TYPE / SIZE: P13 SE LRG
RELEASE: v2_20_11

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

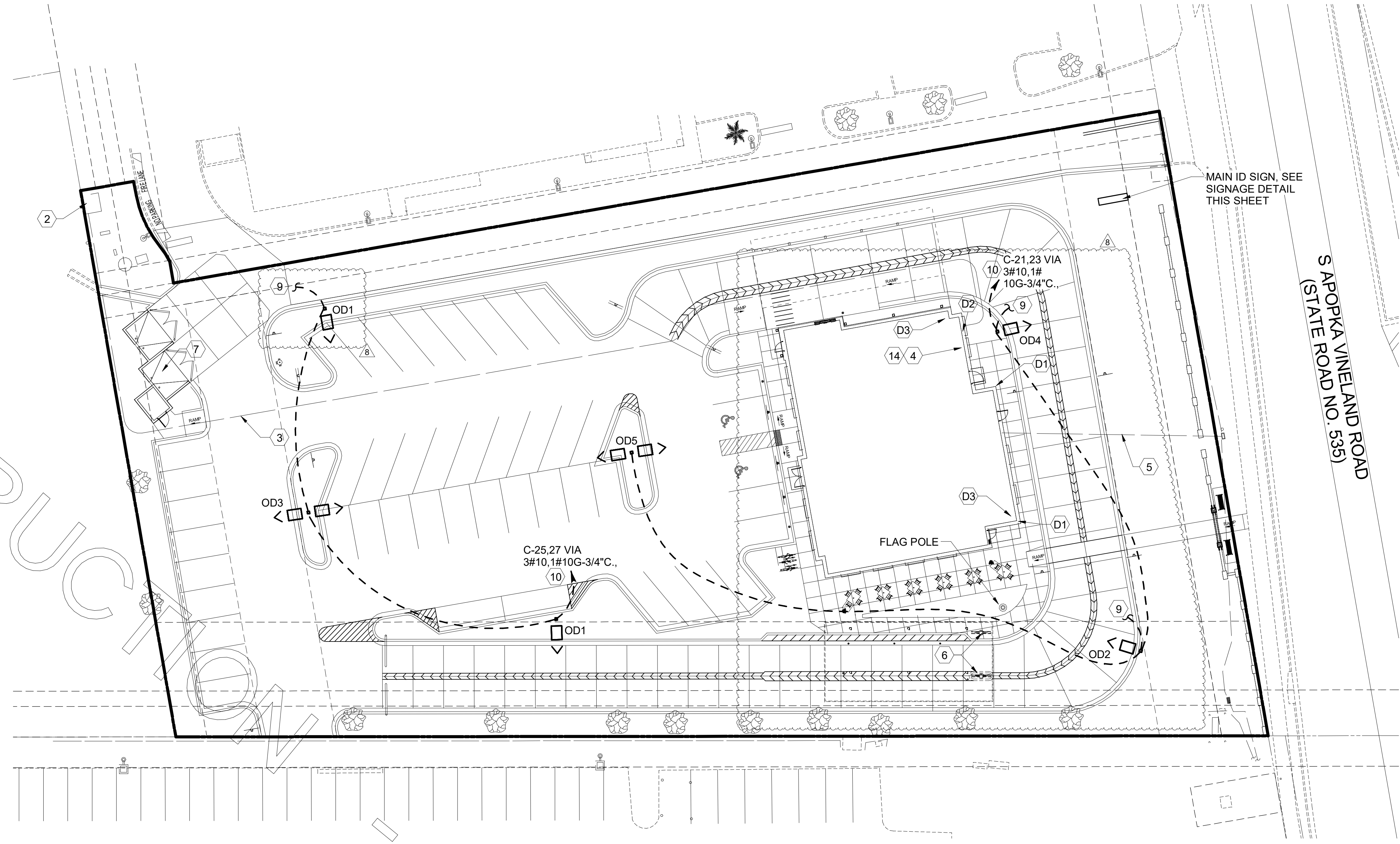
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SHEET ELECTRICAL SCHEDULES AND DETAILS
SHEET NUMBER

ELECTRICAL SITE PLAN KEYNOTES

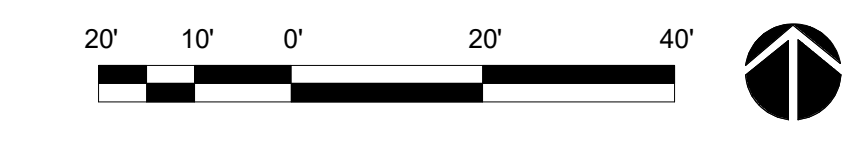
- 1 NOT USED.
- 2 EXISTING LOCATION OF PAD MOUNTED TRANSFORMER FURNISHED BY THE ELECTRICAL UTILITY COMPANY. COORDINATE WITH UTILITY COMPANY FOR REQUIREMENTS.
- 3 PROPOSED LOCATION OF SECONDARY UNDERGROUND ELECTRICAL UTILITY LINES. PROVIDE SECONDARY SERVICE LATERAL FROM UTILITY TRANSFORMER TO PANEL 'MDP' VIA THE CURRENT TRANSFORMER CABINET. SEE SHEET E-502, "SINGLE-LINE DIAGRAM". REFER TO "ELECTRICAL SERVICE LATERAL CONDUIT DETAIL", SHEET E-101, FOR ADDITIONAL INFORMATION.
- 4 LOCATION OF TERMINATION OF SECONDARY SERVICE LATERAL AT PANEL 'MDP'. REFER TO "SINGLE-LINE DIAGRAM" ON SHEET E-502 FOR ADDITIONAL INFORMATION.
- 5 A. PROVIDE TWO 2" SCH. 40 PVC CONDUIT (ONE IS A SPARE), MINIMUM 24" BELOW FINISHED GRADE, FOR TELEPHONE SERVICE FROM TELEPHONE UTILITY SOURCE TO JUNCTION BOX INSIDE THE BUILDING. REFER TO SHEET E-302 FOR LOCATION OF JUNCTION BOX IN SERVICE AREA. REFER TO "TELEPHONE SERVICE CONDUIT DETAIL", SHEET E-101, FOR ADDITIONAL INFORMATION. COORDINATE EXACT LOCATION OF UTILITY SOURCE WITH TELEPHONE UTILITY. TERMINATE CONDUITS AT UTILITY SOURCE AS REQUIRED BY THE UTILITY COMPANY.
 B. PROVIDE ONE 3" SCH. 40 PVC CONDUIT, MINIMUM 24" BELOW FINISHED GRADE, FOR ISP SERVICE FROM UTILITY SOURCE TO JUNCTION BOX INSIDE THE BUILDING. REFER TO SHEET E-302 FOR LOCATION OF JUNCTION BOX IN BUILDING. REFER TO "TELEPHONE SERVICE CONDUIT DETAIL", SHEET E-101, FOR ADDITIONAL INFORMATION. COORDINATE EXACT LOCATION OF UTILITY SOURCE WITH SERVICE SUPPLY COMPANY. TERMINATE CONDUITS AT AS REQUIRED BY THE UTILITY COMPANY.
- 6 REFER TO SHEET E-303 AND E-304 FOR ELECTRICAL REQUIREMENTS AT MENU BOARD AND DRIVE-THRU CANOPY.
- 7 LOCATION OF DUMPSTER. REFER TO "REFUSE ENCLOSURE PLAN - ELECTRICAL", SHEET E-303 FOR ELECTRICAL REQUIREMENTS IN THIS AREA.
- 8 PROVIDE A 12' POLE FOR MOUNTING OF SECURITY CAMERA. POLE TO MATCH SITE LIGHTING POLES IN STYLE AND COLOR.
- 9 PROVIDE UNDERGROUND CONDUIT TO LOCATION WITHIN THE BUILDING FOR POLE MOUNTED SECURITY CAMERA. REFER TO SHEET E-302 FOR LOCATION OF CONDUIT STUB-UP AND REQUIRED SIZE OF CONDUIT. COORDINATE EXACT CAMERA LOCATION WITH CHICK-FIL-A SECURITY SYSTEM REPRESENTATIVE PRIOR TO ROUGH-IN.
- 10 CONNECT AREA LIGHTING CIRCUITS TO TERMINAL BLOCKS LOCATED IN THE "CFA-T500" CONTROL PANEL (TYPICAL). SEE PANEL SCHEDULES ON SHEET E-501.
- 11 CONNECT SITE SIGNAGE CIRCUITS TO TERMINAL BLOCKS LOCATED IN THE "CFA-T500" CONTROL PANEL (TYPICAL). SEE PANEL SCHEDULES ON SHEET E-501. COORDINATE LOCATIONS OF ALL SIGNS WITH CHICK-FIL-A SIGNAGE PLANS PRIOR TO BID AND PRIOR TO CONDUIT INSTALLATION.
- 12 PROVIDE GFCI TYPE WEATHERPROOF RECEPTACLE MOUNTED ON MAIN SIGN SUPPORT +14" AFG. THIS RECEPTACLE SHALL NOT BE SWITCHED. (BYPASS THE CONTACTOR AND SIGN'S DISCONNECT SWITCH.)
- 13 PROVIDE WEATHERPROOF 20A SPST TOGGLE SWITCH 18" AFG AND CONNECTION TO MAINTENANCE DISCONNECT SWITCH FOR MAIN I.D. SIGN.
- 14 PROPOSED LOCATION OF BUILDING MOUNTED ELECTRICAL UTILITY METER. METER BASE WILL BE FURNISHED BY THE UTILITY COMPANY AND INSTALLED BY THE CONTRACTOR. THE CURRENT TRANSFORMER CABINET SHALL BE FURNISHED AND INSTALLED ON THE BUILDING BY THE CONTRACTOR. THE CONTRACTOR SHALL ALSO FURNISH AND INSTALL A 1-1/4" RIGID GALVANIZED CONDUIT BETWEEN METER BASE AND CURRENT TRANSFORMER CABINET. COORDINATE LOCATIONS AND REQUIREMENTS WITH ELECTRIC UTILITY COMPANY PRIOR TO BID.



GENERAL ELECTRICAL SITE PLAN NOTES

1. VERIFY WITH LOCAL AUTHORITIES AND UTILITIES THAT OWNER'S SIGNS, POLES, AND THEIR APPURTENANCES ARE NOT LOCATED ON OR OVER ANY EASEMENT OR MUNICIPAL RIGHT OF WAY.
2. SITE WORK, UTILITY, AND ROADWAY INFORMATION ARE TAKEN FROM BOUNDARY AND TOPO SURVEY SITE PLANS. REFER TO C-DRAWINGS.
3. MINIMUM CONDUIT SIZE SHALL BE 3/4". MINIMUM CONDUCTOR SIZE SHALL BE #10AWG COPPER UNLESS OTHERWISE NOTED.
4. REFER TO BUILDING ELECTRICAL DRAWINGS FOR EXTERIOR LIGHTING CONTROL.
5. FOR WORK UNDER THIS DIVISION, ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ONLY NEW AND U.L. LABELED ELECTRICAL EQUIPMENT, UNLESS INDICATED OTHERWISE BY THE CONTRACT DOCUMENTS.
6. FOR WORK UNDER THIS DIVISION, ELECTRICAL CONTRACTOR SHALL CONTACT ALL UTILITIES FOR VERIFICATION AND IDENTIFICATION OF ALL UNDERGROUND RUNS, PRIOR TO SITE TRENCHING ("CALL BEFORE YOU DIG").
7. FOR WORK UNDER THIS DIVISION, ELECTRICAL CONTRACTOR SHALL PERFORM ALL WORK IN STRICT ACCORDANCE WITH THE CURRENT EDITION OF THE NATIONAL ELECTRIC CODE (NFPA 70), AND THE LIFE SAFETY CODE (NFPA 101), AS ADOPTED AND/OR AMENDED BY STATE AND LOCAL AUTHORITIES HAVING JURISDICTION.
8. FOR WORK UNDER THIS DIVISION, ELECTRICAL CONTRACTOR SHALL COORDINATE AND FIELD VERIFY LOCATIONS OF ALL UTILITY SERVICE RUNS, ORIGINATIONS, TERMINATIONS AND ANY INSTALLATION REQUIREMENTS (I.E. ELECTRICAL, TELEPHONE, WATER, GAS, SEWAGE, ETC.), AS RELATED TO THIS JOB, OR THEREBY EFFECTED.
9. REFER TO SHEETS E-901, & E-902 FOR ELECTRICAL SPECIFICATIONS PERTAINING TO ELECTRICAL WORK DESCRIBED ON THIS SHEET.
10. REFER TO SHEET E-102 FOR AREA LIGHTING FIXTURE SCHEDULE AND SHEET E-211 FOR BUILDING LIGHTING FIXTURE SCHEDULE.

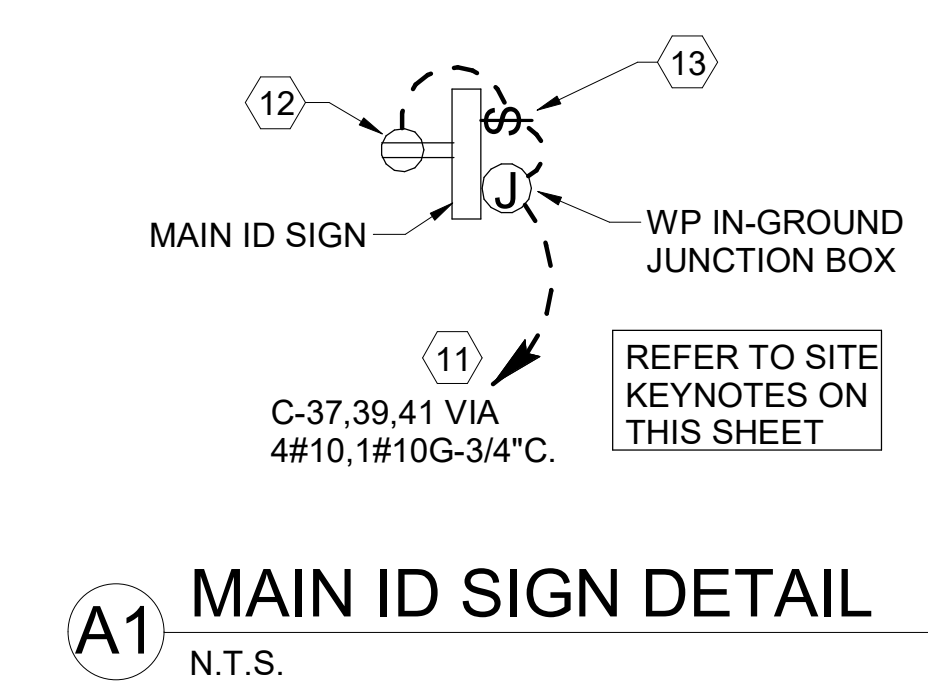
B1 ELECTRICAL SITE PLAN
1" = 20'-0"



POWER/TELEPHONE UTILITIES:
 COORDINATE AND COMPLY WITH ALL TELEPHONE AND ELECTRICAL UTILITY REQUIREMENTS. THE FOLLOWING PERSONS SHALL BE CONTACTED FOR SPECIFIC UTILITY COMPANY REQUIREMENTS:
 ELECTRICAL UTILITY: SEE CIVIL SHEETS
 TELEPHONE UTILITY: SEE CIVIL SHEETS

DT CASH STATION - KEYNOTES
 (APPLIES TO THE ELECTRICAL SITE PLAN ONLY)

- D1 LOCATION OF A 360 DEGREE BUILDING MOUNTED EXTERIOR CAMERA (BY OTHERS). PROVIDE A 3/4" CONDUIT AT 9'-4" AFF TO AN EXTERIOR WALL MOUNTED WP JUNCTION BOX WITH THE CONDUIT ABOVE THE INTERIOR CEILING AND EXTENDED TO AN ACCESSIBLE CEILING AREA FOR CAMERA CABLES BY OTHERS.
- D2 PROVIDE AN EXTERIOR DUPLEX 120V, 20A RECEPTACLE AT 18" AFF WITH 'IN-USE' STYLE LOCKABLE WP COVER AND CONNECT TO A GENERAL PURPOSE 120V RECEPTACLE CIRCUIT.
- D3 PROVIDE A JUNCTION BOX ON THE INSIDE PARAPET WALL ABOVE THE ROOF WITH A 3/4" CONDUIT STUBBED DOWN INTO AN ACCESSIBLE CEILING SPACE AREA BELOW FOR THE OWNER PROVIDED WI-FI EXTERIOR ANTENNAE.



ELECTRICAL SITE PLAN SYMBOLS	
SYMBOL	DESCRIPTION (UNLESS OTHERWISE NOTED ON PLANS)
	UTILITY COMPANY TRANSFORMER, (208 VOLT, 3 PHASE, 4 WIRE SECONDARY)
	S.P.S.T. LIGHT SWITCH (600V AC QUIET TYPE)
	GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE
	CONDUIT HOMERUN TO PANEL
	JUNCTION BOX (SINGLE GANG STEEL WHERE WALL MOUNTED, 4" SQ. STEEL WHERE CEILING MOUNTED, UNLESS NOTED OTHERWISE)
	CONDUIT BURIED BELOW GRADE
	POLE MOUNTED SITE LIGHTING FIXTURE. CHEVRON INDICATES DIRECTION OF PRIMARY LIGHT DISTRIBUTION. ROTATE REFLECTOR AS NECESSARY.



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 08/22/22

CHICK-FIL-A
 LAKE BUENA VISTA
 13520 SAPOKA VINELAND ROAD
 ORLANDO, FL 32821

FSR#04907
 BUILDING TYPE / SIZE: P13 SE
 RELEASE:
REVISION SCHEDULE

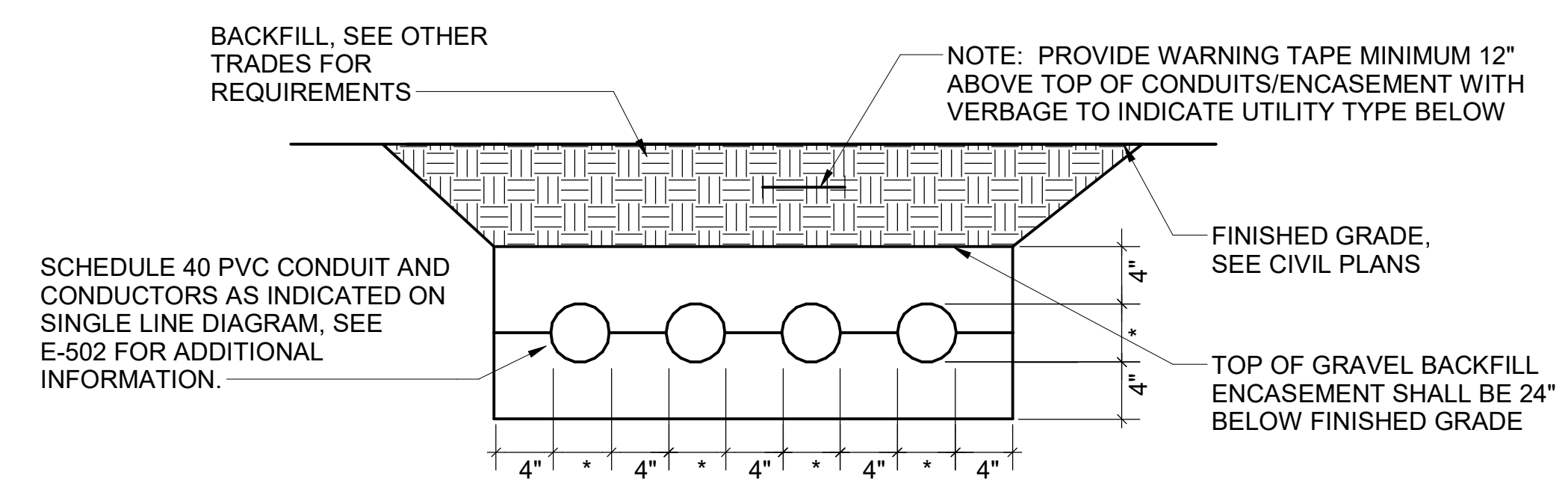
NO.	DATE	DESCRIPTION
8	08/09/2022	SITE UPDATES

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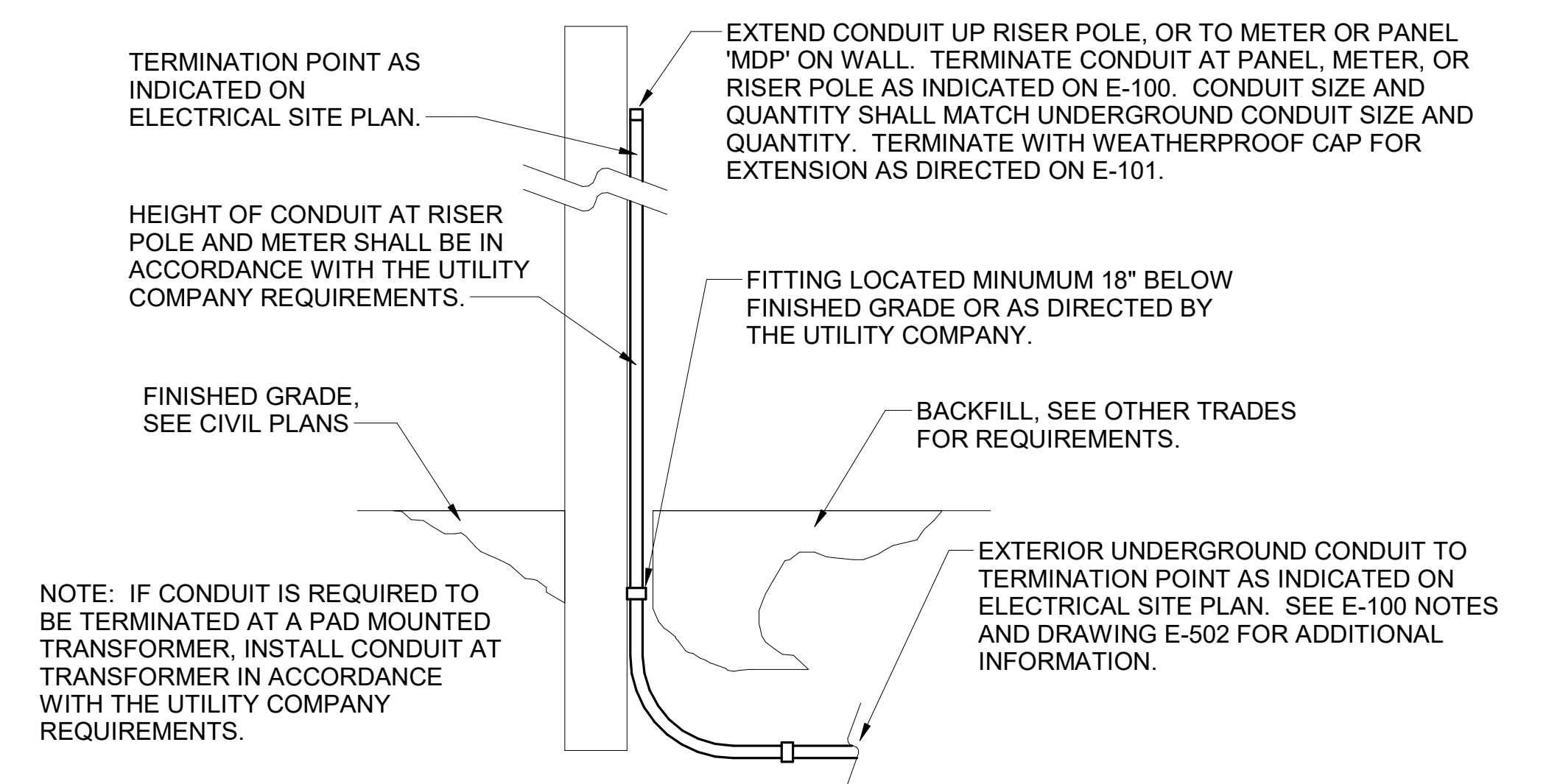
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 SHEET ELECTRICAL SITE PLAN

SHEET NUMBER
E-100

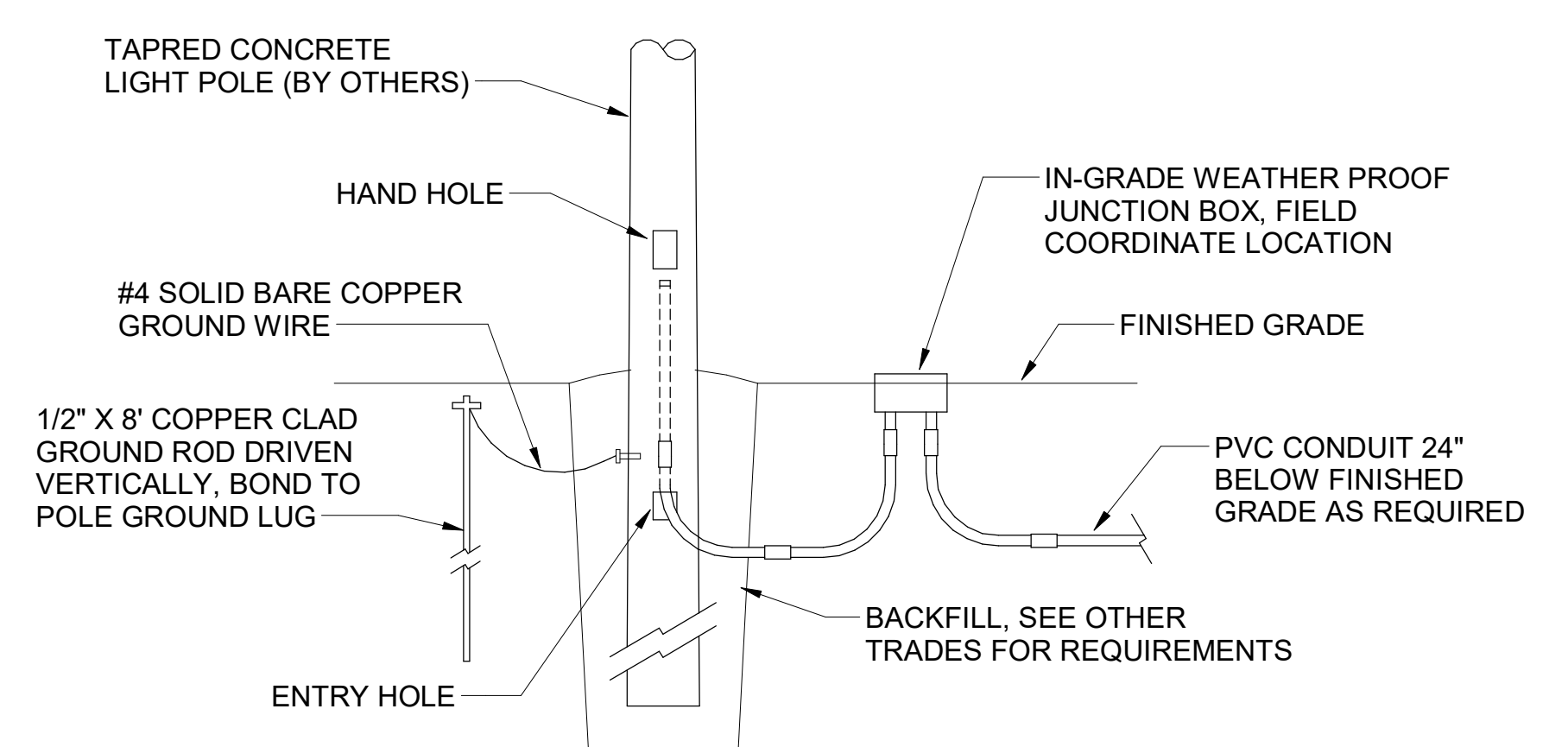
FOR CONSTRUCTION



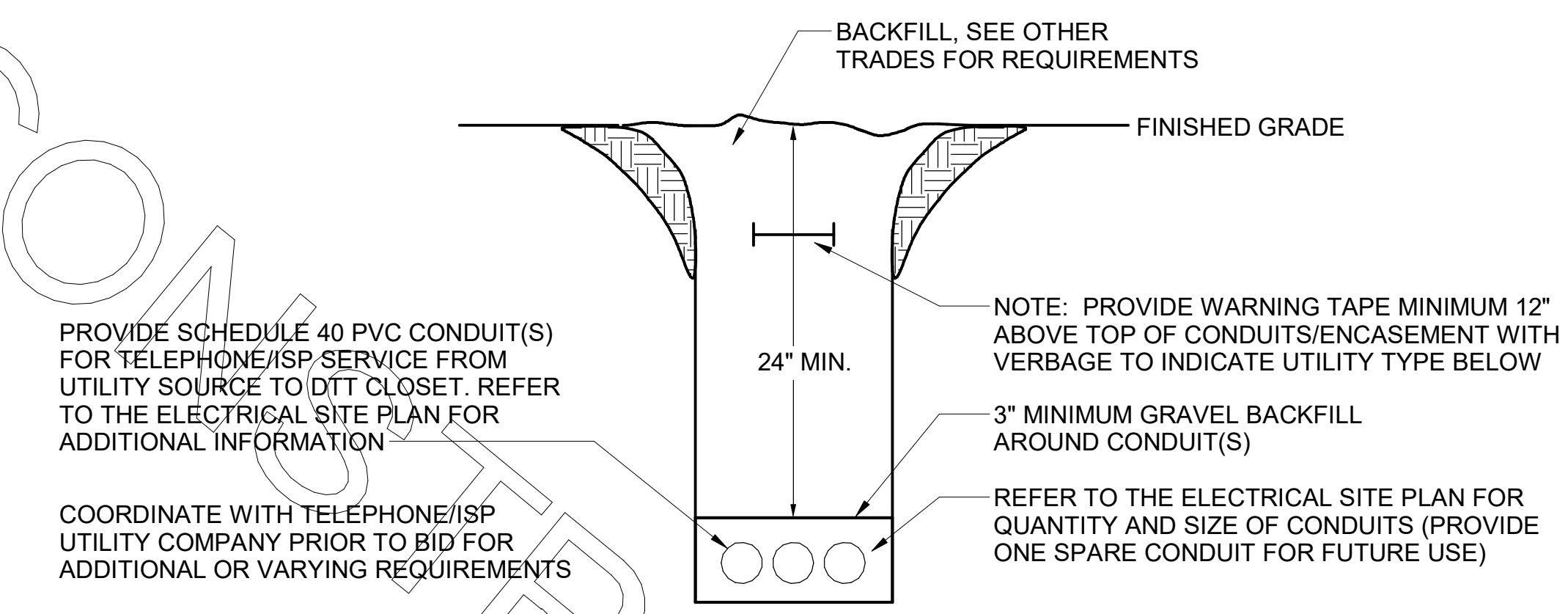
E1 ELECTRICAL SERVICE LATERAL CONDUIT DETAIL
N.T.S.



