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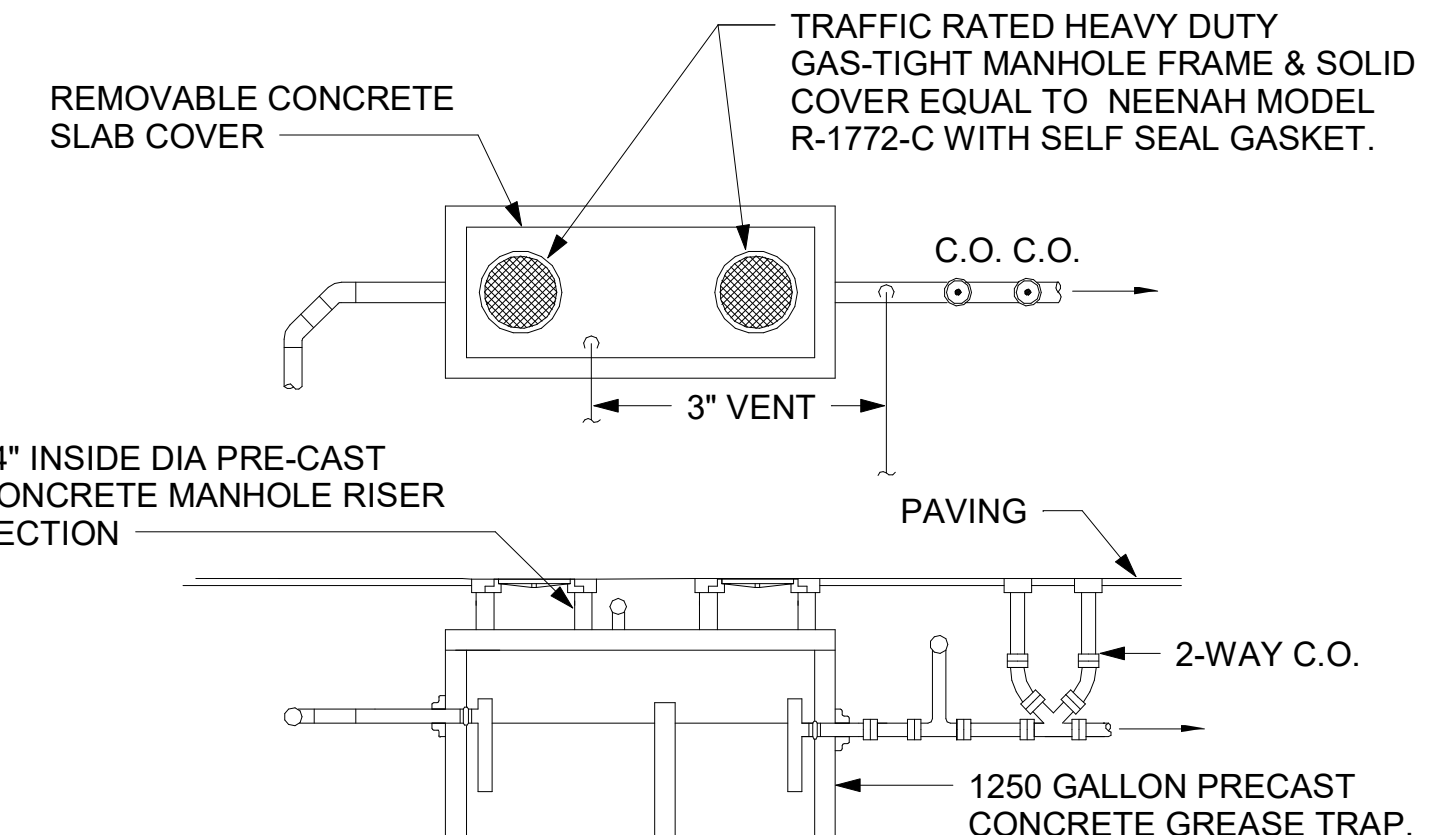
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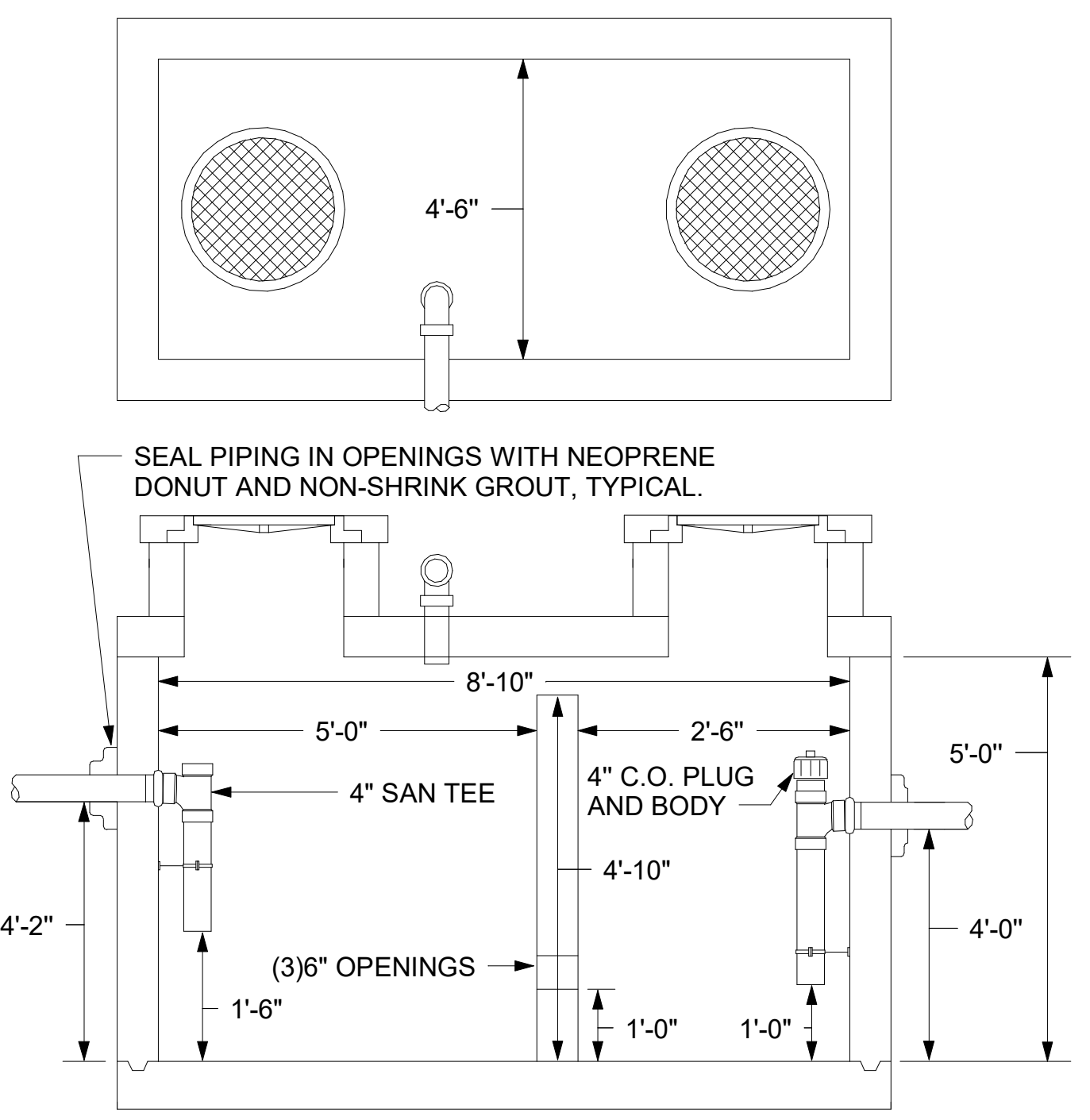
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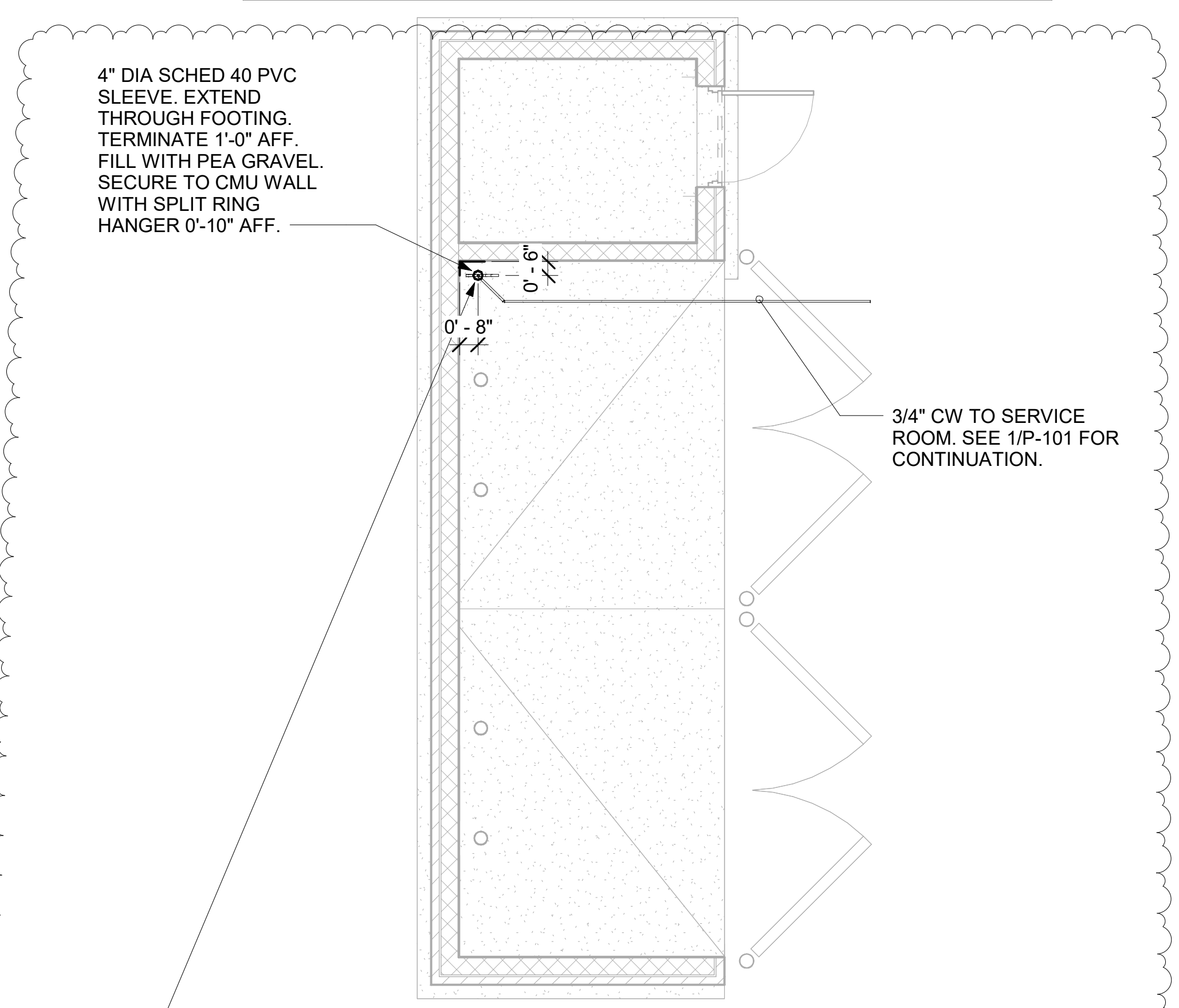


NOTES:  
 1. SET ON 0'-4" OF STRUCTURAL BACKFILL.  
 2. INTERIOR DIMENSIONS CHANGES ALLOWED TO ACCOMPLISH SIMILAR VOLUME.  
 3. TRAP CAPACITY SUBJECT TO APPROVAL BY STATE OR LOCAL AUTHORITY. CONSTRUCTION MUST BE MONOLITHIC, INCLUDING THE BAFFLE. TRAP MUST MEET H-20 TRAFFIC LOADING REQUIREMENTS WHEN LOCATED IN A TRAFFIC AREA. SEE CIVIL PLANS FOR TRAP LOCATION.

2 GREASE INTERCEPTOR NOT TO SCALE



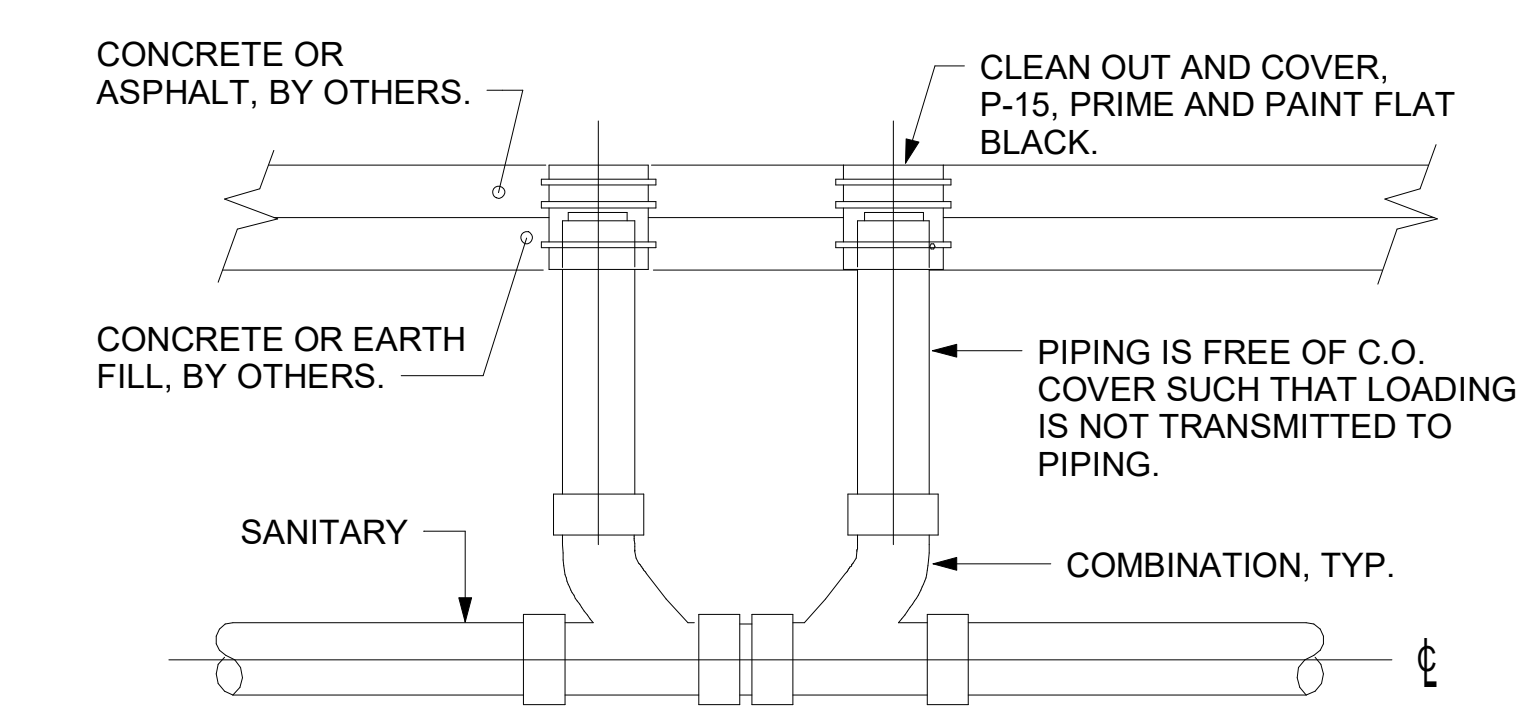
METHOD OF DRAINAGE AT REFUSE PAD -  
 WHEN AREA DRAIN IS SHOWN ON CIVIL PLANS, SEE FIXTURE P-32 SPECIFICATION ON DRAWING P-901 FOR MAKE AND MODEL OF DRAIN, DRAIN AND PIPING PROVIDED AND INSTALLED BY CHICK-FIL-A SITE CONTRACTOR. WHEN AREA DRAIN IS NOT SHOWN, REFER TO ARCHITECTURAL DRAWINGS FOR DESIGN OPTION SHOWING DRAINAGE THROUGH BACK OF DUMPSTER ENCLOSURE.



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

### 5. SHEET NOTES

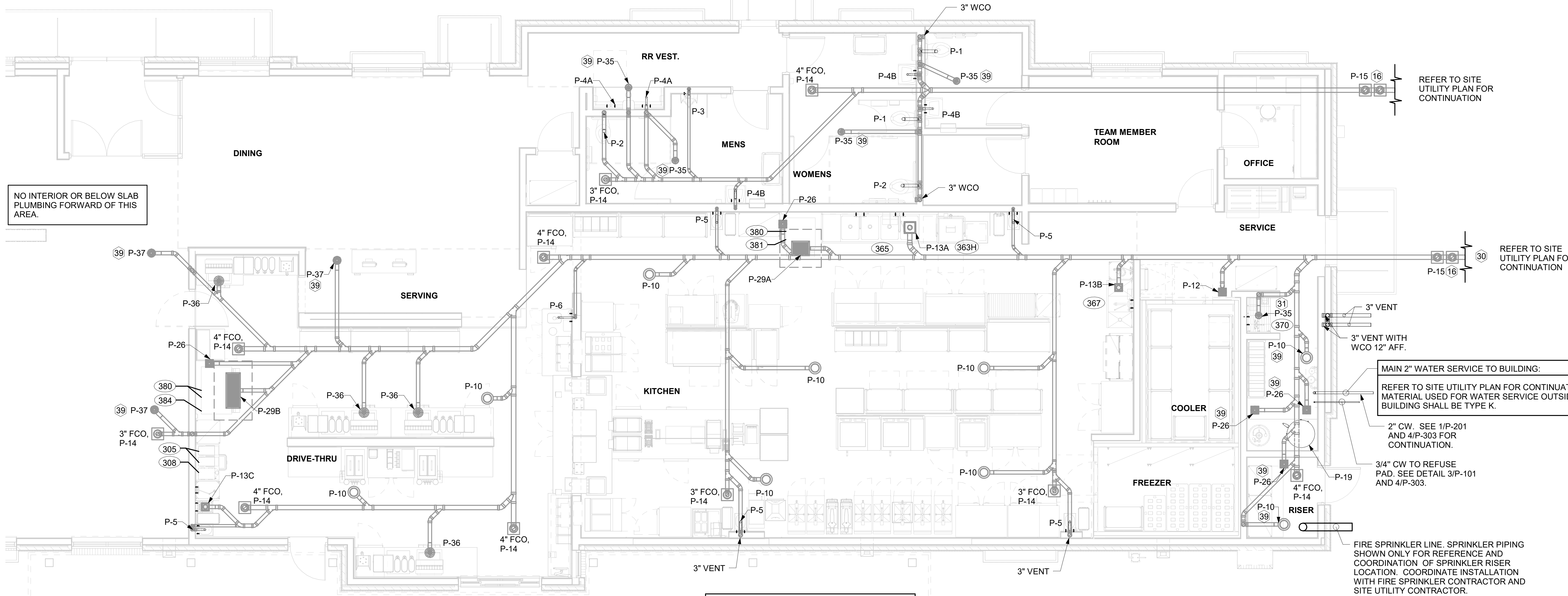
- COORDINATE INSTALLATION OF SANITARY PIPING WITH FOOTINGS IN THE FIELD. SLEEVE PENETRATIONS IN FOOTINGS WITH PVC.
- COMBINATION WASTE AND VENT SYSTEM SHOWN HERE. WHERE REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION, PROVIDE SAFE-WASTE SYSTEM OR DEDICATED VENT SYSTEM AS OUTLINED IN STATE AND LOCAL CODE 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

- 16 4" DOUBLE C.O. P-15. SEE DETAIL 4/P-101.  
 30 ROUTE TO GREASE TRAP - REFER TO DETAIL 2/P-101, REFER TO SITE UTILITY PLAN SHEET FOR EXACT LOCATION.  
 31 INSTALL FLOOR DRAIN P-35 AT MOP SINK DEPRESSION WITH TOP OF STRAINER 0'-7" BFF.  
 39 PROVIDE TRAP SEAL PROTECTOR P-26A.



NO INTERIOR OR BELOW SLAB PLUMBING FORWARD OF THIS AREA.