C1 EXTERIOR CONDUIT TURN UP DETAIL
N.T.S.



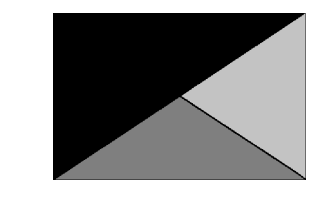
B2 TYPICAL DIRECT BURIED POLE BASE DETAIL
N.T.S.



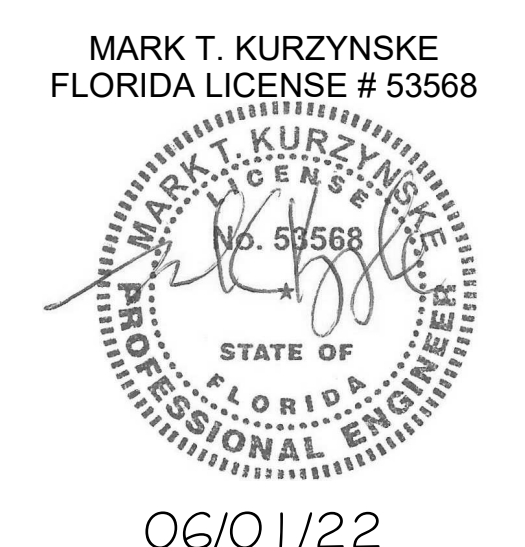
B1 TELEPHONE SERVICE CONDUIT DETAIL
N.T.S.



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06/01/22

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13520 S APOPKA VINELAND ROAD
ORLANDO, FL 32821

FSR#04907
BUILDING TYPE / SIZE: P13 SE
RELEASE:

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION

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SHEET
ELECTRICAL SITE PLAN
DETAILS

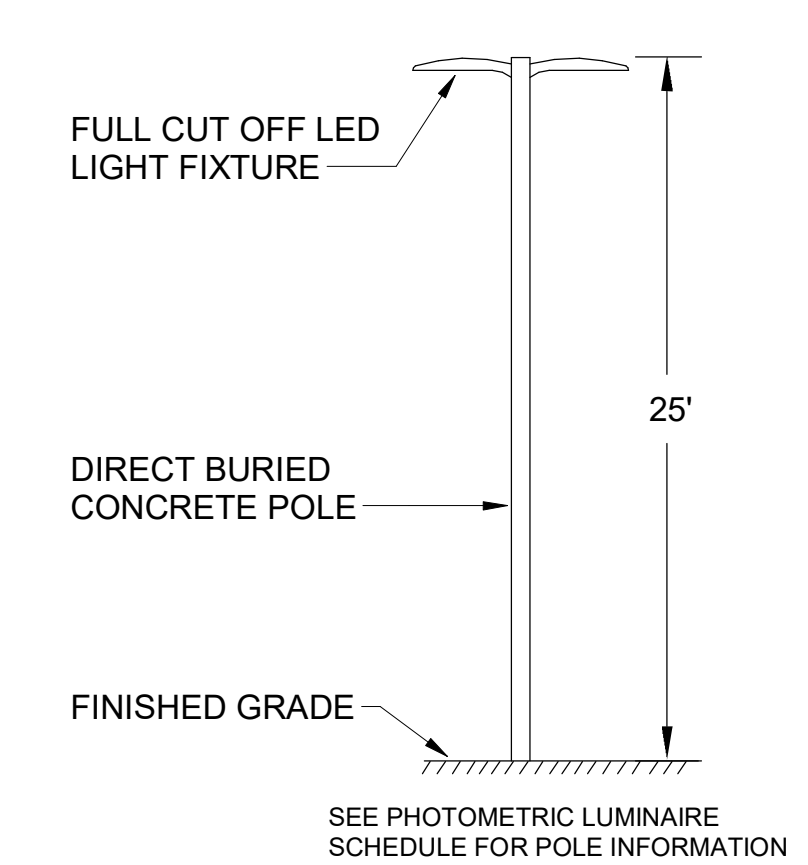
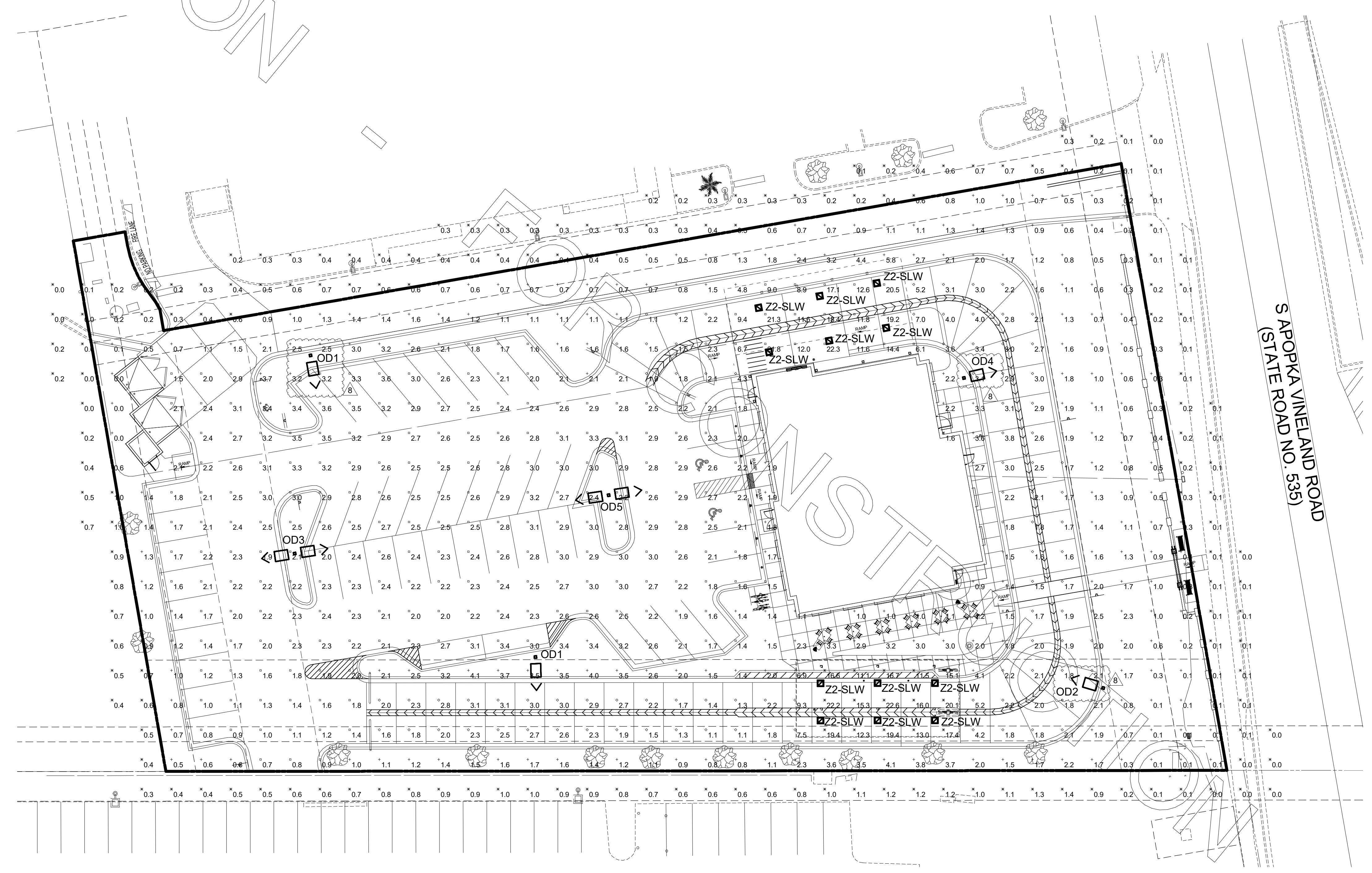
SHEET NUMBER
E-101

FOR CONSTRUCTION

Schedule								
Symbol	Label	Quantity	Manufacturer	Catalog Number	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
☐	OD1	2	COOPER LIGHTING SOLUTIONS - LUMARK (FORMERLY EATON)	PRV-C25-D-UNV-T3-BZ	2	6594	1	96
☐	OD2	1	COOPER LIGHTING SOLUTIONS - LUMARK (FORMERLY EATON)	PRV-C25-D-UNV-T4-BZ-HSS	2	5966	1	96
☐	OD3	1	COOPER LIGHTING SOLUTIONS - LUMARK (FORMERLY EATON)	PRV-C25-D-UNV-T5-BZ	2	7021	1	192
☐	OD4	1	COOPER LIGHTING SOLUTIONS - LUMARK (FORMERLY EATON)	PRV-C40-D-UNV-T3-BZ	2	8575	1	131
☐	OD5	1	COOPER LIGHTING SOLUTIONS - LUMARK (FORMERLY EATON)	PRV-C40-D-UNV-T5-BZ	2	9130	1	262
☐	Z2-SLW	12	LSI INDUSTRIES, INC.	CRUS-SC-SLW-30	1	5584	1	38

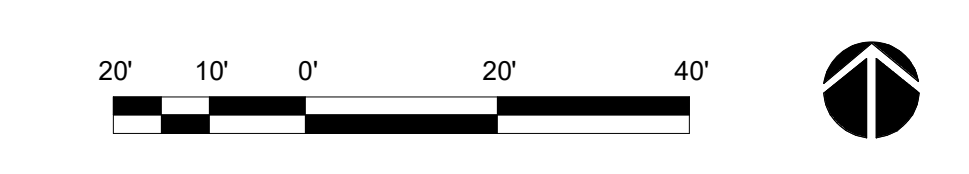
OD POLE SHALL BE A 25' CONCRETE POLE, DIRECT BURIED WITH 2-3/8" TENON. LIGHTING FIXTURES TO HAVE A DARK BRONZE FINISH. PROVIDE 2-3/8" TENON MOUNT ADAPTERS FOR FIXTURES AS NOTED IN THE SCHEDULE.

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone	✕	2.2 fc	22.6 fc	0.0 fc	N/A	N/A
DT Lane w/o Canopies	◇	2.5 fc	9.3 fc	1.1 fc	8.5:1	2.3:1
Lot Summary	+	2.8 fc	22.6 fc	0.0 fc	N/A	N/A
OMD Canopy	☐	14.1 fc	22.3 fc	6.1 fc	3.7:1	2.3:1
Order Canopy	✕	16.6 fc	22.6 fc	11.1 fc	2.0:1	1.5:1
Parking Lot	☐	2.4 fc	3.6 fc	0.7 fc	5.1:1	3.4:1



A3 SITE LIGHTING POLE DETAIL
N.T.S.

A1 PHOTOMETRIC PLAN
1" = 20'-0"



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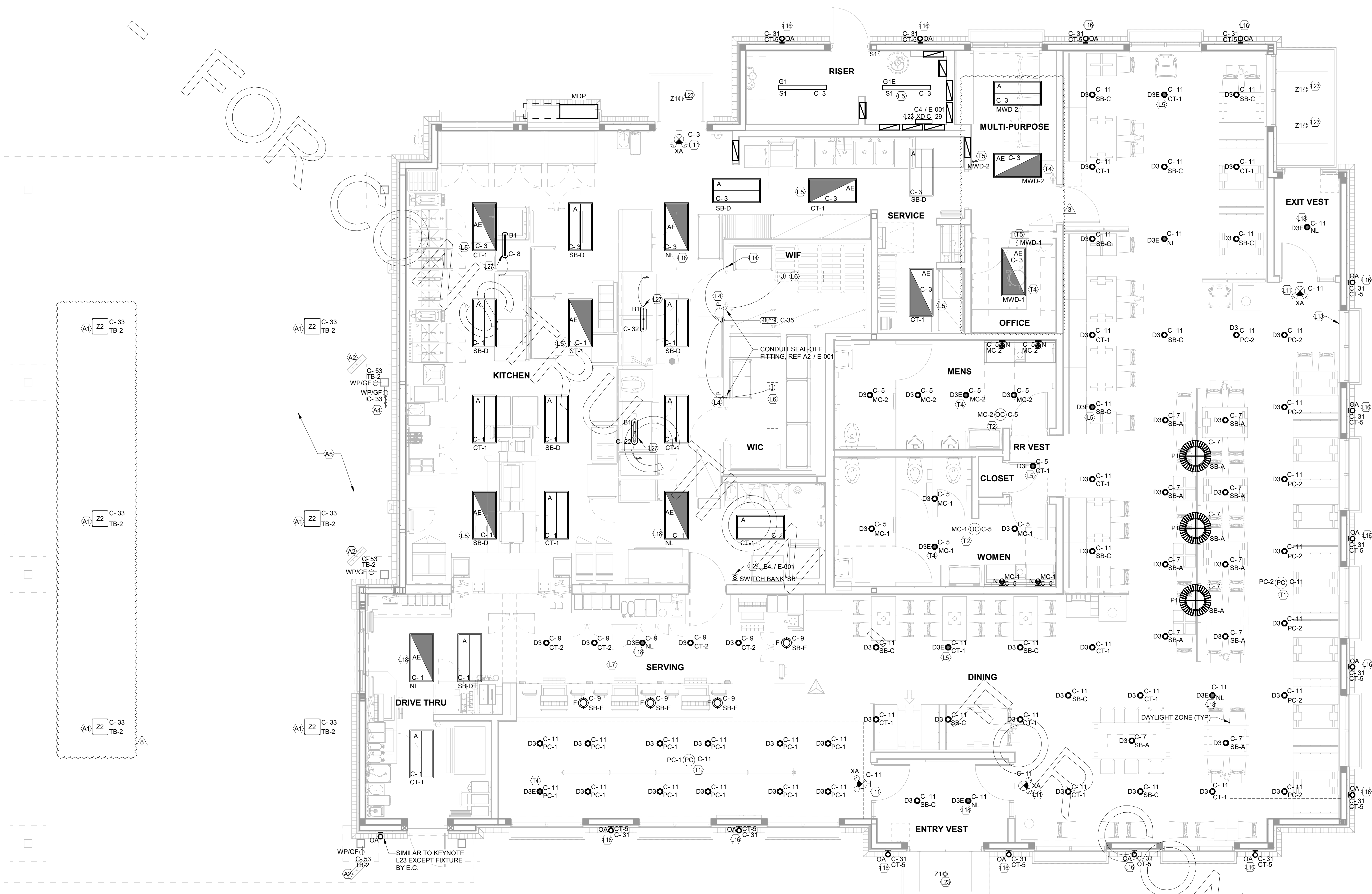
FSR#04907
 BUILDING TYPE / SIZE: P13 SE
 RELEASE:
 REVISION SCHEDULE

NO.	DATE	DESCRIPTION
8	08/09/2022	SITE UPDATES

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 SHEET
PHOTOMETRIC PLAN

SHEET NUMBER
E-102



B1 LIGHTING PLAN - LRG (24)
1/4" = 1'-0"

LIGHTING FIXTURE (LUMINAIRE) SCHEDULE - CHICK-FIL-A P13 EDITION

NOTE: NOT ALL FIXTURE TYPES ARE USED IN ALL OF THE P13 BUILDINGS. CONFIRM WITH THE LIGHTING VENDOR FOR ANY UPDATES TO THE CURRENT LIGHTING MANUFACTURER AND CATALOG NUMBER.

MARK	MANUFACTURER	CATALOG NUMBER	NO. LAMPS/TYPE	WATTS	VOLTS	MOUNTING	REMARKS
A	COOPER/METALUX	24FP8440C	INTEGRAL WITH FIXTURE	59 VA	120 V	RECESSED	2'X4' STATIC LED TROFFER RATED 7200 LUMENS, 4000K TEMP
AE	COOPER/METALUX	24FP8440C-EL14W	INTEGRAL WITH FIXTURE	59 VA	120 V	RECESSED	SAME AS 'A' WITH EMERGENCY BATTERY PACK. SEE PLAN NOTE ABOUT SWITCHING
B1	COOPER/METALUX	2V13-LD5-4-G-120V-L840-CD1-SSL-U	INTEGRAL WITH FIXTURE	32 VA	120 V	SURFACE	MOUNT LIGHT TO BTM OF OVERHEAD WIRE SHELVING WITH CORD & PLUG
D3	COOPER/HALO	HC2620D10-HM812830-6-1NDC	INTEGRAL WITH FIXTURE	21 VA	120 V	RECESSED	LED DOWNLIGHT WITH CLEAR REFLECTOR & TRIM RATED 2000 LUMENS, 3000K COLOR TEMP
D3E	COOPER/HALO	HC2620D10EM14-HM612830-6-1NDCIEM	INTEGRAL WITH FIXTURE	21 VA	120 V	RECESSED	SAME AS 'D3' EXCEPT WITH EMERGENCY BATTERY PACK/INTEGRAL TEST SWITCH
F	MEYDA	3089A-8 (144638)	INTEGRAL WITH FIXTURE	12 VA	120 V	CEILING	EGG LIGHT FURNISHED WITH A 12 WATT A19-GL24 LED LAMP
G1	COOPER/METALUX	4SLSTP4040DD-UNV	INTEGRAL WITH FIXTURE	44 VA	120 V	SURFACE	4760 LUMEN 4 FOOT LENSED LED STRIPLIGHT, MTD ABOVE DOOR FRAME
G1E	COOPER/METALUX	4SLSTP4040DD-UNV	INTEGRAL WITH FIXTURE	44 VA	120 V	SURFACE	4760 LUMEN 4 FOOT LENSED LED STRIPLIGHT, MTD ABOVE DOOR FRAME
N	MINKA	4531-2678	INTEGRAL WITH FIXTURE	11 VA	120 V	WALL	LAVATORY WALL SCONCE SHADE POINTED DOWN W/ LED LAMP & CL ON LAVATORY
OK	PROGRESS LIGHTING	P5675-51 WITH P8789 TOP COVER LENS	INTEGRAL WITH FIXTURE	24 VA	120 V	WALL	15" DIAMETER, 14" HEIGHT, WET LOCATION, UP/DOWN CYLINDER W/ 12 WATT PAR30 3K NPL LED LAMPS
OC	HUBBELL	FL1-40L-95-4K7-N-LK-DB (SEE NOTE 4)	INTEGRAL WITH FIXTURE	97 VA	120 V	PIPE	FLOODLIGHT MTD ON ROOF ON 2" PIPE SUPPORT (BY OTHERS) AND AIMED AT FLAG AFTER DARK
OD1,2,3	COOPER/LUMARK	LUMINAIRE: PRV-C25D-UNV--SA-BZ	INTEGRAL WITH FIXTURE	96 VA	208 V		SEE SHEET E-102 FOR SITE LIGHTING SPECIFICATIONS
OD4,5	COOPER/LUMARK	LUMINAIRE: PRV-C40D-UNV--SA-BZ	INTEGRAL WITH FIXTURE	131 VA	208 V		SEE SHEET E-102 FOR SITE LIGHTING SPECIFICATIONS
OK	HUBBELL	LNC-SLU-3K-3-1	INTEGRAL WITH FIXTURE	13 VA	120 V	WALL	LED WALLPACK W/ CENTERLINE OF FIXTURE AT 80° ABB 00° (FINISH FLOOR LINE)
P1	MEYDA	142776	INTEGRAL WITH FIXTURE	22 VA	120 V	PENDANT	3" DIA PEACH BASKET PENDANT WITH BTM AT 6'-9" AFF AVN TABLE, 8' 0" OTHERWISE
XA	COOPER/SURE-LITES	APCH7R	INTEGRAL WITH FIXTURE	4 VA	120 V	WALL	EXIT SIGN WITH BATTERY PACK AND TWO INTEGRAL ADJUSTABLE LAMPHEADS
XD	MULE LIGHTING	SPS-220/250-120/277	NONE	250 VA	120 V	WALL	INVERTER UNIT FOR EXTERIOR EGRESS LTGS, ON AT DUSK, OFF AT DAWN, ON DURING PWR OUTAGE
Z1	COOPER/HALO	SLD405830WH	INTEGRAL WITH FIXTURE	12 VA	120 V	RECESSED	LED DOWNLIGHT PROVIDED BY CANOPY SUPPLIER INSTALLED BY CANOPY SUPPLIER, CONNECTION BY ELECTRICAL CONTRACTOR
Z2	LSI	CRUS-SC-LED-SLW30-UE-WHT	INTEGRAL WITH FIXTURE	38 VA	120 V	RECESSED	CANOPY LIGHT PROVIDED BY CANOPY SUPPLIER AND INSTALLED BY ELECTRICAL CONTRACTOR
* MC	SENSOR SWITCH	CMR-PDT-9	-	-	120V	CEILING	CEILING MOUNTED LINE VOLTAGE OCCUPANCY SENSOR WITH DUEL TECHNOLOGY, LOCATED IN RESTROOM.
* MCL	SENSOR SWITCH	CM-PDT-9	-	-	24V	CEILING	CEILING MOUNTED LOW VOLTAGE OCCUPANCY SENSOR FOR LOCAL RECEPTACLE CONTROLS.
* MWD	SENSOR SWITCH	WSX-PDT-D-SA-WH	-	-	120V	WALL	MANUAL ON / AUTOMATIC OFF OCCUPANCY SWITCH, 0-10V DIMMING
* PC	SENSOR SWITCH	RMR-PC-ADC	-	-	120V	WALL	RECESSED AUTOMATIC PHOTOCELL FOR DAYLIGHT CONTROLS, FIELD COORDINATE MTD LOCATION.
* PP	SENSOR SWITCH	PP20	-	-	120V	JUNCTION BOX	POWER PACK FOR OCCUPANCY SENSOR 'MCL' AND RECEPTACLE CONTROL, AUTO ON / AUTO OFF.

NOTES:
 1. LUMINAIRES UTILIZING DOUBLE-ENDED BALLAST AND CONTAIN BALLAST THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECTING MEANS EITHER INTERNAL TO EACH LUMINAIRE PER NEC 410.130(G).
 2. THE LIGHTING FIXTURE PACKAGE IS AVAILABLE THROUGH A NATIONAL ACCOUNT PROGRAM. REFER TO THE ELECTRICAL SPECIFICATIONS SHEET, SECTION C165500 FOR VENDOR INFORMATION.
 3. THE ASTERISK (*) BESIDE THE FIXTURE MAKE IN THE ABOVE SCHEDULE INDICATES THE FIXTURE IS A NON-PROTOTYPICAL LIGHT FIXTURE PER THE CFA NATIONAL P13 PROTOTYPE.
 4. IF TYPE OC IS GROUND MOUNTED IN LIEU OF ROOF MOUNTED, PROVIDE EITHER THE FLL-VISOR-DB (VISOR) OR THE FLL-LOUVER-BL (LOUVER) OF GLARE CONTROL.

LIGHTING PLAN KEYNOTES

- (L2) APPROXIMATE LOCATION OF SWITCH BANK 'SB'. SEE DETAIL ON THE LIGHTING PLAN FOR MORE INFORMATION.
- (L4) FOR CONTROL OF LIGHTING FIXTURE IN WALK-IN COOLER AND FREEZER, SWITCH FURNISHED WITH EQUIPMENT, INSTALLED BY ELECTRICAL CONTRACTOR.
- (L5) CONNECT FIXTURE SO THAT BATTERY PACK IS NOT SWITCHED WITH LIGHTS, BUT ALL LAMPS ARE SWITCHED.
- (L6) FOR CONNECTION TO LIGHTING FIXTURE IN THE WALK-IN COOLER AND FREEZER WHICH IS FURNISHED WITH EQUIPMENT, CONTRACTOR SHALL ROUGH-IN AND CONNECT ALL FIXTURES AS REQUIRED BY THE EQUIPMENT MANUFACTURER.
- (L7) THE LIGHT FIXTURES IN THE SERVING AREA ARE PROVIDED WITH LAMP SHIELDING VIA A LENS.
- (L9) TO THE TOILET EXHAUST FAN ON ROOF. SEE SHEET E-250, ROOF ELECTRICAL PLAN.
- (L11) THIS FIXTURE SHALL NOT BE SWITCHED. CONNECT TO CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS.
- (L13) SEE THE ROOF ELECTRICAL PLAN FOR LOCATION OF TYPE 'OC' ROOF MOUNTED FLAG POLE LIGHT. FIXTURE TO BE CONNECTED TO CIRCUIT C-29 THRU THE CFA-T500 CONTROL PANEL CONTRACTOR #9 (AHEAD OF THE INVERTER, NOT THRU THE INVERTER).
- (L14) TO WALK-IN FREEZER DOOR FRAME HEATER AND AIR RELIEF ASSEMBLY (PRESSURE REDUCTION VALVE - PRV) THRU SEAL-OFF FITTING. VERIFY ROUGH-IN AND FINAL CONNECTION WITH EQUIPMENT.
- (L15) SEE THE SITE ELECTRICAL PLAN FOR LOCATION OF TYPE 'OC' GROUND MOUNTED FLAG POLE LIGHT. FIXTURE TO BE CONNECTED TO CIRCUIT C-29 THRU THE CFA-T500 CONTROL PANEL CONTRACTOR #9 (AHEAD OF THE INVERTER, NOT THRU THE INVERTER).
- (L16) ROUTE THROUGH CONTROL PANEL CFA-T500 AND CONTROLLED BY OCCUPIED SWITCH AND PHOTOCELL.
- (L18) CONNECT LIGHTING FIXTURE SO THAT LAMP BALLAST OR DRIVER AND EMERGENCY BATTERY PACK ARE NOT SWITCHED. 'NL' ADJACENT TO FIXTURE INDICATES THAT FIXTURE SHALL BE ON 24 HOURS.
- (L22) TYPE 'XD' INVERTER CABINET TO BE WALL MOUNTED AT THE CEILING AND CONNECTED TO CIRCUIT C-29 THRU THE CFA-T500'S CONTACTOR #9 (DUSK TO DAWN CONTROL). CONNECT WITH BOTH A CONTROLLED (VIA THE CONTACTOR FOR LIGHTS ON AT DUSK AND OFF AT DAWN) LEG AND AN UNSWITCHED LEG FOR THE BATTERY IN THE INVERTER. WHEN POWER IS DISRUPTED ON THE UNSWITCHED LEG, THEN THE INVERTER'S BATTERY WILL ENERGIZE THE LIGHTS CONNECTED TO THE INVERTER NO MATTER THE TIME OF DAY. PROVIDE CONNECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- (L23) CANOPY LIGHTS PROVIDED BY THE CANOPY SUPPLIER INTEGRAL WITH THE CANOPY. ELECTRICAL CONTRACTOR SHALL PROVIDE ROUGH-IN CONDUIT CHASE AT CL OF AWNING AND AT 10'-0" AFF (VERIFY) AND CONNECT THE 120V CIRCUIT TO THE 'XD' INVERTER UNIT. COORDINATE LOCATIONS OF LIGHTS AND ROUGH-IN REQUIREMENTS WITH THE CANOPY SUPPLIER. LIGHTS WILL COME ON AT DUSK, TURN OFF AT DAWN, AND BE ENERGIZED WHENEVER THERE IS A POWER OUTAGE.
- (L24) REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR LOCATIONS OF PENDANTS, DOWNLIGHTS, ACCENTS LIGHTS, AND OTHER CEILING MOUNTED LIGHT FIXTURES.
- (L27) PROVIDE A TYPE B1 SHELF MOUNTED TASK LIGHT FIXTURE. MOUNT LIGHT TO THE UNDERSIDE OF THE WIRE SHELVING. PROVIDE A CORD FROM THE FIXTURE(S) TO A SWITCH IN AN FS BOX MOUNTED TO THE SHELF. FROM FS BOX PROVIDE AN SO CORD WITH PLUG AND CONNECT TO THE GEN RECEPTACLE (WALL OR DROP CORD). SEE ENLARGED POWER PLAN FOR FURTHER INFORMATION.

OMD CANOPY KEYNOTES:

- (A1) CEILING LIGHT FIXTURE PROVIDED BY THE CANOPY SUPPLIER AND INSTALLED BY ELECTRICAL CONTRACTOR.
- (A2) AIR CIRCULATING FAN (WITH INTEGRAL ON-OFF SWITCH) PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. PROVIDE A DUPLEX RECEPTACLE OUTLET (WITH IN-USE WP COVER PLATE) AT THE TOP OF THE COLUMN FLUSH MOUNTED IN THE CUT-OUT FOR THE FAN'S PLUG AND CORD CONNECTION.
- (A3) INFRARED GAS HEATER WITH INTEGRAL ON-OFF SWITCH PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR.
- (A4) PROVIDE ONE DUPLEX GFCI (WITH IN-USE WP COVER PLATE) AND W/ 120V SINGLE-POLE SWITCHES (EACH WITH HUBBELL #RW51550 WP COVER PLATE) AND ONE DUPLEX SINGLE-POLE SWITCH (WITH HUBBELL #RW51470 WP COVER PLATE) MOUNTED IN THE COLUMN IN FLUSH MOUNTED METAL SINGLE-GANG BOXES FOR LOCAL ON-OFF CONTROL OF THE FANS, HEATERS, AND CANOPY LIGHTS. SEE WIRING SCHEMATIC FOR FURTHER INFORMATION. ALL SURFACE (OR VISIBLE) ITEMS AND COVERPLATES TO BE FIELD PAINTED MATTE BLACK.
- (A5) ALL CONDUIT AND BOXES SHALL BE CONCEALED FROM NORMAL VIEW: IN WALLS OR ABOVE THE CANOPY (ON THE ROOF). MC CABLE (GALVANIZED STEEL WITH PVC JACKET) MAY BE USED INSIDE THE WALL FOR THE DEVICES, BUT MUST CONVERT TO IMC ABOVE THE CANOPY ROOF. (PROVIDE A NEMA 3R JUNCTION BOX ON THE ROOF SIDE OF THE CANOPY TO TRANSITION FROM MC CABLES IN WALL TO IMC CONDUIT ON THE ROOF.) ALL EXPOSED BOXES AND FITTINGS TO BE CAST-METAL NEMA 3R. REFER TO THE MECHANICAL SHEETS FOR CONDUIT MOUNTING DETAILS ON THE ROOF.

ENERGY CONTROLS KEYNOTES

- (T1) CEILING MOUNTED RECESSED AUTOMATIC PHOTOCELL FOR DAYLIGHT CONTROLS. LIGHTS IN DAYLIGHT ZONES SHALL DIM BASED ON THE AMOUNT OF DAYLIGHT DETECTED AT THE PHOTOCELL. FIELD CALIBRATE PHOTOCELL. ROUTE LIGHTS IN DAYLIGHT ZONE THROUGH THE T500 AND LOCAL PHOTOCELL.
- (T2) CEILING MOUNTED LINE VOLTAGE OCCUPANCY SENSOR. ROUTE LOCAL AREA LIGHTS THROUGH SENSOR.
- (T3) LINE VOLTAGE OCCUPANCY SENSOR SWITCH. ROUTE LOCAL AREA LIGHTS THROUGH SENSOR.
- (T4) EMERGENCY BATTERY PACK SHALL NOT BE SWITCHED OR ROUTED THROUGH ANY CONTROLS, BUT LIGHT SHALL BE CONTROLLED VIA OCCUPANCY OR DAYLIGHT CONTROLS.
- (T5) LINE VOLTAGE 0-10V DIMMING OCCUPANCY SENSOR SWITCH. ROUTE LOCAL AREA LIGHTS THROUGH SENSOR.



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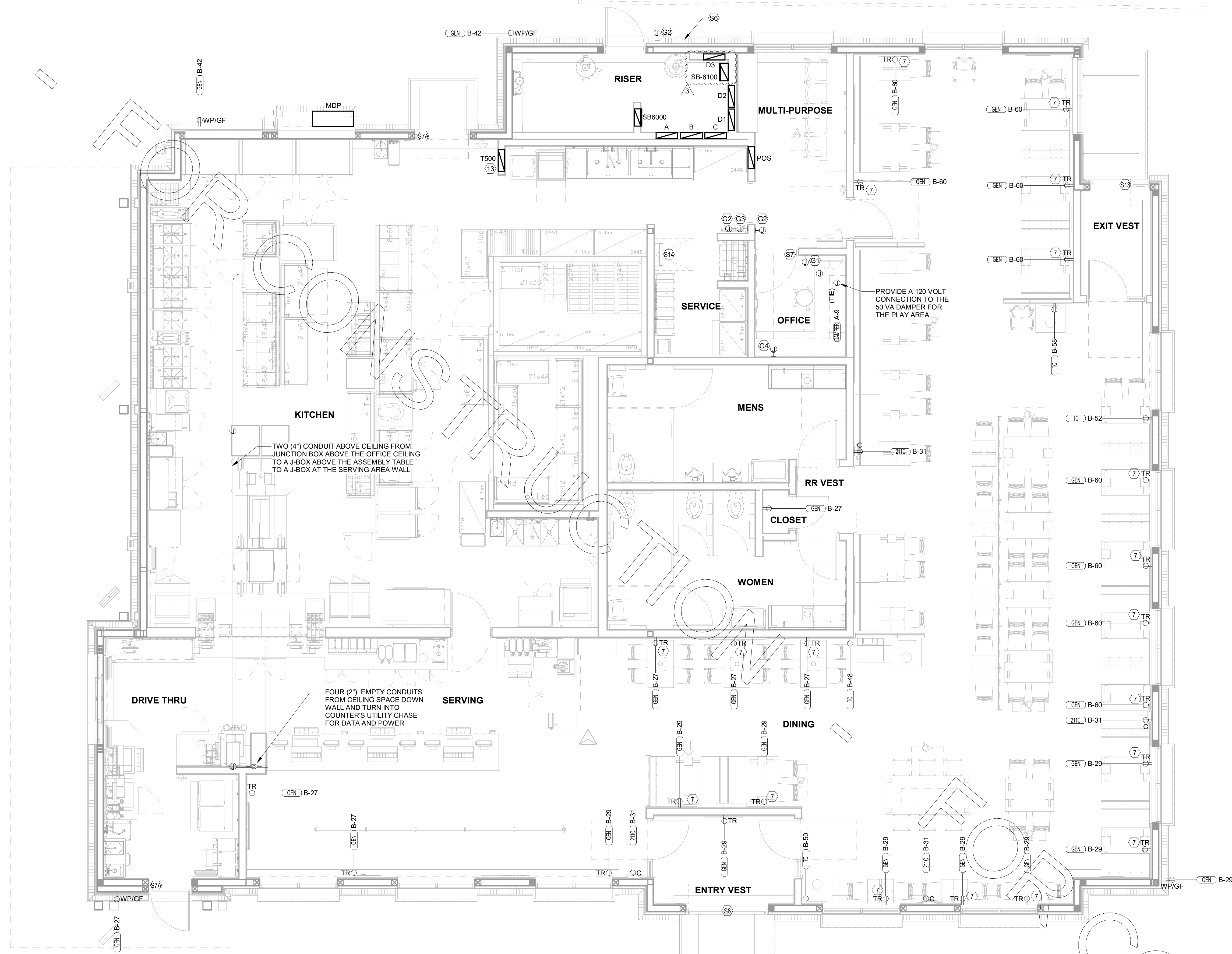
FSR#04907
 BUILDING TYPE / SIZE: P13 SE LRG
 RELEASE: v2_20_11

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
3	05/11/2022	ISSUED FOR BID
6	08/09/2022	SITE UPDATES

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 SHEET LIGHTING PLAN



B1 POWER AND SYSTEMS PLAN - LRG
1/4" = 1'-0"

REFER TO THE ELECTRICAL SITE PLAN FOR ADDITIONAL REQUIREMENTS FOR THE DRIVE-THRU CASH STATION ("D" KEYNOTES)

POWER PLAN KEYNOTES

- 6 PROVIDE DUPLEX RECEPTACLE (SEE ELEVATIONS FOR MTG HT) IN AN ARLINGTON #DVFWR2W DOUBLE-GANG RECESSED BOX FOR THE FLY SYSTEM ITEMS. DO NOT CUT THE CORDSET FURNISHED WITH THE UNIT, BUT COIL THE CORD ON THE BACK OF THE UNIT AND TUCK INTO THE BACKBOX.
- 7 TAMPER RESISTANT (TR) DUPLEX RECEPTACLE (IN DINING AREAS) WITH USB CHARGER SHALL BE COOPER/ARROW HART #TR7756-B (BROWN) WITH MATCHING COLOR 'DECOR' STYLE PLATE. VERIFY COLOR WITH OWNER.
- 13 THE STORE OPEN-CLOSE UNIT SWITCH IS FURNISHED WITH THE CFA-T500 CONTROL PANEL AND FACTORY INSTALLED IN THE DOOR OF THE CFA-T500 CABINET.

SECURITY KEYNOTES

- S6 PROVIDE A 1/2" CONDUIT THRU THE EXTERIOR WALL AND STUBBED INTO THE ACCESSIBLE CEILING SPACE FOR THE EXTERIOR WALL MOUNTED AUDIO-VISUAL ALARM NOTIFICATION DEVICE. VERIFY LOCATION WITH THE EXTERIOR ELEVATIONS AND WITH THE SECURITY INSTALLER - TYPICALLY TO BE LOCATED NEAR THE FIRE PROTECTION SYSTEMS EXTERIOR ALARM UNIT AND VISIBLE FROM THE STREET.
- S7 EXTEND 1/2" RIGID CONDUIT FROM TOP OF STRIKE-SIDE DOOR FRAME CHANNEL TO ABOVE ACCESSIBLE CEILING.
- S7A EXTEND 3/4" RIGID CONDUIT FROM TOP OF STRIKE-SIDE DOOR FRAME CHANNEL TO ABOVE ACCESSIBLE CEILING.
- S8 EXTEND 1/2" CONDUIT FROM A POINT 3" WITHIN EITHER HINGE-SIDE DOOR VERTICAL FRAME MULLION TO ABOVE ACCESSIBLE CEILING.
- S13 EXTEND 1/2" CONDUIT FROM A POINT 3" INSIDE THE STRIKE-SIDE DOOR FRAME MULLION TO ABOVE ACCESSIBLE CEILING.
- S14 PROVIDE JUNCTION BOX ON THE LATCH SIDE OF THE ROOF ACCESS HATCH WITH 1/2" CONDUIT ABOVE THE CEILING TO AN ACCESSIBLE CEILING SPACE FOR A DOOR CONTACT.

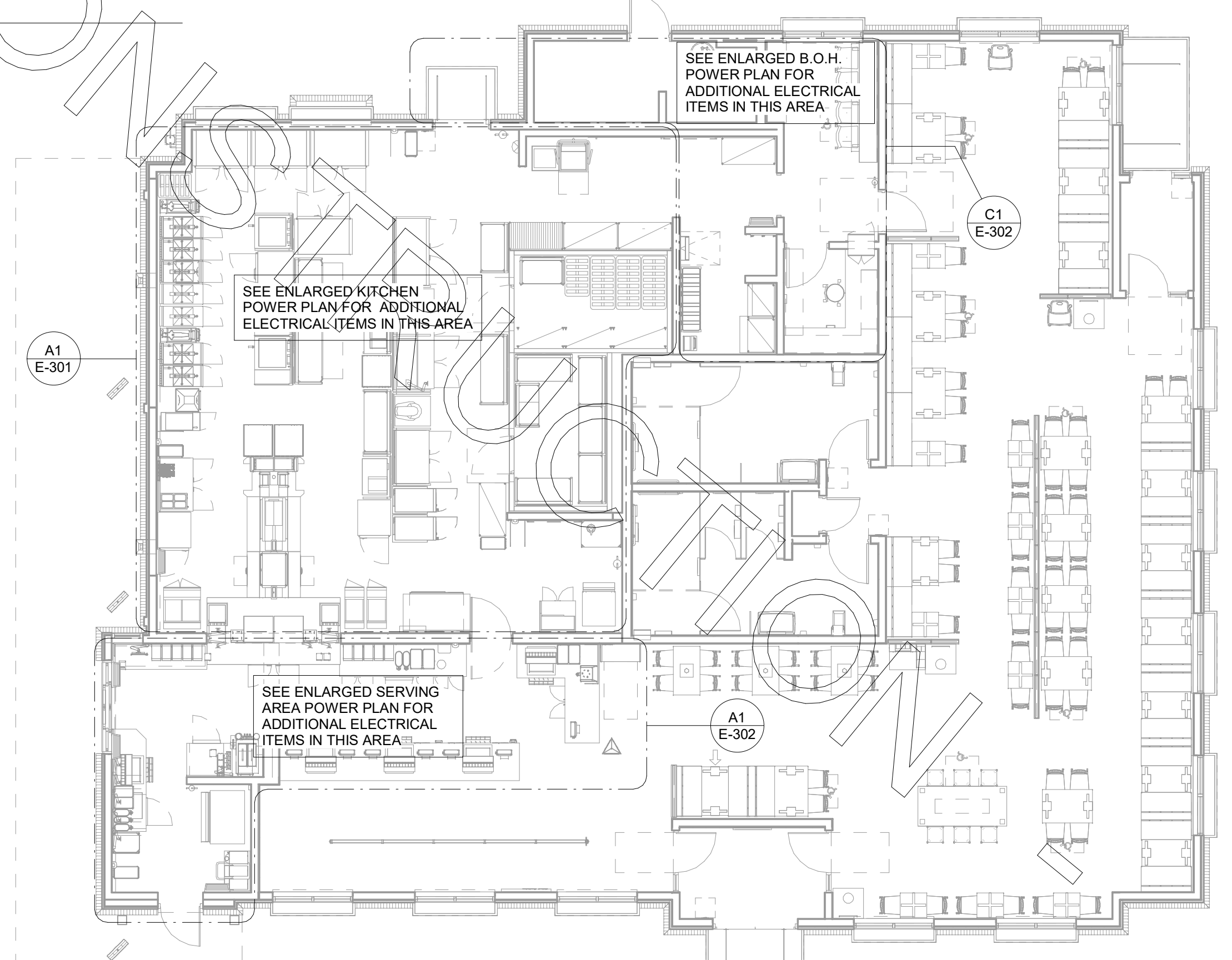
CO2 DETECTOR NOTES

- G1 CO2 CENTRAL CONTROL UNIT - PROVIDE SINGLE-GANG BACKBOX AT 60" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE
- G2 CO2 ANNUNCIATOR UNIT - PROVIDE SINGLE-GANG BACKBOX AT 60" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE
- G3 CO2 SENSOR UNIT - PROVIDE SINGLE-GANG BACKBOX AT 12" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE
- G4 CO2 POWER SUPPLY - PROVIDE SINGLE-GANG BACKBOX AT 18" BELOW CEILING WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE. PROVIDE DUPLEX OUTLET, AND CONNECT TO A LOCAL GENERAL OUTLET CIRCUIT. FIELD VERIFY EXACT LOCATION WITH STRONG SYSTEMS 800-500-5566

POWER PLAN GENERAL NOTES

1. ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
2. REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
3. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
4. PROVIDE INSULATED BUSHING AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING.
5. THE ELECTRICAL INSTALLER SHALL COORDINATE THE ROUTING OF ALL CONDUIT IN THE BUILDING WITH OTHER TRADES (SPECIFICALLY THE DUCTWORK INSTALLATION) TO AVOID CONFLICTS OF SPACE REQUIREMENTS IN WALLS AND CEILING SPACES.

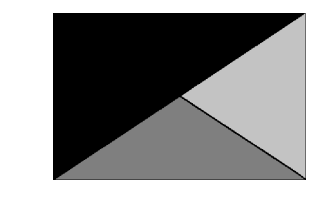
ITEMS OF IMPORTANCE:
CONTRACTOR SHALL COORDINATE WITH THE DINING AREA SEATING PACKAGE FOR THE LOCATIONS OF RECEPTACLES IN THE DINING AREA AT TABLES SO THAT THE RECEPTACLE IS UNDER THE TABLETOP AND NOT BEHIND A BOOTH SEAT



A1 ELECTRICAL KEY PLAN - LRG
1/8" = 1'-0"



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FSR#04907
BUILDING TYPE / SIZE: P13 SE LRG
RELEASE: v2_20.11

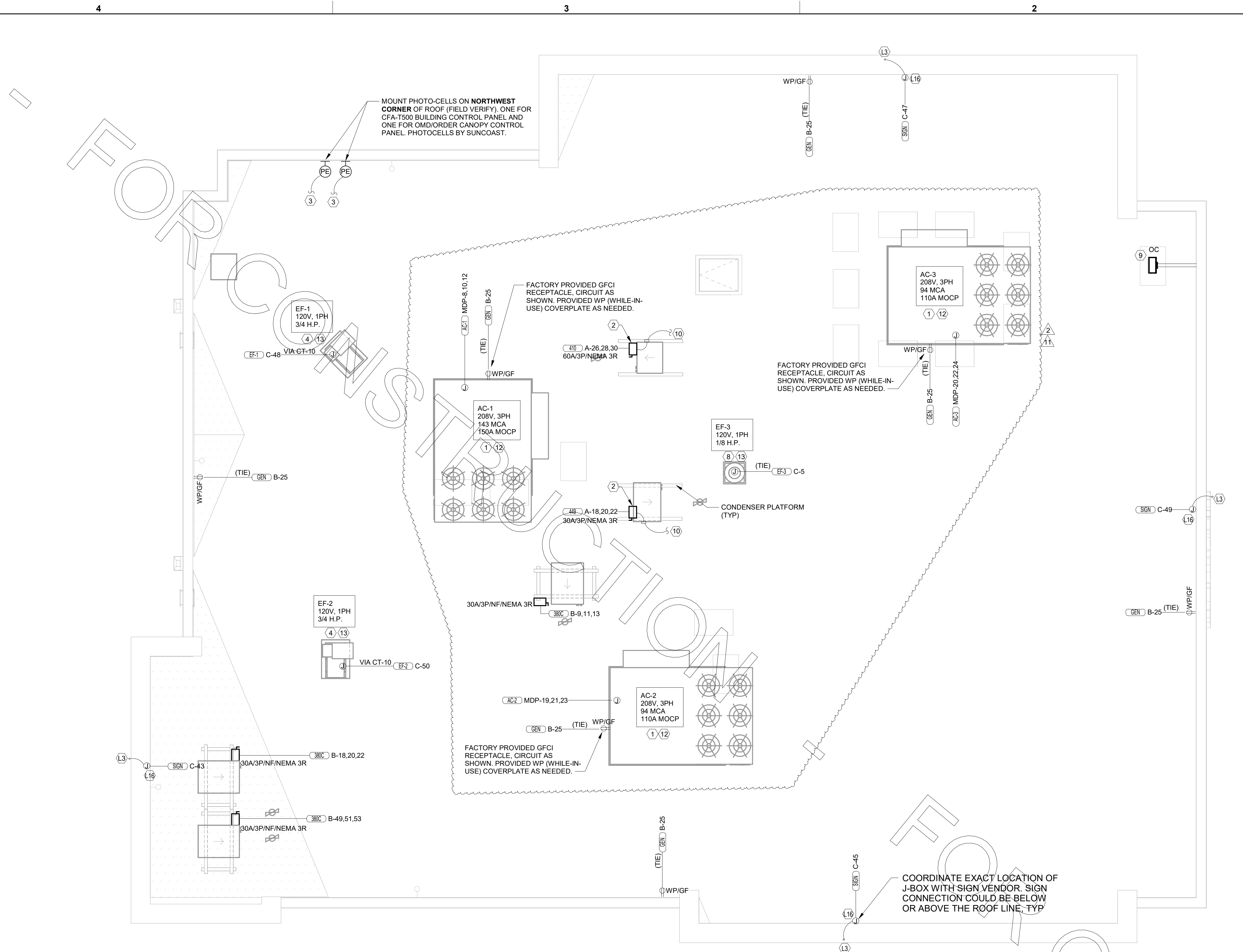
REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
3	05/11/2022	ISSUED FOR BID

CONSULTANT PROJECT # 21059.MA.S
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SHEET POWER AND SYSTEMS PLAN

SHEET NUMBER
E-221L



B1 ROOF POWER PLAN - LRG
1/4" = 1'-0"

NOTE: REFER TO MECHANICAL DRAWINGS FOR ROOFTOP PACKAGED AC UNIT SCHEDULE. ALL UNITS ARE FURNISHED WITH FACTORY INSTALLED DISCONNECT SWITCH. REFER TO SAME SCHEDULE FOR INDICATION OF UNITS FURNISHED WITH FACTORY RECEPTACLE FOR COMPLIANCE WITH NEC 210-63.

LIGHTING PLAN KEYNOTES

- (L3) FOR SIGNAGE BY OTHERS; CONNECT AS REQUIRED. GROUND ALL LOCATIONS IN ACCORDANCE WITH NEC AND MANUFACTURER'S REQUIREMENTS. SIGN IS FURNISHED WITH AN INTEGRAL PRE-WIRED DISCONNECTING MEANS.
- (L16) ROUTE THROUGH CONTROL PANEL CFA-T500 AND CONTROLLED BY OCCUPIED SWITCH AND PHOTOCELL.

ROOF POWER KEYNOTES

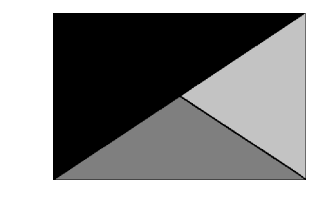
- (1) ROUTE ELECTRICAL CONDUITS TO UNIT CONNECTIONS THROUGH WEATHERPROOF RACEWAY FURNISHED WITH UNIT. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATIONS.
- (2) MOUNT WEATHER-PROOF FUSED DISCONNECT SWITCHES FOR WIC AND WIF CONDENSERS ON UNISTRUT WITH CONDUIT DOWN INTO CEILING SPACE BELOW THRU ROOF PENETRATION DEVICE (NOT THRU ROOF). SEE THE ARCHITECTURAL ROOF PENETRATION DETAIL(S) FOR FURTHER INFORMATION. PROVIDE FUSE SIZE PER MANUFACTURER REQUIREMENTS.
- (3) CONNECT ONE PHOTOCELL ON ROOF TO THE CFA-T500 CONTROL PANEL TERMINALS AND ONE PHOTOCELL ON ROOF TO THE ORDER/OMD CANOPY CONTROL PANEL AS DIRECTED BY SUNCOAST ENVIRONMENTAL INC WIRING DIAGRAMS. PHOTOCELLS ON THE ROOF FURNISHED WITH CONTROL PANELS ORDER (SUNCOAST) AND INSTALLED BY CONTRACTOR.
- (4) COORDINATE EXACT LOCATION OF CONDUIT AND DISCONNECT AT EXHAUST FAN. CONDUIT SHALL BE INSTALLED THROUGH ROOF ON OUTSIDE OF FAN CURB. CONDUIT SHALL BE LOCATED AT FAN HINGE SUCH THAT THE FAN HOOD CAN BE FULLY HINGED OPEN AND NOT TOUCH THE CONDUIT. PROVIDE 1" DIAMETER LOOP IN THE FLEXIBLE CONDUIT BETWEEN THE ROOF AND THE FAN ELECTRICAL CONNECTION.
- (8) COORDINATE EXACT LOCATION OF CONDUIT AND DISCONNECT AT EXHAUST FAN. CONDUIT SHALL BE INSTALLED THROUGH ROOF WITHIN FAN ROOF CURB AND TO THE FAN WIREWAY. PROVIDE SEALTIGHT FITTINGS AS THE CONDUIT ENTERS AND LEAVES THE DUCTWORK. CIRCUIT WITH RESTROOM LIGHTING AHEAD OF OCCUPANCY CONTROLS. REFER TO THE LIGHTING PLAN FOR CONTINUATION.
- (9) MOUNT TYPE "OC" LIGHTING FIXTURE, WITH INTEGRAL SLIPFITTER, ON PIPE. PIPE WILL BE PROVIDED BY OTHER TRADES. AIM LIGHTING FIXTURE AT NIGHT FOR BEST ILLUMINATION OF FLAG.
- (10) CONNECT POWER FROM EACH CONDENSING UNIT'S COMPRESSOR CONTRACTOR TO THE EVAPORATOR COIL UNIT'S JUNCTION BOX BELOW. REFER TO ENLARGED KITCHEN POWER PLAN FOR LOCATION.
- (11) CONVENIENCE RECEPTACLE PROVIDED PRE-INSTALLED IN HVAC UNIT. CONNECT TO 120 VOLT CIRCUIT AS REQUIRED AND/OR AS INDICATED. (NOTE THAT ONE UNIT WILL NOT BE FURNISHED WITH AN INTEGRAL PRE-INSTALLED RECEPTACLE OUTLET. CONTRACTOR SHALL PROVIDE A GFCI TYPE 20 AMP RECEPTACLE WITH IN-USE WP COVERPLATE MOUNTED TO THE OUTSIDE OF THE ROOFTOP AC UNIT.)
- (12) A/C UNIT DISCONNECT IS FURNISHED WITH A/C UNIT AND SHALL BE CONNECTED BY THE CONTRACTOR.
- (13) EXHAUST FAN IS FURNISHED WITH A PREWIRED DISCONNECT.

POWER PLAN GENERAL NOTES

1. ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
2. REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
3. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
4. PROVIDE INSULATED BUSHING AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING.
5. THE ELECTRICAL INSTALLER SHALL COORDINATE THE ROUTING OF ALL CONDUIT IN THE BUILDING WITH OTHER TRADES (SPECIFICALLY THE DUCTWORK INSTALLATION) TO AVOID CONFLICTS OF SPACE REQUIREMENTS IN WALLS AND CEILING SPACES.



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1/10/23

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FSR#04907
BUILDING TYPE / SIZE: P13 SE LRG
RELEASE: v2_2011

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
2	04/18/2022	RTU UPDATE
3	05/11/2022	ISSUED FOR BID
11	12/21/2022	LENNOX UNITS

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SHEET ROOF POWER PLAN

SHEET NUMBER

E-250L

POWER PLAN KEYNOTES

- 1 PROVIDE TWO-GANG DEEP BOX (2" MIN.) FOR ANSUL PULL STATION. EXTEND 1/2" CONDUIT FROM BOX, STUBBED ABOVE CEILING.
- 6 PROVIDE DUPLEX RECEPTACLE (SEE ELEVATIONS FOR MTG HT) IN AN ARLINGTON #DVF2W DOUBLE-GANG RECESSED BOX FOR THE FLY SYSTEM ITEMS. DO NOT CUT THE CORDSET FURNISHED WITH THE UNIT, BUT COIL THE CORD ON THE BACK OF THE UNIT AND TUCK INTO THE BACKBOX.
- 10 PROVIDE 2 GANG DEEP BOX (2" MIN.) FOR EACH DUCT SMOKE DETECTOR INDICATED ON THE MECHANICAL DRAWINGS FOR INSTALLATION OF DUCT DETECTOR REMOTE ANNUNCIATORS BY MECHANICAL. THE DUCT SMOKE REMOTE ANNUNCIATORS ARE PROVIDED TO THE ELECTRICIAN WITH THE SUNCOAST ELECTRONICS PACKAGE OF GEAR AND CONTROLS. EXTEND 1/2" CONDUIT FROM EACH BOX AND STUB ABOVE CEILING.

SECURITY KEYNOTES

- S4 PROVIDE TWO GANG WEATHERPROOF JUNCTION BOX AND STAINLESS STEEL PLATE WITH 7/8" HOLE IN CENTER FOR PANIC BUTTON. LOCATE AT 48" AFF AND EXTEND 1/2" CONDUIT UP TO ABOVE ACCESSIBLE CEILING WITH CONDUIT SEAL FITTING. SEAL CONDUIT PENETRATION AT WIC/WIF CEILING.
- S5 PROVIDE SINGLE GANG BOX WITHOUT COVER PLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING.
- S9 PROVIDE SINGLE GANG JUNCTION BOX WITHOUT COVERPLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING.

POS DATA KEYNOTES

- R2 PROVIDE SINGLE-GANG JUNCTION BOX WITH A 1" CONDUIT EXTENDING UP INTO THE CEILING SPACE FOR POS MONITOR(S). COVER PLATE PROVIDED BY OWNER'S POS SYSTEM VENDOR.
- R7 PROVIDE A SINGLE GANG BOX FLUSH MOUNTED IN THE CEILING FOR THE POS DATA PLATE (BY OTHERS) FOR THE SALAD PREP AREA POS MONITOR AND PRINTER.

POS POWER KEYNOTES

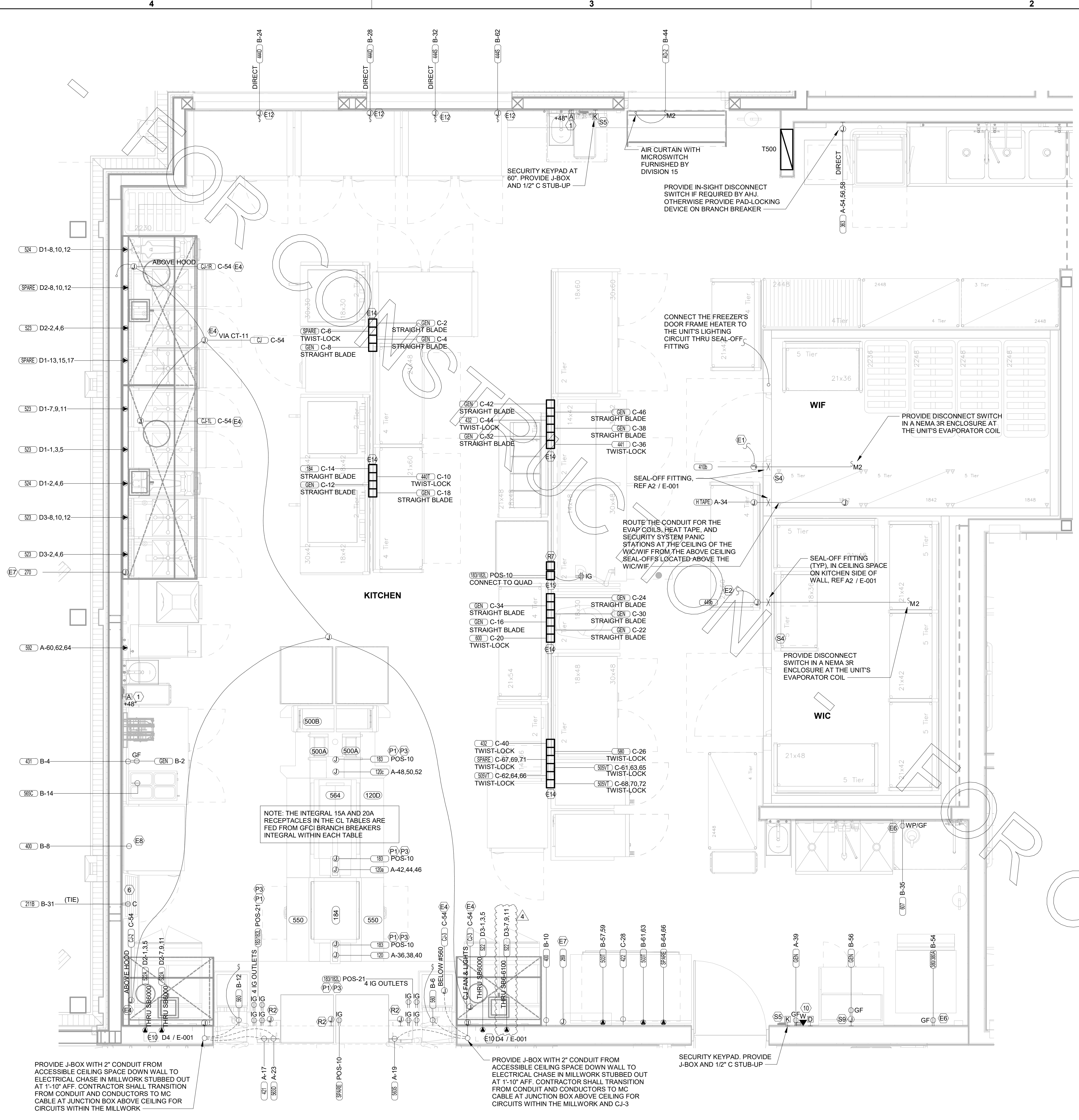
- P1 PROVIDE ORANGE ISOLATED GROUND (IG) DUPLEX RECEPTACLE.
- P3 USE TYPE MC CABLE FOR THE ISOLATED GROUND CIRCUIT: #12 HOT, NEUTRAL, GREEN GROUND, STRIPED ISOLATED GROUND. EACH 15 AMP HOMERUN SHALL BE DEDICATED TO A CIRCUIT BREAKER VIA DEDICATED CONDUCTORS WITHIN A CABLE ASSEMBLY. ALL MC CABLES SHALL BE RUN OVERHEAD ABOVE THE CEILING AND RACKED TOGETHER ON J-HOOKS. NO SPLICES IN ANY HOMERUN CABLES FROM FIRST RECEPTACLE TO BREAKER.