REFER TO SITE UTILITY PLAN FOR CONTINUATION

REFER TO SITE UTILITY PLAN FOR CONTINUATION

MAIN 2" WATER SERVICE TO BUILDING:  
 REFER TO SITE UTILITY PLAN FOR CONTINUATION. MATERIAL USED FOR WATER SERVICE OUTSIDE BUILDING SHALL BE TYPE K.

2" CW. SEE 1/P-201 AND 4/P-303 FOR CONTINUATION.

3/4" CW TO REFUSE PAD. SEE DETAIL 3/P-101 AND 4/P-303.

FIRE SPRINKLER LINE. SPRINKLER PIPING SHOWN ONLY FOR REFERENCE AND COORDINATION OF SPRINKLER RISER LOCATION. COORDINATE INSTALLATION WITH FIRE SPRINKLER CONTRACTOR AND SITE UTILITY CONTRACTOR.

(XXX) KITCHEN EQUIPMENT NO. SEE KITCHEN EQUIPMENT SCHEDULE ON DWG P-303 FOR EQUIPMENT DESCRIPTIONS.

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

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

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

STATE OF MISSOURI  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 33215  
 EXPIRES 12/31/2023  
 05/11/23

CHICK-FIL-A  
 UNIVERSITY CITY FSU  
 8637 OLIVE ROAD  
 UNIVERSITY CITY, MO 63132

FSR#04714  
 BUILDING TYPE / SIZE: P14 LSR LRG  
 RELEASE: 22.08  
 PRINTED FOR CONSTRUCTION  
 REVISION SCHEDULE  
 NO. DATE DESCRIPTION  
 2 05/11/2023 ISSUED FOR CONSTRUCTION

For Construction -

CONSULTANT PROJECT # 23009.CD.S  
 DATE 05/11/23  
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 INFORMATION CONTAINED ON THIS DRAWING ARCHITECTURAL IS THE PROPERTY OF CHICK-FIL-A AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION FROM CHICK-FIL-A.  
 SHEET BELOW SLAB PLUMBING PLAN  
 SHEET NUMBER P-101

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40-LSR-04714-P-201-WATER AND OIL PIPING PLAN

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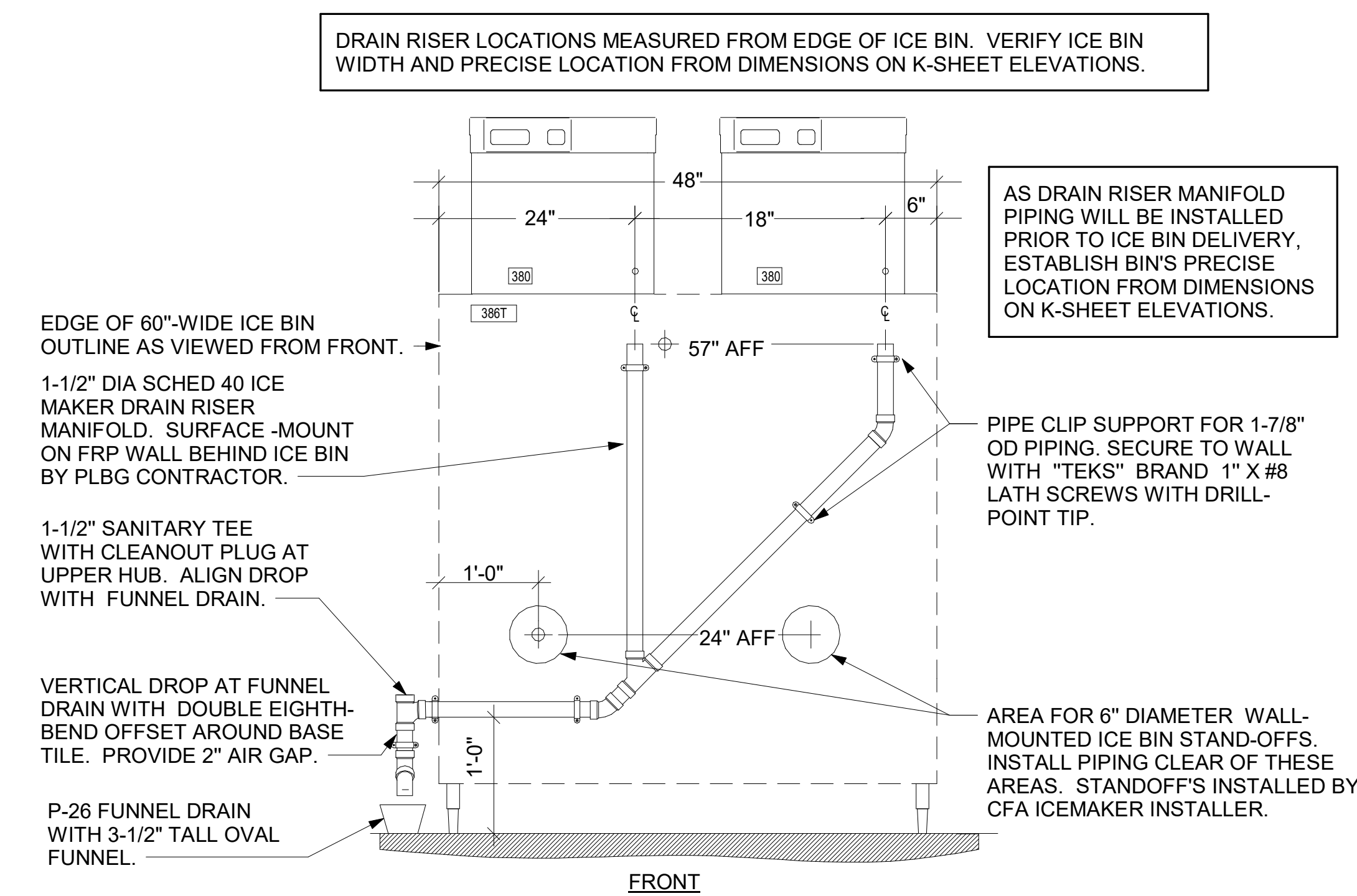
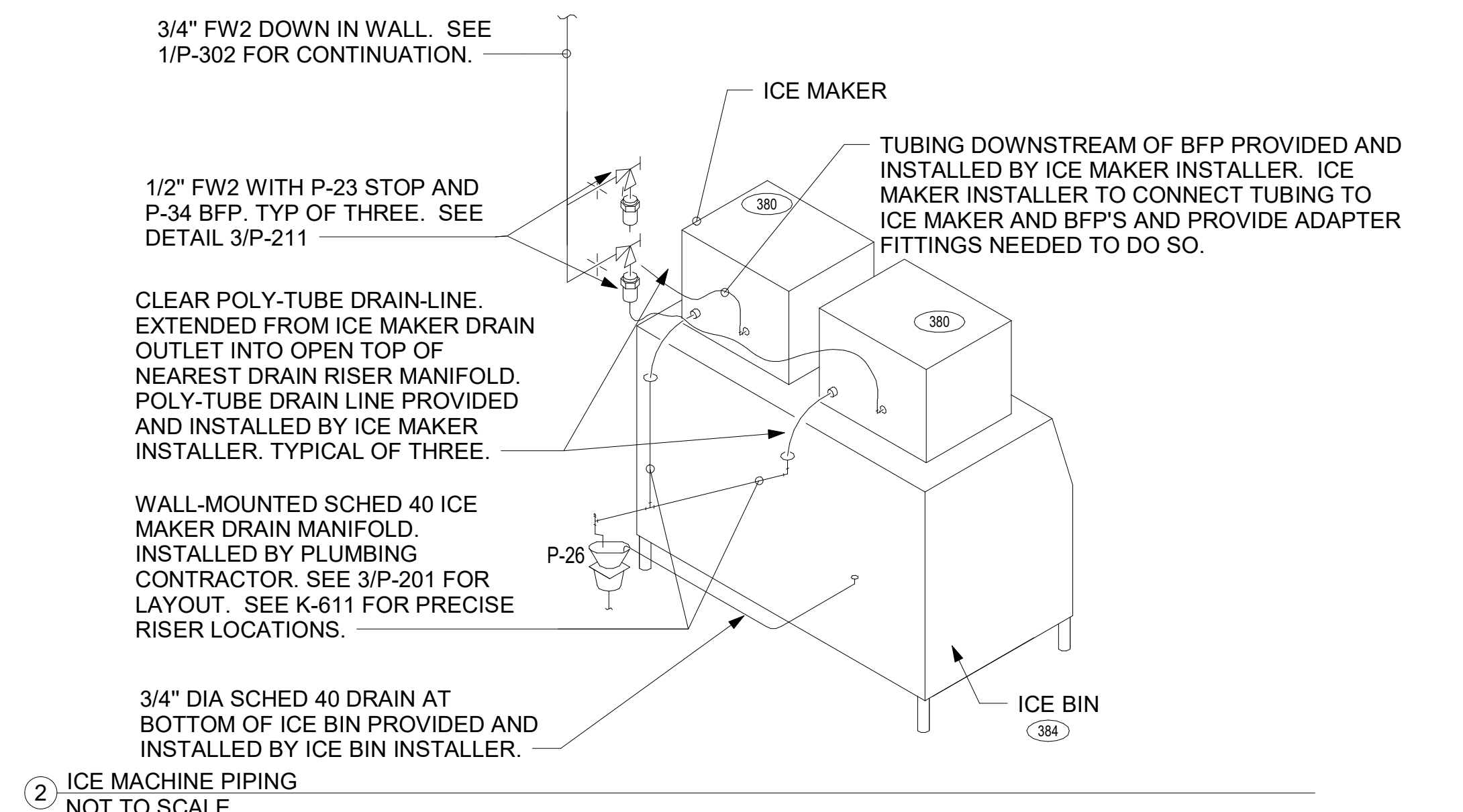
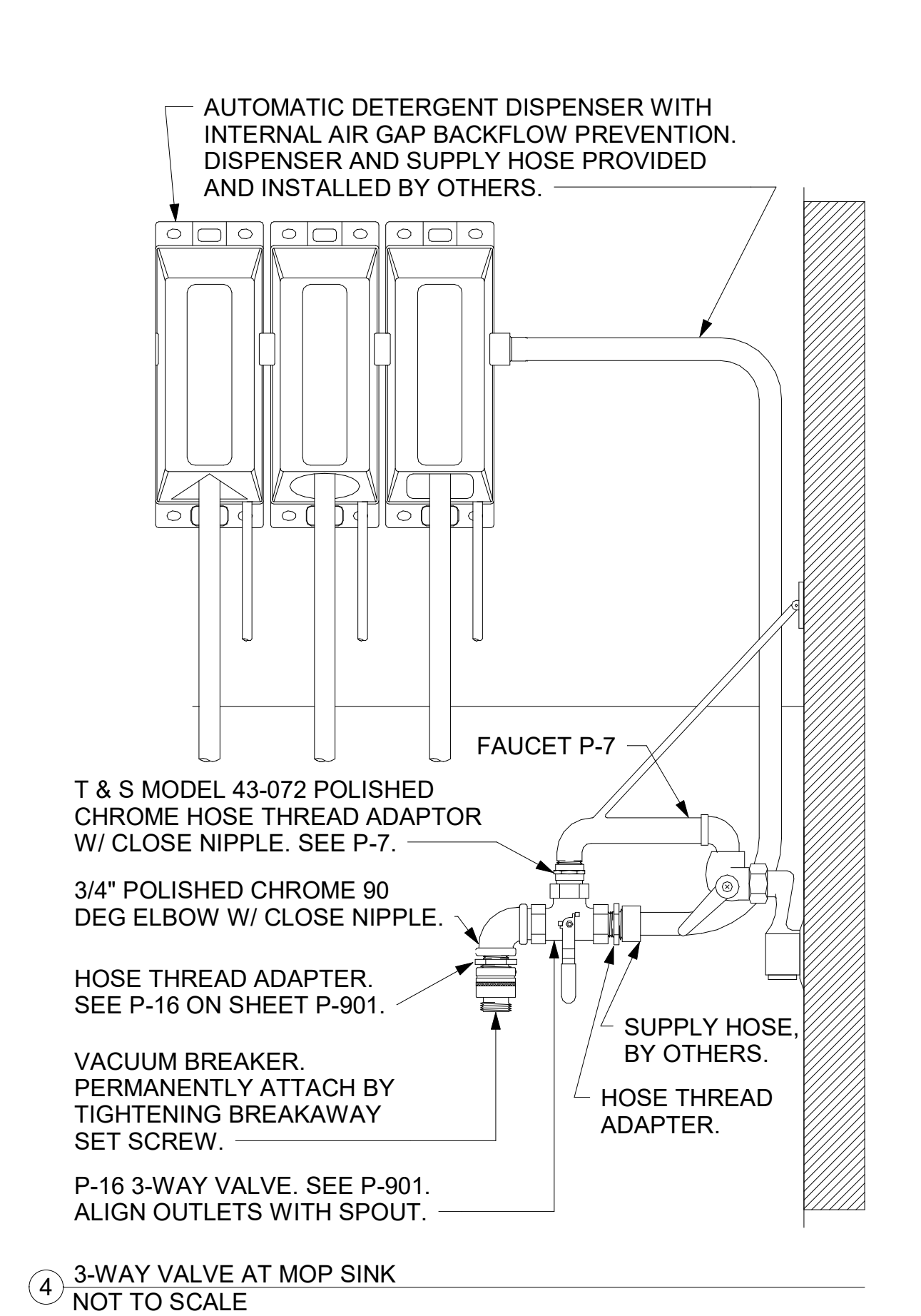
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### KEY NOTES

- 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.
- 1" GAS DOWN FROM ROOF FOR P-19. SEE 6/P-303 FOR CONTINUATION. OFFSET DROP WITHIN WALL ABOVE MECH ROOM CEILING.
- 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.
- 1/2" HW AND CW DROPS TO P-16 WALL FAUCET WITH VACUUM BREAKER FOR DEDICATED CONNECTION TO ECOLAB DETERGENT DISPENSER. MOUNT AS SHOWN ON K-SHEETS. PROVIDE BALL VALVES IN SUPPLY ABOVE CEILING.
- 1/2" FW TO P-24 & P-34 AT TWO TEA BREWERS AND ONE COFFEE MAKER. SEE 4/P-211 AND 1/P-302.
- 2" CW ON WALL. SEE 4/P-303 FOR EXACT ROUTING LOCATIONS OF CW PIPING IN THIS AREA.
- 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.
- 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.
- FW AND FW2 FROM WATER FILTERS. SEE DETAIL 5/P-303.
- 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.
- OWNER PROVIDED, PLUMBER INSTALLED WATER FILTERS. SEE DETAIL 5/P-303.
- P-11 WALL HYDRANT 24" AFF WITH BALL VALVE IN DROP 48" AFF. ORDER HYDRANT WITH 12" WOODFORD WALL THICKNESS. SEE WATER RISER 1/P-302. SECURE TO WALL WITH STRUT AND CLAMP.
- PROVIDE SCHEDULE 40 (BLACK OR GALVANIZED) STEEL PIPING BACK TO FUTURE DARPRO OIL TANK. PIPING TO BE ROUTED TO ALLOW AS MUCH FALL AS POSSIBLE TO THE TANK.
- 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" AND 2" SCHEDULE 40 STEEL PIPE DOWN THROUGH CEILING FOR FUTURE DARPRO OIL TANK AND CAP ACCORDINGLY. PROVIDE CHROMED ESCUTCHEONS AT CEILING PENETRATIONS. 3/4" OIL LINE TO BE CAPPED 2" BELOW CEILING.
- 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 PERMIAGUM CORD. TERMINATE ABOVE FUNNEL WITH ELBOW AND AIR GAP. PROVIDE P-TRAP IN CONDENSATE DRAIN OUTSIDE COOLER WITH OPEN-TOPPED TEE AT TRAP OUTLET.

### 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.

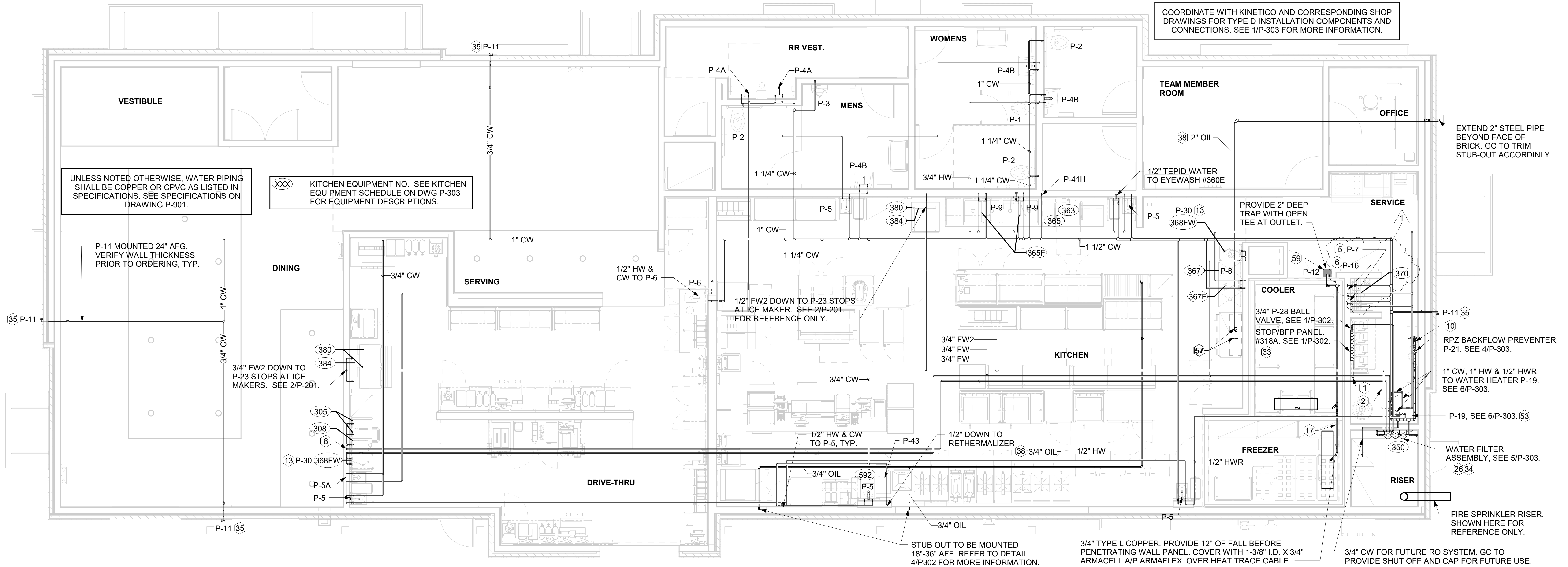


**NOTE TO WATER HEATER INSTALLER:**

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.