ENLARGED POWER PLAN KEYNOTES

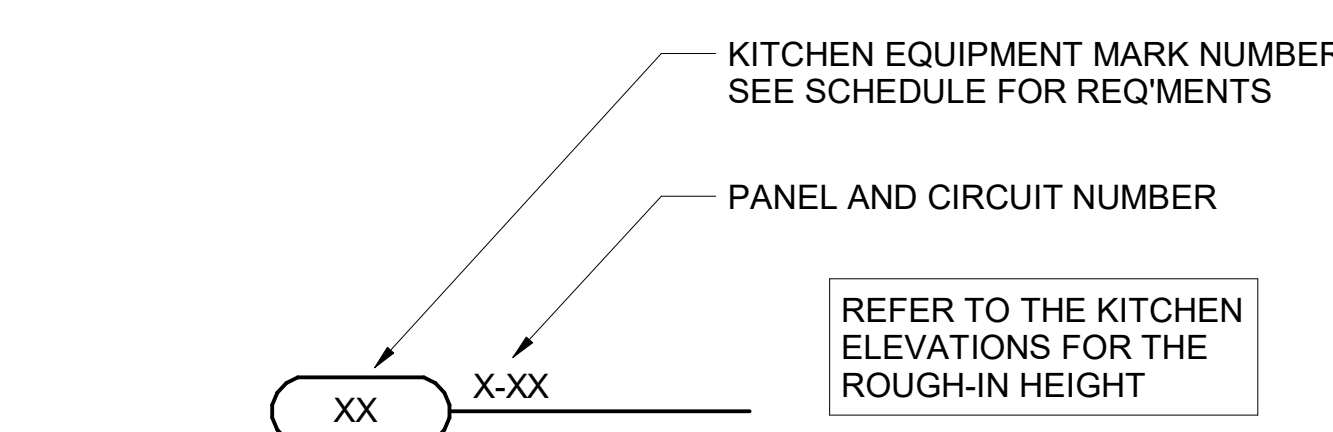
- E1 CONNECT EVAPORATOR UNIT IN FREEZER TO FREEZER CONDENSING UNIT CONTROLS LOCATED ON ROOF. SEE THE ROOF ELECTRICAL PLAN.
- E2 CONNECT EVAPORATOR UNIT IN COOLER TO COOLER CONDENSING UNIT CONTROLS LOCATED ON ROOF. SEE THE ROOF ELECTRICAL PLAN.
- E4 CONNECT AS REQUIRED TO CJ FAN VIA THE HOOD SUPPLIED SPEED CONTROLLER. CONNECT HOMERUN VIA A RELAY IN THE CFA-T500 CONTROL SECTION.
- E6 SEE THE ROOF ELECTRICAL PLAN FOR THE LOCATION OF THE ICE MAKER CONDENSERS AND ANY ADDITIONAL REQUIREMENTS.
- E7 PROVIDE 3#12 IN 1/2" CONDUIT BETWEEN THE CFA-T500 CONTROL PANEL AND THE ANSUL SYSTEM PANEL(S). SEE ANSUL SYSTEM WIRING DIAGRAM DETAIL ON SHEET E-002 FOR ADDITIONAL INFORMATION.
- E8 PROVIDE GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE RECEPTACLE IN COMPLIANCE WITH THE NEC REQUIREMENT FOR KITCHEN/FOOD PREP AREAS. IF THE RECEPTACLE OUTLET IS NOT NOTED AS GFCI, THEN THE BREAKER IS TO BE GFCI TYPE.
- E10 THE RECESSED PIN AND SLEEVE BOX WITH THE 'SLEEVE' RECEPTACLE FOR THE OPEN FRYERS (ITEMS #522 AND 522A) ARE FURNISHED BY THE EXHAUST HOOD SUPPLIER AND INSTALLED BY THE CONTRACTOR. THE OPEN FRYER SUPPLIER PROVIDES PREWIRED CORDSET WITH A PIN DEVICE INTEGRAL WITH THE OPEN FRYER TO PLUG INTO THE SLEEVE RECEPTACLE.
- E12 SINGLE POLE SWITCH SHALL SERVE AS THE LOCAL "IN-SIGHT" MEANS OF DISCONNECT FOR EQUIPMENT ITEM AS NOTED. SEE DIRECT CONNECTION DETAILS ON SHEET E-002 FOR FURTHER INFORMATION.
- E14 OVERHEAD EQUIPMENT POWER (OEP) DROP CORD RECEPTACLES FROM A FLUSH MOUNTED CEILING OEP BOX (MAXIMUM OF SIX PER ASSEMBLY). PROVIDE A-C-S OEP ASSEMBLY #12360-1000. ASSEMBLY WILL CONSIST OF A FLUSH CEILING OUTLET BOX, TWIST-LOCK PENDANT RECEPTACLES, STRAIGHT BLADE PENDANT RECEPTACLES, CORDS, STRAIN RELIEF, AND TWISTLOCK PLUGS AS NOTED ON PLAN. CONTACT BRIGID DEFAMCESHI EMAIL: BRIGID1985@GMAIL.COM (800-639-7584) TO PURCHASE OEP BOX AND DROP CORD/RECEPTACLES. PROVIDE LIQUID-TIGHT CONDUIT WITH CONDUCTORS FOR DIRECT CONNECTED EQUIPMENT. CONDUIT SHALL NOT TOUCH THE FLOOR WHEN EQUIPMENT IS IN PLACE. USE SUPPORT GRIPS W/ SUPPORT HOOK ATTACHED TO SHELVING ABOVE AS NEEDED. PASS & SEYMOUR MODEL #F5075-U-GHS OR EQUIVALENT.
- E15 PROVIDE A DOUBLE-GANG BOX FLUSH MOUNTED IN THE CEILING WITH A BLANK PLATE WITH HOLE FOR A DROP CORD. PROVIDE THE #12 DROP CORD (WITH STRAIN RELIEF AT THE BOX AND AT THE OUTLET BACKBOX) AND CONNECT THE CORD TO AN OUTLET BOX CONTAINING TWO 15 AMP IG (ORANGE) RECEPTACLE OUTLETS. OUTLET BOX TO BE MOUNTED TO THE OVERHEAD SHELVING AT THE PRINTER AND MONITOR MOUNTING BRACKET.

POWER PLAN GENERAL NOTES

1. ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
2. REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
3. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
4. PROVIDE INSULATED BUSHING AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING.
5. THE ELECTRICAL INSTALLER SHALL COORDINATE THE ROUTING OF ALL CONDUIT IN THE BUILDING WITH OTHER TRADES (SPECIFICALLY THE DUCTWORK INSTALLATION) TO AVOID CONFLICTS OF SPACE REQUIREMENTS IN WALLS AND CEILING SPACES.



A1 ENLARGED KITCHEN POWER PLAN
1/2" = 1'-0"



A4 KITCHEN EQUIPMENT NOMENCLATURE
NO SCALE

GFCI REQUIREMENTS PER 2017 NEC:

THE CONTRACTOR SHALL PROVIDE GROUND FAULT PROTECTION FOR ALL RECEPTACLE OUTLET BRANCH CIRCUITS (IN ADDITION TO WHAT IS INDICATED IN THESE DOCUMENTS FOR 15 AND 20 AMP, 120 VOLT RECEPTACLES) IN THE KITCHEN/FOOD PREPARATION AREAS IN ACCORDANCE WITH THE 2017 EDITION OF THE NEC.

GROUND FAULT PROTECTION SHALL BE PROVIDED AT THE BRANCH BREAKER VIA A GROUND FAULT TYPE BREAKER FOR ALL 50 AMP AND LESS RECEPTACLE CIRCUITS UNLESS ALREADY NOTED TO BE PROVIDED WITH AN ACCESSIBLE GFCI TYPE RECEPTACLE. (NOTE THAT SQUARE-D DOES NOT HAVE ANY GFCI TYPE BRANCH BREAKERS ABOVE 50 AMP AVAILABLE AT THIS TIME.)

NOTE FOR POS GF IN KITCHEN:

THE CONTRACTOR SHALL PROVIDE GROUND FAULT PROTECTION FOR ALL 120 VOLT, 15 AND 20 AMP ISOLATED GROUND RECEPTACLE OUTLET BRANCH CIRCUITS IN THE KITCHEN/FOOD PREPARATION AREAS. GROUND FAULT PROTECTION SHALL BE PROVIDED AT THE BREAKER VIA A GROUND FAULT TYPE BRANCH BREAKER. (GFCI TYPE ISOLATED GRD RECEPTACLES ARE NOT AVAILABLE.)

NOTE:

RECEPTACLES FOR THE POS EQUIPMENT SHALL BE THE ONLY ITEMS THAT CONNECT TO PANEL-POS. THERE SHALL BE NO OTHER LOADS CONNECTED TO THIS ISOLATED GROUND PANEL AND, IF SO, SHALL BE REMOVED AND RECONNECTED TO ANOTHER PANELBOARD AT THE EXPENSE OF THE CONTRACTOR.



Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203



CHICK-FIL-A
Lake Buena Vista
13520 S Apopka Vineland Rd
Orlando, FL 32821

FSR#04907
BUILDING TYPE / SIZE: P13 SE LRG
RELEASE: v2_20.11

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
4	05/11/2022	ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT # 21059.MA.S
PRINTED FOR IFC
DATE 09/01/2021
DRAWN BY BTS

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ENLARGED KITCHEN POWER PLAN
SHEET NUMBER

SECTION C16124
SUPPORTING DEVICES AND HANGERS

PART 1 - PRODUCTS

- 1.01 ACCEPTABLE MANUFACTURERS
A. Supporting devices and hangers shall be manufactured by RACO Fasteners, or approved equivalent.

PART 2 - EXECUTION

- 2.01 INSTALLATION
A. Secure conduits to within 3' of each outlet box, junction box, cabinet, fitting, etc., and at intervals not to exceed ten feet (10') and in accordance with the National Electric Code. In seismic zones, support conduits 1' and under at 6' intervals.

- B. Install clamps secured to structure for feeder and other conduits routed against the structure. Use drop rods and hangers or racks to support conduits run apart from the structure.

- C. Provide and install suitable angle iron, channel iron or steel metal framing with accessories to support or brace electrical equipment including safety switches, fixtures, panelboards, etc.

- D. Use of chains, perforated iron, baling wire, or tie wire for supporting conduit runs is not permitted.

- E. For support of low voltage wiring not required to be in conduit, bundle cables together in a neat manner using approved nylon tie wraps. Bundled cables shall be supported with "U" hooks on telephone type bridle rings, a minimum of 6 feet on centers. Clearly identify all differing types of cables being run and tag with tape tags regarding telephone, POS System, music / communication, security, etc. for various system utilizing said cable. Identification tape shall be provided at minimum intervals of 25 feet on center and within each building space.

- F. Provide a system of supporting devices and hangers to insure secure support or bracing for conduit, electrical equipment, including safety switches, fixtures, panelboards, outlet boxes, junction boxes, cabinets, etc.

SECTION C16140
WIRING DEVICES AND PLATES

PART 1 - PRODUCTS

- 1.01 WALL SWITCHES
A. Ratings: 20 amps, 120/277 volts a.c. or as identified on drawings.

- B. Devices: (Cooper/Arrow Hart catalog numbers are listed unless noted otherwise):
1. Single pole toggle switches: 20 AMP device - #AH1221-GY (Kitchen) or #AH1221-B (Dining) 20 AMP Pilot lights illuminated with load on - #AH1221-PL
2. Double pole toggle switches: 20 AMP device - #AH1222-GY (Kitchen) or #AH1222-B (Dining)
3. Three-way toggle switches: 20 AMP device - #AH1223-GY (Kitchen) or #AH1223-B (Dining)

- 1.02 RECEPTACLES
A. Devices: (Cooper/Arrow Hart catalog numbers are listed unless otherwise noted):
1. Specification grade devices to be 20 amp, 125 volts, a.c. receptacles:
a. Single (simplex) device: #1877-GY (Kit) or #1877-B (Dining)
b. Duplex device: #CR20-GY (Kitchen) of #CR20-B (Dining)
c. Tamper resistant duplex device: #TRCR20-B or #TR7756-B (with USB charging)
d. GF (ground-fault circuit interrupter) duplex device: #VGF20-GY (Kitchen) or #VGF20-B (Dining)
e. IG (isolated ground) duplex device: #IG5362-RN (orange face)

- B. Color:
1. Devices mounted in the FRP or tile shall be gray.
2. Devices mounted in wood finish shall be brown.
3. Isolated ground receptacles shall be orange.

- 1.03 SPECIAL DEVICES
A. Manual motor starter switch: SQ, D Class 2510, Type F, for use on motors up to 3/4 horsepower. Provide NEMA 1 enclosure in dry locations; provide NEMA 3R enclosure in wet or exterior locations.

- 1.04 WALL PLATES
A. Provide blank plates on all outlet boxes for future outlets, or outlets without devices. Plate style shall match device plates.
B. Provide non-metallic weatherproof covers for duplex GF receptacles located outside or in wet locations that feature 'while-in-use' cover equivalent to Arrow Hart #WU-1.
C. Where devices installed in exposed boxes or conduit fittings; provide properly designed plates and covers equal to Arrow Hart RS-Series exposed work covers.
D. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted boxes.
E. Color:
1. Wall plates mounted in FRP or tile shall be smooth satin stainless steel 302-ss series.
2. Wall plates mounted in wood finish shall be brown nylon plastic.
3. Isolated ground wall plates shall be orange nylon plastic with a circuit number printed in 3/16 inch black lettering on clear adhesive label adhered to plate.

- PART 2 - EXECUTION

- 2.01 INSTALLATION

- A. Mounting
1. Mount switches and receptacles at height above finished floor as indicated on plans, and legend.
2. Mount switches on strike side of door maximum 8" from door frame. Outlet box for switch shall be located clear of door frame. Coordinate with architectural plans prior to rough-in.
3. Install switches with off position down.
4. Do not use the feed thru feature for the GF Type receptacle, unless required by the plans.
5. Use jumbo sized plates for outlets installed in masonry walls.
6. Each receptacle shall be provided with a #12 green grounding jumper between the ground terminal of the receptacle and the outlet box.
7. The grounding conductor to each receptacle shall be installed such that the removal of the device will not interfere with the continuity of the ground.

- B. Testing
1. Test each switch and verify proper operation with energized circuit.
2. Test each receptacle for proper polarity on energized circuit.
3. Test each GF receptacle with a GF receptacle tester and verify circuit is opened by GF device at milli-ampere ranges established by the manufacturer.

SECTION C16440
PANELBOARDS

PART 1 - PRODUCTS

- 1.01 MANUFACTURER (via Chick-fil-A National Accounts Program)
A. Square-D (West, Midwest, Northeast, and Southwest Regions): from Villa Lighting, Dave Christanell (800)325-0963

- B. Square-D (Atlantic and Southeast Regions): from Accu-Serv, Bob Harpring (802)961-0086.

- 1.02 PANELBOARD FEATURES
A. Panelboards shall have a minimum symmetrical interrupting rating to meet or exceed the available symmetrical interrupting fault current at the device intended to interrupt current.

- B. Bus bars shall be copper.

- C. Provide factory-installed copper ground bus in each panelboard with lugs or connectors on bar.

- D. Provide electrically isolated, factory installed, neutral bus in each 3 phase, 4 wire or 1 phase 3 wire panelboard.

- E. In addition to the ground bus required by paragraph 1.02D (above), provide factory installed, electrically isolated, copper ground bus in each panelboard serving isolated ground receptacles.

- F. Main lugs and main circuit breaker lugs shall be UL Listed for use with both aluminum and copper conductors.

- G. Provide panelboard doors with chrome-plated locks and catches. All locks shall be keyed alike. Provide two keys for each lock.

- H. Provide thermal-magnetic circuit breakers which are rated for 40 degrees C ambient temperature. Breakers shall be quick-make, quick-break type trip with trip indication shown by handle position other than on or off. Multi-pole breakers shall have a common trip handle. Tandem type circuit breakers shall not be permitted.

- I. Provide typed directory card with clear holder for each panelboard.

PART 2 - EXECUTION

- 2.01 INSTALLATION
A. Panelboards shall be mounted at height above finished floor such that the height of the top-most breaker in the panel is not more than 6-1/2 feet above finished floor in its highest position per the NEC.
B. Where multiple panelboards are installed on walls in common areas of buildings, the panelboards shall be installed with the top of all panelboards at the same height.
C. Provide blank filler plates over all unused spaces in panelboards.
D. A typed directory card shall indicate devices being served and the space name where the device is located.
E. Provide minimum of one (1) 3/4" empty spare conduit for every 3 poles of spare breaker or space in the panelboard. Stub conduit to nearest accessible ceiling space. Label conduit as spare at panelboard and termination point.
F. Non-isolated ground bars shall be grounded to panelboard can and main service entrance ground bus with a code sized grounding conductor installed in the same conduit as the phase and neutral conductors.
G. Circuits using a common neutral shall be installed in accordance with the National Electrical Code.
H. Inspect each panelboard for proper installation, physical damage, tightness and installation of overcurrent devices. Verify proper color coding of conductors. Correct or repair all items found in inspection.
I. Neutral wires, ground wires, and isolated ground wires shall be connected to the appropriate panel bus bar. Do not mix bus wire connections.

SECTION C16500
LIGHTING FIXTURES (LUMINAIRES)

PART 1 - GENERAL

- 1.01 ACCEPTABLE MANUFACTURERS AND VENDORS
A. Lighting fixtures indicated on lighting fixture schedule are to be purchased from the National Account Vendor for the region of the project (verify region designation with Owner's Representative):
1. Accu-Serv Lighting - Atlantic region and Southeast region. Contact at Accu-Serv: Bob Harpring at 877-707-7378, fax - 502-961-0357, email - bharpring@accu-serv.com
2. Villa Lighting - Northeast region, Midwest region, Southwest region, and West region. Contact at Villa Lighting: Dave Christanell at 800-325-0963, fax- 314-531-8720, email - davec@villalighting.com
B. Ballasts to be electronic ballast provided with lighting fixture by the manufacturer.
C. Lamps to be Osram-Sylvania and will typically be provided with the luminaire by the lighting manufacturer.

- 1.02 FIXTURE REQUIREMENTS
A. Provide regulating, HPF ballasts in all HID lighting fixtures. HID lamp types shall be as indicated on the drawings.
B. Recessed fluorescent lighting fixture ballasts shall be provided with integral thermal protection.
C. Provide energy-saving Instant or Rapid Start lamps for all fluorescent fixtures.

- 1.02 ENCLOSED SWITCHES
A. Nonfusable switch assemblies: NEMA KS 1, General Duty Type for 208 volt load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover with switch in on position. Handle lockable in off position. Provide equipment ground lug in each switch.
B. Enclosures: NEMA KS 1,
1. Interior dry locations: Type 1.
2. Exterior locations: Type 3R.

SECTION C16442
UTILITY SERVICE ENTRANCE AND DISTRIBUTION SYSTEM

PART 1 - GENERAL

- 1.01 SYSTEM DESCRIPTION
A. The underground electrical system service characteristics shall be 208Y/120 volts, Three Phase, Four Wire service and shall extend from utility company transformer secondary.
B. Metering of electrical usage shall be located as required by local electrical utility company. Coordinate requirements with local utility company.
C. Distribution system originates at secondary of utility transformer and includes service entrance conduit and conductors, distribution equipment, lighting panelboards, utilization equipment, overcurrent devices, disconnecting means, controls, branch and feeder circuits, etc.

- PART 2 - PRODUCTS

- 2.01 MATERIALS
A. Furnish service entrance conduit, cable, and miscellaneous hardware as required by plans and specifications for electrical service entrance and system grounding at main electrical service.
B. Ensure pad mounted transformer is not located within roadway or sidewalk.
C. Coordinate with local electrical utility for all utility company requirements and provide for the following items and any others required by the utility:
1. Concrete pad for utility transformer with required dimensions and details.
2. Primary underground conduit, excavation, and backfill requirements.
3. Pay for all fees associated with establishment of electrical service.
4. Furnish list of loads to the electrical utility company serving the facility.
5. Verify that utility company clearances are provided on all sides of utility equipment.
D. Ensure proper access to utility equipment is maintained.
E. Provide pull rope, excavation in accordance with electrical utility company requirements, backfill and concrete envelope for primary in accordance with electrical utility company requirements. Turn conduits up rise pole as required. Cap spare conduits 12 inches above grade with plumbers pipe cap.
F. Provide secondary lugs on utility transformer and perform drilling and installation of lugs in accordance with utility requirements. Type of lugs shall be in accordance with electrical utility company requirements. Connect service conductor to transformer secondary lugs as directed by electrical utility.

- PART 3 - EXECUTION

- 3.01 EXAMINATION AND PREPARATION
A. Coordinate exact locations of electrical service utility transformer, metering equipment, service lateral, etc. prior to commencement of installation. Contact engineer with conflicts prior to bid.
B. Fixtures surface mounted on exposed tee bar ceilings shall use grip clamps on tee bars to support fixtures.
C. Wire shall be continuous from splice in outlet box of building wiring system to lamp socket or ballast terminals.
D. Maintain the integrity of enclosures on enclosed and gasketed fixtures. Minimize the number of enclosure penetrations and make such penetrations water and dust tight with appropriate gaskets and fittings.
E. Concrete bases shall be provided for all exterior ground mounted or pole mounted fixtures.
F. Install accessories furnished with each fixture.
G. Wiring from pole bases to pole mounted luminaire shall be No. 12 with fuse protection provided by a 30 amp, 600 volt waterproof fuseholder with Bussman 'Limiteron' fuse of ampere rating 3 times the load current.
H. Surface and recessed fixtures on or in plastered or drywall ceilings shall be supported by support channels. Support channels shall span across main support channels and shall not depend upon ceilings for support.
I. Relamp fixtures that have failed lamps at substantial completion.

- PART 1 - GENERAL

- 1.01 ACCEPTABLE MANUFACTURERS AND VENDORS
A. Lighting fixtures indicated on lighting fixture schedule are to be purchased from the National Account Vendor for the region of the project (verify region designation with Owner's Representative):
1. Accu-Serv Lighting - Atlantic region and Southeast region. Contact at Accu-Serv: Bob Harpring at 877-707-7378, fax - 502-961-0357, email - bharpring@accu-serv.com
2. Villa Lighting - Northeast region, Midwest region, Southwest region, and West region. Contact at Villa Lighting: Dave Christanell at 800-325-0963, fax- 314-531-8720, email - davec@villalighting.com
B. Ballasts to be electronic ballast provided with lighting fixture by the manufacturer.
C. Lamps to be Osram-Sylvania and will typically be provided with the luminaire by the lighting manufacturer.

- 1.02 FIXTURE REQUIREMENTS
A. Provide regulating, HPF ballasts in all HID lighting fixtures. HID lamp types shall be as indicated on the drawings.
B. Recessed fluorescent lighting fixture ballasts shall be provided with integral thermal protection.
C. Provide energy-saving Instant or Rapid Start lamps for all fluorescent fixtures.

- D. All lamps and ballasts shall meet or exceed the requirements of the National Energy Policy Act of 1992 and any other applicable Codes or Criteria.
E. All components of recessed fixtures shall be accessible without disturbing fixture in or on ceiling.
F. Energy saving ballasts and energy saving lamps provided shall be compatible for operation together.
G. Exterior fixtures and poles shall be suitable for exterior use, shall be UL Listed, and shall be a standard design for exterior application.
H. Exterior poles for fixtures with luminaires installed shall be designed for maximum constant velocity wind load with luminaires installed, applicable to the geographic area.

- 1.03 CONTROLS
A. Lighting contactors shall be Square-D, GE / ABB, Cutler-Hammer or Siemens of types and quantity shown on drawings, except those furnished with the switchgear as part of the National Account Program by Suncoast Environmental Controls (SEC).
1.04 EMERGENCY LIGHTING UNITS
A. Batteries shall supply emergency power for lighting with minimum operating time of 1-1/2 hours.
B. Emergency lighting shall be automatically operational upon normal utility power failure.

- PART 2 - PRODUCTS

- 2.01 MATERIALS
A. Lighting fixtures shall be structurally supported. Fluorescent fixtures mounted in suspended ceilings shall be supported by and attached to ceiling system as required by NEC Article 410. In addition, fluorescent troffers shall be supported at two opposite corners to building structure.
B. Recessed fixtures in dropped ceiling areas shall be connected to power source using flexible conduit. Flexible conduit shall contain a separate insulated green No. 12 copper ground wire. Flexible conduit shall be connected to junction box and fixture. Green ground wire shall provide ground continuity between conduit system and fixture. Grounding conductors shall be permanently and mechanically connected between fixture and conduit system so as to be electrically continuous.
C. Fixtures surface mounted on exposed tee bar ceilings shall use grip clamps on tee bars to support fixtures.
D. Wire shall be continuous from splice in outlet box of building wiring system to lamp socket or ballast terminals.
E. Maintain the integrity of enclosures on enclosed and gasketed fixtures. Minimize the number of enclosure penetrations and make such penetrations water and dust tight with appropriate gaskets and fittings.
F. Concrete bases shall be provided for all exterior ground mounted or pole mounted fixtures.
G. Install accessories furnished with each fixture.
H. Wiring from pole bases to pole mounted luminaire shall be No. 12 with fuse protection provided by a 30 amp, 600 volt waterproof fuseholder with Bussman 'Limiteron' fuse of ampere rating 3 times the load current.
I. Surface and recessed fixtures on or in plastered or drywall ceilings shall be supported by support channels. Support channels shall span across main support channels and shall not depend upon ceilings for support.
J. Relamp fixtures that have failed lamps at substantial completion.

- PART 3 - EXECUTION

- 3.01 INSTALLATION
A. Provide one #10 equivalent nylon pull wire in each empty telephone conduit.
B. Provide trenching, backfilling, etc., for installation of service entrance conduit in accordance with other divisions, plans, and telephone utility requirements. Provide pull wire in empty conduit.
C. Coordinate with the local utility for point of service and type of service required. Pay for any utility company charges and fees for establishment of service.
D. Provide a complete raceway system in accordance with telephone utility company and interior system vendor/utility requirements. Telephone utility company and interior system vendor shall review the drawings. Contractor shall provide for any additional or varying requirements.
E. Terminate each conduit stub-up or termination with nylon insulated bushings.
F. Final connections and testing of systems will be provided by the system vendor. Contractor shall contact the owner and vendor and schedule the work.

- CLOSE OUT DOCUMENT REQUIREMENTS
Provide the following to the building owner upon completion of construction:
1. Submittal data stating equipment rating and selected options for each piece of equipment requiring maintenance.
2. Operation manuals and maintenance manuals for each piece of equipment requiring maintenance. Required routine maintenance actions shall be clearly identified.
3. Names and addresses of at least one qualified service agency.
4. A complete narrative of how each system is intended to operate.

- 1.01 WORK INCLUDED
A. Furnish and install raceway system for music / communications-security, CCTV, POS, and other owner-furnished systems; consisting of empty conduits, junction boxes, outlet boxes, and device plates, etc., as specified and shown on owner selected vendor wiring schematics. Cable, equipment, and installation of the interior system will be provided by the owner's system vendor.
B. Interior system equipment will be furnished by Owner's Vendor.
C. Install special backboxes furnished by Owner's Vendor. Coordinate with the Vendor for the installation. Coordinate with the Vendor if backboxes are to be contractor provided in order to provide and install the appropriate item for the Vendor.

- PART 2 - PRODUCTS

- 2.01 MATERIALS
A. Provide 4-11/16" square boxes, with plaster rings. Provide device plates for system outlets as specified in Section 16141. Provide separate conduit to nearest accessible ceiling space from each outlet.
B. Cable shall be in conduit where installed in walls or inaccessible ceilings.
C. Minimum conduit size shall be 3/4" .

- PART 3 - EXECUTION

- 3.01 INSTALLATION
A. Furnish and install conduits, junction boxes, outlet boxes, and plates.
B. Provide one #10 equivalent nylon pull wire in each system empty conduit.
C. Provide a complete raceway system in accordance with interior system vendor requirements. Interior system vendor shall review the drawings. Contractor shall provide for any additional or varying requirements.
D. Final connections and testing of systems will be provided by the system vendor. Contractor shall contact the owner's vendor and schedule the work so as to complete system installation and testing prior to occupancy of the facility.
E. Terminate each conduit stub-up or termination with nylon insulated bushing.