**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.



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

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05/11/23

**CHICK-FIL-A**  
UNIVERSITY CITY FSU

8637 OLIVE ROAD  
UNIVERSITY CITY, MO 63132

**FSR#04714**

BUILDING TYPE / SIZE: P14 LSR LRG  
RELEASE: 22.08  
PRINTED FOR: CONSTRUCTION  
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	03/03/2023	HEALTH REVISION

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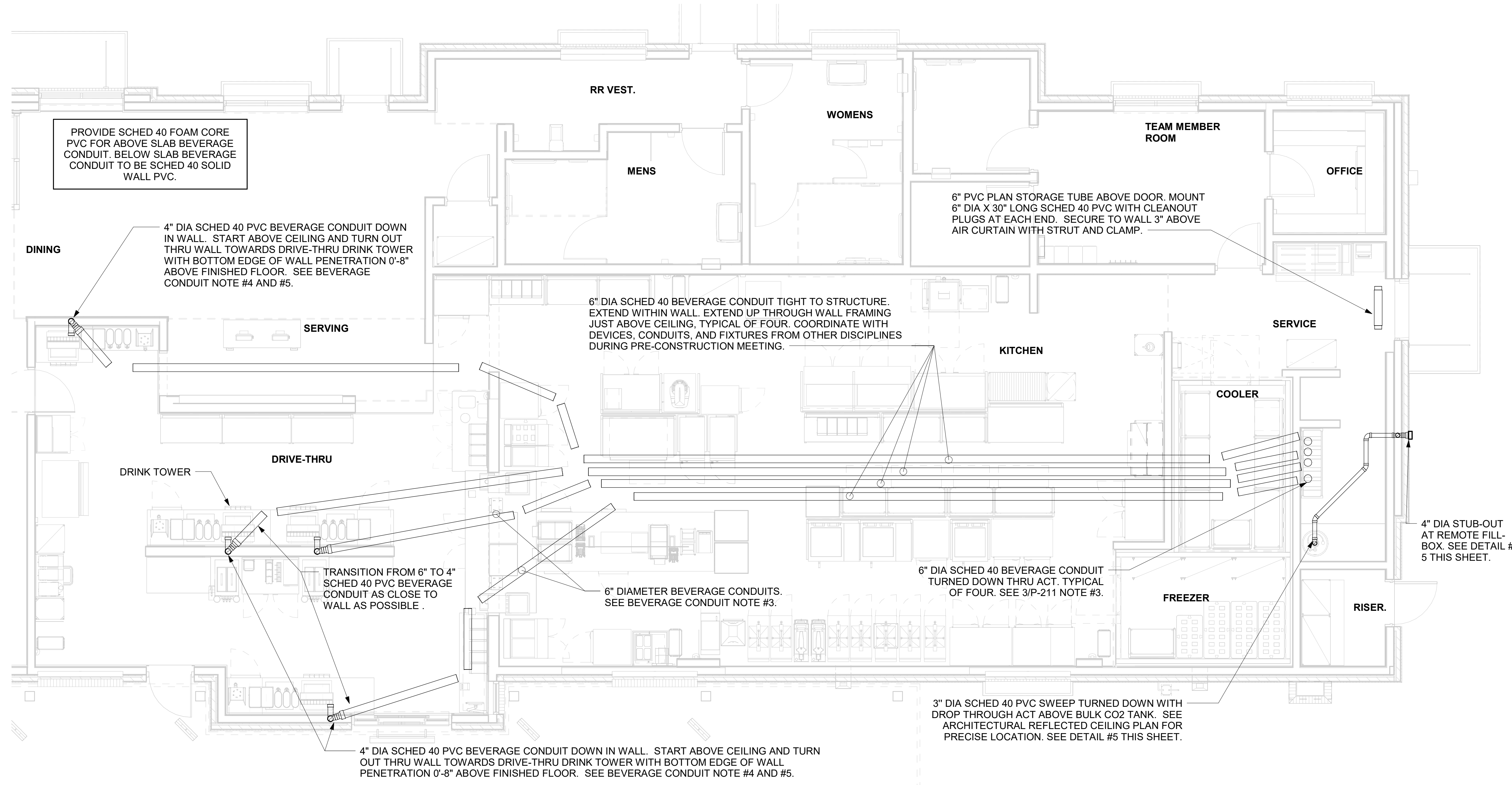
**WATER AND OIL PIPING PLAN**

SHEET NUMBER **P-201**

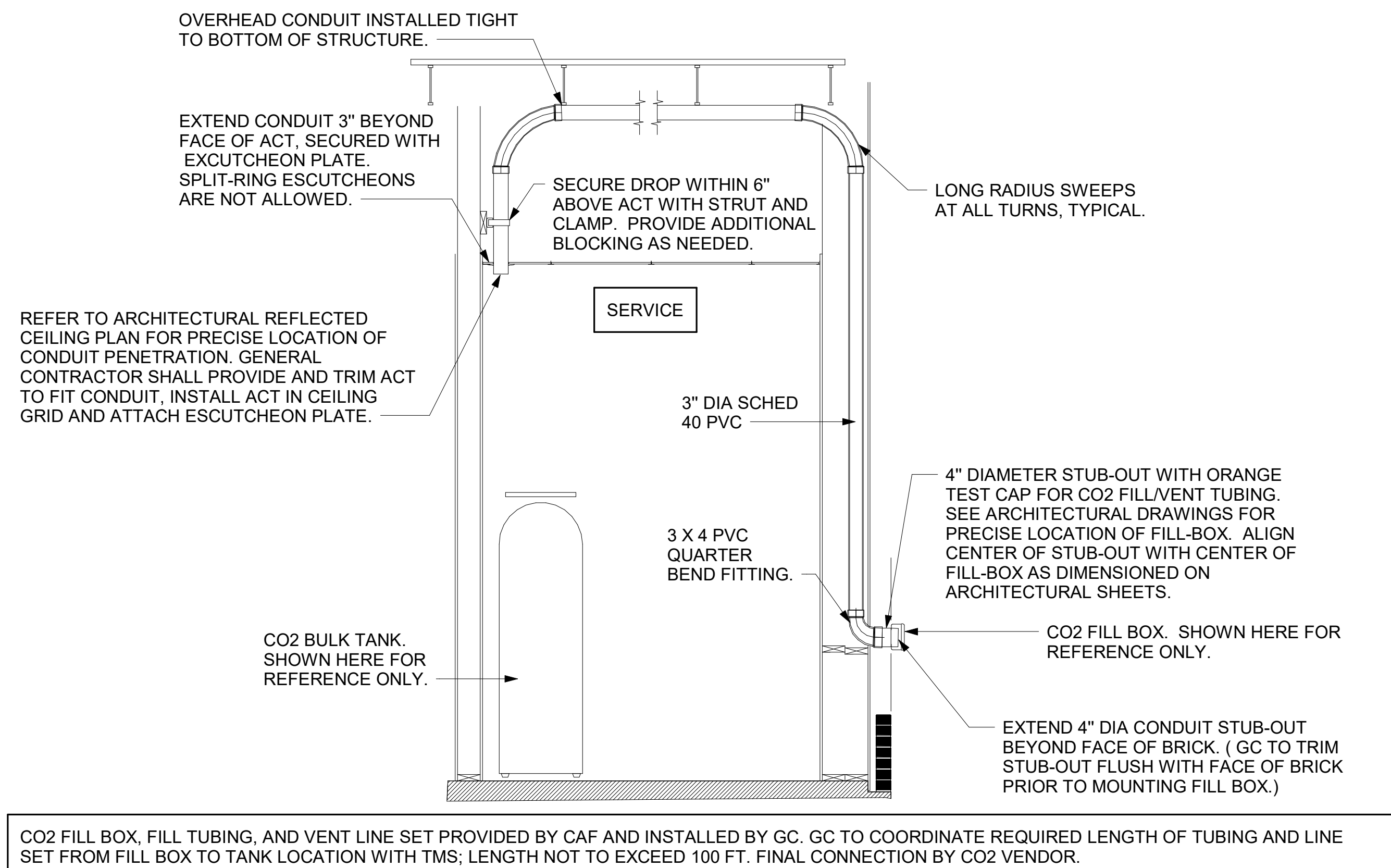


## 2. BEVERAGE CONDUIT NOTES

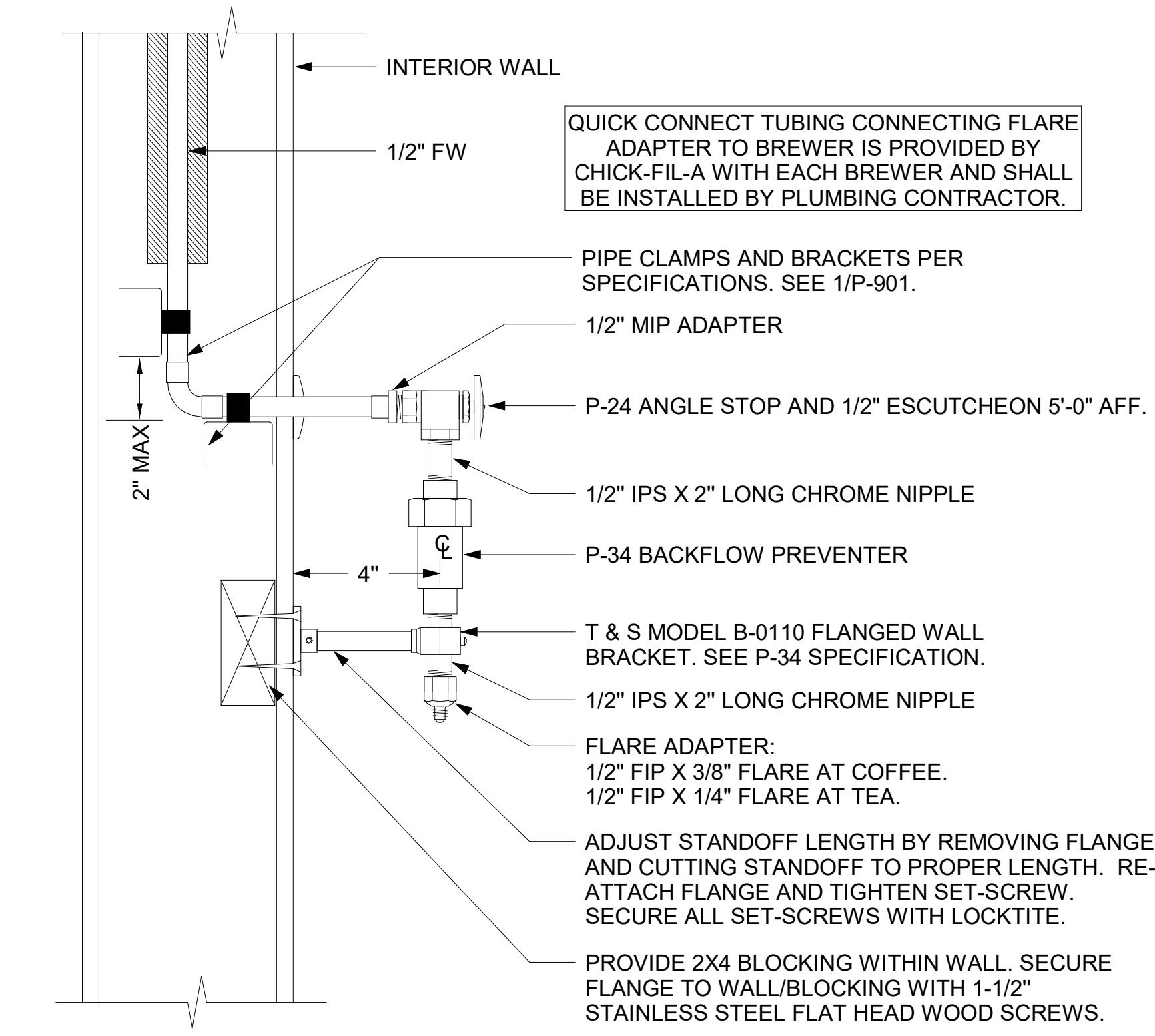
- ROUTE BEVERAGE SYSTEM PIPING OVERHEAD FROM THE BEVERAGE RACK TO DRINK TOWERS IN FOUR (4)-6" DIA SCH 40 PVC DWV CONDUITS. ALL CONDUIT SHALL BE HELD TIGHT TO STRUCTURE AND SUPPORTED WITH THREADED ROD AND CLEVIS HANGERS AT INTERVALS SHOWN IN SPECIFICATIONS FOR HORIZONTAL OVERHEAD PIPING. COORDINATE ROUTING 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 4" DIA CONDUIT DROP IN WALL, 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.



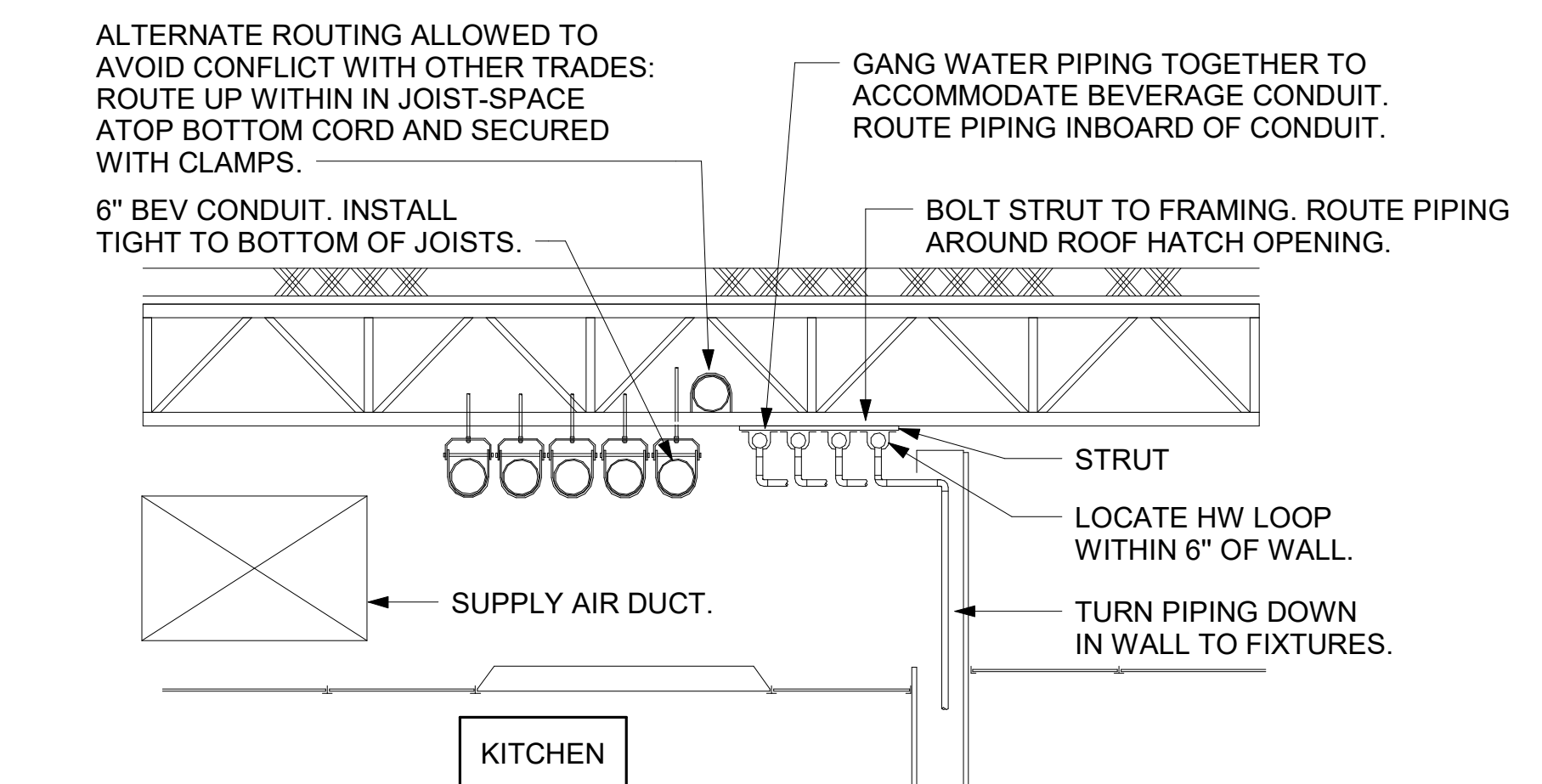
1 BEVERAGE CONDUIT PIPING PLAN  
1/4" = 1'-0"



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



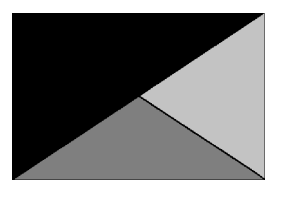
4 COFFEE & TEA BREWER STOP & B&P  
1/4" = 1'-0"



3 SECTION AT WET WALL  
NOT TO SCALE



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05/11/23

**CHICK-FIL-A**  
UNIVERSITY CITY FSU  
8637 OLIVE ROAD  
UNIVERSITY CITY, MO 63132

**FSR#04714**

BUILDING TYPE / SIZE: P14 LSR LRG  
RELEASE: 22.08

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**BEVERAGE CONDUIT PLAN**  
SHEET NUMBER

**P-211**

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# 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

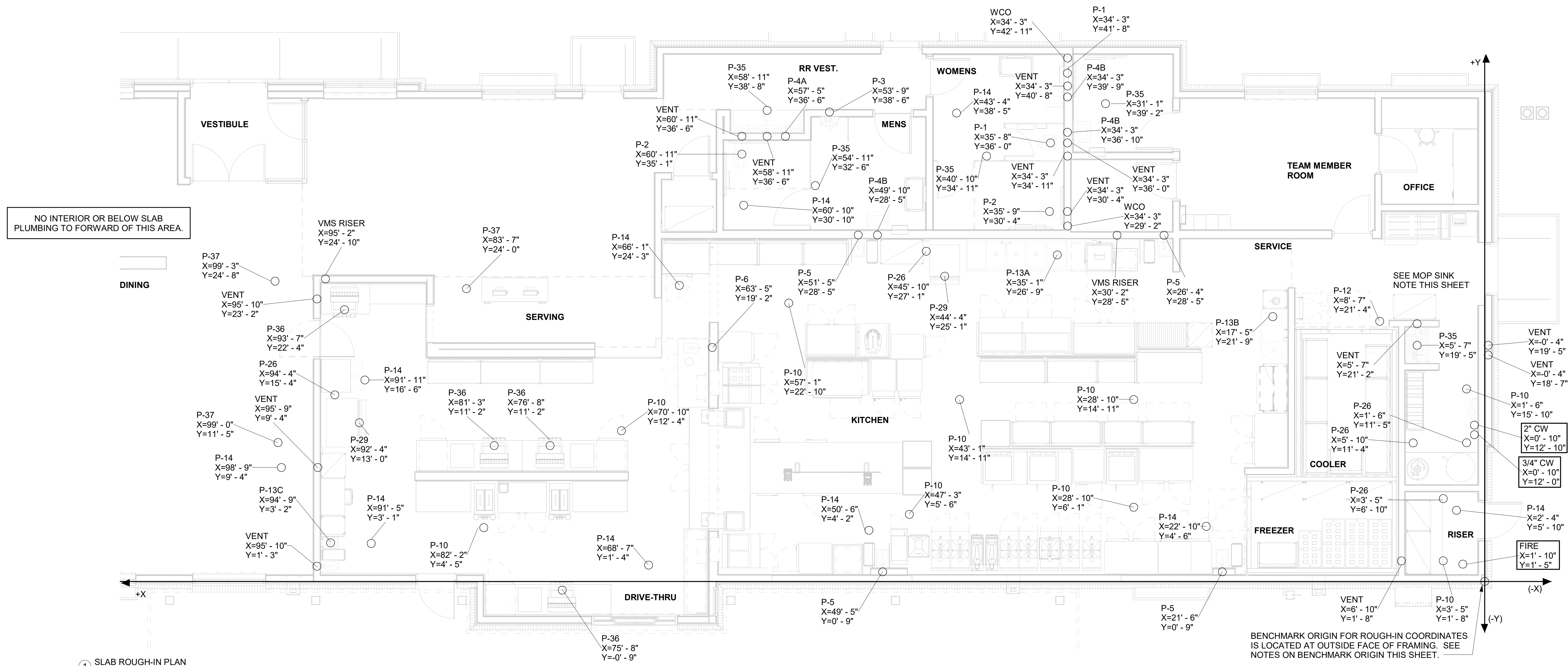
IMPORTANT: INSTALL FLOOR DRAIN WITH TOP OF DRAIN 0'-7" BFF. COORDINATE WITH GENERAL CONTRACTOR. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS.

## 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.

## 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.

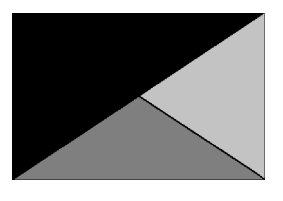


NO INTERIOR OR BELOW SLAB PLUMBING TO FORWARD OF THIS AREA.