- SECTION C16597
TELEPHONE SERVICE

- PART 1 - GENERAL

- 1.01 WORK INCLUDED
A. Furnish and install telephone system consisting of empty conduits, junction boxes, outlet boxes, device plates, etc., as specified and shown on owner selected vendor wiring schematics. Cable, equipment, and installation of the interior system will be provided by the owner's system vendor.
B. Provide underground PVC, Schedule 40, service conduit as required by plans.
C. Telephone Utility Company will provide service entrance cable.
D. Interior telephone system will be furnished by owner's vendor.
E. Special backboxes (unless otherwise noted) and faceplates will be furnished by the owner's vendor.

- PART 2 - PRODUCTS

- 2.01 MATERIALS
A. Provide 4-11/16" square boxes, with plaster rings. Provide device plates for telephone outlets to match those specified in wiring device section. Provide separate conduit to nearest accessible ceiling space from each outlet.
B. Minimum conduit size shall be 3/4" .
C. Provide lightning arrester for telephone service entrance at main telephone backboard in accordance with UL96A paragraph 11.2 and NFPA 780.
D. Cable shall be in conduit where installed in walls or above inaccessible ceiling spaces.

- PART 3 - EXECUTION

- 3.01 INSTALLATION
A. Provide one #10 equivalent nylon pull wire in each empty telephone conduit.
B. Provide trenching, backfilling, etc., for installation of service entrance conduit in accordance with other divisions, plans, and telephone utility requirements. Provide pull wire in empty conduit.
C. Coordinate with the local utility for point of service and type of service required. Pay for any utility company charges and fees for establishment of service.
D. Provide a complete raceway system in accordance with telephone utility company and interior system vendor/utility requirements. Telephone utility company and interior system vendor shall review the drawings. Contractor shall provide for any additional or varying requirements.
E. Terminate each conduit stub-up or termination with nylon insulated bushings.
F. Final connections and testing of systems will be provided by the system vendor. Contractor shall contact the owner and vendor and schedule the work.

- CLOSE OUT DOCUMENT REQUIREMENTS
Provide the following to the building owner upon completion of construction:
1. Submittal data stating equipment rating and selected options for each piece of equipment requiring maintenance.
2. Operation manuals and maintenance manuals for each piece of equipment requiring maintenance. Required routine maintenance actions shall be clearly identified.
3. Names and addresses of at least one qualified service agency.
4. A complete narrative of how each system is intended to operate.

- SECTION C16596
SPECIAL SYSTEMS

- PART 1 - GENERAL

- 1.01 WORK INCLUDED
A. Furnish and install raceway system for music / communications-security, CCTV, POS, and other owner-furnished systems; consisting of empty conduits, junction boxes, outlet boxes, and device plates, etc., as specified and shown on owner selected vendor wiring schematics. Cable, equipment, and installation of the interior system will be provided by the owner's system vendor.
B. Interior system equipment will be furnished by Owner's Vendor.
C. Install special backboxes furnished by Owner's Vendor. Coordinate with the Vendor for the installation. Coordinate with the Vendor if backboxes are to be contractor provided in order to provide and install the appropriate item for the Vendor.

- PART 2 - PRODUCTS

- 2.01 MATERIALS
A. Provide 4-11/16" square boxes, with plaster rings. Provide device plates for system outlets as specified in Section 16141. Provide separate conduit to nearest accessible ceiling space from each outlet.
B. Cable shall be in conduit where installed in walls or inaccessible ceilings.
C. Minimum conduit size shall be 3/4" .

- PART 3 - EXECUTION

- 3.01 INSTALLATION
A. Furnish and install conduits, junction boxes, outlet boxes, and plates.
B. Provide one #10 equivalent nylon pull wire in each system empty conduit.
C. Provide a complete raceway system in accordance with interior system vendor requirements. Interior system vendor shall review the drawings. Contractor shall provide for any additional or varying requirements.
D. Final connections and testing of systems will be provided by the system vendor. Contractor shall contact the owner's vendor and schedule the work so as to complete system installation and testing prior to occupancy of the facility.
E. Terminate each conduit stub-up or termination with nylon insulated bushing.

- SECTION C16597
TELEPHONE SERVICE

- PART 1 - GENERAL

- 1.01 WORK INCLUDED
A. Furnish and install telephone system consisting of empty conduits, junction boxes, outlet boxes, device plates, etc., as specified and shown on owner selected vendor wiring schematics. Cable, equipment, and installation of the interior system will be provided by the owner's system vendor.
B. Provide underground PVC, Schedule 40, service conduit as required by plans.
C. Telephone Utility Company will provide service entrance cable.
D. Interior telephone system will be furnished by owner's vendor.
E. Special backboxes (unless otherwise noted) and faceplates will be furnished by the owner's vendor.

- PART 2 - PRODUCTS

- 2.01 MATERIALS
A. Provide 4-11/16" square boxes, with plaster rings. Provide device plates for telephone outlets to match those specified in wiring device section. Provide separate conduit to nearest accessible ceiling space from each outlet.
B. Minimum conduit size shall be 3/4" .
C. Provide lightning arrester for telephone service entrance at main telephone backboard in accordance with UL96A paragraph 11.2 and NFPA 780.
D. Cable shall be in conduit where installed in walls or above inaccessible ceiling spaces.

- PART 3 - EXECUTION

- 3.01 INSTALLATION
A. Provide one #10 equivalent nylon pull wire in each empty telephone conduit.
B. Provide trenching, backfilling, etc., for installation of service entrance conduit in accordance with other divisions, plans, and telephone utility requirements. Provide pull wire in empty conduit.
C. Coordinate with the local utility for point of service and type of service required. Pay for any utility company charges and fees for establishment of service.
D. Provide a complete raceway system in accordance with telephone utility company and interior system vendor/utility requirements. Telephone utility company and interior system vendor shall review the drawings. Contractor shall provide for any additional or varying requirements.
E. Terminate each conduit stub-up or termination with nylon insulated bushings.
F. Final connections and testing of systems will be provided by the system vendor. Contractor shall contact the owner and vendor and schedule the work.

- CLOSE OUT DOCUMENT REQUIREMENTS
Provide the following to the building owner upon completion of construction:
1. Submittal data stating equipment rating and selected options for each piece of equipment requiring maintenance.
2. Operation manuals and maintenance manuals for each piece of equipment requiring maintenance. Required routine maintenance actions shall be clearly identified.
3. Names and addresses of at least one qualified service agency.
4. A complete narrative of how each system is intended to operate.



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06/01/22

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Orlando, FL 32821

FSR#04907
BUILDING TYPE / SIZE: P13 SE LRG
RELEASE: v2_20.11

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION

CONSULTANT PROJECT #	21059.MA.S
PRINTED FOR	IFC
DATE	09/01/2021
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SHEET
ELECTRICAL
SPECIFICATIONS
SHEET NUMBER

E-902

POWER PLAN KEYNOTES

- 2 PROVIDE EDWARDS #340-4N5 VIBRATING 4" DIAMETER BELL. THE BELL SHALL BE RATED AT 120 VOLTS.
- 3 PROVIDE A 120 VOLT WEATHERPROOF DOORBELL PUSHBUTTON AT DOOR. PUSHBUTTON SHALL BE FLUSH MOUNTED. PROVIDE DORTRONICS SYSTEMS #W5286-P25 CLEAR ANODIZED ALUMINUM PUSHBUTTON WITH SINGLE GANG SWITCH PLATE.
- 4 TWO 2" TELEPHONE SERVICE ENTRANCE CONDUIT(S). EXTEND WITH PULL STRING FROM TELEPHONE SERVICE J-BOX TO THE UTILITY SOURCE. REFER TO THE ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.
- 6 PROVIDE DUPLEX RECEPTACLE (SEE ELEVATIONS FOR MTG HT) IN AN ARLINGTON #DVR2W DOUBLE-GANG RECESSED BOX FOR THE FLY SYSTEM ITEMS. DO NOT CUT THE CORDSET FURNISHED WITH THE UNIT, BUT COIL THE CORD ON THE BACK OF THE UNIT AND TUCK INTO THE BACKBOX.
- 8 SB6000 PANEL ENCLOSURE WITH 3 LITTLEFUSE SHOCK BLOCK GFCI PROTECTION DEVICES. ENSURE CONDUITS ARE INSTALLED FOR LINE AND LOAD WIRES TO BE INSTALLED WITH PROPER WIRE BENDING SPACE. LABEL EACH SHOCK BLOCK WITH PANEL AND CIRCUIT NUMBER IT CONTROLS.
- 9 ONE 3" ISP SERVICE CONDUIT. EXTEND WITH PULL STRING FROM J-BOX TO SUPPLIER'S SOURCE. REFER TO ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.
- 11 PROVIDE TWO 6" H X 6" W X 4" D J-BOXES (ONE FOR TELEPHONE AND ONE FOR ISP) AT 6'-6" AFF AND EXTEND A 2" CONDUIT WITH PULL STRING IN THE WALL FROM EACH J-BOX INTO THE ACCESSIBLE CEILING SPACE. PROVIDE A 36" X 36" X 3/4" PLYWOOD BACKBOARD ON THE WALL ABOVE THE J-BOXES (AT THE CEILING) FOR USE BY THE ISP. PROVIDE A COPPER GROUND BAR (EQUAL TO ERICO TGBA24L14P) AT THE BOTTOM OF THE BACKBOARD WITH A #6 AWG INSULATED CU GROUNDING CONDUCTOR IN A 3/4" C FROM THE GROUND BAR TO THE INTER SYSTEM BONDING TERMINATION NEXT TO THE SERVICE ENTRANCE. THE GROUND BAR SHALL HAVE TAPS FOR USE BY THE TELEPHONE AND ISP UTILITY COMPANIES AND FOR THE #6 COMMUNICATIONS GROUNDING CONDUCTOR TO THE GES. PROVIDE A 15 AMP ISOLATED GROUND (IG) ORANGE-FACED DUPLEX RECEPTACLE IN THE WALL BESIDE THE BACKBOARD AND LABEL THE RECEPTACLE "FOR FIBER TO CABLE MODEM USE ONLY". BOND NETWORK RACKS TO GROUND BAR.
- 12 PROVIDE JUNCTION BOX AT 8'-0" AFF WITH CONDUIT AND CONDUCTORS TO PANELBOARD FOR FUTURE CONNECTION TO BOOSTER PUMP. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.

SECURITY KEYNOTES

- S1 PROVIDE SINGLE GANG JUNCTION BOX AND STAINLESS STEEL COVER PLATE WITH 7/8" HOLE IN CENTER. EXTEND 1" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING.
- S2 PROVIDE 4" W X 4" H X 3" D FLUSH JUNCTION BOX WITHOUT A COVERPLATE. EXTEND 2" CONDUIT UP TO ABOVE ACCESSIBLE OFFICE CEILING AREA AND PROVIDE BUSHING ON CONDUIT.
- S3 PROVIDE A SINGLE-GANG JUNCTION BOX WITH A 1.5" CONDUIT STUBBED UP INTO ACCESSIBLE CEILING SPACE WITH A BUSHING ON THE CONDUIT END FOR THE CCTV MONITOR AND DVR LOCATION.
- S5 PROVIDE SINGLE GANG BOX WITHOUT COVER PLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING.
- S10 PROVIDE SINGLE GANG JUNCTION BOX WITH STAINLESS STEEL COVER PLATE MOUNTED ABOVE THE CEILING SPACE AND ABOVE ON THE INTERIOR SIDE OF THE REAR DOOR. ROUTE 1" CONDUIT FROM THE BOX TO THE "S12" BOX NOTED BELOW.
- S11 EXTEND 1/2" CONDUIT FROM WINDOW'S FRAME MULLION (RIGHT SIDE) TO ABOVE ACCESSIBLE CEILING.
- S12 PROVIDE SINGLE GANG, WEATHER-PROOF JUNCTION BOX WITH STAINLESS STEEL COVER PLATE MOUNTED ABOVE THE REAR DOOR ON THE EXTERIOR WALL. ROUTE 1" CONDUIT FROM THE BOX AND INTO THE BUILDING AND TERMINATE CONDUIT IN THE BOX NOTED IN "S10" ABOVE.

COMMUNICATIONS KEYNOTES

- C2 PROVIDE JUNCTION BOX, LESS COVER PLATE, AND EXTEND 1-1/2" CONDUIT UP IN WALL TO ABOVE CEILING FOR INSTALLATION OF WIRELESS COMMUNICATION CONTROL UNIT.
- C4 PROVIDE SINGLE-GANG JUNCTION BOX WITH A 1" EMPTY CONDUIT STUBBED UP INTO THE ACCESSIBLE CEILING SPACE FOR OWNER'S VOIP PHONE JACK AND CABLES.
- C5 PROVIDE SINGLE-GANG JUNCTION BOX WITH A 3/4" EMPTY CONDUIT STUBBED UP INTO THE ACCESSIBLE CEILING SPACE FOR FUTURE MENU BOARD CABLES.

MUSIC KEYNOTES

- M1 PROVIDE JUNCTION BOX WITH STAINLESS STEEL COVER PLATE AND 3/4" HOLE IN PLATE WITH GROMMET ON HOLE IN PLATE. EXTEND 3/4" CONDUIT UP IN WALL TO ABOVE CEILING FOR MUSIC SYSTEM.
- M3 THREE SINGLE GANG EXTRA DEEP J-BOXES STACKED WITH A 1/2" CONDUIT FROM EACH TO THE TOP J-BOX BOX AND A 1" CONDUIT STUBBED INTO THE CEILING SPACE FOR MUSIC SYSTEM VOLUME CONTROLS PROVIDED BY OWNER'S VENDOR.
- M4 PROVIDE A SINGLE GANG EXTRA DEEP JUNCTION BOX AT 74" AFF WITH 1/2" CONDUIT STUBBED INTO THE CEILING SPACE FOR MUSIC SYSTEM VOLUME CONTROLS.

POS DATA KEYNOTES

- R1 PROVIDE A 'RETROFIT' SINGLE GANG RING (CARLON #SC100RR) FOR OWNER'S DEVICE PLATE WITH A 1" EMPTY CONDUIT AT THE OPENING STUBBED UP INTO THE CEILING SPACE FOR OWNER'S DATA CABLES.
- R2 PROVIDE SINGLE-GANG JUNCTION BOX WITH A 1" CONDUIT EXTENDING UP INTO THE CEILING SPACE FOR POS MONITOR(S). COVER PLATE PROVIDED BY OWNER'S POS SYSTEM VENDOR.
- R4 PROVIDE A 'RETROFIT' SINGLE GANG RING (CARLON #SC100RR) FOR OWNER'S DEVICE PLATE WITH A 1" EMPTY CONDUIT AT THE OPENING STUBBED UP INTO THE CEILING SPACE FOR OWNER'S DATA CABLES.
- R5 PROVIDE SINGLE-GANG JUNCTION BOX WITH A 1" CONDUIT EXTENDING UP INTO THE CEILING SPACE FOR POS TERMINAL. POS SYSTEM SUPPLIER WILL PROVIDE COVER PLATE ON BOX.

ENLARGED POWER PLAN KEYNOTES

- E6 SEE THE ROOF ELECTRICAL PLAN FOR THE LOCATION OF THE ICE MAKER CONDENSERS AND ANY ADDITIONAL REQUIREMENTS.
- E13 JUNCTION BOX ABOVE CEILING FOR AD-1 AT THE DRIVE-THRU WINDOW.

POS POWER KEYNOTES

- P1 PROVIDE ORANGE ISOLATED GROUND (IG) DUPLEX RECEPTACLE.
- P2 PROVIDE GROUND FAULT PROTECTION FOR THESE DEVICES VIA A GROUND FAULT CIRCUIT BREAKER IF LOCAL CODE DEFINES THIS A FOOD PREPARATION AREA.
- P3 USE TYPE MC CABLE FOR THE ISOLATED GROUND CIRCUIT. #12 HOT, NEUTRAL, GREEN GROUND, STRIPED ISOLATED GROUND. EACH 15 AMP HOMERUN SHALL BE DEDICATED TO A CIRCUIT BREAKER VIA DEDICATED CONDUCTORS WITHIN A CABLE ASSEMBLY. ALL MC CABLES SHALL BE RUN OVERHEAD ABOVE THE CEILING AND RACKED TOGETHER ON J-HOOKS. NO SPLICES IN ANY HOMERUN CABLES FROM FIRST RECEPTACLE TO BREAKER.
- P4 THE RECEPTACLE BACKBOX AND SYSTEM CABLE JUNCTION BOX FOR ITEMS 180 AND 182 SHALL BE TURNED HORIZONTAL. REFER TO THE KITCHEN EQUIPMENT ROUGH-IN ELEVATIONS FOR ADDITIONAL INFORMATION.

POWER PLAN GENERAL NOTES

1. ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
2. REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
3. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
4. PROVIDE INSULATED BUSHING AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING.
5. THE ELECTRICAL INSTALLER SHALL COORDINATE THE ROUTING OF ALL CONDUIT IN THE BUILDING WITH OTHER TRADES (SPECIFICALLY THE DUCTWORK INSTALLATION) TO AVOID CONFLICTS OF SPACE REQUIREMENTS IN WALLS AND CEILING SPACES.

GFCI REQUIREMENTS PER 2017 NEC:

THE CONTRACTOR SHALL PROVIDE GROUND FAULT PROTECTION FOR ALL RECEPTACLE OUTLET BRANCH CIRCUITS (IN ADDITION TO WHAT IS INDICATED IN THESE DOCUMENTS FOR 15 AND 20 AMP, 120 VOLT RECEPTACLES) IN THE KITCHEN/FOOD PREPARATION AREAS IN ACCORDANCE WITH THE 2017 EDITION OF THE NEC.

GROUND FAULT PROTECTION SHALL BE PROVIDED AT THE BRANCH BREAKER VIA A GROUND FAULT TYPE BREAKER FOR ALL 50 AMP AND LESS RECEPTACLE CIRCUITS UNLESS ALREADY NOTED TO BE PROVIDED WITH AN ACCESSIBLE GFCI TYPE RECEPTACLE. (NOTE THAT SQUARE-D DOES NOT HAVE ANY GFCI TYPE BRANCH BREAKERS ABOVE 50 AMP AVAILABLE AT THIS TIME).

NOTE FOR POS GF IN KITCHEN:

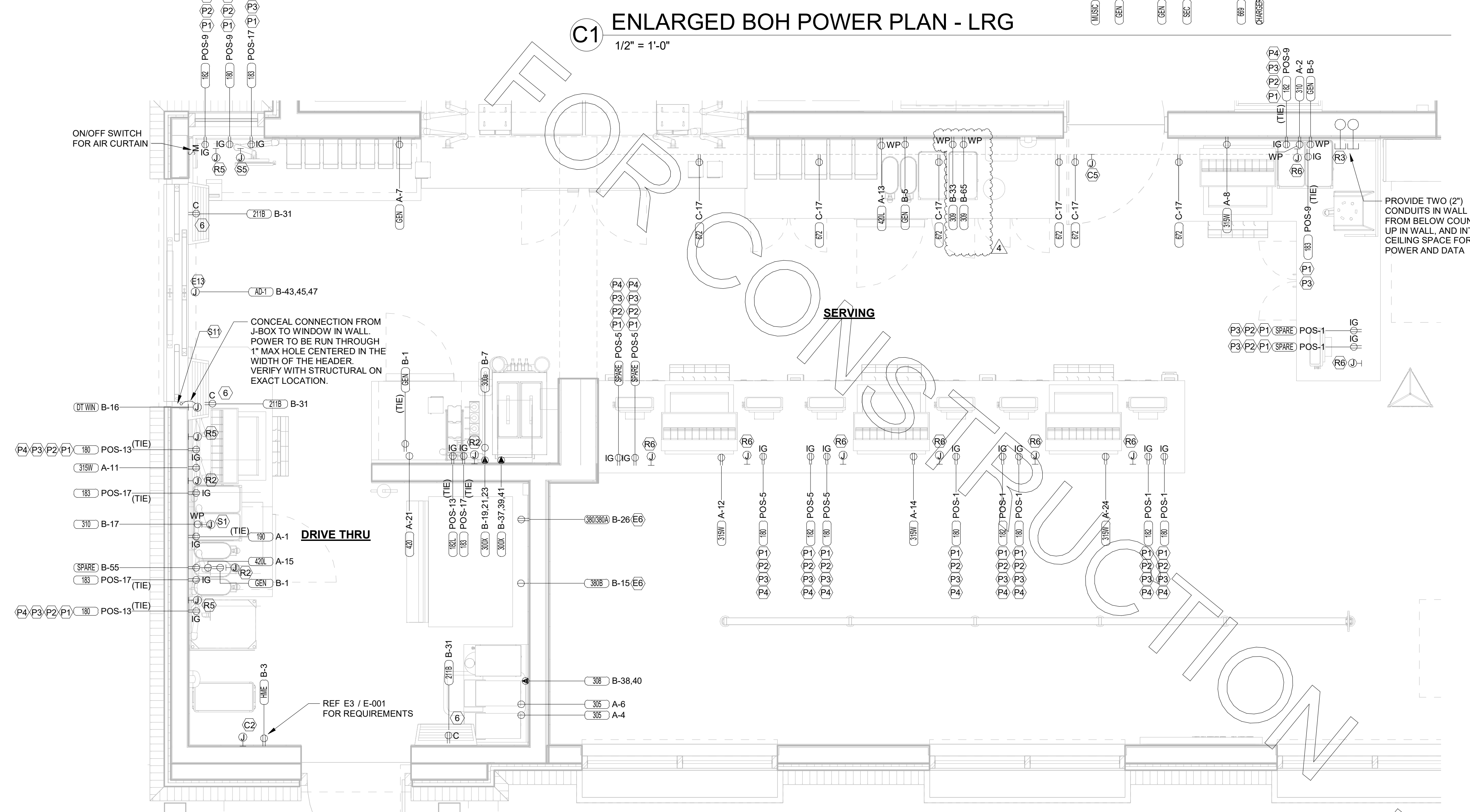
THE CONTRACTOR SHALL PROVIDE GROUND FAULT PROTECTION FOR ALL 120 VOLT, 15 AND 20 AMP ISOLATED GROUND RECEPTACLE OUTLET BRANCH CIRCUITS IN THE KITCHEN/FOOD PREPARATION AREAS. GROUND FAULT PROTECTION SHALL BE PROVIDED AT THE BREAKER VIA A GROUND FAULT TYPE BRANCH BREAKER. (GFCI TYPE ISOLATED GRD RECEPTACLES ARE NOT AVAILABLE.)

NOTE:

RECEPTACLES FOR THE POS EQUIPMENT SHALL BE THE ONLY ITEMS THAT CONNECT TO PANEL-POS. THERE SHALL BE NO OTHER LOADS CONNECTED TO THIS ISOLATED GROUND PANEL AND, IF SO, SHALL BE REMOVED AND RECONNECTED TO ANOTHER PANELBOARD AT THE EXPENSE OF THE CONTRACTOR.

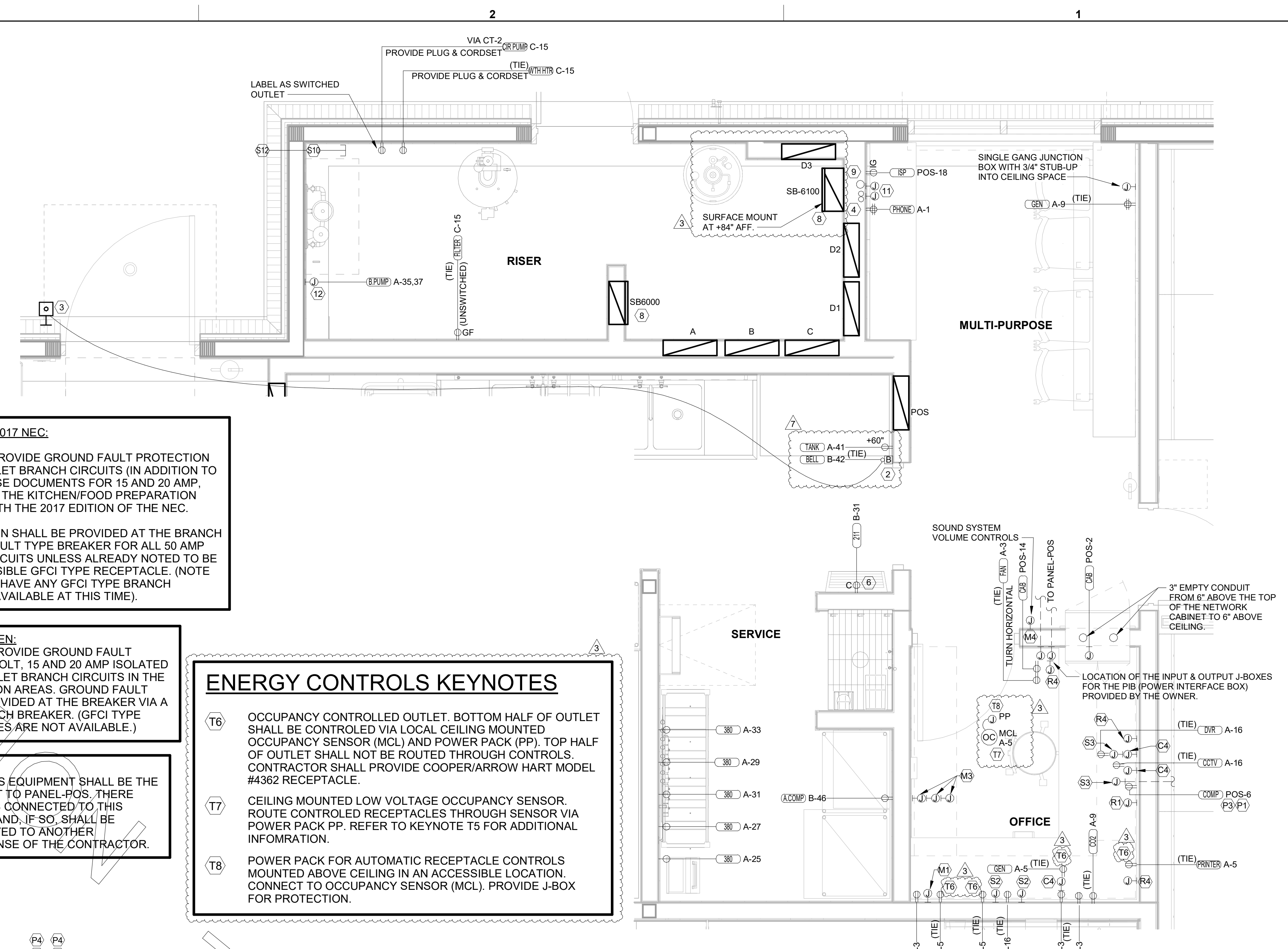
ENERGY CONTROLS KEYNOTES

- T6 OCCUPANCY CONTROLLED OUTLET. BOTTOM HALF OF OUTLET SHALL BE CONTROLLED VIA LOCAL CEILING MOUNTED OCCUPANCY SENSOR (MCL) AND POWER PACK (PP). TOP HALF OF OUTLET SHALL NOT BE ROUTED THROUGH CONTROLS. CONTRACTOR SHALL PROVIDE COOPER/ARROW HART MODEL #4362 RECEPTACLE.
- T7 CEILING MOUNTED LOW VOLTAGE OCCUPANCY SENSOR. ROUTE CONTROLLED RECEPTACLES THROUGH SENSOR VIA POWER PACK PP. REFER TO KEYNOTE T5 FOR ADDITIONAL INFORMATION.
- T8 POWER PACK FOR AUTOMATIC RECEPTACLE CONTROLS MOUNTED ABOVE CEILING IN AN ACCESSIBLE LOCATION. CONNECT TO OCCUPANCY SENSOR (MCL). PROVIDE J-BOX FOR PROTECTION.



A1 ENLARGED SERVING AREA POWER PLAN - LRG

1/2" = 1'-0"



C1 ENLARGED BOH POWER PLAN - LRG

1/2" = 1'-0"



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08/09/22

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FSR#04907

BUILDING TYPE / SIZE: P13 SE LRG
RELEASE: v2_2011

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
3	05/11/2022	ISSUED FOR BID
4	05/11/2022	ISSUED FOR CONSTRUCTION
7	08/03/2022	OIL REMOVAL SYSTEM

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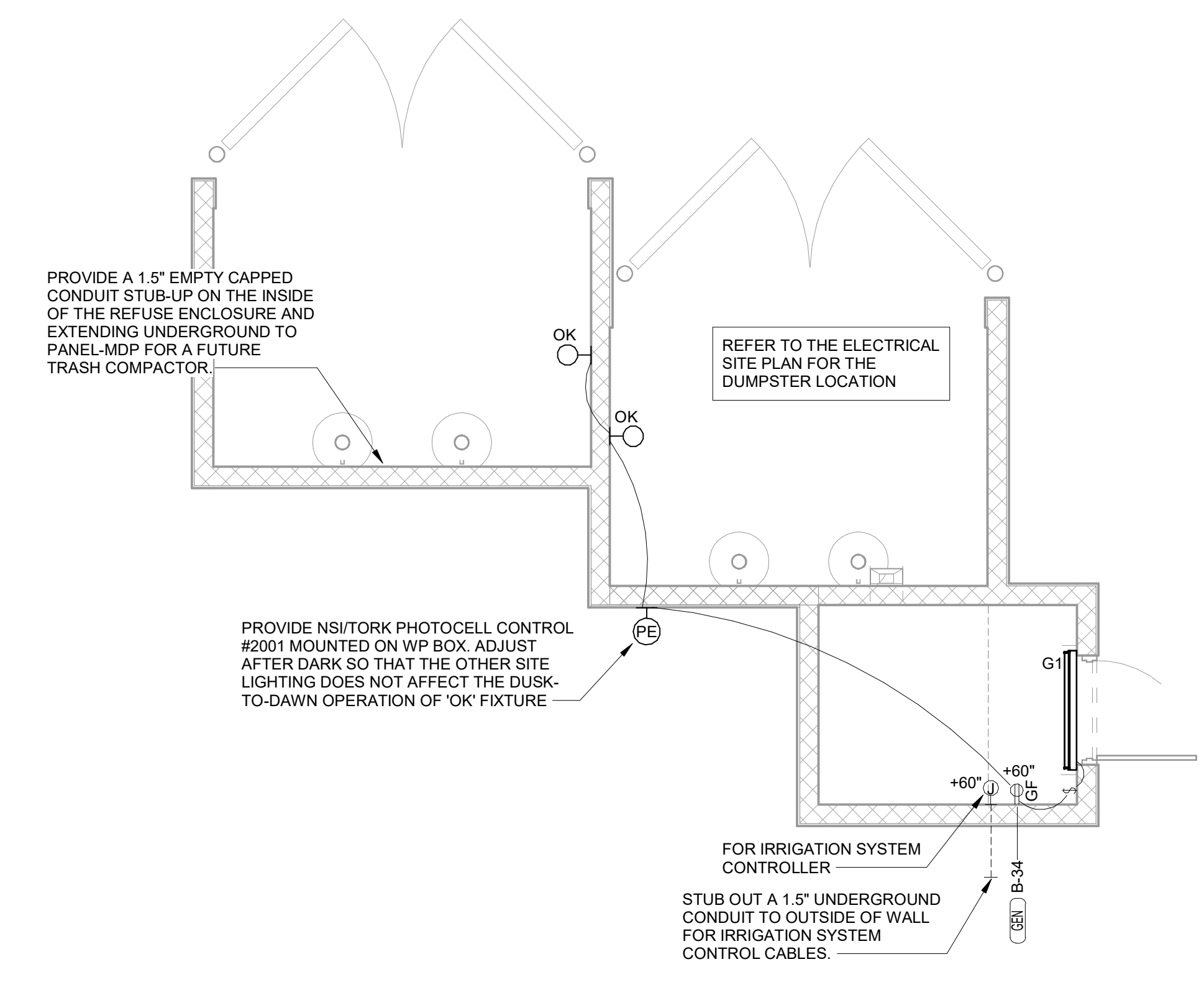
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SHEET ENLARGED SERVING AND BOH POWER PLAN

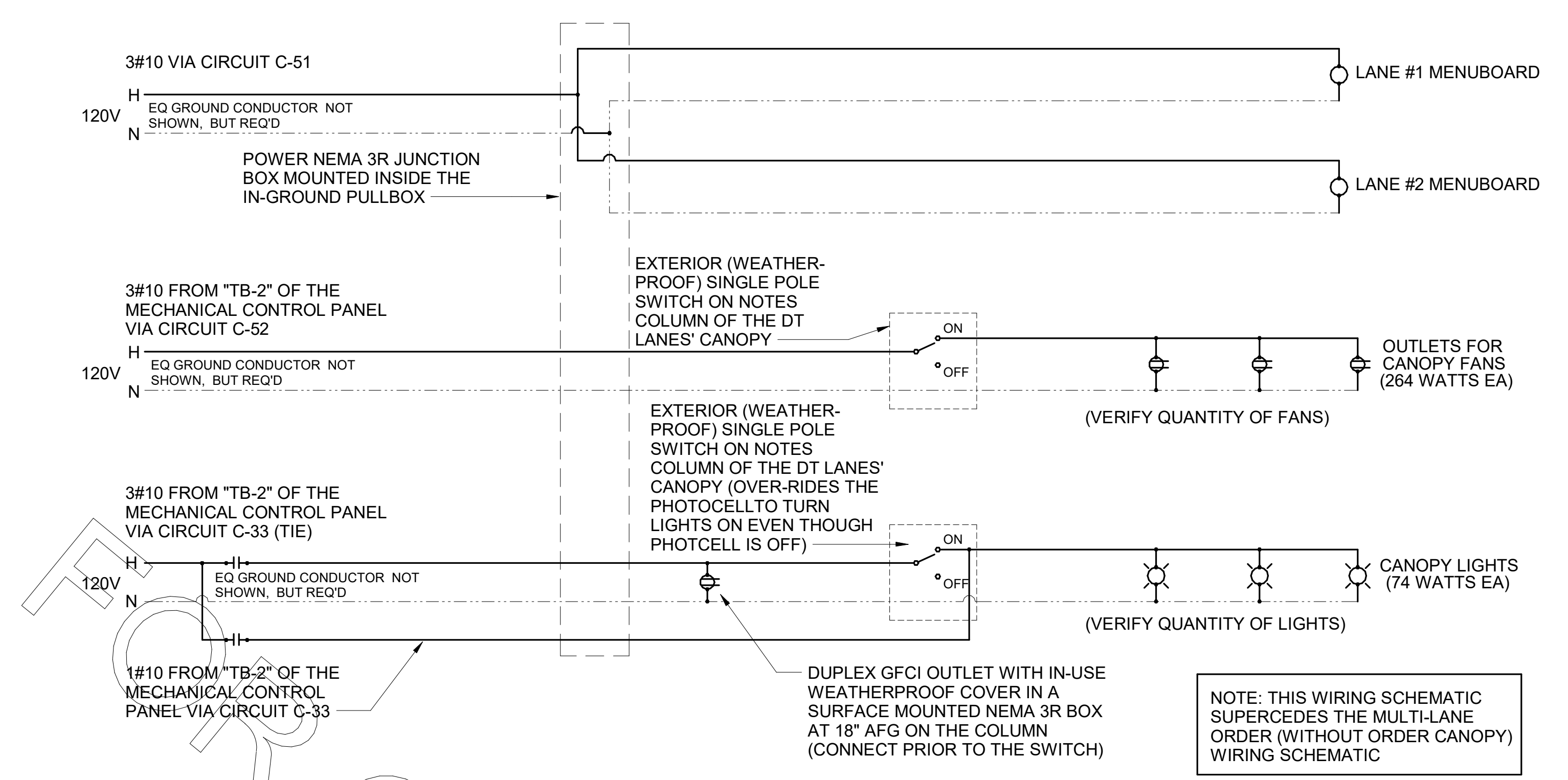
SHEET NUMBER

E-302

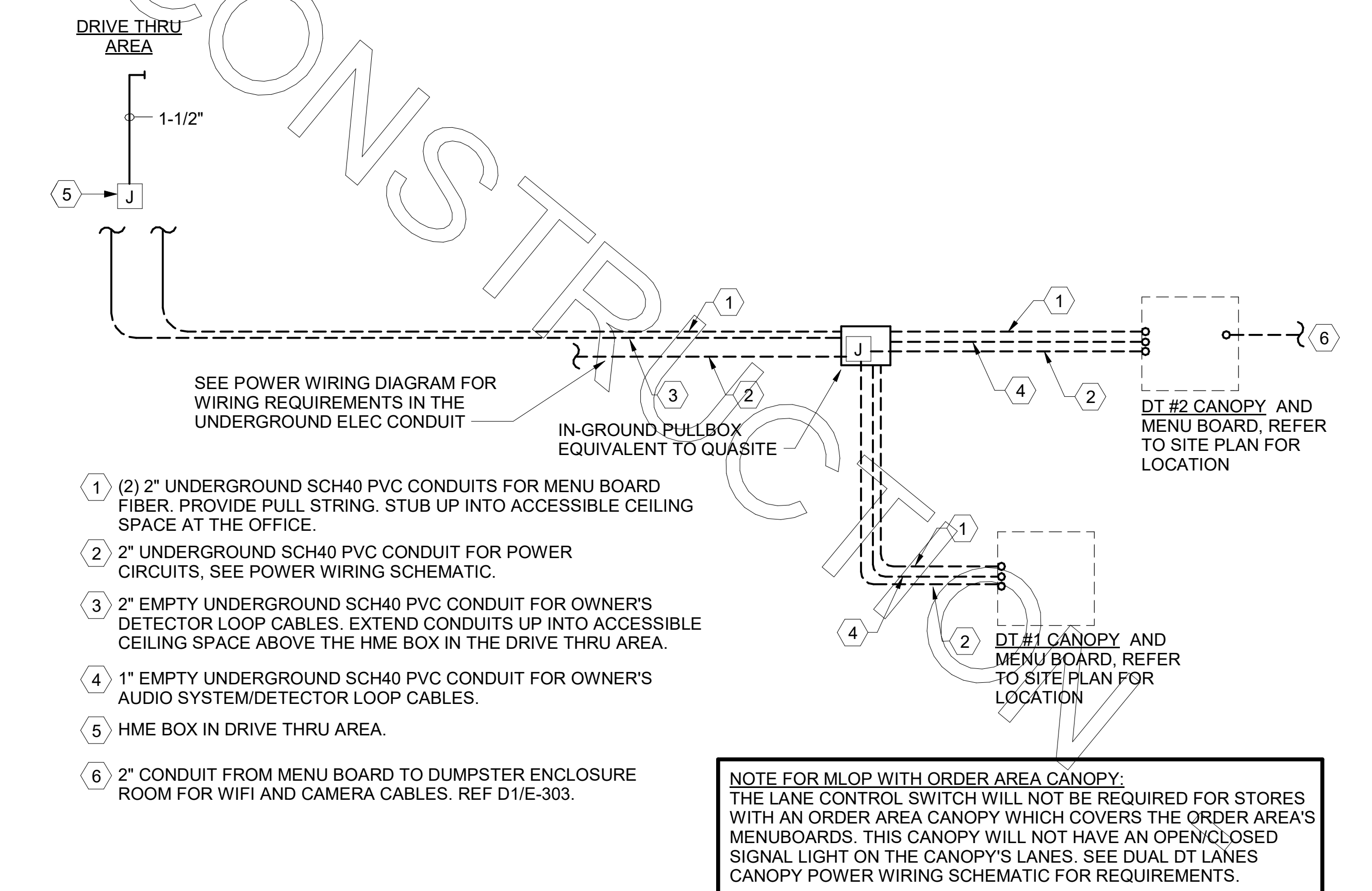
FOR CONSTRUCTION



D1 REFUSE ENCLOSURE ELECTRICAL PLAN
1/4" = 1'-0"



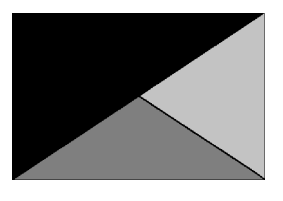
B1 MLOP DT REQUIREMENTS - NO ORDER F2F CANOPY
N.T.S.



A1 MLOP DT REQUIREMENTS - WITH ORDER AREA F2F CANOPY
NO SCALE



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06/01/22

CHICK-FIL-A

Lake Buena Vista

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FSR#04907
BUILDING TYPE / SIZE: P13 SE LRG
RELEASE: v2_20-11

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION

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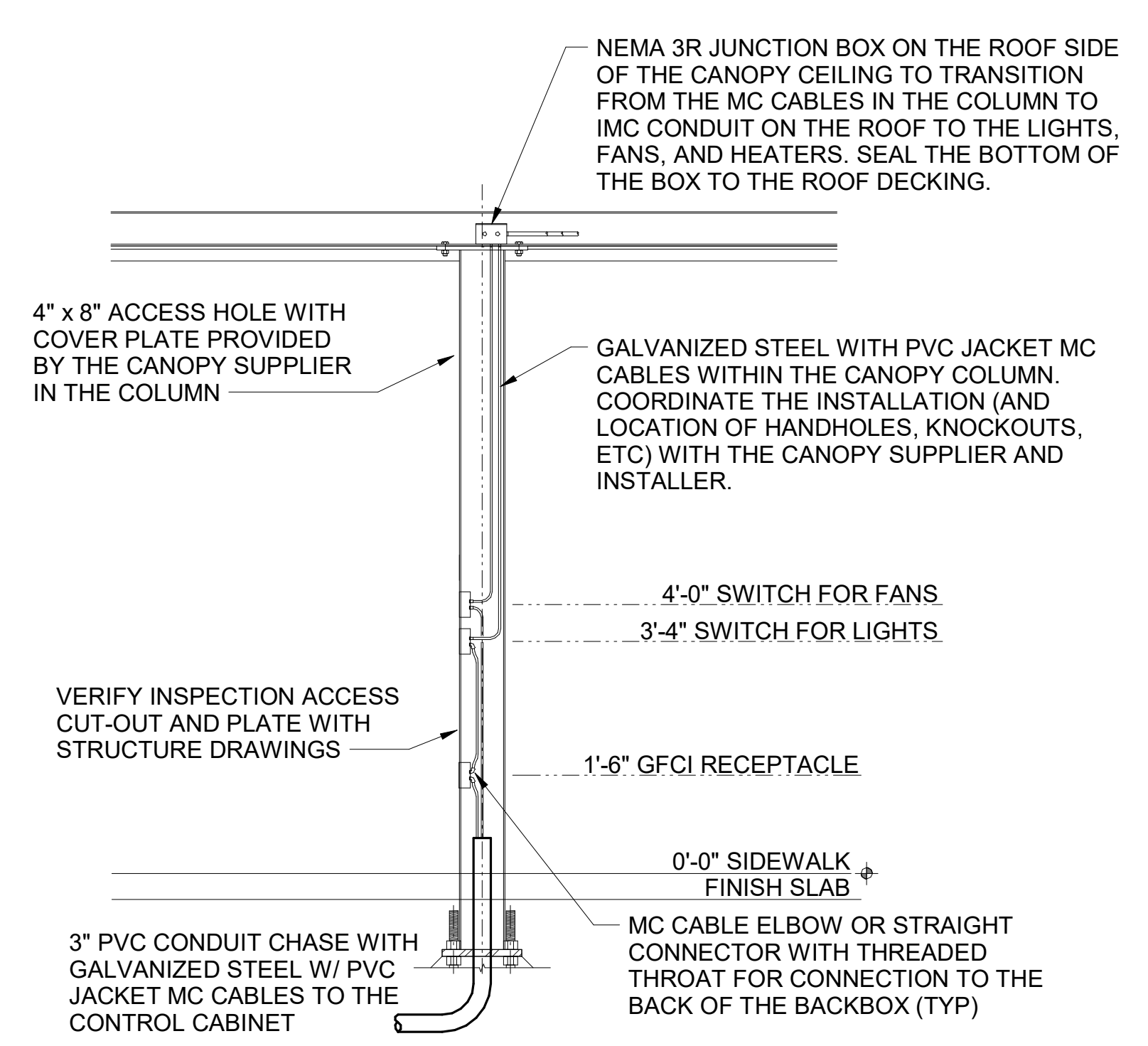
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SHEET
DT ORDERING AREA
DETAILS & REFUSE
ENCLOSURE PLAN
SHEET NUMBER

E-303

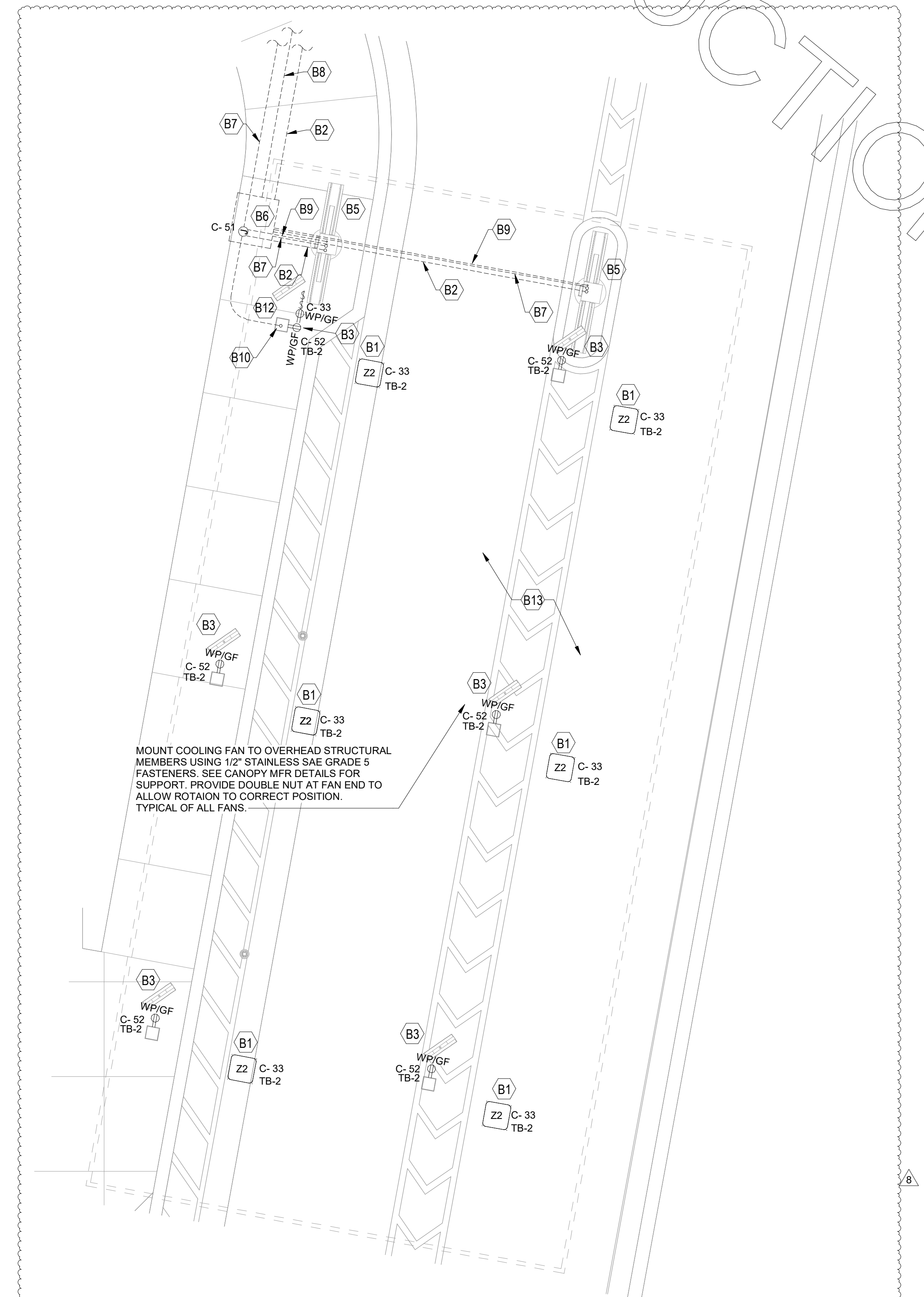
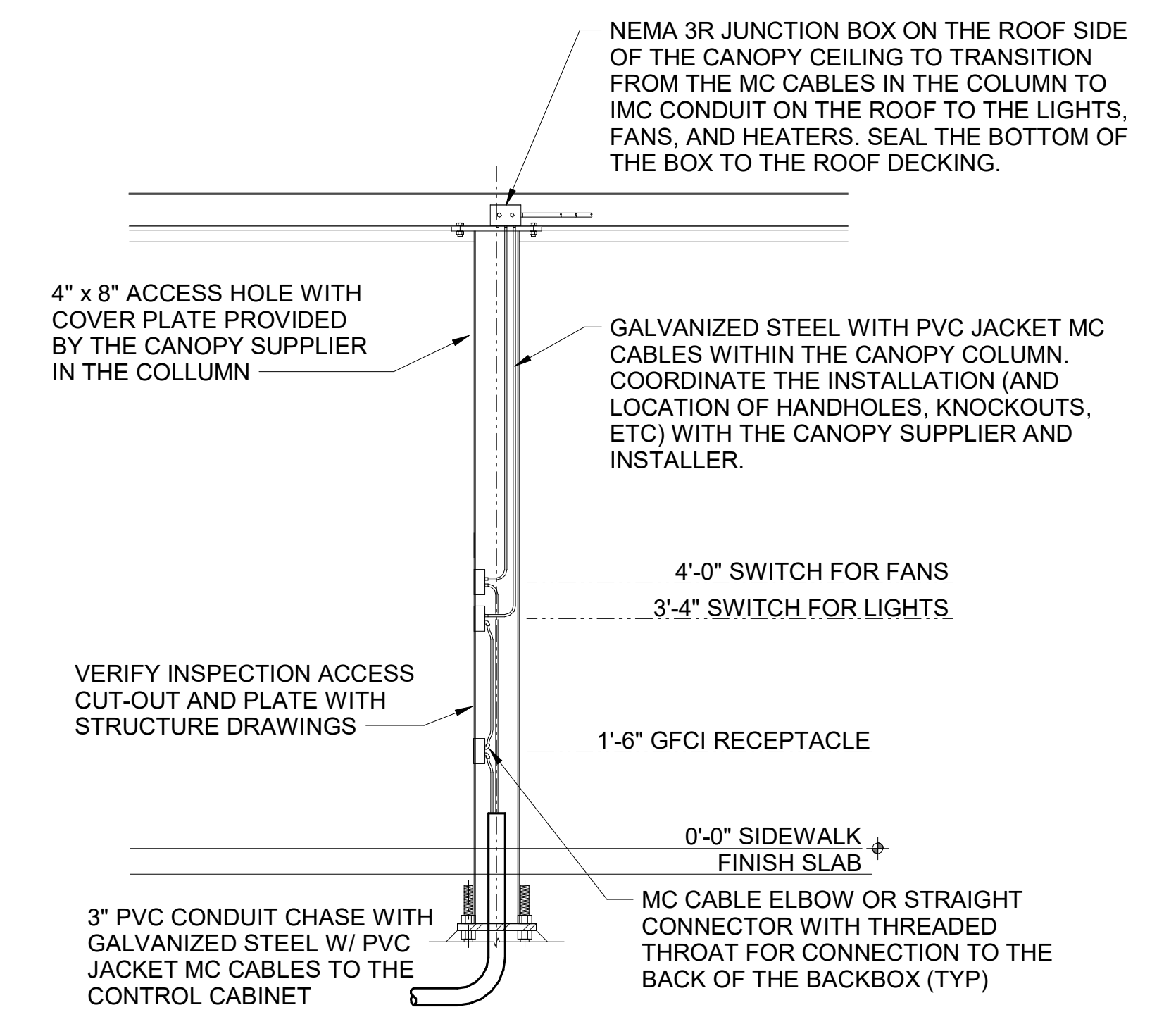
ORDER CANOPY ELECTRICAL KEYNOTES:

- (B1) CEILING LIGHT PROVIDED BY CANOPY SUPPLIER AND INSTALLED BY E.C.
- (B2) (2) 2" UNDERGROUND SCH40 PVC CONDUIT FOR MENU BOARD FIBER. PROVIDE PULL STRING. STUB UP INTO ACCESSIBLE CEILING SPACE AT THE OFFICE.
- (B3) AIR CIRCULATING FAN (WITH INTEGRAL ON-OFF SWITCH) PROVIDED BY OTHERS. PROVIDE A DUPLEX OUTLET (WITH IN-USE COVER PLATE) FLUSH MOUNTED IN CUT-OUT AT TOP OF COLUMN FOR FAN'S PLUG AND CORD. OUTLET TO BE ON DOWNSTREAM SIDE OF COLUMN AND AWAY FROM ONCOMING VEHICLES' VIEW.
- (B4) NOT USED.
- (B5) MENUBOARD PROVIDED BY OTHERS.
- (B6) PROVIDE IN-GROUND QUASITE PULLBOX FOR MLOP DATA CABLES WITH POWER NEMA 3R JUNCTION BOX MOUNTED INSIDE THE PULLBOX.
- (B7) 2" UNDERGROUND SCH40 PVC CONDUIT WITH POWER CONDUCTORS. SEE WIRING SCHEMATIC.
- (B8) 2" EMPTY UNDERGROUND SCH40 PVC CONDUIT FOR OWNER'S DETECTOR LOOP CABLES. EXTEND CONDUITS UP INTO ACCESSIBLE CEILING SPACE ABOVE THE HME BOX IN THE DRIVE THRU AREA.
- (B9) 1" EMPTY UNDERGROUND SCH40 PVC CONDUIT FOR OWNER'S AUDIO SYSTEM/DETECTOR LOOP CABLES.
- (B10) INSTALL UNDERGROUND 3" SCH40 PVC CONDUIT UP INTO THE CANOPY COLUMN WITH TYPE MC CABLE (GALVANIZED STEEL WITH PVC JACKET) RUN WITHIN FOR THE 120V POWER FOR LIGHTS AND 120 VOLT POWER FOR FANS.
- (B11) 2" CONDUIT FROM DRIVE-THRU MENU BOARD TO DUMPSTER ENCLOSURE ROOM FOR WIFI AND CAMERA CABLES.
- (B12) PROVIDE ONE DUPLEX GFCI (WITH IN-USE WP COVER PLATE), TWO 120V SINGLE-POLE SWITCHES (EACH WITH HUBBELL #RW51550 WP COVER PLATE) MOUNTED ON THE COLUMN IN FLUSH MOUNTED METAL SINGLE GANG BOXES FOR LOCAL ON-OFF CONTROL OF THE FANS AND CANOPY LIGHTS. SEE WIRING SCHEMATIC AND CANOPY COLUMN DETAILS FOR FURTHER INFORMATION. ALL SURFACE MOUNTED ITEMS AND COVER PLATES TO BE FIELD PAINTED MATTE BLACK.
- (B13) ALL CONDUIT AND BOXES SHALL BE CONCEALED FROM NORMAL VIEW. UNDERGROUND, IN COLUMNS, OR ABOVE THE CANOPY (ON THE ROOF). MC CABLE (GALVANIZED STEEL WITH PVC JACKET) TO BE USED INSIDE THE COLUMNS. BUT MUST CONVERT BACK TO IMC ABOVE THE ROOF. ALL EXPOSED ELECTRICAL BOXES TO BE NEMA 3R CAST-METAL.

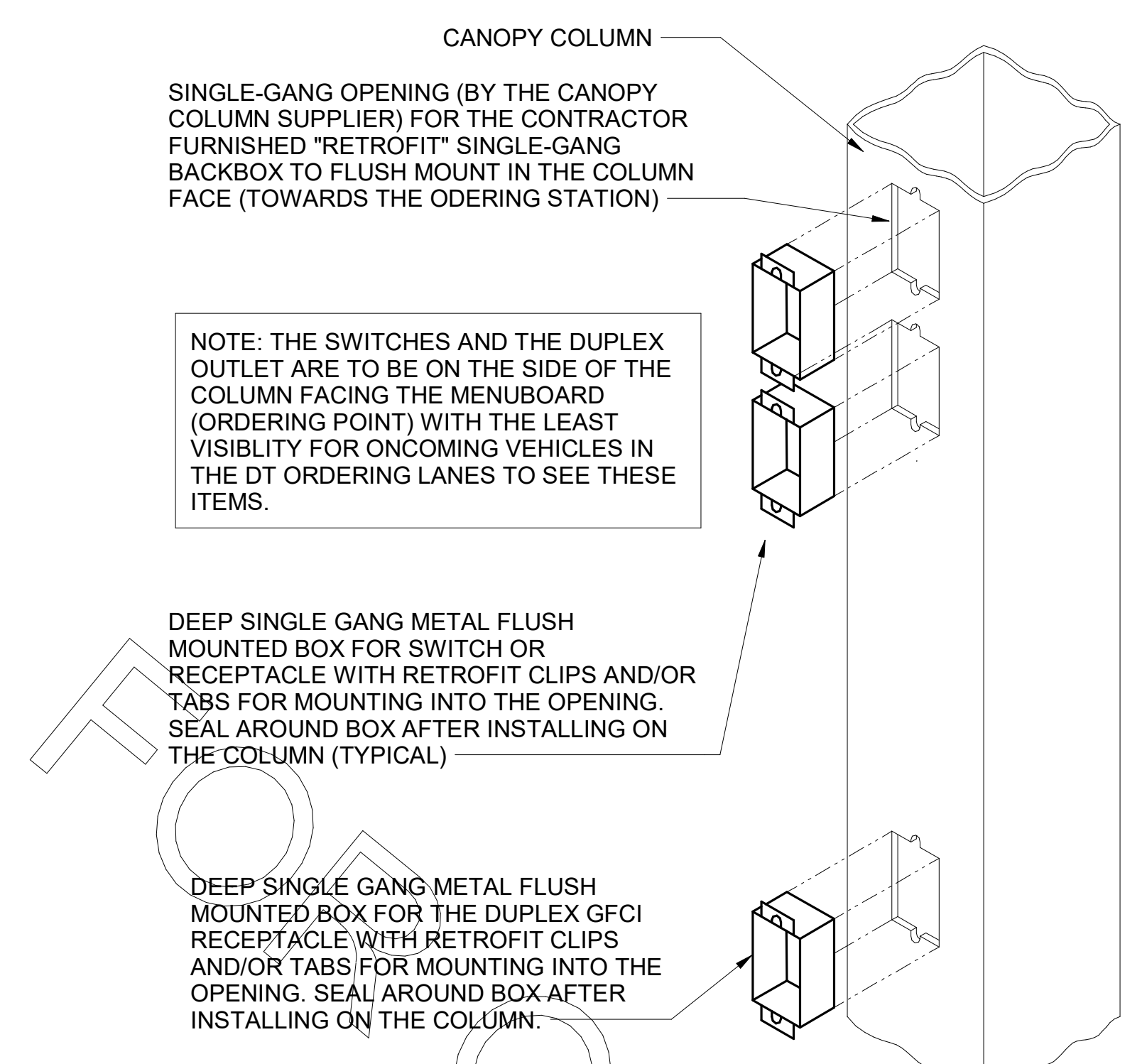
D2 MLOP ORDER CANOPY COLUMN SECTION
N.T.S.