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



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05/11/23

**CHICK-FIL-A**  
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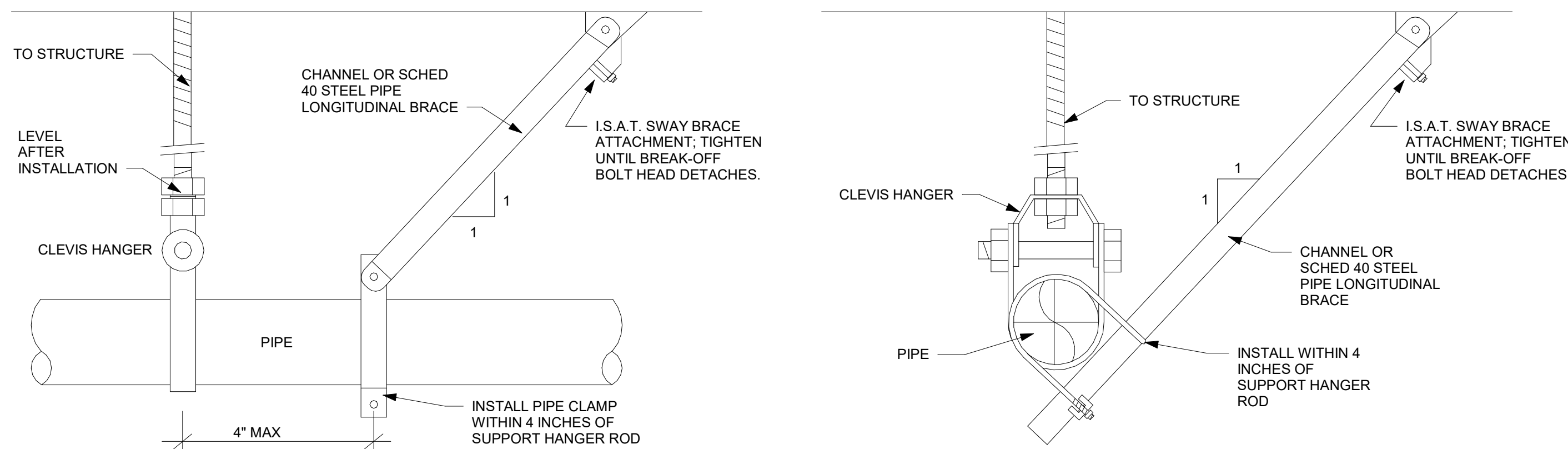
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 SHEET SLAB ROUGH-IN PLAN

SHEET NUMBER  
**P-221**

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PIPE HANGER WITH SEISMIC LONGITUDINAL RIGID BRACE DETAIL PIPE HANGER WITH SEISMIC TRANSVERSE RIGID BRACE DETAIL

NO SCALE		SEISMIC BRACING NOTES:			
TRANSVERSE BRACING		LONGITUDINAL BRACING			
MAX HORIZ FORCE (G)	MIN VERTICAL SUPPORT DIAM	MAX BRACE SPACING (FT)	BRACE REACTION (LBS)	MAX BRACE SPACING (FT)	BRACE REACTION (LBS)
0.20	3/8" ROD	50	82	80	131
0.30	3/8" ROD	50	123	80	197
0.40	3/8" ROD	50	164	80	262
0.50	3/8" ROD	40	164	80	328
0.60	3/8" ROD	40	197	80	394
0.70	3/8" ROD	40	230	80	459
0.80	3/8" ROD	40	262	80	525
0.90	3/8" ROD	40	295	80	590
1.00	3/8" ROD	40	328	80	656
1.20	3/8" ROD	40	394	80	787

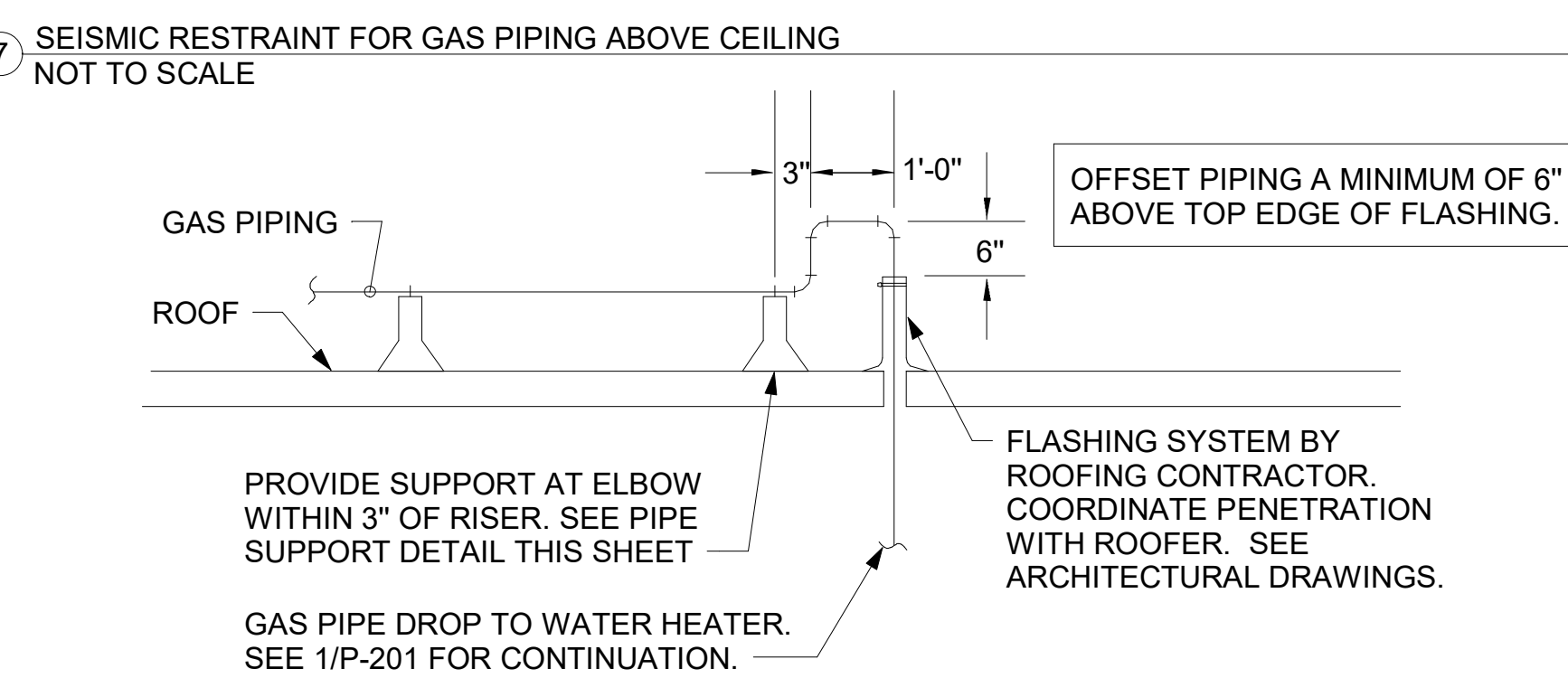
SEISMIC RIGID BRACING SPACING SCHEDULE

**SEISMIC BRACING NOTES:**

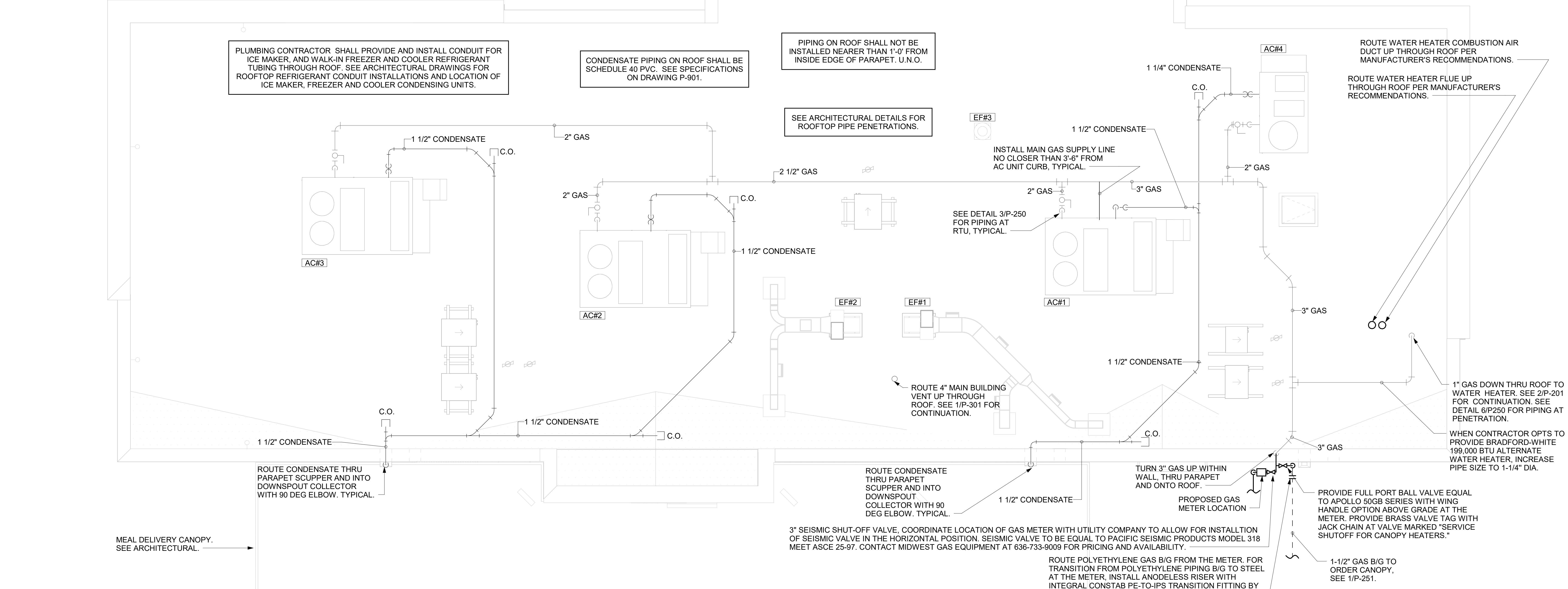
- FOUR WAY BRACE REQUIRED AT TOP OF SPRINKLER RISER AND ALL VERTICAL PIPES MORE THAN 8'-0" IN LENGTH.
- TRANSVERSE OR LATERAL BRACING IS REQUIRED 40-50 FOOT ON CENTER; (SEE SCHEDULE) MAIN SHALL HAVE LAST BRACE WITHIN 6'-0" OF THE END OF LINE.
- LONGITUDINAL BRACING IS REQUIRED 80 FOOT ON CENTER AND 40" MAXIMUM FROM END OF THE MAIN.
- NFPA 13.9.3.4 CLEARANCES AROUND SPRINKLER PIPE PENETRATIONS IS AS FOLLOWS:
 

PIPE DIAMETER	REQ. CLEARANCE
1" to 3-1/2"	DIAMETER PLUS 2" CIRCUMFERENCE
4"	DIAMETER PLUS 4" CIRCUMFERENCE

SEISMIC RESTRAINTS ARE REQUIRED ON THIS PROJECT PER IBC 1613 AND NFPA 13.9



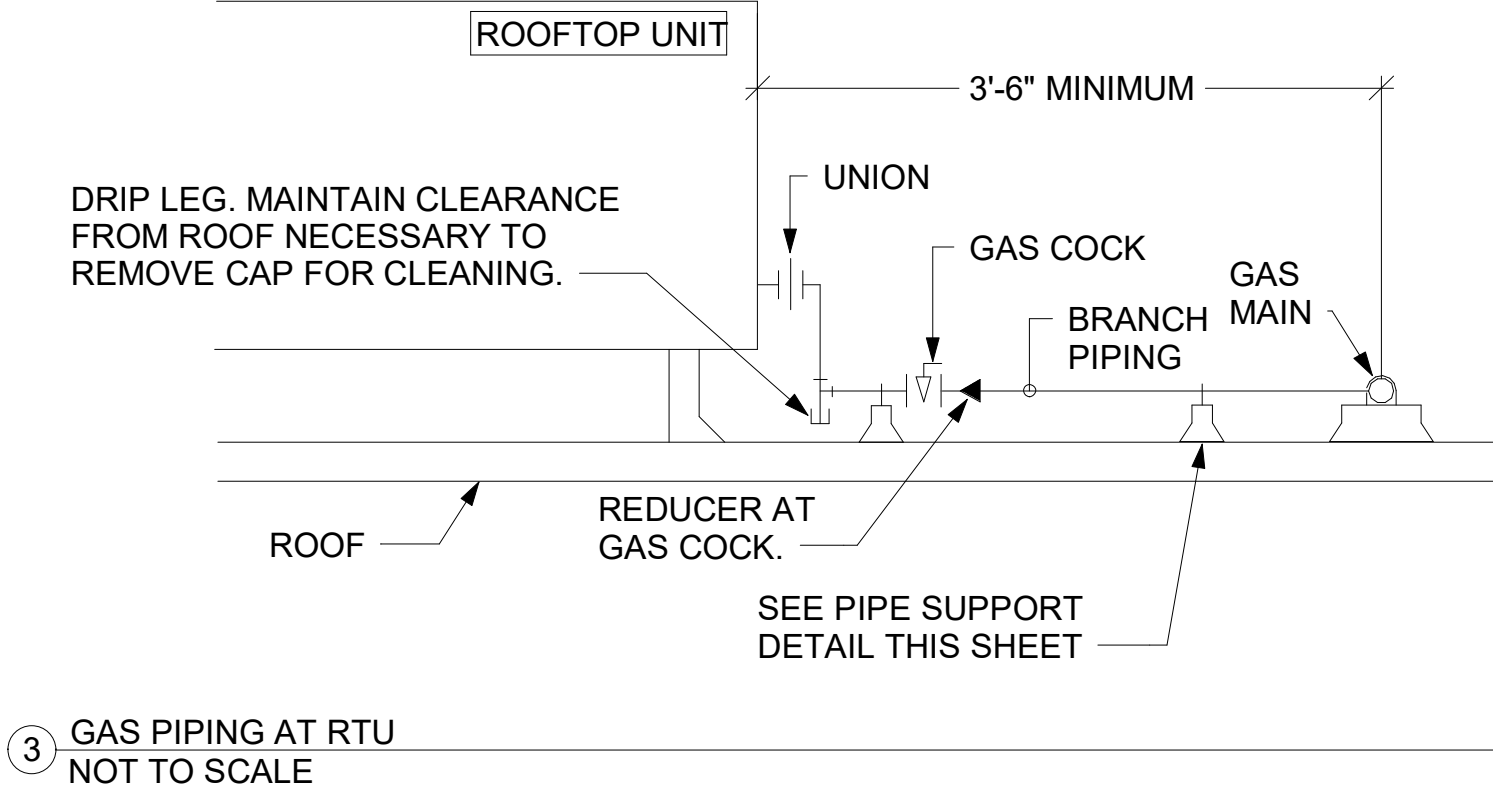
SEISMIC RESTRAINT FOR GAS PIPING ABOVE CEILING NOT TO SCALE



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

**NOTES:**

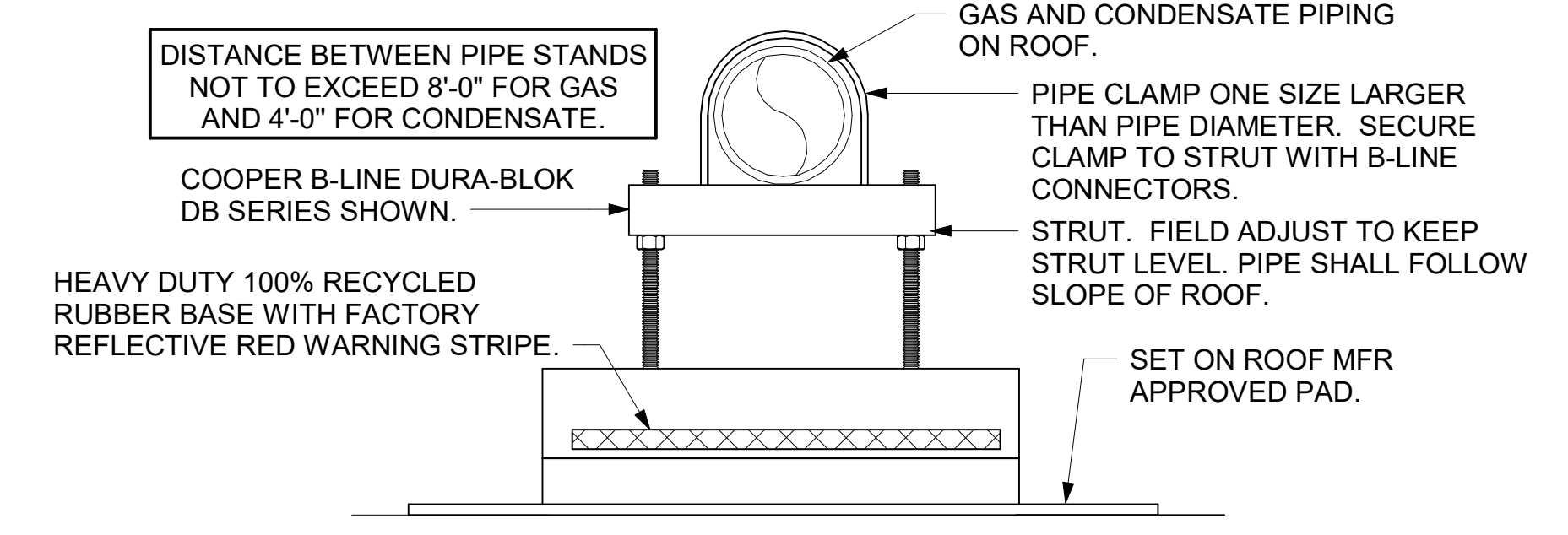
- INSTALL GAS PIPING SUCH THAT HVAC EQUIPMENT ACCESS PANELS AND/OR DOORS ARE IN NO WAY OBSTRUCTED BY PIPING, VALVES, OR SUPPORTS.
- TO AVOID CONFLICT WITH AC UNIT ACCESS DORRS, INSTALL GAS PIPING NO CLOSER THAN 3'-6" FROM AC UNIT. (EXCEPT FOR BRANCH LINE CONNECTED TO AC UNIT.)
- ROUTE BRANCH TAKE-OFF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



GAS PIPING AT RTU NOT TO SCALE

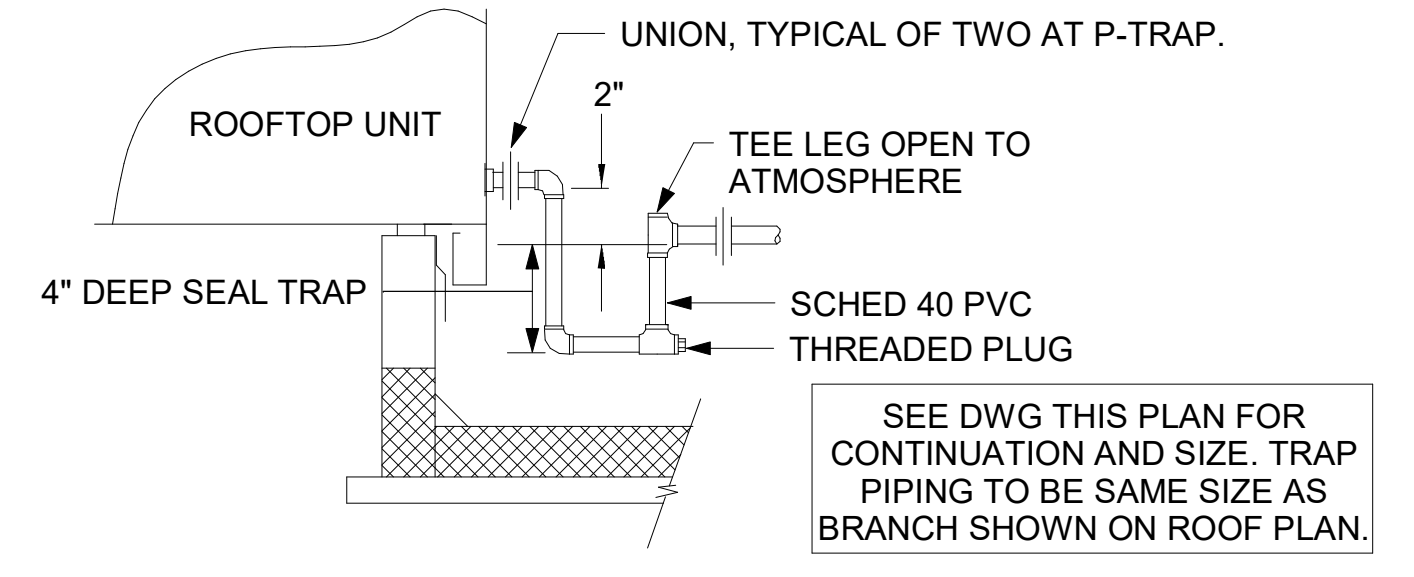
**NOTES:**

- 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.