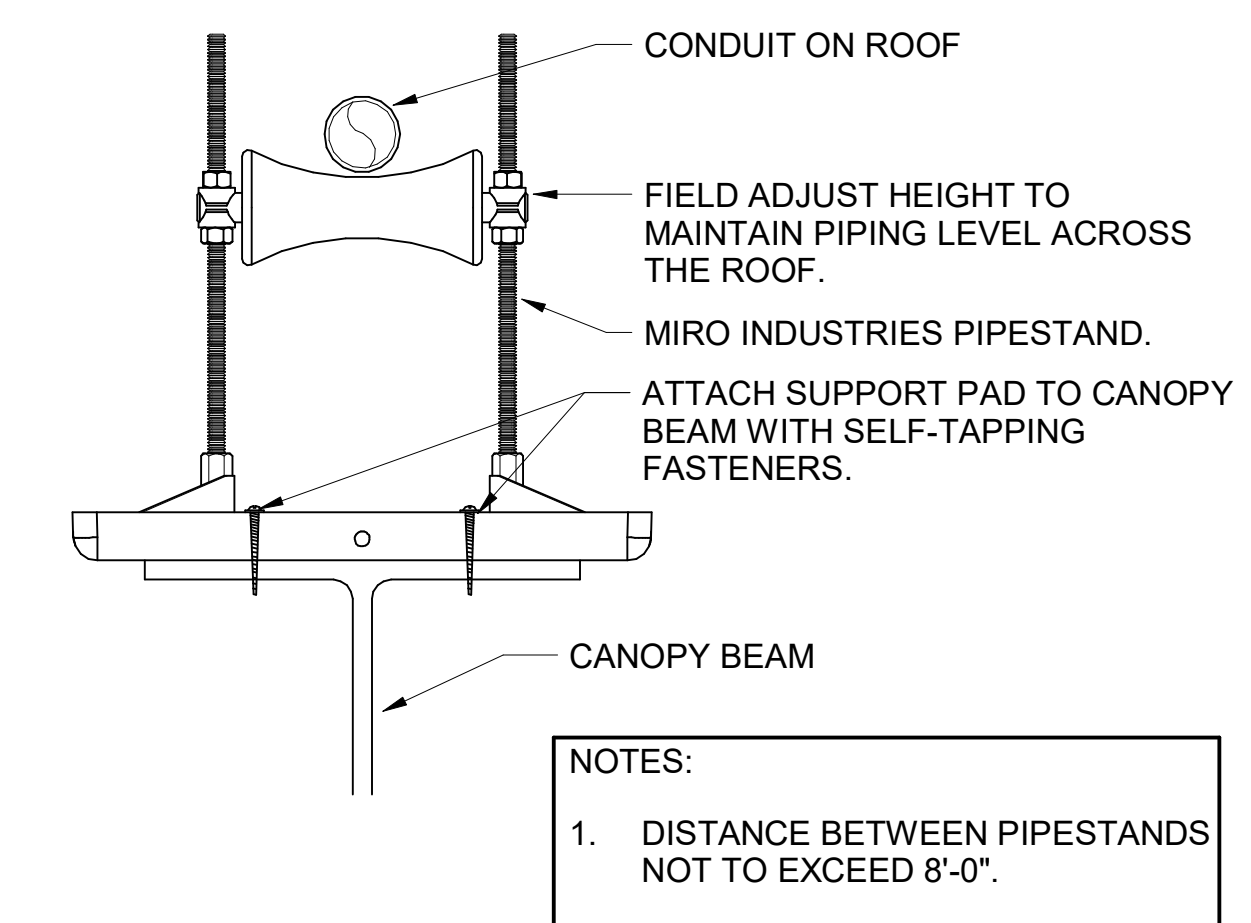
D1 MEAL DELIVERY CANOPY COLUMN SECTION
N.T.S.



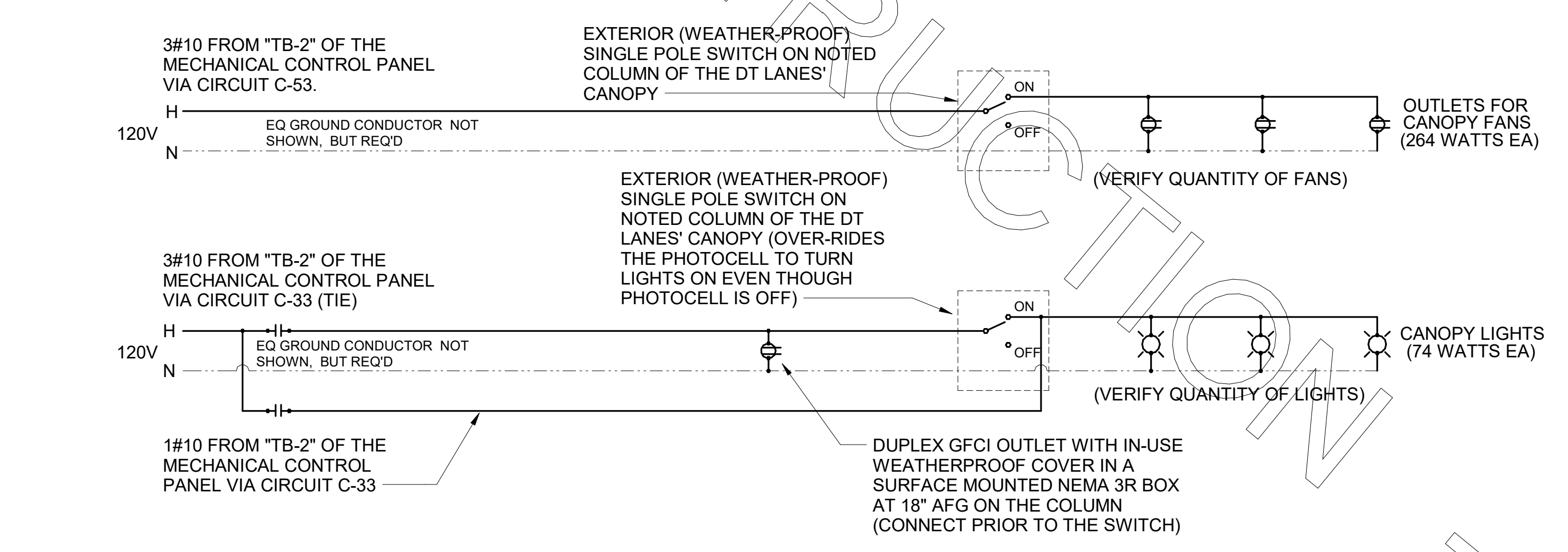
B4 MLOP ORDER CANOPY POWER PLAN
1/4" = 1'-0"



C3 CANOPY COLUMN ISOMETRIC
N.T.S.



C1 PIPING SUPPORT ON CANOPY
1/4" = 1'-0"



A1 MEAL DELIVERY CANOPY POWER WIRING SCHEMATIC
N.T.S.



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08/25/22

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Orlando, FL 32821

FSR#04907
BUILDING TYPE / SIZE: P13 SE LRG
RELEASE: v2_20-11

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
8	08/09/2022	SITE UPDATES

CONSULTANT PROJECT #	21059.MA.S
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SHEET ORDER CANOPY PLAN AND DETAILS
SHEET NUMBER

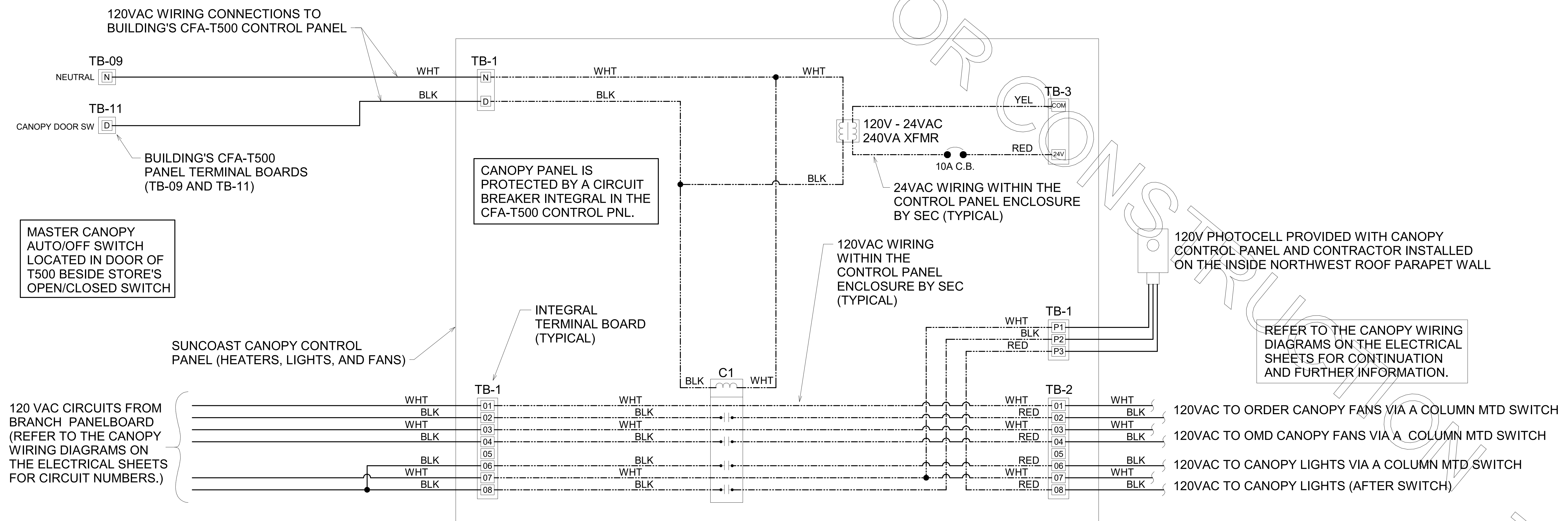
FOR CONSTRUCTION

SEQUENCE OF OPERATION	
STORE SWITCH IN "STORE OPEN" POSITION A. COOLING FANS ARE ENABLED. B. LIGHTS ARE ENABLED. C. MASTER AUTO/OFF SWITCH FOR IR HEATERS AND COOLING FANS. PROVIDE SINGLE POINT ON/OFF CONTROL.	STORE SWITCH IN "STORE CLOSED" POSITION A. COOLING FANS ARE DISABLED. B. LIGHTS ARE DISABLED.
NOTES 1. CONTRACTOR SHALL PURCHASE CONTROL PANEL DIRECT FROM SUNCOAST ENVIRONMENTAL CONTROLS (727-544-6679). 2. COORDINATE WITH GC TO ESTABLISH LOCATION TO MOUNT PANEL IN A CONDITIONED SPACE INSIDE THE BUILDING. SUGGESTED LOCATION IS SURFACE MOUNTED DIRECTLY ABOVE THE LOCATION OF THE CFA-T500 CONTROL PANEL. 3. THE SUNCOAST ENVIRONMENTAL CONTROLS (SEC) IS TO BE SURFACE MOUNTED, UNLESS OTHERWISE REQUESTED TO SUNCOAST. 4. PROVIDE LAMINATED LEGEND SHOWING NAMED LOCATIONS OF FANS. MOUNT LEGEND AT PANEL.	

LEGEND	
SEC	SUNCOAST ENVIRONMENTAL CONTROLS (SUPPLIER OF CONTROL PANELS)
-----	LOW VOLTAGE BY CONTRACTOR
-----	LOW VOLTAGE WIRING BY SUNCOAST
-----	120 VOLT BY CONTRACTOR
-----	120 VOLT BY SUNCOAST

CIRCULATING FAN SCHEDULE					
MARK	CFM	RPM	HP	MODEL	MANUFACTURER
CF	5,750	1,625	1/8	U18TE-HD	TPI
REMARKS	1. ALUMINUM PADDLE WITH STEEL HUB/SPIDER PROPELLER. 2. 360° ROTATING HEAD HORIZONTALLY AND VERTICALLY. 3. OSHA COMPLIANT DOUBLE LOCKING, COATED STEEL WIRE GUARD. 4. 3-SPEED, TOTALLY ENCLOSED, PERMANENTLY LUBRICATED BALL BEARING MOTOR. 5. FACTORY PRE-WIRED POWER CORD. 6. PROVIDE FACTORY WALL MOUNTING BRACKET. SEE FAN MOUNTING DETAIL ON CANOPY SHOP DRAWINGS FOR TYPICAL INSTALLATION INSTRUCTIONS. 7. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. MOUNT TO UNDERSIDE OF CANOPY OR EXISTING OVERHANG, FACING DOWNWARD, 12" Laterally FROM THE FAN LOCATION. 8. REMOVE PULL CHAIN EXTENSION AT ON/OFF SWITCH IN THE FIELD. 9. FACTORY CERTIFIED FOR OUTDOOR INSTALLATION.				
TPI FAN PACKAGE - THE CONTRACTOR IS REQUIRED TO PURCHASE THE FAN PACKAGE DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. FANS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.					

SUNCOAST RELAYS CONTACTORS SHOWN IN DE-ENERGIZED "STORE UNOCCUPIED" CONDITION. RELAYS AND CONTACTORS FACTORY INSTALLED BY SEC IN CONTROL PANEL. RELAYS AND CONTACTORS ENERGIZED VIA "STORE OPEN/CLOSED" SWITCH.



A1 SUNCOAST CANOPY CONTROL PANEL WIRING DIAGRAM
NO SCALE



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NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 21059.MA.S
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DATE 09/01/2021
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SHEET CANOPY CONTROL PANEL WIRING DIAGRAM
SHEET NUMBER

Branch Panel: A

LOCATION: SUPPLY FROM: MDP MOUNTING: SURFACE ENCLOSURE: NEMA 1

VOLTS: 120/208 Wye PHASES: 3 WIRES: 4

A.I.C. SERIES RATING: 65K/10K MAINS TYPE: MLO MAINS RATING: 250 A MCB RATING:

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP POLE, A, B, C, POLE TRIP, LOAD DESCRIPTION, CKT, NT. Lists various kitchen and utility loads.

Summary table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Includes Kitchen Equipment, Miscellaneuous, Motor, and Receptacles.

Branch Panel: B

LOCATION: SUPPLY FROM: MDP MOUNTING: SURFACE ENCLOSURE: NEMA 1

VOLTS: 120/208 Wye PHASES: 3 WIRES: 4

A.I.C. SERIES RATING: 65K/10K MAINS TYPE: MLO MAINS RATING: 250 A MCB RATING:

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP POLE, A, B, C, POLE TRIP, LOAD DESCRIPTION, CKT, NT. Lists general outlets, milkshake dispenser, and ice maker.

Summary table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Includes Heat, Kitchen Equipment, Lighting, and Receptacles.

GFCI REQUIREMENTS PER 2017 NEC.

THE CONTRACTOR SHALL PROVIDE GROUND FAULT PROTECTION FOR ALL RECEPTACLE OUTLET BRANCH CIRCUITS (IN ADDITION TO WHAT IS INDICATED IN THESE DOCUMENTS FOR 15 AND 20 AMP, 120 VOLT RECEPTACLES) IN THE KITCHEN/FOOD PREPARATION AREAS IN ACCORDANCE WITH THE 2017 EDITION OF THE NEC.

GROUND FAULT PROTECTION SHALL BE PROVIDED AT THE BRANCH BREAKER VIA A GROUND FAULT TYPE BREAKER FOR ALL 50 AMP AND LESS RECEPTACLE CIRCUITS UNLESS ALREADY NOTED TO BE PROVIDED WITH AN ACCESSIBLE GFCI TYPE RECEPTACLE. (NOTE THAT SQUARE-D DOES NOT HAVE ANY GFCI TYPE BRANCH BREAKERS ABOVE 50 AMP AVAILABLE AT THIS TIME).

Branch Panel: C

LOCATION: SUPPLY FROM: MDP MOUNTING: SURFACE ENCLOSURE: NEMA 1

VOLTS: 120/208 Wye PHASES: 3 WIRES: 4

A.I.C. SERIES RATING: 65K/10K MAINS TYPE: MLO MAINS RATING: 250 A MCB RATING:

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP POLE, A, B, C, POLE TRIP, LOAD DESCRIPTION, CKT, NT. Lists kitchen and utility loads including toaster table and dishwasher.

Summary table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Includes Kitchen Equipment, Lighting, Miscellaneuous, and Receptacles.

Branch Panel: D1

LOCATION: SUPPLY FROM: MDP MOUNTING: SURFACE ENCLOSURE: NEMA 1

VOLTS: 120/208 Wye PHASES: 3 WIRES: 4

A.I.C. SERIES RATING: 65K/10K MAINS TYPE: MLO MAINS RATING: 250 A MCB RATING:

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP POLE, A, B, C, POLE TRIP, LOAD DESCRIPTION, CKT, NT. Lists pressure fryer and charrill cooker.

Summary table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Includes Kitchen Equipment.

Branch Panel: D2

LOCATION: SUPPLY FROM: MDP MOUNTING: SURFACE ENCLOSURE: NEMA 1

VOLTS: 120/208 Wye PHASES: 3 WIRES: 4

A.I.C. SERIES RATING: 65K/10K MAINS TYPE: MLO MAINS RATING: 250 A MCB RATING:

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP POLE, A, B, C, POLE TRIP, LOAD DESCRIPTION, CKT, NT. Lists open fryer and pressure fryer.

Summary table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Includes Kitchen Equipment.

Branch Panel: POS

LOCATION: SUPPLY FROM: A MOUNTING: SURFACE ENCLOSURE: NEMA 1

VOLTS: 120/120 Single PHASES: 3 WIRES: 4

A.I.C. SERIES RATING: 10 K MAINS TYPE: MLO MAINS RATING: 100 A MCB RATING:

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP POLE, A, B, C, POLE TRIP, LOAD DESCRIPTION, CKT, NT. Lists counter stations and office receptacles.

Summary table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Includes Miscellaneuous Receptacles.

Distribution Panel: MDP

LOCATION: SUPPLY FROM: MDP MOUNTING: SURFACE ENCLOSURE: NEMA 3R

VOLTS: 120/208 Wye PHASES: 3 WIRES: 4

A.I.C. SERIES RATING: 65K MAINS TYPE: MCB MAINS RATING: 1200 A MCB RATING: 1200 A

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP POLE, A, B, C, POLE TRIP, LOAD DESCRIPTION, CKT, NT. Lists various sub-feed panels and units.

Summary table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Includes Heat, HVAC, Kitchen Equipment, Lighting, Miscellaneuous, and Receptacles.

LOAD SUMMARY table with columns: TOTAL CONNECTED KVA, IF TOTAL LOAD IS 0_200 KVA, IF TOTAL LOAD IS 201_325 KVA, IF TOTAL LOAD IS 326-800 KVA, IF TOTAL LOAD IS OVER 800 KVA, DIVERSIFIED AMPS AT 208 VOLT.

REFER TO SHEET E-502 FOR PANEL SCHEDULE D3

PANELBOARD NOTES

- (A) CONTROLLED BY RELAY IN CONTROL PANEL CFA-T500 AND STORE-OPEN EXHAUST FAN SWITCH... (B) CONTROLLED BY EXTERIOR SIGN RELAY IN CONTROL PANEL CFA-T500. (C) CONTROLLED BY EXTERIOR LIGHTING RELAY IN CONTROL PANEL CFA-T500. (D) CONTROLLED BY EXTERIOR LIGHTING RELAY - DUSK TO DAWN ZONE. (E) CONTROLLED BY PARKING LOT LIGHTING CONTROL SWITCH. (F) GFCI TYPE BREAKER TO BE 30MA TYPE BREAKER. (G) GROUND FAULT. (H) THE CONTRACTOR SHALL PROVIDE GROUND FAULT PROTECTION FOR ALL 120 VOLT, 15 AND 20 AMP, RECEPTACLES IN THE KITCHEN/FOOD PREPARATION AREA... (I) ISOLATED GROUND. (J) CONTROLLED BY INTERIOR LIGHTING RELAYS IN CONTROL PANEL T-500. (K) LOCK-ON. (L) LOCK-OFF FOR MAINTENANCE. (M) HIGH MAG LOAD. (N) THRU (1) SB6100-02X-0 GFCI PROTECTION DEVICE IN SB6000 PANEL ENCLOSURE. (O) SHUNT TRIP. INTERLOCK W/ ANSUL SYSTEM VIA T-500 PANEL. (P) SURGE PROTECTION FOR INDIVIDUAL CIRCUIT.



Chick-fil-A 5200 Buffington Road Atlanta, Georgia 30349-2998

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1/10/23

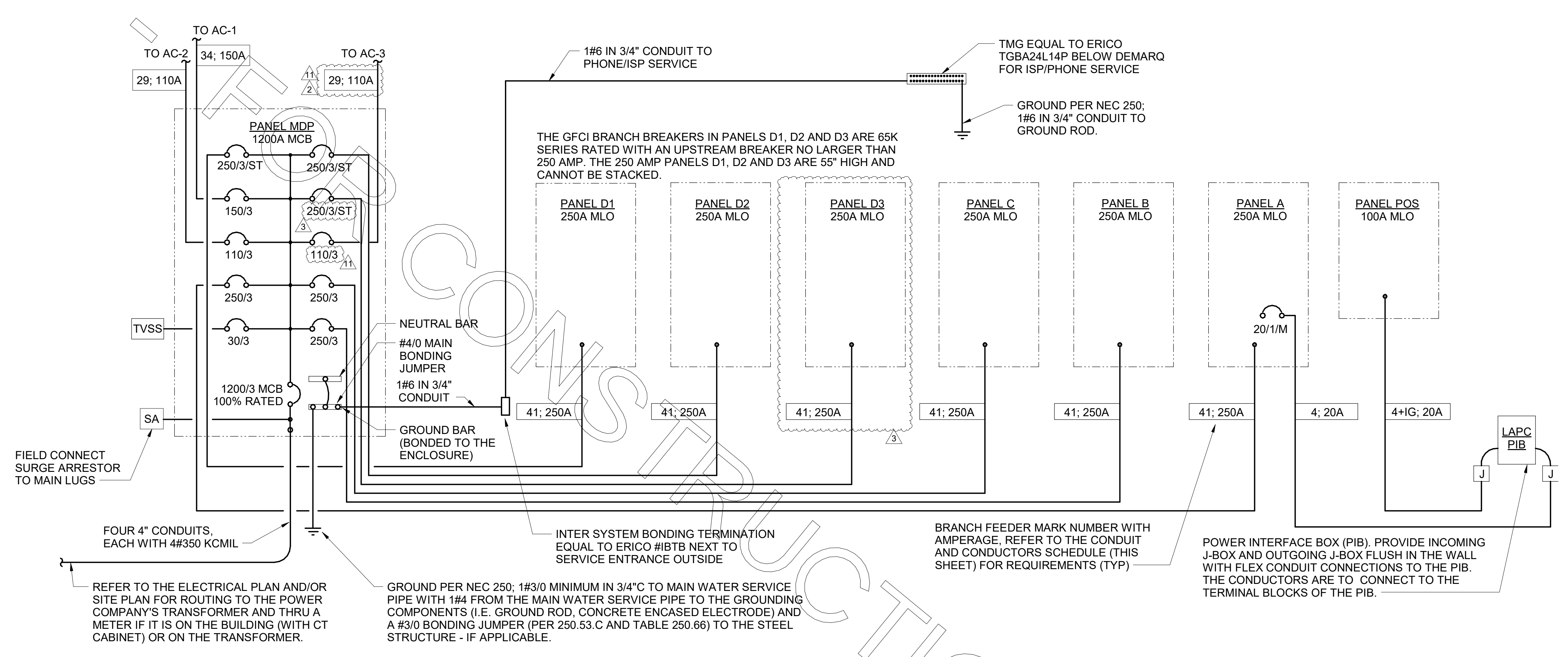
CHICK-FIL-A Lake Buena Vista 13520 S Apopka Vineland Rd Orlando, FL 32821

FSR#04907

REVISION SCHEDULE table with columns: NO., DATE, DESCRIPTION. Lists revision history.

CONSULTANT PROJECT # 21059.MA.S PRINTED FOR IFC DATE 09/01/2021 DRAWN BY BTS

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C2 SINGLE LINE DIAGRAM
NO SCALE

SINGLE-LINE DIAGRAM NOTES

- VERIFY SERVICE LOCATIONS AND CONFORM TO THE REQUIREMENTS OF THE POWER COMPANY AND/OR DEVELOPER. POWER COMPANY AND/OR DEVELOPER SHALL BE CONTACTED PRIOR TO BEGINNING CONSTRUCTION TO ARRANGE AND VERIFY FOR THE INSTALLATION OF THE POWER COMPANY SERVICE, METER, AND OTHER ITEMS.
- GROUND ALL EQUIPMENT AND SERVICES IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, LOCAL APPLICABLE CODES, AND ALSO AS INDICATED ON DRAWINGS.
- MAKE NECESSARY INSPECTIONS OF EXISTING SITE AND SERVICE LOCATIONS AS REQUIRED FOR THIS WORK AND MAKE ALLOWANCE FOR EXISTING CONDITIONS BEFORE SUBMITTING BID. VERIFY WORK REQUIRED WITH POWER COMPANY AND TELEPHONE COMPANY.
- CUT AND PATCH THE CONSTRUCTION WORK AS REQUIRED FOR PROPER INSTALLATION OF THE ELECTRICAL WORK. ALL PATCHING SHALL MATCH THE SURROUNDING WORK TO THE SATISFACTION OF THE ARCHITECT. ALL CONDUIT SHALL BE INSTALLED CONCEALED UNLESS SPECIFICALLY APPROVED BY THE ARCHITECT. COORDINATE SAW CUTTING WITH LANDLORD'S OR OWNER'S REPRESENTATIVE.
- WIRE AND CABLE:
 - CONDUCTORS SHALL BE COPPER, #12 AWG, MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE.
 - CONDUCTOR #10 AWG AND SMALLER SHALL BE SOLID AND #8 AWG AND LARGER SHALL BE STRANDED. INSULATION SHALL BE 600 VOLT, THHN/THWN.
- PROVIDE ENGRAVED LAMINATED PHENOLIC BLOCK-ON-WHITE (UNLESS NOTED OTHERWISE) NAMEPLATES SECURED TO EQUIPMENT WITH ADHESIVE AND SCREWS FOR PANELBOARDS, RELAY CABINETS, TRANSFORMERS, DISTRIBUTION BOARDS, AND MAIN PANELBOARD - IDENTIFYING EQUIPMENT DESIGNATION (CORRESPONDING WITH DESIGNATION USED ON DRAWINGS) AND EQUIPMENT VOLTAGE. LETTERING SHALL BE 1/4" HIGH. PROVIDE LABELS FOR CIRCUIT BREAKERS, FUSIBLE SWITCHES AND STARTERS IN PANELBOARDS AND DISTRIBUTION BOARDS FOR EACH DEVICE IDENTIFYING EQUIPMENT CONTROLLED. LETTERING SHALL BE 1/8" HIGH.
- ALL DEVICES SHALL HAVE AN INTERRUPTING CAPACITY NOT LESS THAN THE POWER COMPANY AVAILABLE FAULT CURRENT, OR AS INDICATED ON THE DRAWINGS.
- 120/208 VOLT BRANCH CIRCUIT PANELBOARD BREAKERS SHALL HAVE A MINIMUM U.L. SERIES RATING OF 65 KAIC WITH UP-STREAM FEEDER BREAKERS AS NOTED.
- AVAILABLE SPACE FOR MAIN PANELBOARD IS LIMITED. PANELBOARD MUST FIN IN ALLOCATED SPACE. COORDINATE WITH CONSTRUCTION AS REQUIRED.
- ALL WIRING SHALL BE IN CONDUIT, E.M.T OR RIGID. FLEXIBLE CONDUIT MAY ONLY BE USED FOR FINAL CONNECTIONS AND WITH GREEN EQUIPMENT GROUNDING CONDUCTORS.

SWITCHGEAR AND CONTROL EQUIPMENT NOTES

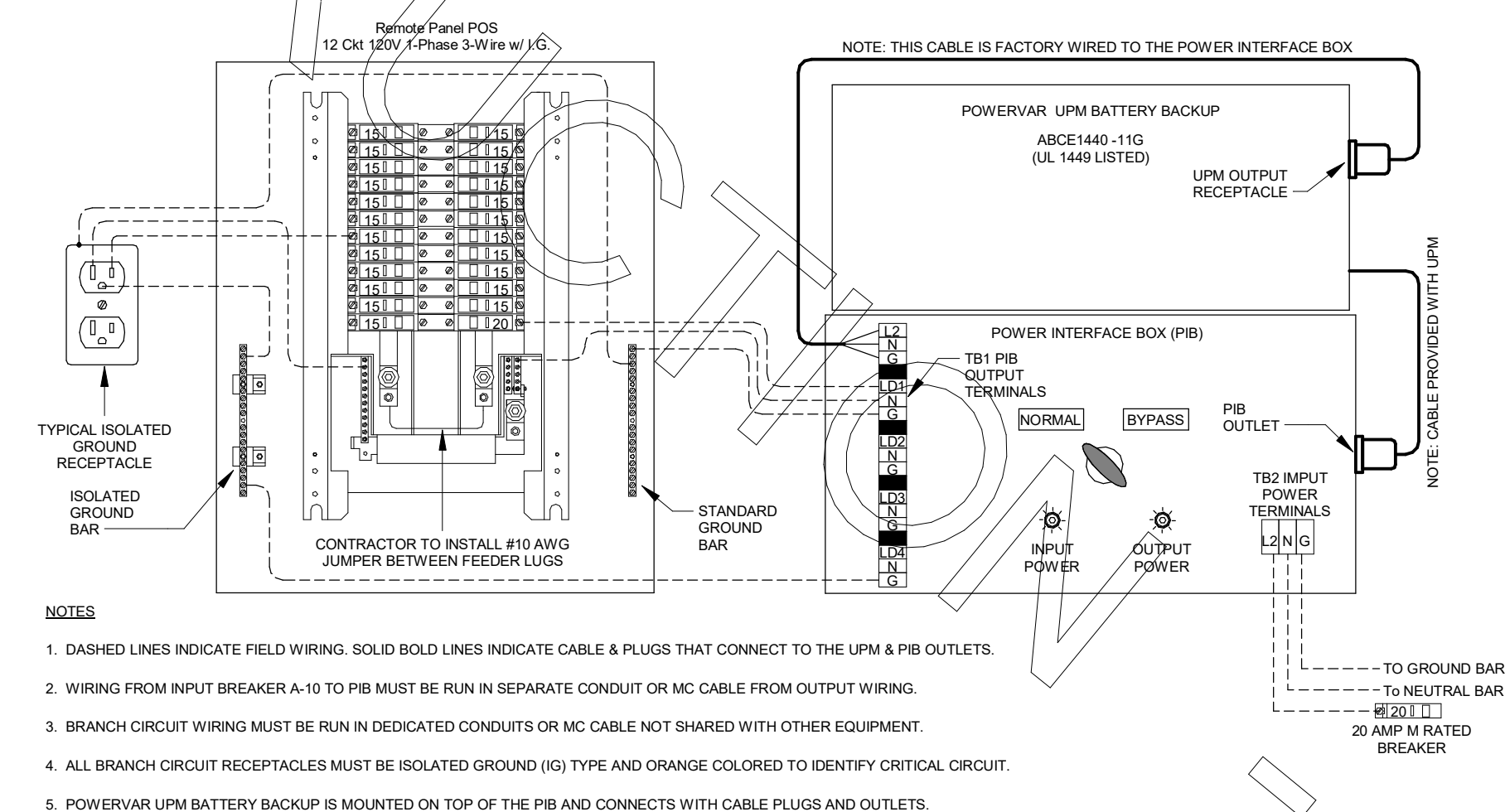
- PURCHASE PANELBOARDS, SURGE ARRESTOR, AND TVSS FROM ONE OF THE TWO NATIONAL ACCOUNTS VENDORS (SEE SHEET E-902 SECTION C16440, PANELBOARDS) PROVIDING SQUARE-D EQUIPMENT. NO SUBSTITUTIONS ALLOWED.
- PURCHASE CONTROL PANEL 'CFA-T500' FROM SUNCOAST ENVIRONMENTAL, INC. (NO SUBSTITUTIONS ALLOWED). ALL EQUIPMENT IN THE CONTROL PANEL SHALL BE INSTALLED, WIRED AND CONNECTED AT THE FACTORY, INCLUDING AUTOMATIC LIGHTING CONTROL SYSTEM, LIGHTING RELAYS, HVAC STARTERS, POWER SUPPLIES, MISCELLANEOUS RELAYS AND CONTROLS, AND THERMOSTATS.
- CONTRACTOR SHALL PROVIDE PANEL FEEDERS A, B, C, D, AND POS, BRANCH CIRCUIT CONDUIT AND WIRE, AND INSTALL ALL EQUIPMENT AS REQUIRED.
- ALL BREAKERS AND PANELS SHALL BE SQUARE-D.
- TVSS AND SURGE ARRESTOR UNITS SHALL BE MOUNTED DIRECTLY ADJACENT TO THE SIDE OF THE MAIN DISTRIBUTION PANEL IN NEMA 3R ENCLOSURES. CLOSE NIPPLE THE UNITS TO THE SIDE OF THE PANEL. PROVIDE CONNECTION OF TVSS UNIT TO BREAKER IN PANEL. CONNECT SURGE ARRESTOR TO MAIN INCOMING LUGS OF THE PANEL. CONNECT USING MINIMUM LENGTH OF WIRE WITHOUT SHARP BENDS IN THE WIRE AND SHALL NOT BE LENGTHENED FROM WIRE LENGTH PROVIDED WITH THE TVSS OR SURGE SUPPRESSOR DEVICE.

Branch Panel: D3											
LOCATION: SUPPLY FROM: MDP MOUNTING: SURFACE ENCLOSURE: NEMA 1			VOLTS: 120/208 Vye PHASES: 3 WIRES: 4			A.I.C. SERIES RATING: 65K/10K MAINS TYPE: MLO MAINS RATING: 250 A MCB RATING:					
NT	CKT	LOAD DESCRIPTION	TRIP	POLE	A	B	C	POLE TRIP	LOAD DESCRIPTION	CKT	NT
SB	1	OPEN FRYER (522)	80 A	3	7.320	4.560		3 50 A	PRESSURE FRYER (523)	2	I
	3		--	--		7.320	4.560	--			4
	5		--	--			7.320	4.560			6
SB	7	OPEN FRYER (522)	80 A	3	7.320	4.560		3 50 A	PRESSURE FRYER (523)	8	I
	9		--	--		7.320	4.560	--			10
	11		--	--			7.320	4.560			12
	13	SPACE	--	--	0.000	0.000		--	SPACE		14
	15	SPACE	--	--	0.000	0.000		--	SPACE		16
	17	SPACE	--	--			0.000	0.000	--	SPACE	18
	19	SPACE	--	--	0.000	0.000		--	SPACE		20
	21	SPACE	--	--		0.000	0.000	--	SPACE		22
	23	SPACE	--	--		0.000	0.000	--	SPACE		24
	25	SPACE	--	--	0.000	0.000		--	SPACE		26
	27	SPACE	--	--		0.000	0.000	--	SPACE		28
	29	SPACE	--	--		0.000	0.000	--	SPACE		30
Total Load:			23.76 kVA		23.76 kVA		23.76 kVA				
Total Amps:			198.0 A		198.0 A		198.0 A				
Load Classification		Connected Load	Demand Factor	Estimated Demand		Panel Totals					
KITCHEN EQUIPMENT		71280 VA	65.00%	46332 VA				Total Conn. Load: 71.3 kVA			
								Total Est. Demand: 46.3 kVA			
								Total Conn.: 197.9 A			
								Total Est. Demand: 128.6 A			

B1 CONDUIT AND CONDUCTORS SCHEDULE

Mark No.	OCP Device (Amp/Poles)	Conductors Total Amps	Conductors				Raceway Size (Nominal Inches)								
			Phase & Neutral Qty	Size	Type	Min Eq Grid Qty/Set	Size	No. Sets	Phase, Neutral & Equip Grid EMT	IMC	RIGID PVC	With IG EMT	IMC	PVC	
1	20/1	20	2	12	THHN	1	12	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
2	20/2	20	3	12	THHN	1	12	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
3	20/3	20	4	12	THHN	1	12	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
4	25/1	30	2	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
5	25/2	30	3	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
6	25/3	30	4	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
7	30/1	30	2	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
8	30/2	30	3	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
9	30/3	30	4	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
10	40/1	40	2	8	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
11	40/2	40	3	8	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
12	40/3	40	4	8	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	1.00
13	50/1	55	2	6	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
14	50/2	55	3	6	THHN	1	10	One	0.75	0.75	0.75	0.75	1.00	1.00	1.00
15	50/3	55	4	6	THHN	1	10	One	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	60/1	70	2	4	THW	1	8	One	1.00	1.00	1.00	1.00	1.25	1.00	1.25
17	60/2	70	3	4	THW	1	8	One	1.25	1.00	1.25	1.25	1.25	1.25	1.25
18	60/3	70	4	4	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
19	70/1	70	2	4	THW	1	8	One	1.00	1.00	1.00	1.00	1.25	1.00	1.25
20	70/2	70	3	4	THW	1	8	One	1.25	1.00	1.25	1.25	1.25	1.25	1.25
21	70/3	70	4	4	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
22	80/2	85	3	3	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
23	80/3	85	4	3	THW	1	8	One	1.25	1.25	1.25	1.25	1.50	1.25	1.50
24	90/2	95	3	2	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.50	1.50
25	90/3	95	4	2	THW	1	8	One	1.50	1.25	1.50	1.50	1.50	1.50	1.50
26	100/2	110	3	1	THW	1	6	One	1.50	1.50	1.50	1.50	2.00	2.00	2.00
27	100/3	110	4	1	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
28	110/2	110	3	1/0	THW	1	6	One	1.25	1.25	1.25	1.25	1.50	1.25	1.50
29	110/3	110	4	1/0	THW	1	6	One	1.50	1.25	1.50	1.50	1.50	1.50	1.50
30	125/2	110	3	1/0	THW	1	6	One	1.50	1.50	1.50	1.50	2.00	2.00	2.00
31	125/3	110	4	1/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
32	150/2	110	3	1/0	THW	1	6	One	2.00	1.50	2.00	2.00	2.00	2.00	2.00
33	150/3	110	4	1/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
34	175/2	110	3	2/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
35	175/3	110	4	2/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.50	2.50
36	200/2	110	3	3/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.50	2.50
37	200/3	110	4	3/0	THW	1	6	One	2.50	2.50	2.50	2.50	2.50	2.50	2.50
38	225/2	110	3	4/0	THW	1	4	One	2.50	2.00	2.50	2.50	2.50	2.50	2.50
39	225/3	110	4	4/0	THW	1	4	One	2.50	2.50	2.50	2.50	2.50	3.00	3.00
40	250/3	110	4	250	THW	1	4	One	2.50	3.00	3.00	3.00	3.00	3.00	3.00
41A	300/3	110	4	300	THW	1	4	One	3.00	3.00	3.00	3.00	3.00	3.00	3.00
41B	300/3	110	4	350	THW	1	4	One	3.00	3.00	3.00	3.00	3.00	3.00	3.00
42A	350/3	110	4	400	THW	1	4	One	3.00	3.50	3.50	3.50	3.50	3.50	3.50
42B	350/3	110	4	500	THW	1	4	One	3.50	3.50	3.50	3.50	3.50	3.50	3.50
43A	400/3	110	4	500	THW	1	3	One	3.50	3.50	3.50	3.50	3.50	3.50	3.50
43B	400/3	110	4	3/0	THW	1	3	Two	2.50	2.50	2.50	2.50	2.50	2.50	2.50
44A	600/3	110	4	300	THW	1	1	Two	3.00	3.00	3.00	3.00	3.00	3.00	3.00
44B	600/3	110	4	350	THW	1	1	Two	3.00	3.00	3.00	3.00	3.00	3.00	3.50
45A	800/3	110	4	500	THW	1	1/0	Two	3.50	3.50	3.50	3.50	3.50	3.50	3.50
45B	800/3	110	4	600	THW	1	1/0	Two	4.00	4.00	4.00	4.00	4.00	4.00	4.00
46	1000/3	110	4	400	THW	1	2/0	Three	3.50	3.50	3.50	3.50	3.50	3.50	3.50
47	1200/3	110	4	350	THW	1	3/0	Four	3.50	3.50	3.50	3.50	3.50	3.50	4.00
48	1600/3	110	4	400	THW	1	4/0	Five	4.00	4.00	4.00	4.00	4.00	4.00	4.00

Notes:
Conductors are rated at 600 volt or below and are to be copper.
NEC Table 310.15(B)(16) - formerly Table 310.16 - is used for the basis of the conductor ampacities, which is not more than three current carrying conductors in a raceway at an ambient temperature of 30 deg C with 60 deg C rated conductors and connectors per 110.14-C-1 for up to 100 amp rated and up to #1 AWG conductors for equipment terminations and 75 deg C rated conductors and termination connectors for larger than 100 amp or above #1 AWG conductors.
NEC Tables 4, 5, and Appendix C is used for the basis of the conduit sizes. Table C1 for EMT, Table C4 for IMC, Table C8 for Rigid, and Table C10 for PVC (Sch 40).
All Branch Feeders and Branch Circuits shall include a green Equipment Grounding Conductor. Omit Grounding conductor on Service Entrance Feeders.
Omit Neutral conductor on all Delta primary transformer feeders or 3 phase loads not requiring a neutral.
The above conductors are not calculated for Voltage Drop. Any circuits that exceed 100 feet shall be calculated by the Installer to have less than a three percent voltage drop on feeders and five percent on branch circuits per the NEC.



SECTION C16100
ELECTRICAL GENERAL PROVISIONS

PART 1 - GENERAL

- 1.01 WORK INCLUDED
 - A. Provide all materials, labor and equipment required to furnish and install a complete electrical system as indicated on drawings and as specified herein.
- 1.02 REGULATORY REQUIREMENTS
 - A. Equipment furnished shall be UL listed where such label is available. Installation shall conform to UL standards where applicable.
 - B. Electrical work shall be installed in accordance with drawings and specifications, NEC and NFPA codes in effect at project location, state and local electrical and building codes and special codes having jurisdiction over specific portions within complete installation.
 - C. Obtain permits and certificates of approval from all authorities having jurisdiction over the installation and pay all fees required.
- 1.03 SUBMITTALS
 - A. Submit list of materials and equipment prior to manufacture, order or installation and within twenty days after award of contract for approval. Include each item of material and equipment whether or not shop drawings are also required. List shall include name of manufacturer, catalog number and other complete identification as well as dimensions and detailed data. Submittals shall be included for the following:
 1. Lighting Fixtures
 2. Panelboards/Breakers
 3. Wiring Devices and Device Plates
 4. Enclosed Switches
 - B. Certified shop drawings and submittals shall bear stamp of approval of contractor as evidence that drawings have been checked. Drawings submitted without this stamp of approval will not be considered and will be returned for proper resubmission.
 - C. If submittals show variances or substitutions from requirements of contract, contractor shall make specific mention of such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment. Otherwise contractor shall not be relieved of responsibility for executing work in accordance with contract even though such submittals have been approved.
- 1.04 SITE VISIT
 - A. Visit job site prior to bid date to determine actual conditions under which work shall be done, to familiarize oneself with project and to verify total scope of work required. Failure to do so shall not constitute a reason for an extra charge.

SECTION C16101
BASIC MATERIALS AND METHODS

PART 1 - GENERAL

- 1.01 COORDINATION
 - A. Obtain and review shop drawings, product data, and manufacturer's instructions for equipment furnished under other sections to determine connection locations and requirements.
 - B. Sequence rough-in of electrical connections to coordinate with installation and start-up of equipment furnished under other sections.
- PART 2 - PRODUCTS
- 2.01 SUBSTITUTIONS
 - A. Where specifications list one or more manufacturers and do not include "or approved equal", furnish materials made by one of manufacturers listed. Where "or approved equal" is included, contractor may substitute equal products by another manufacturer subject to approval by engineer and owner.
- PART 3 - EXECUTION
- 3.01 INSTALLATION
 - A. Make electrical connections to utilization equipment in accordance with equipment manufacturer's instructions.
 - B. Drawings are diagrammatic and shall not be scaled for exact sizes or locations, they are not intended to disclose absolute or unconditional knowledge of actual field conditions.
 - C. Protect work and materials from damage by weather, entrance of water and dirt. Cap conduit during installation. Avoid damage to materials and equipment in place.
 - D. Satisfactorily repair or remove and replace damaged work with new materials. Deliver equipment and materials to job site in original, unopened, labeled containers. Store ferrous materials to prevent rusting. Store finished materials and equipment to prevent staining and discoloring.
 - E. Trenches shall be excavated 6" below elevation of bottom of conduit.
 - F. Failure to route conduit through building without interfering with other equipment and construction shall not constitute a reason for an extra charge. Equipment, conduit and fixtures shall fit into available spaces in building and shall not be introduced into building at such times and manner as to cause damage to structure. Equipment requiring service shall be readily accessible.
- 3.02 TESTING AND EQUIPMENT SERVICING
 - A. Make test to ensure that entire system is in proper operating condition, and that adjustments and apparatus setting of circuit breakers, fuses, control equipment and apparatus have been made. Correct defects discovered during tests.

- 3.03 REMOVAL OF DEBRIS
 - A. Remove surplus materials and debris caused by, or incidental to, electrical work. Remove such debris at frequent intervals. Keep job clean during construction.
- 3.04 IDENTIFICATION OF EQUIPMENT
 - A. Identify electrical distribution equipment, disconnects, and contactors with black laminated plastic name-plates, attached with two screws, engraved with 1/4" high, white letters.
- 3.05 TEMPORARY LIGHTING AND POWER IN AREAS OF CONSTRUCTION
 - A. Provide, maintain and remove after construction is completed, temporary lighting adequate for workman safety and temporary power for all trades including any 3 phase power required.
 - B. Provide and maintain barricade lighting where required to adequately protect owner against liability for damage to public or personnel. All lamps used in barricade shall be 60 watt red, installed in weatherproof socket with wire guard. All wiring shall be approved for weatherproof installation.
- 3.06 GUARANTEE-WARRANTY
 - A. Guarantee work to be free from defects of materials and workmanship for a period of one year from date of final acceptance of building. Repair and replace defective work and other work damaged thereby which becomes defective during term of guarantee-warranty. Furnish owner with three written copies of guarantee-warranty.

SECTION C16120
RACEWAYS AND CONDUIT SYSTEMS

PART 1 - PRODUCTS

- 1.01 ACCEPTABLE MANUFACTURERS
 - A. Rigid IMC, and EMT conduit shall be hot-dipped, galvanized, or electro-galvanized steel by Allied, Republic, Triangle, Wheatland, or approved equal.
 - B. PVC conduit shall be Caton, schedule 40, 90 degrees C, rated, unless otherwise noted.
 - C. MC cable shall be manufactured by AFC Cable Systems or approved equal. Type "AC-90" is not allowed. All MC Cables shall have a green equipment ground conductor and an additional isolated ground (green with yellow stripes) conductor for isolated ground circuits (IGS system). Fittings used for connecting MC cable to boxes, cabinets, or other equipment shall be listed and identified for such use.
 - D. Associated couplings, connectors and fittings shall be steel as manufactured by Raco or equivalent. Catalog numbers used below are those of Raco.
 - E. Erickson Couplings, Series 1502, shall be used where neither length of conduit can be rotated.
 - F. Insulated bushings shall be series 1402.
 - G. EMT box connectors shall be compression or set-screw fittings.
 - H. Conduit, connectors, couplings and fittings shall be UL listed and labeled.
- 1.02 ELECTRICAL METALLIC TUBING (EMT)
 - A. Use Electrical Metallic Tubing (EMT) where drawings call for conduit to be:
 1. Concealed in walls.
 2. Installed above suspended ceilings.
 3. Installed exposed, above 6 feet.
 4. Installed for panelboard feeders above slab.
- 1.03 INTERMEDIATE METAL CONDUIT (IMC)
 - A. Use Intermediate Metal Conduit (IMC) where drawings call for conduit to be:
 1. Installed for panelboard feeders ran below ground.
 2. Installed in wet locations (interior and exterior).
 3. Installed exposed below 6 feet.
- 1.04 POLYVINYL CHLORIDE (PVC) RACEWAY
 - A. Use PVC raceway for:
 1. Underground service entrance conduits for telephone and power.
 2. Exterior branch circuits installed underground.
 3. Interior branch circuit conduits installed in or under concrete slab on ground floor.
- 1.05 RIGID STEEL CONDUIT (RSC)
 - A. Use Rigid Steel Conduit for:
 1. Install underground for power Service Entrance elbows penetrating floor slab.
 2. Exposed to physical damage.
- 1.06 FLEXIBLE METAL CONDUIT
 - A. Provide flexible metal conduit for termination at equipment subject to motion and vibration.
 - B. Length shall not exceed 6 feet in accessible ceiling areas.
 - C. Shall not be concealed in walls.
 - D. Where exposed to continuous or intermittent moisture, conduit shall be UL Type EF liquidtight or type as indicated.
 - E. For connection to ceiling mounted lighting fixtures from outlet boxes.
- 1.07 MC (METAL-CLAD) CABLE
 - A. MC Cable shall be UL listed per standard 1569, color coded copper conductors (type THHN), the sheathing shall be constructed of interlocking galvanized steel, and shall conform to the requirements of Article 330 of the National Electrical Code.
 - B. MC Cable with an isolated grounding conductor shall be used, concealed above ceiling and in walls, for the connection of the Point Of Sales (POS) system equipment from the isolated ground receptacles to the panelboard serving the POS loads when allowed by local codes and Article 330 of the National Electrical Code.
 - C. MC Cable may be used when allowed by local codes and Article 330 of the National Electrical Code for branch circuits (except the main homerun to the panelboard which shall be conduit with conductors) for the following:
 1. Lighting
 2. Dining area receptacles
 3. Fly Lights
 4. Building mounted signage
 5. Office area receptacles
 - D. MC Cable shall not be used for branch circuits serving Kitchen Equipment Items and similar circuits in the Kitchen, the Drive-Thru area, and the Serving area's back counter.

PART 2 - EXECUTION

- 2.01 INSTALLATION
 - A. Minimum size of conduits shall be 1/2 inch.
 - B. Run concealed conduits in direct line with long sweep bends or offsets. Run exposed conduits parallel to and at right angles to building lines. Group multiple conduit runs in banks.
 - C. Cap ends of conduits to prevent entrance of water and other foreign material during construction.
 - D. Provide No. 12 AWG copper pull wires or nylon cord in all empty conduits. Steel wire not acceptable as pull wire.
 - E. Where IMC enters a cabinet, junction box, or pull box conductors shall be protected by an insulated bushing. Locknuts shall be installed on conduit outside and inside enclosure.
 - F. In areas where enclosed and gasketed fixtures and weatherproof devices are specified, where Rigid Conduit enters a sheet metal enclosure, junction box and outlet box, and not terminated in a threaded hub, a steel, or malleable iron nylon insulated hub, complete with recessed sealing "O" ring or sealing locknut shall be used.
 - G. Provide seal-off fitting in all conduits entering a cold temperature area such as freezers and dry refrigerators.
 - H. In concrete slabs, block up conduit from forms and securely fasten in place. All conduits in slabs shall have a minimum of 4" inches concrete coverage above.
 - I. Failure to route conduit through building without interfering with other equipment, and construction shall not constitute a reason for an extra charge. Equipment, conduit, and fixtures shall fit into available spaces in building and shall not be introduced into building at such times and manner as to cause damage to structure or equipment. Equipment requiring servicing shall be readily accessible.
- 2.02 EMT (ELECTRICAL METALLIC TUBING) RACEWAY
 - A. Do not use Electrical Metallic Tubing in cinder concrete or cinder fill or where conduit system is in contact with dissimilar metals or in wet locations.
- 2.03 PVC RACEWAY
 - A. Use threaded fittings for all connectors and adapters.
 - B. Provide 1/4-inch nylon pull rope in all primary power and incoming telephone service entrance conduits.
 - C. PVC conduit shall convert to galvanized rigid metal per detail on drawings.
- 2.04 FLEXIBLE METAL CONDUIT
 - A. Where fittings for liquid tight flexible conduit are brought into an enclosure with a knock-out, a gasket assembly, consisting of one piece "O" ring, with Buna-N sealing material, series 3400, shall be installed on outside of box. Fittings shall be made of either steel or malleable iron only, and shall have insulated throats or insulated bushings.
 - B. In dry locations, where final connections to motors and other equipment may be made with Flexible Metal Conduit, fittings shall be of steel or malleable iron only with insulated throats or insulated bushings, and shall be of wedge and screw type having an angular wedge fitting between convolutions of conduit.
- 2.05 MC CABLE
 - A. MC Cable may be used for branch circuits as noted in Part 1 above and where the local code allows use of MC Cable. The installation shall conform to Article 330 of the National Electrical Code and shall be concealed in walls and above ceilings. (Exposed MC Cable will not be acceptable.)
 - B. MC Cables shall be secured and supported by the building structure per the National Electrical Code and any local code requirements. MC Cable shall not lay on ceilings.

SECTION C16121
CONDUCTORS

PART 1 - PRODUCTS

- 1.01 CONDUCTORS
 - A. Provide 98% conductivity copper conductors with 600-volt insulation. For conductors No. 12 AWG and No. 10 AWG, provide solid type. For all conductors No. 8 AWG and larger, provide stranded type. All conductors shall have THHN/THWN insulation unless noted otherwise.
 - B. Conductors shall be manufactured by Triangle, American, Rome, Southwire or approved equal.
 - C. Provide No. 14 AWG type THHN fixture conductors, for conductors entering lighting fixtures.
 - D. Branch circuit conductors shall be minimum #12 AWG, copper.
- PART 2 - EXECUTION
- 2.01 INSTALLATION
 - A. Install pull boxes in circuits or feeders over 100 feet long.
 - B. Make all splices or connections only at outlet, pull or junction boxes.
 - C. All conductors and connections shall test free of grounds, shorts, and opens prior to energizing circuit.
 - D. Provide No. 10 wire in lieu of No. 12 wire for any branch circuit in excess of 100 feet linear length to prevent excessive voltage drop.
 - E. Use Ideal wing nuts, Scotchlok Type Y, R, G, or B, or approved equivalent connectors for fixture connections at outlet boxes.

- F. Make feeder taps and joints with OZ Type T, PT, PM or PTS, or approved equivalent clamp connectors as manufactured by Kupler, or with approved compression sleeves. Wrap connectors with No. 10 Electro-Seal or approved equivalent plastic filler and vinyl tape.
- G. Leave a minimum of 8" slack wire in every outlet box.
- H. Provide color coded wire and with a different color for each phase and neutral and ground as follows: Phase A, B, C: Black, Red and Blue respectively; Neutral: White; Isolated Ground: Green with Yellow Stripes. Approved color tape is acceptable for feeders using larger than #6 conductors.
- I. All conductors shall be continuous from origin to panel or equipment termination without splices where possible. Where splices and taps are necessary or are required, they shall be made in splice boxes with suitable connectors.
- J. Tighten all electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL486A and UL486B.

SECTION C16122
OUTLET AND JUNCTION BOXES

PART 1 - GENERAL

- 1.01 PROJECT CONDITIONS
 - A. Verify field measurements are as shown on drawings.
 - B. Verify locations of floor boxes and outlets in work areas prior to rough-in.
- PART 2 - PRODUCTS
- 2.01 OUTLET BOXES
 - A. Sheet metal outlet boxes: galvanized steel.
 - B. Cast boxes: type FS, cast ferrolloy. Provide gasketed cover by box manufacturer.
 - C. Manufacturers: National, Appleton, General Electric, RACO, or Steel City.
 - D. Provide boxes for fixtures with fixture studs in center.
 - E. Outlet boxes for lighting, switches and receptacles in interior areas with exposed conduit shall be pressed steel and in exterior areas with exposed conduit shall be cast metal with threaded hubs, "FS" type. Use galvanized steel for concealed boxes. Boxes shall be 1-1/2" deep minimum.
- 2.02 PULL AND JUNCTION BOXES
 - A. Sheet metal boxes: galvanized steel.
 - B. Surface-mounted cast metal box: type 4; flat-flanged, surface-mounted junction box.
 1. Material: galvanized cast iron.
 2. Cover: furnish with ground flange, neoprene gasket, and stainless steel cover screws.
 - C. In-ground cast metal box: inside flanged, recessed cover box for flush mounting.
 1. Material: galvanized cast iron.
 2. Cover: furnish with ground flange, neoprene gasket and stainless steel cover screws.
 3. Cover legend: electric.
 - D. Manufacturers: National, Appleton, General Electric, RACO, Oz-Gedney or Steel City.

PART 3 - EXECUTION

- 3.01 INSTALLATION
 - A. Install electrical boxes as shown on drawings, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.
 - B. Install pull boxes and junction boxes above accessible ceilings.
 - C. Inaccessible ceiling areas: Install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed light fixture.
 - D. Use flush mounting outlet boxes in finished areas.
 - E. Use stamped steel bridges to fasten flush mounting outlet box between studs.
 - F. Install flush mounted box without damaging wall insulation or reducing its effectiveness.
 - G. Use adjustable steel channel fasteners for hung ceiling outlet box.
 - H. Do not fasten boxes to ceiling support wires.
 - I. Support boxes independently of conduit, except cast box that is connected to two Rigid Metal Conduits both supported within 12 inches of box.
 - J. Use gang box where more than one device is mounted together. Do not use sectional box.
 - K. Use gang box with plaster ring for single device outlets.

- L. Use cast outlet box in exterior locations and wet locations.
- 3.02 OUTLET BOXES
 - A. Select boxes according to intended use and type of outlet. Ceiling outlet boxes shall be 4" octagon and 1-1/2" deep. Use 2-1/8" deep octagon boxes or 4" square boxes required. All ceiling outlet boxes shall have a fixture stud of no bolt self-locking type installed if required to hang the fixture specified at the outlet.
- 3.03 JUNCTION BOXES
 - A. Junction boxes shall be sized according to number of conductors in box or type of service to be provided. Minimum junction box size 4-11/16" square and 2-1/8" deep. Provide screw covers for junction boxes.
 - B. Use code gauge steel with screw covers for pull boxes with prime coat and provide with screw cover. Size pull boxes according to the NEC.
 - C. Provide pull box every 100 feet of conduit run or where excessive number of bends necessitates a box for ease of wire installation.

SECTION C16123
GROUNDING AND BONDING

PART 1 - PRODUCTS

- 1.01 ROD ELECTRODES
 - A. Material: copper-clad steel.
 - B. Diameter: 3/4 inch.
 - C. Length: 10 feet.
- 1.02 MECHANICAL CONNECTORS
 - A. Material: bronze.
- 1.03 GROUNDING CONDUCTOR (WIRE)
 - A. Material: stranded copper, sized to meet NFPA 70, Article 250 requirements.
- PART 2 - EXECUTION
- 2.01 INSTALLATION
 - A. Install rod electrodes at locations indicated. Install additional rod electrodes as required to achieve resistance to ground of less than 25 ohms.
 - B. Provide grounding electrode conductor and connect to reinforcing steel in foundation footing.
 - C. Provide bonding to meet regulatory requirements.
 - D. Bond together each metallic raceway, pipe, duct and other metal objects.
 - E. Provide isolated grounding conductor for circuits supplying all isolated ground outlets. Insulation shall be green with yellow stripe. Size per NEC Table 250.66. This isolated grounding conductor shall run in addition to equipment grounding conductor and along with the branch circuit conductors.

- 2.02 GROUNDING
 - A. Ground electrical system in accordance with NEC Article 250 and local authorities having jurisdiction.
 - B. Install a #3/0 bare copper wire bond across the water meter attached to ground clamps on water line on each side of meter. Arrangements shall be made to do this work at the time the water meter is installed.
 - C. From the point of entrance of the water main into the building and on the meter side of the main inside water valve and union install a stranded copper cable #3/0 in 1-1/4" conduit to the main distribution panel. Connect the cable to the equipment ground bus.
 - D. Install a green equipment grounding conductor in each raceway, sized per NEC Table 250-122. Terminate on equipment ground bus within panelboard serving load.
 - E. Install #6 awg copper grounding conductor from ground bar in main telephone box to inter system bonding termination to grounded neutral bus in main distribution panel.
 - F. All separate grounding electrode conductors shall be bonded together to limit potential differences between them and between their associated wiring systems. This includes the power system, telephone system, etc.
- 2.03 FIELD QUALITY CONTROL
 - A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.



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06/01/22

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FSR#04907

BUILDING TYPE / SIZE: P13 SE LRG
RELEASE: v2_2011

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
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SHEET
ELECTRICAL
SPECIFICATIONS

SHEET NUMBER

E-901