PIPING SUPPORT ON ROOF NOT TO SCALE

5. GAS CONNECTION SCHEDULE	
EQUIPMENT	GAS LOAD
AC#1	250,000 BTUS
AC#2	320,000 BTUS
AC#3	320,000 BTUS
AC#4	130,000 BTUS
GH (2 @ 50,000 BTU EA.)	100,000 BTUS
WATER HEATER	125,000 BTUS
<b>TOTAL CONNECTED LOAD</b>	<b>1,245,000 BTUS</b>
REMARKS:	1) EQUIVALENT TO 1,245.0 CFH 2) 7" W.C. DELIVERY PRESSURE 3) DEVELOPED LENGTH: 175 FT (METER TO AC#3)



CONDENSATE DRAIN PIPING NOT TO SCALE

**CANOPY GENERAL NOTES**

- COORDINATE NEW WORK WITH EXISTING CONDUIT, STRUCTURE, AND PIPING. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF WORK.
- COORDINATE LOCATION AND RESPONSIBILITIES FOR UNDERGROUND PIPING AND ASSOCIATED TRENCHING WITH GENERAL CONTRACTOR PRIOR TO START OF WORK.
- EXPOSED GAS PIPING SHALL BE PAINTED BY GENERAL CONTRACTOR.
- ACTUAL NUMBER OF GAS INFRARED HEATERS WILL BE DETERMINED BY SITE-SPECIFIC CANOPY LAYOUT AND EQUIPMENT LOCATIONS, AS INDICATED ON ARCHITECTURAL PLANS.

LEGEND			
GIH#1	GAS INFRARED HEATER #1 (TYP.)	B/G	BELOW GRADE
---	NEW GAS PIPING ABOVE GRADE	EC	ELECTRICAL CONTRACTOR
---	NEW GAS PIPING BELOW GRADE	MC	MECHANICAL CONTRACTOR



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05/11/23

**CHICK-FIL-A**  
UNIVERSITY CITY FSU  
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UNIVERSITY CITY, MO 63132

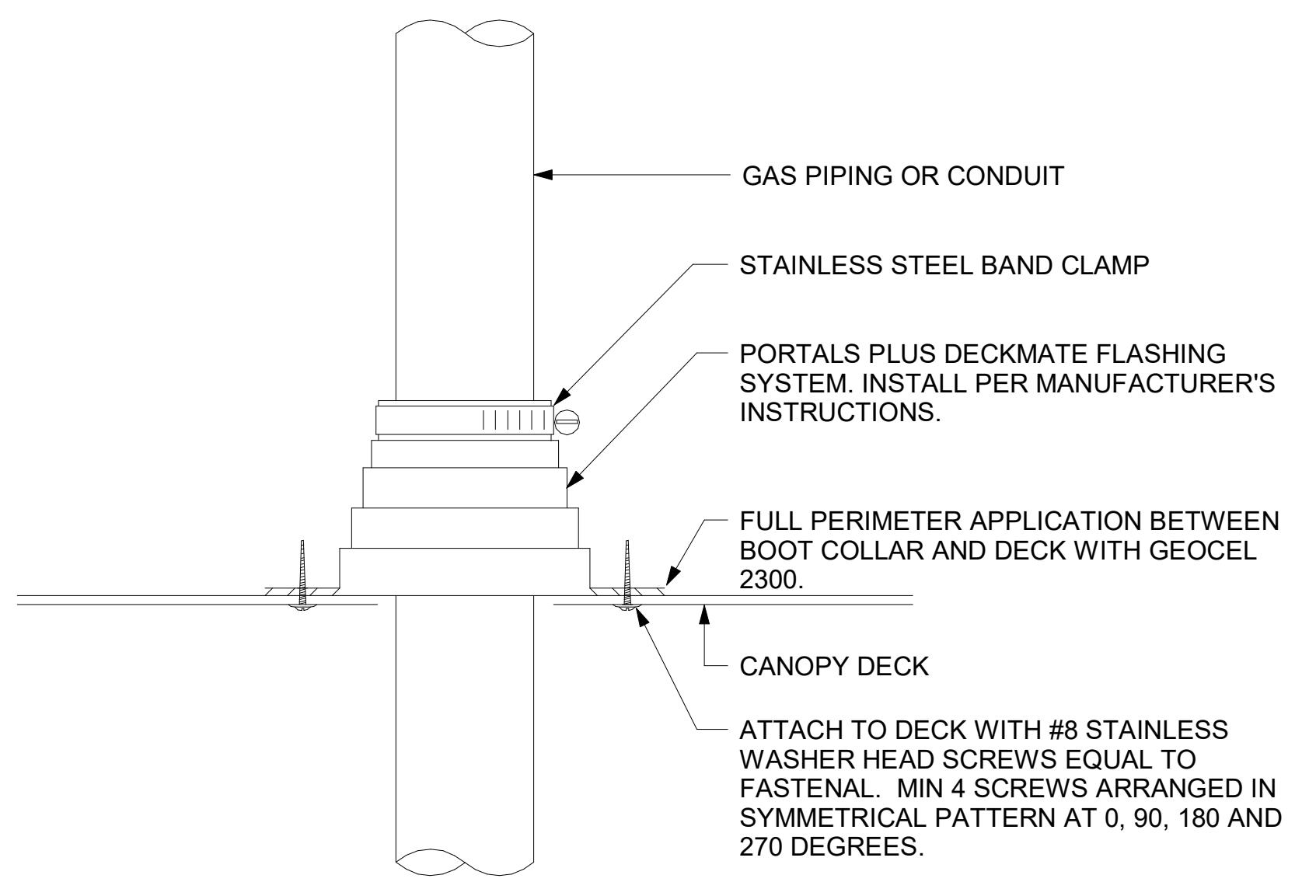
**FSR#04714**  
BUILDING TYPE / SIZE: P14 LSR LRG  
RELEASE: 22.08

CONSTRUCTION REVISION SCHEDULE		
NO.	DATE	DESCRIPTION

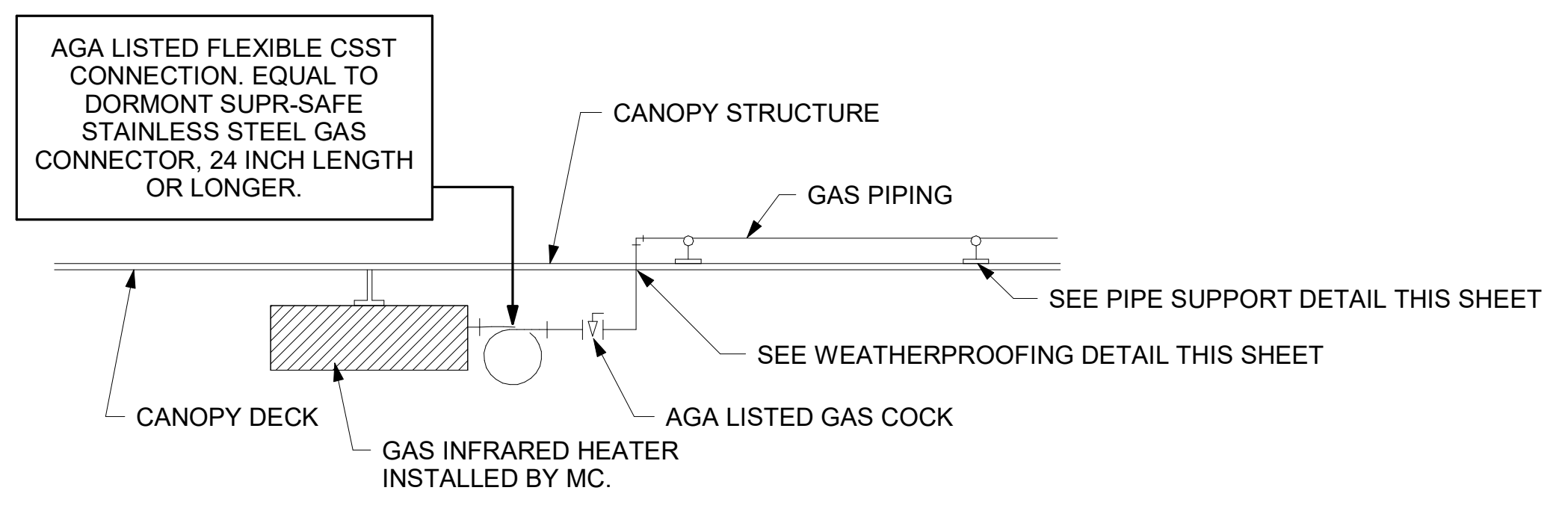
**For Construction**

CONSULTANT PROJECT #	23009.CD.S
DATE	05/11/23
DRAWN BY	CAC
CHECKED BY	
DATE	
PROJECT	
SHEET	
ROOF PLAN AND DETAILS	
SHEET NUMBER	

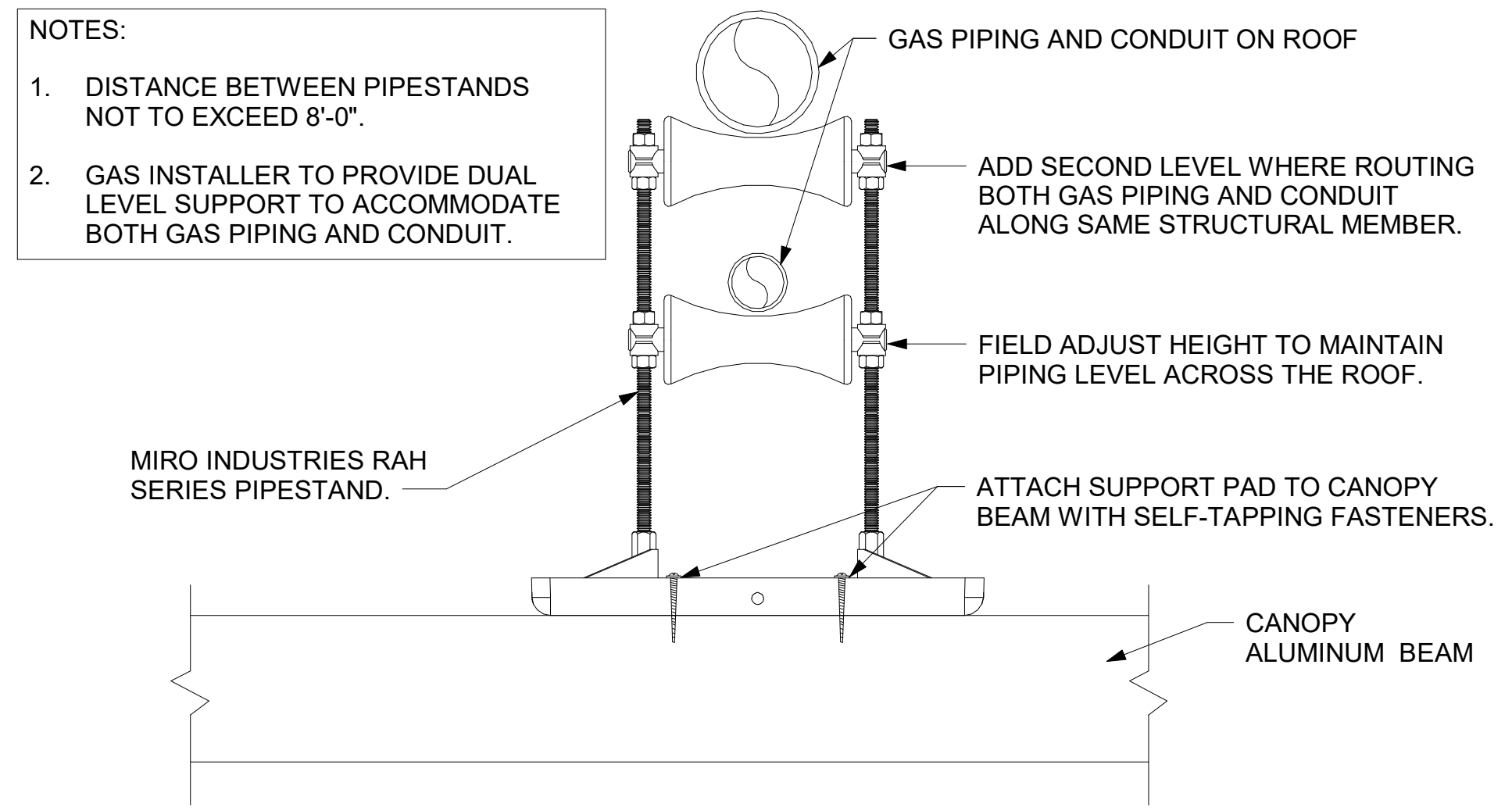
5/11/2023 8:56:28 AM Autodesk Docs://MO\_04714\_University City (MO)\_FSU\_2022.11\_FSR04714\_University City (MO)\_FSU\_PLB.rvt 40-LSR-04714-P-251-CANOPY PLAN AND DETAIL



2 WEATHERPROOFING AT CANOPY PENETRATION NOT TO SCALE



3 GAS CONNECTION AT APPLIANCE NOT TO SCALE

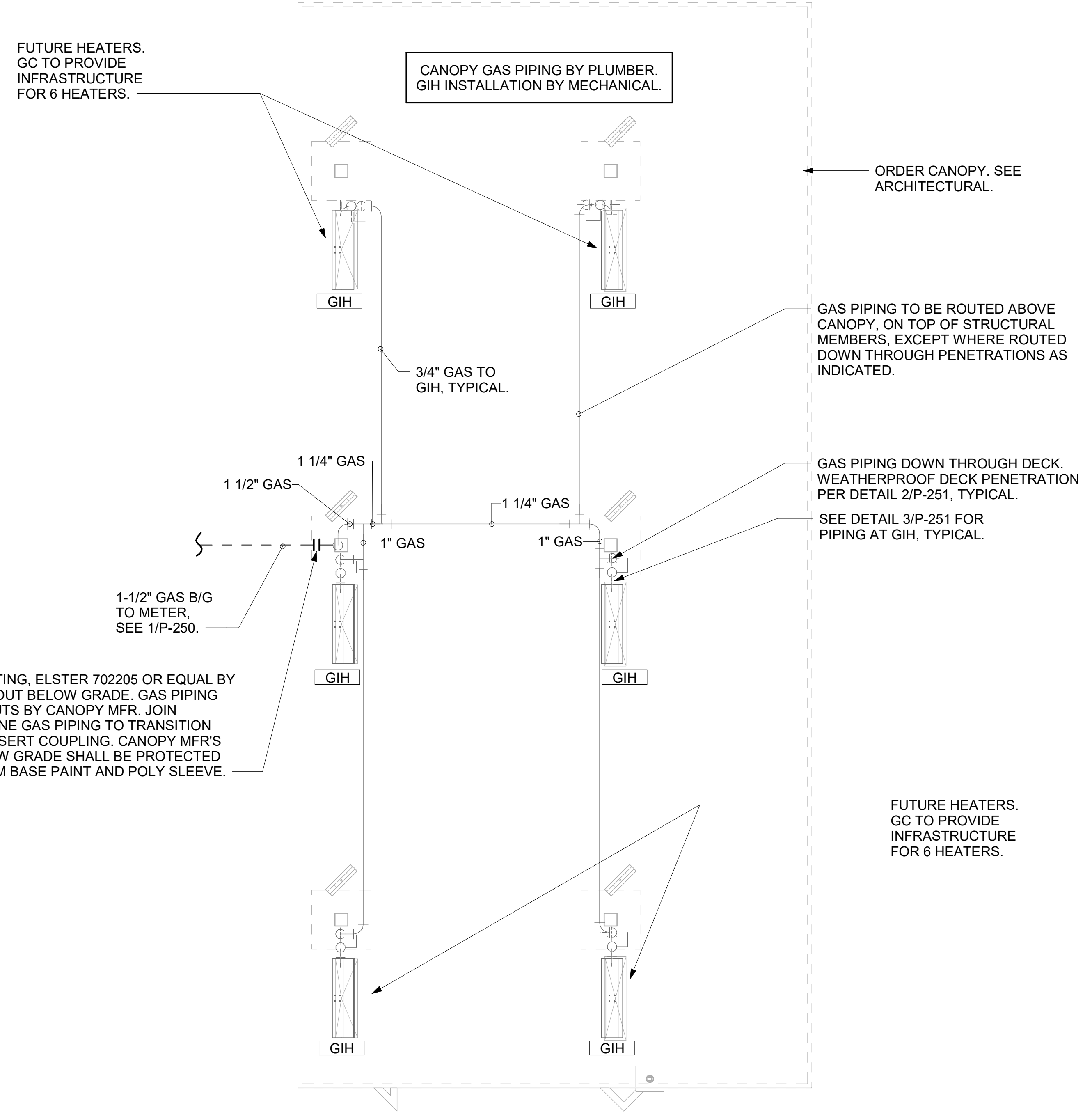


4 PIPING SUPPORT ON CANOPY NOT TO SCALE

LEGEND			
GIH#1	GAS INFRARED HEATER #1 (TYP.)	B/G	BELOW GRADE
—	NEW GAS PIPING ABOVE GRADE	EC	ELECTRICAL CONTRACTOR
- - -	NEW GAS PIPING BELOW GRADE	MC	MECHANICAL CONTRACTOR

**CANOPY GENERAL NOTES**

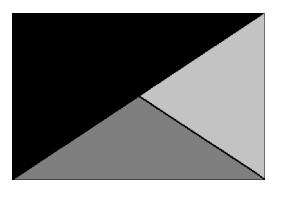
- COORDINATE NEW WORK WITH EXISTING CONDUIT, STRUCTURE, AND PIPING. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF WORK.
- COORDINATE LOCATION AND RESPONSIBILITIES FOR UNDERGROUND PIPING AND ASSOCIATED TRENCHING WITH GENERAL CONTRACTOR PRIOR TO START OF WORK.
- EXPOSED GAS PIPING SHALL BE PAINTED BY GENERAL CONTRACTOR.
- ACTUAL NUMBER OF GAS INFRARED HEATERS WILL BE DETERMINED BY SITE-SPECIFIC CANOPY LAYOUT AND EQUIPMENT LOCATIONS, AS INDICATED ON ARCHITECTURAL PLANS.



1 ORDER CANOPY PIPING PLAN  
1/4" = 1'-0"



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05/11/23

**CHICK-FIL-A**  
UNIVERSITY CITY FSU  
8637 OLIVE ROAD  
UNIVERSITY CITY, MO 63132

**FSR#04714**

BUILDING TYPE / SIZE: P14 LSR LRG  
RELEASE: 22.08

CONSTRUCTION REVISION SCHEDULE		
NO.	DATE	DESCRIPTION

For Construction -

CONSULTANT PROJECT # 23009.CD.S  
DATE 05/11/23

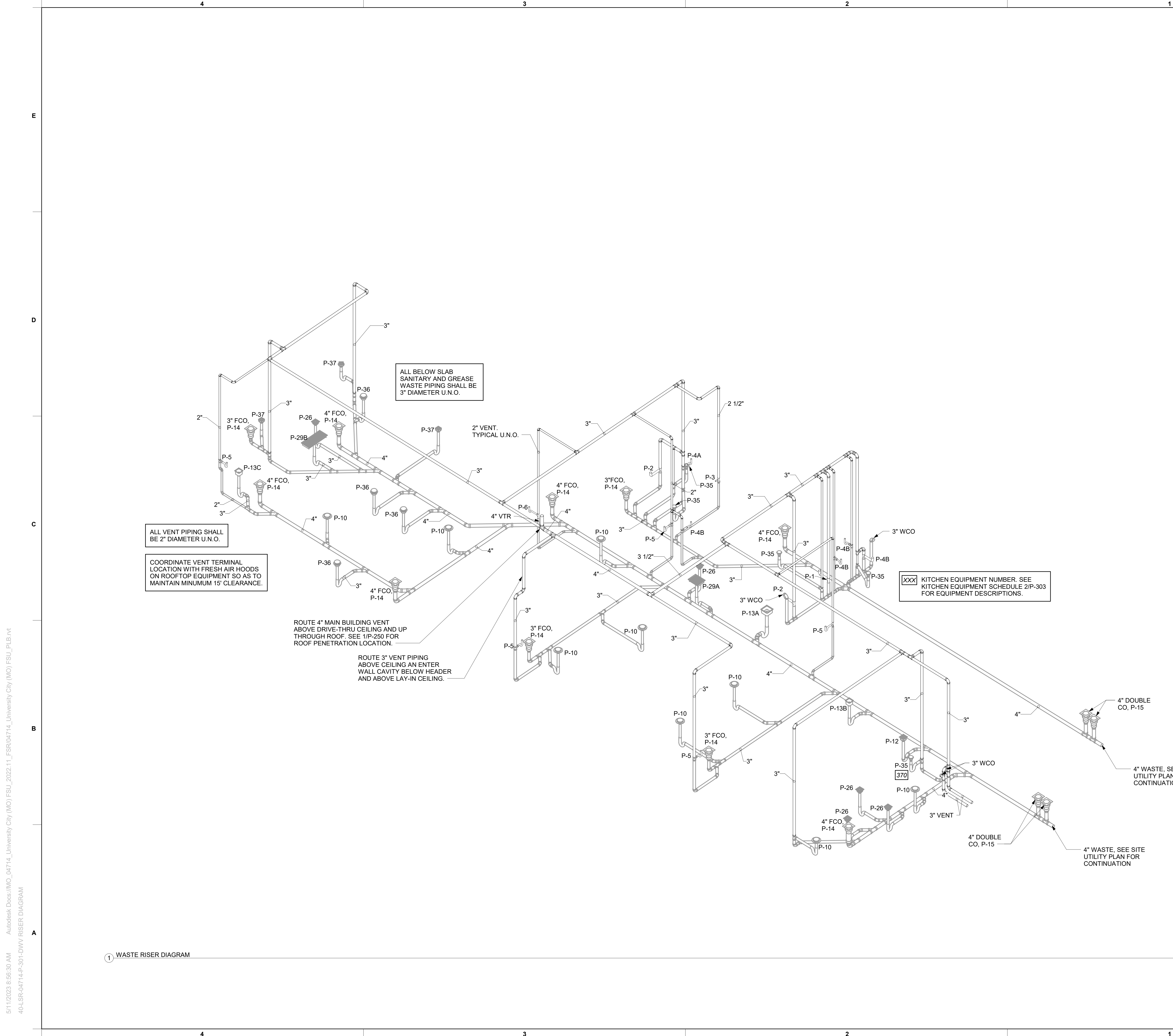
DRAWN BY CAC  
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SHEET CANOPY PLAN AND DETAIL

SHEET NUMBER

**P-251**





ALL VENT PIPING SHALL BE 2" DIAMETER U.N.O.

COORDINATE VENT TERMINAL LOCATION WITH FRESH AIR HOODS ON ROOFTOP EQUIPMENT SO AS TO MAINTAIN MINIMUM 15' CLEARANCE.

ALL BELOW SLAB SANITARY AND GREASE WASTE PIPING SHALL BE 3" DIAMETER U.N.O.

ROUTE 4" MAIN BUILDING VENT ABOVE DRIVE-THRU CEILING AND UP THROUGH ROOF. SEE 1/P-250 FOR ROOF PENETRATION LOCATION.

ROUTE 3" VENT PIPING ABOVE CEILING AND ENTER WALL CAVITY BELOW HEADER AND ABOVE LAY-IN CEILING.

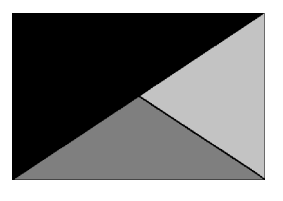
XXX KITCHEN EQUIPMENT NUMBER. SEE KITCHEN EQUIPMENT SCHEDULE 2/P-303 FOR EQUIPMENT DESCRIPTIONS.

1 WASTE RISER DIAGRAM



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05/11/23

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UNIVERSITY CITY FSU  
8637 OLIVE ROAD  
UNIVERSITY CITY, MO 63132

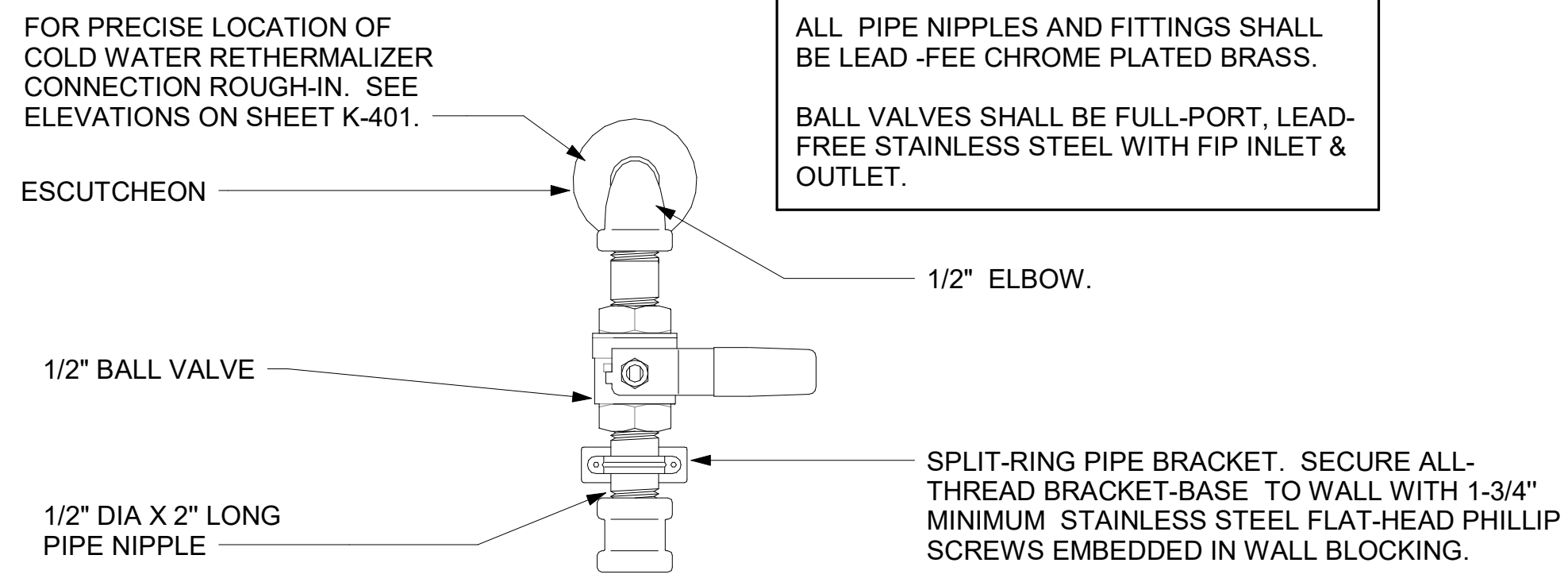
**FSR#04714**

BUILDING TYPE / SIZE: P14 LSR LRG  
RELEASE: 22.08  
PRINTED FOR: CONSTRUCTION  
REVISION SCHEDULE  
NO. DATE DESCRIPTION

For Construction -  
CONSULTANT PROJECT # 23009.CD.S  
DATE 05/11/23  
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SHEET DWV RISER DIAGRAM  
SHEET NUMBER

P-301

5/11/2023 8:56:30 AM Autodesk Docs://MO\_04714\_University City (MO)\_FSU\_2022.11\_FSR04714\_University City (MO)\_FSU\_PLB.rvt 40-LSR-04714-P-301-DWV RISER DIAGRAM



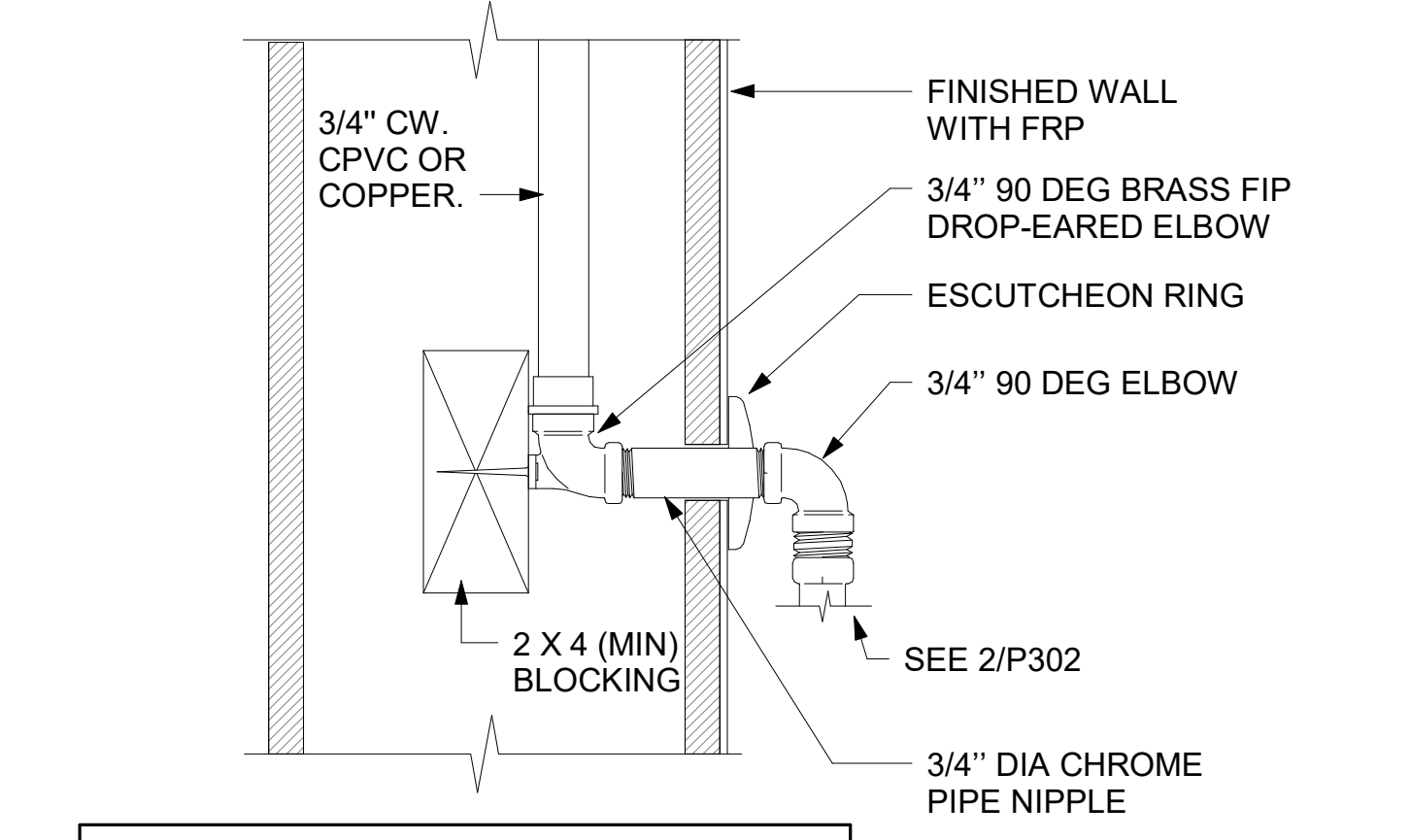
FOR PRECISE LOCATION OF COLD WATER RETHERMALIZER CONNECTION ROUGH-IN. SEE ELEVATIONS ON SHEET K-401.

ALL PIPE NIPPLES AND FITTINGS SHALL BE LEAD-FREE CHROME PLATED BRASS.

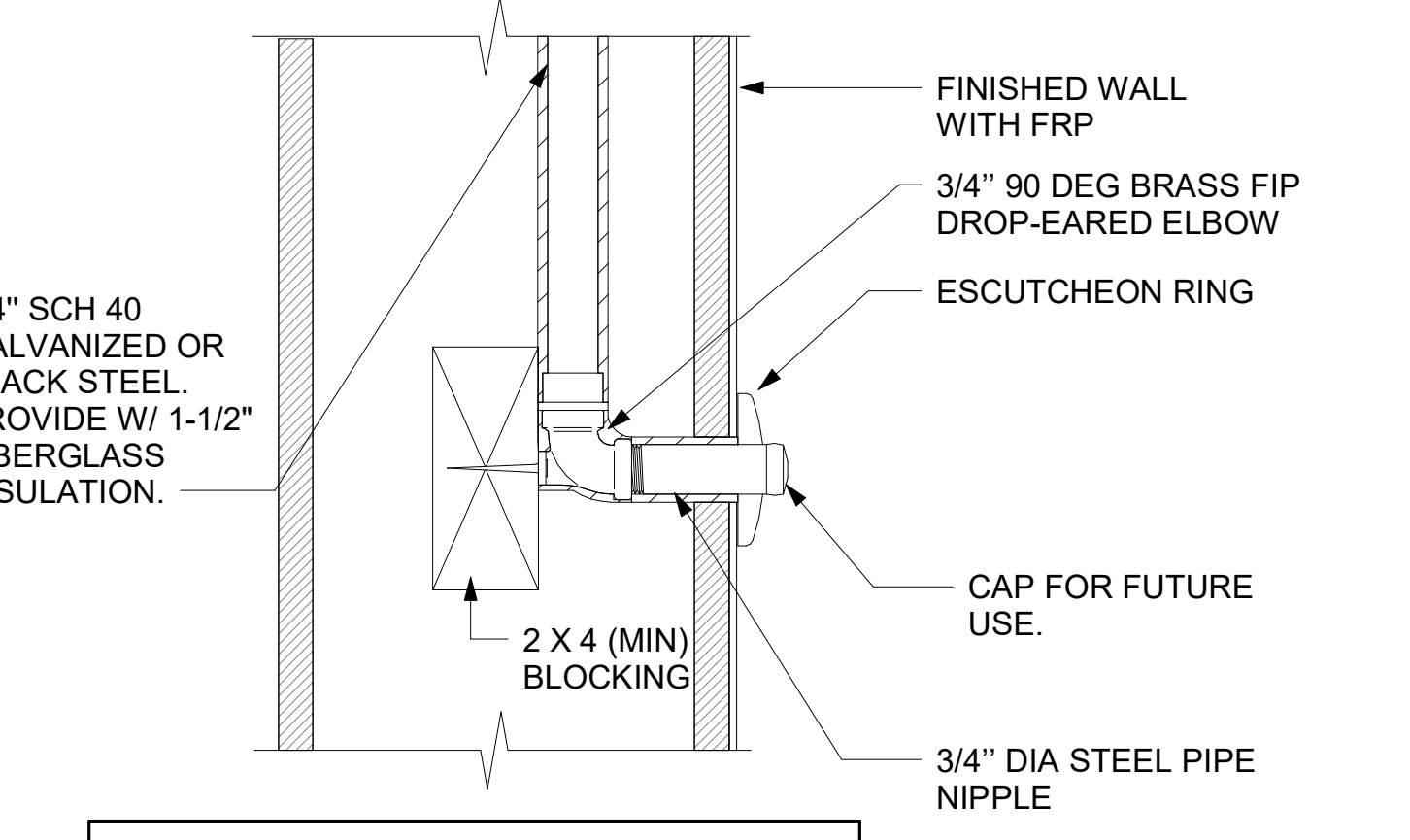
FOR PRECISE LOCATION OF COLD WATER DISHWASHER CONNECTION ROUGH-IN. SEE ELEVATIONS ON SHEET K-401.

ALL PIPE NIPPLES AND FITTINGS SHALL BE LEAD-FREE CHROME PLATED BRASS.

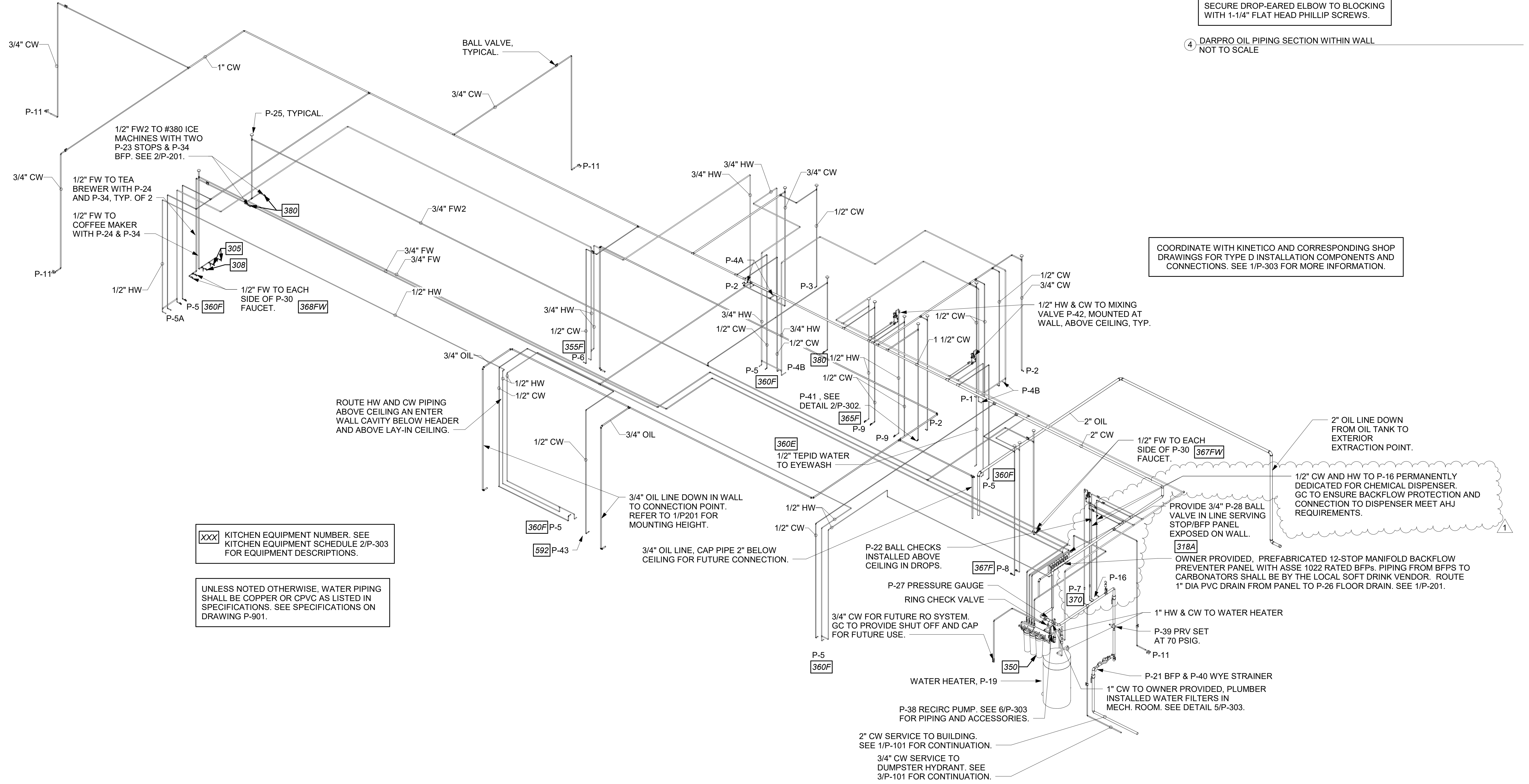
FOR PRECISE LOCATION OF COLD WATER DISHWASHER CONNECTION ROUGH-IN. SEE ELEVATIONS ON SHEET K-401.



SECTION 2A  
SECTION AT PIPING WITHIN WALL  
NOT TO SCALE



SECTION 2B  
SECTION AT PIPING WITHIN WALL  
NOT TO SCALE



3 RETHERMALIZER SUPPLY VALVE  
NOT TO SCALE

2 DISHWASHER SUPPLY VALVE ASSEMBLY-HOBART  
NOT TO SCALE

4 DARPRO OIL PIPING SECTION WITHIN WALL  
NOT TO SCALE

XXX KITCHEN EQUIPMENT NUMBER. SEE KITCHEN EQUIPMENT SCHEDULE 2/P-303 FOR EQUIPMENT DESCRIPTIONS.

UNLESS NOTED OTHERWISE, WATER PIPING SHALL BE COPPER OR CPVC AS LISTED IN SPECIFICATIONS. SEE SPECIFICATIONS ON DRAWING P-901.

COORDINATE WITH KINETICO AND CORRESPONDING SHOP DRAWINGS FOR TYPE D INSTALLATION COMPONENTS AND CONNECTIONS. SEE 1/P-303 FOR MORE INFORMATION.

ROUTE HW AND CW PIPING ABOVE CEILING AN ENTER WALL CAVITY BELOW HEADER AND ABOVE LAY-IN CEILING.

1/2\"/>

PROVIDE 3/4\"/>

OWNER PROVIDED, PREFABRICATED 12-STOP MANIFOLD BACKFLOW PREVENTER PANEL WITH ASSE 1022 RATED BFPs. PIPING FROM BFPs TO CARBONATORS SHALL BE BY THE LOCAL SOFT DRINK VENDOR. ROUTE 1\"/>

P-22 BALL CHECKS INSTALLED ABOVE CEILING IN DROPS.

P-27 PRESSURE GAUGE RING CHECK VALVE

3/4\"/>

WATER HEATER, P-19

P-38 RECIRC PUMP. SEE 6/P-303 FOR PIPING AND ACCESSORIES.

2\"/>

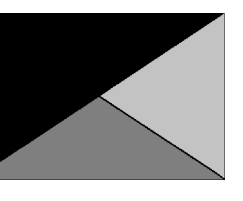
3/4\"/>

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05/11/23

**CHICK-FIL-A**  
UNIVERSITY CITY FSU  
8637 OLIVE ROAD  
UNIVERSITY CITY, MO 63132

**FSR#04714**

BUILDING TYPE / SIZE: P14 LSR LRG  
RELEASE: 22.08  
PRINTED FOR: CONSTRUCTION  
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	03/03/2023	HEALTH REVISION

For Construction -

CONSULTANT PROJECT # 23009.CD.S  
DATE 05/11/23  
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SHEET WATER RISER DIAGRAM  
SHEET NUMBER

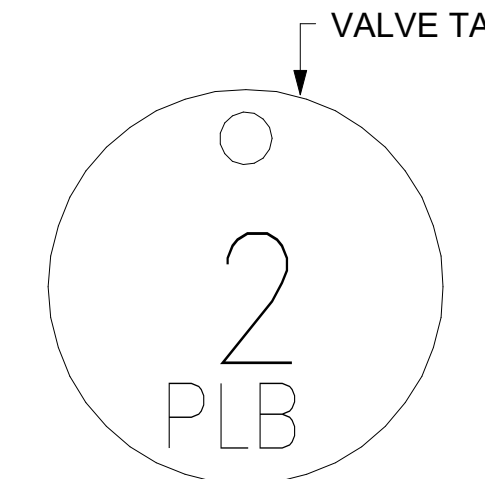
**P-302**



VALVE TAG LEGEND	
VALVE	VALVE POSITION
① MAIN WATER SHUT-OFF	NORMALLY OPEN
② MAIN DRAIN	NORMALLY CLOSED
③ ACCESSORY SHUT-OFF	NORMALLY OPEN
④ WATER FILTER INLET	NORMALLY OPEN
⑤ RECIRC PUMP ISOLATION VALVE	NORMALLY OPEN
⑥ WATER HEATER INLET	NORMALLY OPEN
⑦ RESTROOM & KITCHEN COLD WATER	NORMALLY OPEN
⑧ POST HYDRANT COLD WATER	NORMALLY OPEN
⑨ GAS TO WATER HEATER	NORMALLY OPEN
⑩ WATER HEATER OUTLET	NORMALLY OPEN

NOTE: HANDLE IN-LINE WITH PIPING = VALVE OPEN

LAMINATE VALVE TAG LEGEND AND MOUNT PERMANENTLY WHERE SHOWN ON WATER HEATER DETAIL IN AN ALUMINUM FRAME EQUAL TO SETON #68624.



② VALVE TAG SYMBOL AS SHOWN ON DETAIL 6/P-303. PROVIDE 1-1/2" ROUND BRASS VALVE TAG WITH 1/2" HIGH BLACK FILLED LETTERING. EACH TAG SHALL INDICATE VALVE NUMBER AND WILL ALSO HAVE "PLBG" STAMPED ON THE TAG IN 1/4" HIGH BLACK FILLED LETTERING EQUAL TO SETON #M4506. HANG WITH BRASS JACK CHAIN ON VALVE HANDLE.

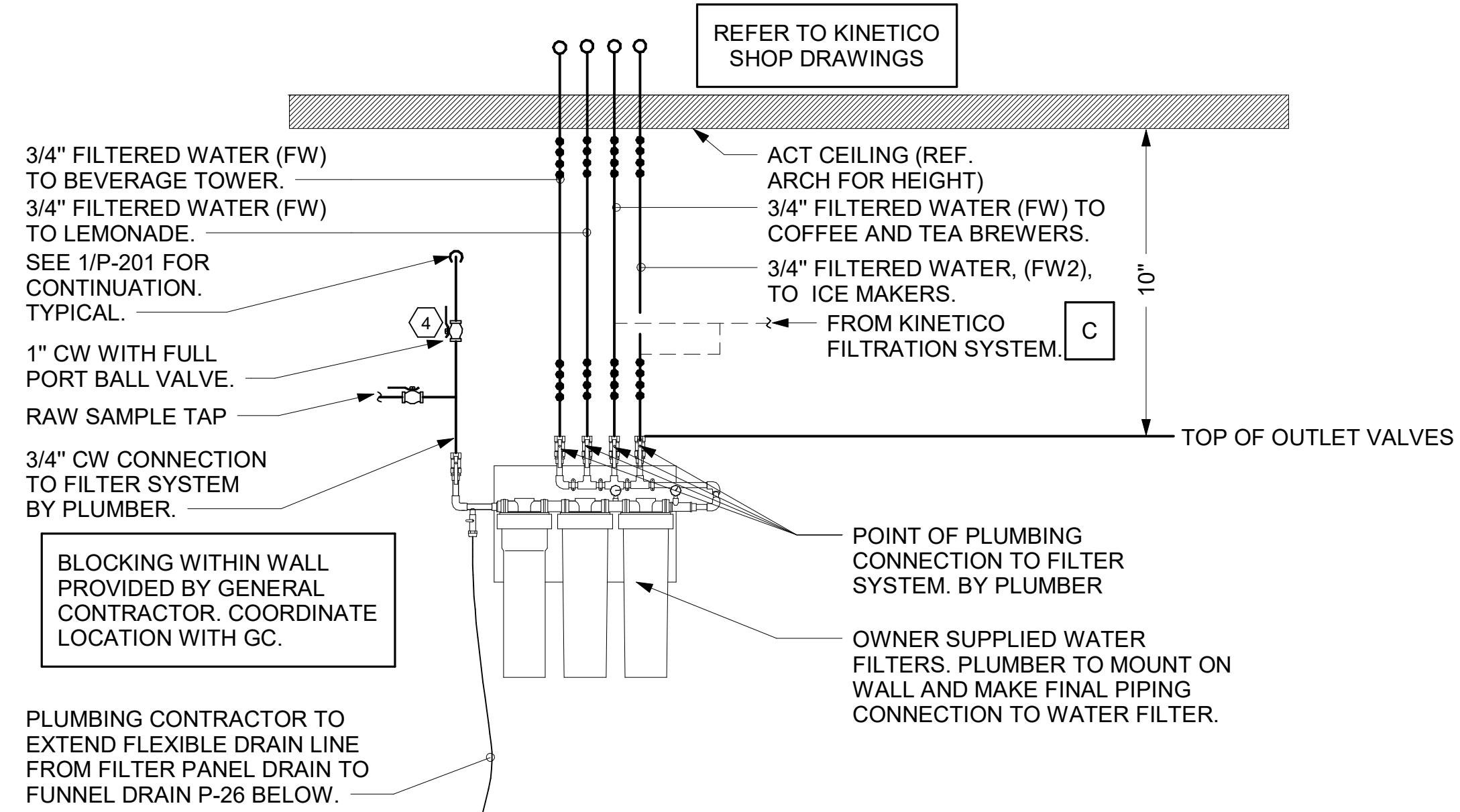
③ VALVE TAGS AND LEGEND NOT TO SCALE

2. KITCHEN EQUIPMENT SCHEDULE									
TAG	DESCRIPTION	FW	FW2	CW	HW	WASTE	ROUGH-IN		
305	TEA BREWER	1/2"	X	X	X	X	P-24, SEE K-611 & 6/P-211		
308	COFFEE MAKER	1/2"	X	X	X	X	P-24, SEE K-611 & 6/P-211		
318A	CARBONATOR BFP PANEL	3/4"	X	X	X	X	P-28, SEE K-611		
350	WATER FILTER PANEL	(3) 3/4"	3/4"	3/4"	X	X	SEE DET 5/P-303		
360E	EMERGENCY EYEWASH STATION	X	X	1/2"	1/2"	X	*1/2" TEPID WATER FROM P-42, SEE K-611 & 1/P-201		
363	DISHWASHER	X	X	3/4"	X	INDIRECT TO P-13A	P-41, SEE K-611 & 1/P-201		
365	POT SINK	X	X	(2) 1/2"	(2) 1/2"	INDIRECT	TWO #385F FAUCETS, P-9 SEE K-611		
367	VEGETABLE PREP SINK	X	X	1/2"	1/2"	INDIRECT	#367F FAUCET, P-8 SEE K-611		
367FW	FILTERED WATER FAUCET	(2) 1/2"	X	X	X	X	P-30 48" AFF.		
368FW	FILTERED WATER FAUCET	(2) 1/2"	X	X	X	X	P-30 48" AFF.		
370	MOP SINK	X	X	1/2"	1/2"	3" P-35	P-7 SEE K-611		
380	ICE MAKER	X	(3) 1/2"	X	X	INDIRECT	P-23 SEE K-611 & 3/P-201		
381	ICE BIN (1 HEAD)	X	X	X	X	INDIRECT	SEE DET 3/P-201		
384	ICE BIN (2 HEAD)	X	X	X	X	INDIRECT	SEE DET 3/P-201		
592	RETHERMALIZER	X	X	1/2"	X	INDIRECT	P-43 SEE DET 3/P-302		

1. FIXTURE CONNECTION SCHEDULE									
MARK	FIXTURE	FW	FW2	CW	HW	WASTE			
P-1	WATER CLOSET - FLOOR MOUNT (1.28 GPF)	X	X	1"	X	3"			
P-2	WATER CLOSET - ADA FLOOR MOUNT (1.28 GPF)	X	X	1"	X	3"			
P-3	URINAL - ADA WALL HUNG (0.125 GPF)	X	X	3/4"	X	2"			
P-4A	LAVATORY - ADA COUNTERTOP (0.50 GPM)	X	X	1/2"	1/2"	1-1/4"			
P-4B	LAVATORY - ADA WALL-MOUNTED (0.50 GPM)	X	X	1/2"	1/2"	1-1/4"			
P-5	KITCHEN HAND SINK - WALL HUNG (0.5 GPM)	X	X	1/2"	1/2"	1-1/2"			
P-5A	KITCHEN DUMP SINK - WALL HUNG (1.0 GPM)	X	X	1/2"	1/2"	1-1/2"			
P-6	SINGLE COMP SINK - COUNTERTOP (1.0 GPM)	X	X	1/2"	1/2"	1-1/2"			
P-7	MOP SINK	X	X	1/2"	1/2"	3"			
P-8	VEGETABLE PREP SINK (1.0 GPM SPRAYER)	X	X	1/2"	1/2"	(2) 1-1/2"			
P-9	POT SINK (1.0 GPM SPRAYER)	X	X	(2) 1/2"	(2) 1/2"	(4) 1-1/2"			
P-10	FLOOR DRAIN (ROUND TOP)	X	X	X	X	3"			
P-11	WALL HYDRANT (NON FREEZE)	X	X	3/4"	X	X			
P-12	FUNNEL DRAIN (3")	X	X	X	X	3"			
P-13A	FLOOR SINK (4") 12" TOP	X	X	X	X	4"			
P-13B	FLOOR SINK (3") 8" TOP	X	X	X	X	3"			
P-13C	FLOOR SINK (3") 8" TOP	X	X	X	X	3"			
P-14	CLEANOUT INSIDE BUILDING	X	X	X	X	SEE PLAN			
P-15	CLEANOUT OUTSIDE BUILDING	X	X	X	X	SEE PLAN			
P-16	ECOLAB WALL FAUCET	X	X	1/2"	1/2"	X			
P-17	VACUUM RELIEF VALVE	X	X	3/4"	X	X			
P-18	EXPANSION TANK	X	X	3/4"	X	X			
P-19	WATER HEATER	X	X	1"	1"	X			
P-20	THERMOMETER	X	X	X	1/2"	X			
P-21	BACKFLOW PREVENTER	X	X	1-1/2"	X	X			
P-22	MOP SINK CHECK VALVES	X	X	1/2"	1/2"	X			
P-23	UTILITY CONNECTION (ICE MAKER)	X	1/2"	X	X	X			
P-24	UTILITY CONNECTION (COFFEE & TEA)	1/2"	X	X	X	X			
P-25	SHOCK ABSORBER	1/2"	1/2" & 3/4"	1/2"	1/2"	X			
P-26	FUNNEL DRAIN	X	X	X	X	3"			
P-26A	TRAP SEAL PROTECTOR	X	X	X	X	3"			
P-27	WATER PRESSURE GAUGE	X	X	1/4"	X	X			
P-28	BALL VALVE-CARBONATOR STOP/BFP PANEL	3/4"	X	X	X	X			
P-29A	ICE MACHINE TRENCH DRAIN	X	X	X	X	3"			
P-29B	ICE MACHINE TRENCH DRAIN	X	X	X	X	3"			
P-30a	FILTERED WATER FAUCET	(2) 1/2"	X	X	X	X			
P-31	DUMPSTER POST HYDRANT	X	X	3/4"	X	X			
P-32	DUMPSTER DRAIN	X	X	X	X	3"			
P-33	TRAP PRIMER (MECHANICAL TYPE)	X	X	1/2"	X	X			
P-34	DISPENSER BACKFLOW PREVENTER	1/2"	X	X	X	X			
P-35	FLOOR DRAIN	X	X	X	X	3"			
P-36	BEVERAGE TOWER INDIRECT RECEIVER	X	X	X	X	3"			
P-37	FLOOR DRAIN (SQUARE TOP)	X	X	X	X	3"			
P-38	HOT WATER CIRCULATING PUMP	X	X	X	1/2"	X			
P-39	PRESSURE REDUCING VALVE	X	X	2"	X	X			
P-40	WYE STRAINER	X	X	2"	X	X			
P-41H	DISHWASHER SUPPLY VALVE - HOBART	X	X	3/4"	X	X			
P-42	EMERGENCY EYEWASH MIXING VALVE	X	X	1/2"	1/2"	X			
P-43	RETHERMALIZER SUPPLY VALVE	X	X	3/4"	X	X			

NOTES: ① REFER TO FOOD SERVICE DRAWINGS FOR KITCHEN EQUIPMENT INSTALLATION AND HOOK-UP RESPONSIBILITIES.  
② DO NOT MANIFOLD POT OR PREP SINK DRAINS TOGETHER UNLESS ALLOWED BY LOCAL AUTHORITY.

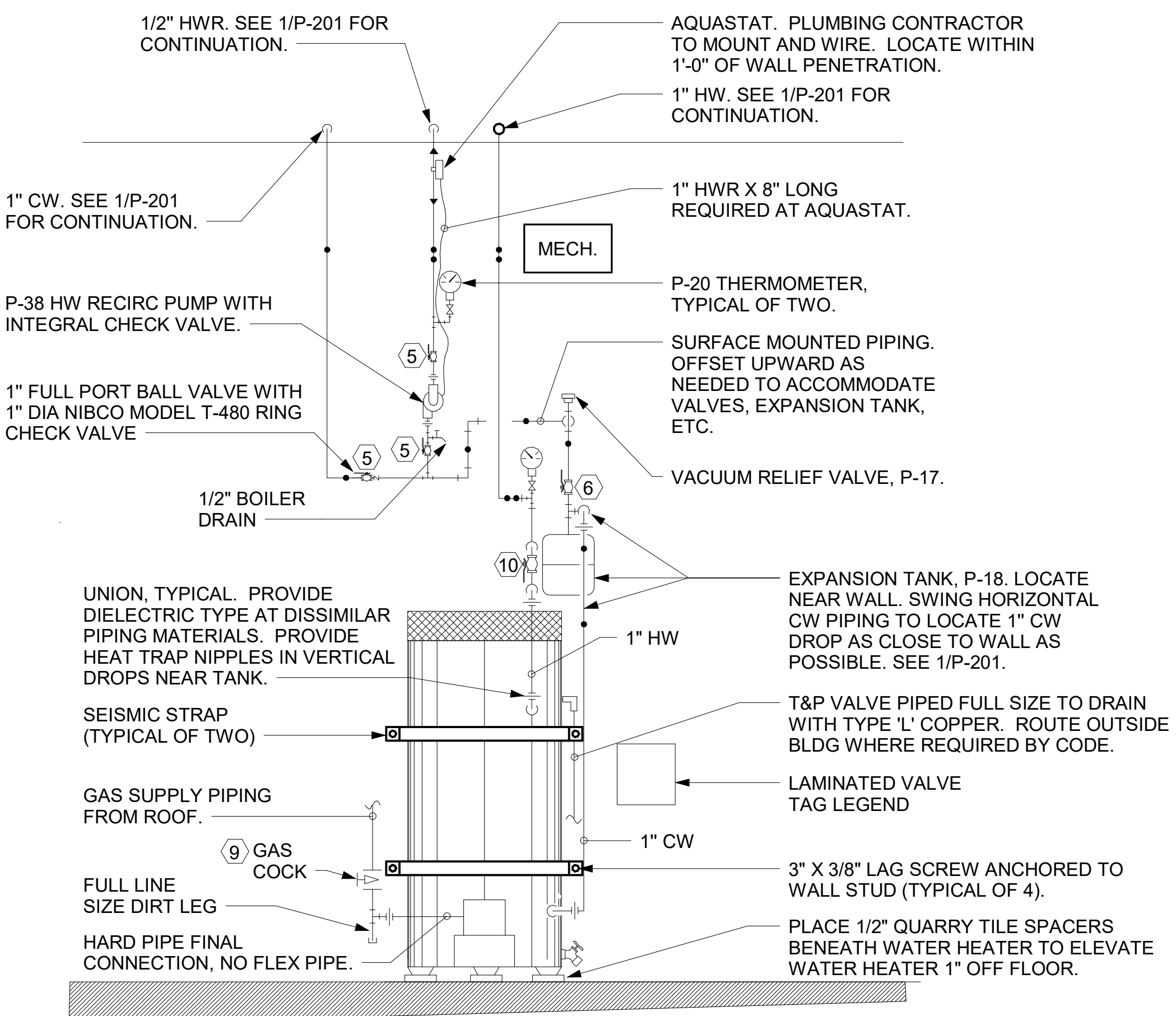
NOTE OF SPECIAL IMPORTANCE  
1. LOCATIONS OF 2" CW RISER AND CLEAR SPACE ARE DIMENSIONED BECAUSE THEY ARE CRITICAL FOR THE FUTURE PUMP PANEL INSTALLATION.  
2. GENERAL CONTRACTOR SHALL ENSURE OTHER TRADES SHALL NOT INSTALL ANY OTHER BUILDING COMPONENT WITHIN CLEAR SPACE OR WITHIN 10" OF EDGES.



⑤ PIPING AT WATER FILTER NOT TO SCALE

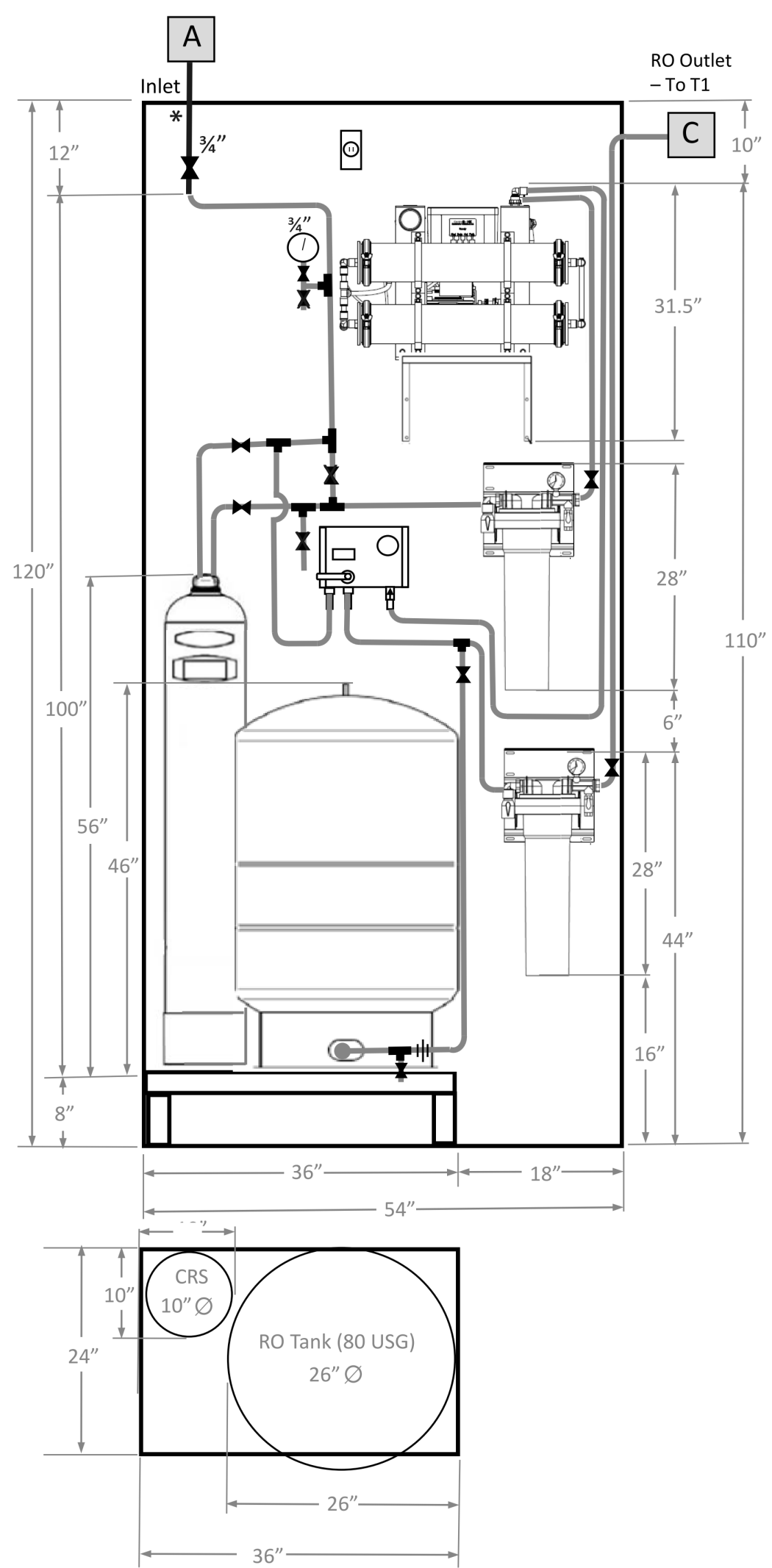
SEISMIC NOTES TO WATER HEATER INSTALLER:  
1. WATER HEATER STRAPS: 3" WIDE, 20 GA GALV SHEET METAL STRAPS WITH ONE 3" X 3/8" LAG SCREW AT EACH END. PROVIDE ONE 3/4" AND ONE 1-1/2" DIA FLAT WASHER AT EACH SCREW. PLACE SCREWS NO CLOSER THAN 3/4" FROM EDGE OF STRAP. MOUNT STRAPS AT UPPER 1/3 AND LOWER 1/3 OF TANK. LAG SCREWS TO PENETRATE WALL FRAMING STUDS OR BLOCKING.  
2. GAS PIPING: SECURE GAS PIPING TIGHT TO STRUCTURE WITH STRUT-AND-CLAMP OR B-LINE VIBRA-CLAMP TO PROVIDE LONGITUDINAL AND TRANSVERSE SUPPORT WITH SPACING NOT TO EXCEED 5'-0" WITHIN BUILDING.

NOTES TO WATER HEATER INSTALLER:  
1. POSITION VALVES AND TRIM IN MECH ROOM SUCH THAT VALVES AND TRIM ARE UNOBSTRUCTED TO VIEW AND SO THAT ACCESS FOR OPERATION OR REPAIR IS POSSIBLE WITHOUT USE OF STEP LADDERS OR NEED TO DISASSEMBLE ANY COMPONENTS.  
2. VENT HEATER UP THRU MECH ROOM ROOF AND PROVIDE FRESH AIR PIPING PER MANUFACTURER'S RECOMMENDATIONS.



⑥ PIPING AT WATER HEATER NOT TO SCALE

WATER FILTRATION SYSTEM NOTES:  
1. PLUMBING CONTRACTOR IS RESPONSIBLE FOR 3/4" CAPPED WATER LINE FOR RO SYSTEM. SEE DETAIL #7 BELOW.  
2. PLUMBING CONTRACTOR IS RESPONSIBLE FOR WATER FILTER CONNECTIONS FROM PROTOTYPICAL T1 FILTRATION SYSTEM (#350). SEE DETAIL #5 THIS SHEET.  
3. PLUMBING CONTRACTOR SHALL REVIEW DESIGN NOTE 2020-017 AND SYSTEMS TYPE GUIDE DEVELOPED BY CFA & KINETICO.



① KINETICO INSTALLATION DRAWINGS NOT TO SCALE



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05/11/23

CHICK-FIL-A  
UNIVERSITY CITY FSU  
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UNIVERSITY CITY, MO 63132

FSR#04714  
BUILDING TYPE / SIZE: P14 LSR LRG  
RELEASE: 22.08  
PRINTED FOR: CONSTRUCTION  
REVISION SCHEDULE  
NO. DATE DESCRIPTION  
1 03/03/2023 HEALTH REVISION

For Construction -  
CONSULTANT PROJECT # 23009.CD.S  
DATE 05/11/23  
DRAWN BY CAC  
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SHEET DETAILS AND SCHEDULES  
SHEET NUMBER P-303

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40-LSR-04714-P-303-DETAILS AND SCHEDULES



1. SECTION C15100 - PLUMBING SPECIFICATIONS

- PART I - PRODUCTS (C15100)
1.01 GENERAL REQUIREMENTS
A. THE FOLLOWING SPECIFICATIONS ARE THE MINIMUM REQUIREMENT...
1.02 SCOPE
A. HOT AND COLD POTABLE WATER PIPING ABOVE SLAB...
B. POTABLE WATER PIPING BELOW SLAB...
C. COPPER PIPE FITTINGS...
D. WATER PIPING DOWNSTREAM...
E. CPVC FITTINGS...
F. NIPPLES, ELBOWS...
G. ALL HVAC CONDENSATE PIPING...
H. U.N.O., ALL SANITARY WASTE...
I. DWV PIPE AND FITTINGS...
J. PVC-DWV FITTINGS...
K. PROVIDE 1" THICK PIPE INSULATION...
L. PIPE INSULATION AND COVERINGS...
M. A PVC 25/50 PRE-FORMED COVER...
N. ALL ABOVE GRADE NATURAL GAS...
O. ALL BELOW GRADE NATURAL GAS...
P. EXPOSED SUPPORTS...
Q. USE MATERIALS SPECIFIED...
PART II - EXECUTION (C15100)
2.01 TRENCHING (C15100)
A. EXCAVATION, BACKFILLING...
B. PROVIDE NECESSARY SHORING...
C. IN MOSTLY ROCK MATERIAL...
D. IN MOSTLY EARTH OR SAND...
E. BACKFILLING AND TAMPING...
F. ACCEPTABLE SOIL MATERIALS...
G. SURFACE SHALL BE RESTORED...

- 2.02 INSTALLATION (C15100)
A. WATER PIPING IN EXTERIOR WALL...
B. EXPOSED HOT AND COLD WATER TRIM...
C. ACCEPTABLE METHODS OF PIPE SUPPORT...
D. PROVIDE J.R. SMITH OR APPROVED...
E. SANITARY WASTE LINES...
F. STORM PIPING SHALL BE SLOPED...
G. SUPPORT HORIZONTAL PIPING...
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...
I. INSULATION SHALL BE APPLIED...
J. PROVIDE AND INSTALL A CUT-OFF...
K. COORDINATE ABOVE-CEILING...
L. ALL GAS PIPING ABOVE ROOF...
2.03 TESTING (C15100)
A. POTABLE WATER PIPING SHALL BE...
B. THE POTABLE WATER SYSTEM...
C. THE SANITARY WASTE SYSTEM...
D. THE ENTIRE SANITARY WASTE...
E. NATURAL GAS PIPING SHALL BE...
PART III - MANUFACTURERS
3.01 PRODUCTS - PIPING SYSTEMS...
A. HYDRANTS, CARRIERS, DRAINS...
B. ALTERNATES TO ZURN (ZRN)...
3.02 PRODUCTS - RESTROOM FIXTURES...
A. PREFERRED FIXTURES...
B. ALTERNATE FIXTURES...
C. FITTINGS...
D. FLUSH VALVES...
E. PREFERRED TOILET SEATS...
F. FLOOR SINKS...

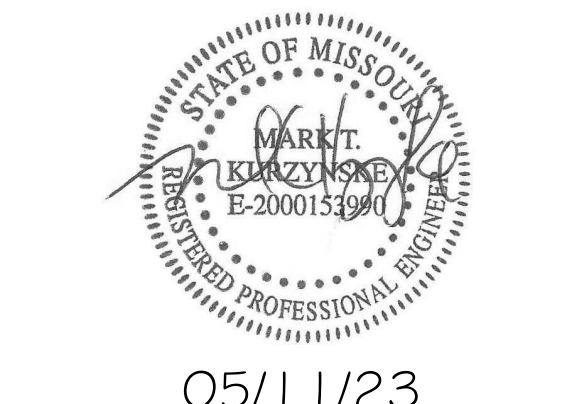
COORDINATION NOTE
1. CONTRACTOR SHALL THOROUGHLY REVIEW THE KITCHEN EQUIPMENT DRAWINGS TO ENSURE ALL ITEMS...
2. PROVIDE THROUGH (H/C) & INSTALLED BY THE CONTRACTOR...

NATIONAL ACCOUNTS
1. TOTO VALVES AND FIXTURES (NO SUBSTITUTIONS). HAINES, JONES & CADBURY LLC...
CF@HJINC.COM FOR NATIONAL ACCOUNT PRICING AND DELIVERY...

2. PLUMBING FIXTURES

- RESTROOM FIXTURES (C15405) AND PLUMBING (15100)
P-1 WATER CLOSET: TOTO MODEL CT705UN#01 BOWL...
P-2 WATER CLOSET (ADA): TOTO MODEL CT705ULN#01 BOWL...
P-3 URINAL: TOTO MODEL UT445U#01 URINAL...
P-4A LAVATORY FAUCET: (BUILT-IN COUNTERTOP LAVATORY...
P-4B LAVATORY: TOTO MODEL LT307 LAVATORY...
P-5 KITCHEN HAND SINK ROUGH IN...
P-5A KITCHEN DUMP SINK ROUGH IN...
P-6 SERVING COUNTER DROP IN SINK...
P-7 MOP SINK FAUCET...
P-8 VEGETABLE PREP SINK ROUGH-IN...
P-9 FOUR COMPARTMENT POT SINK...
P-10 FLOOR DRAIN (3" WASTE CONNECTION)...
P-11 WALL HYDRANT (NON-FREEZE)...
P-12 FUNNEL DRAIN (3")...
P-13A FLOOR SINK (POT SINK)...
P-13B FLOOR SINK (VEGETABLE SINK)...
P-13C FLOOR SINK (DUMP SINK)...
P-14 CLEANOUTS INSIDE BUILDING...
P-15 CLEANOUTS OUTSIDE BUILDING...
P-16 ECOLAB WALL FAUCET...
P-17 VACUUM RELIEF VALVE...
P-18 EXPANSION TANK...

- P-19 WATER HEATER: BRADFORD-WHITE EF-60T-125E-3N...
P-20 THERMOMETER: PROVIDE THERICE MODEL B83404...
P-21 BACKFLOW PREVENTERS...
DOUBLE CHECK TYPE: WATTS NO. LFU007M1QT...
REDUCED PRESSURE ZONE (RPZ) TYPE: WATTS NO. LFU009M2...
P-22 MOP SINK CHECK VALVES...
P-23 UTILITY CONNECTION (ICE MAKER)...
P-24 UTILITY CONNECTION (COFFEE & TEA BREWERS)...
P-25 SHOCK ABSORBER...
P-26 FUNNEL DRAIN (3")...
P-26A TRAP SEAL PROTECTOR...
P-27 WATER PRESSURE GAUGE...
P-28 ISOLATION BALL VALVE...
P-29A ICE MACHINE TRENCH DRAIN...
P-29B ICE MACHINE TRENCH DRAIN...
P-30a FILTERED WATER FAUCET...
P-31 DUMPSTER POST HYDRANT...
P-32 DUMPSTER PAD DRAIN...
P-33 TRAP PRIMER...
P-34 DISPENSER BACKFLOW PREVENTER...
P-35 FLOOR DRAIN (3")...
P-36 BEVERAGE TOWER INDIRECT RECEIVER...
P-37 FLOOR DRAIN (3")...
P-38 HOT WATER CIRCULATING PUMP...
P-39 2" PRESSURE REDUCING VALVE...
P-40 WYE STRAINER...
P-41H DISHWASHER SUPPLY VALVE...
P-42 EMERGENCY EYEWASH...
P-43 SUPPLY VALVE (REHEAT/REHEAT): FULL-PORT LEAD-FREE...



05/11/23

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8637 OLIVE ROAD UNIVERSITY CITY, MO 63132

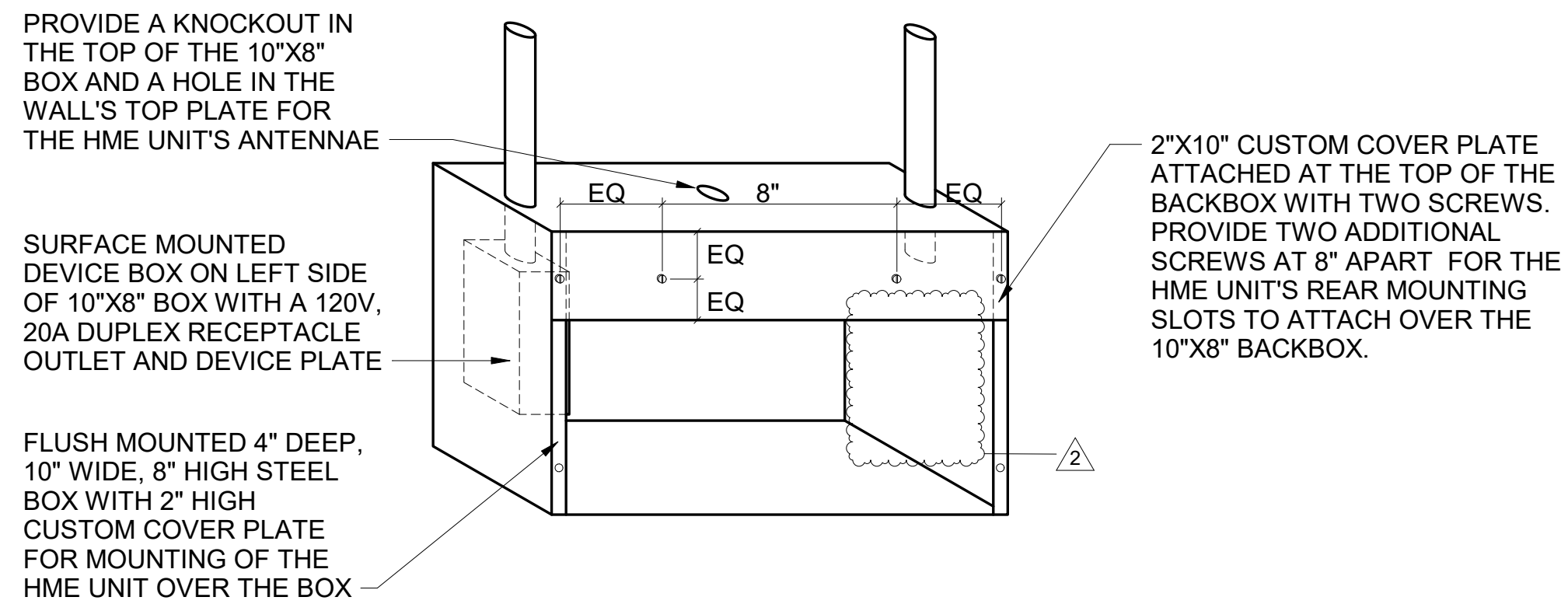
FSR#04714
BUILDING TYPE / SIZE: P14 LSR LRG

CONSTRUCTION REVISION SCHEDULE
NO. DATE DESCRIPTION
1 03/03/2023 HEALTH REVISION

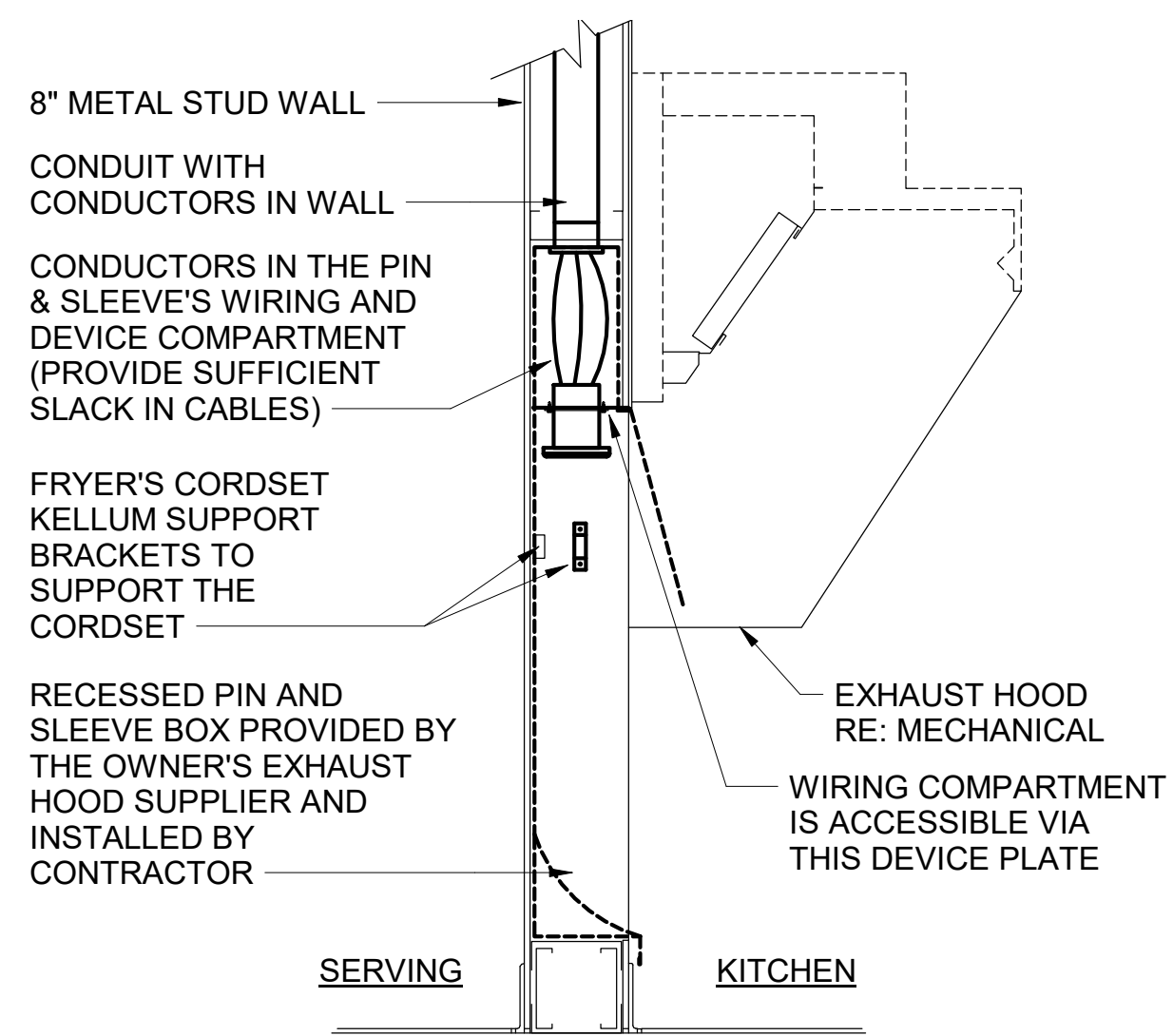
For Construction - PLUMBING SPECIFICATIONS
CONSULTANT PROJECT # 23009.CD.S
DATE 05/11/23
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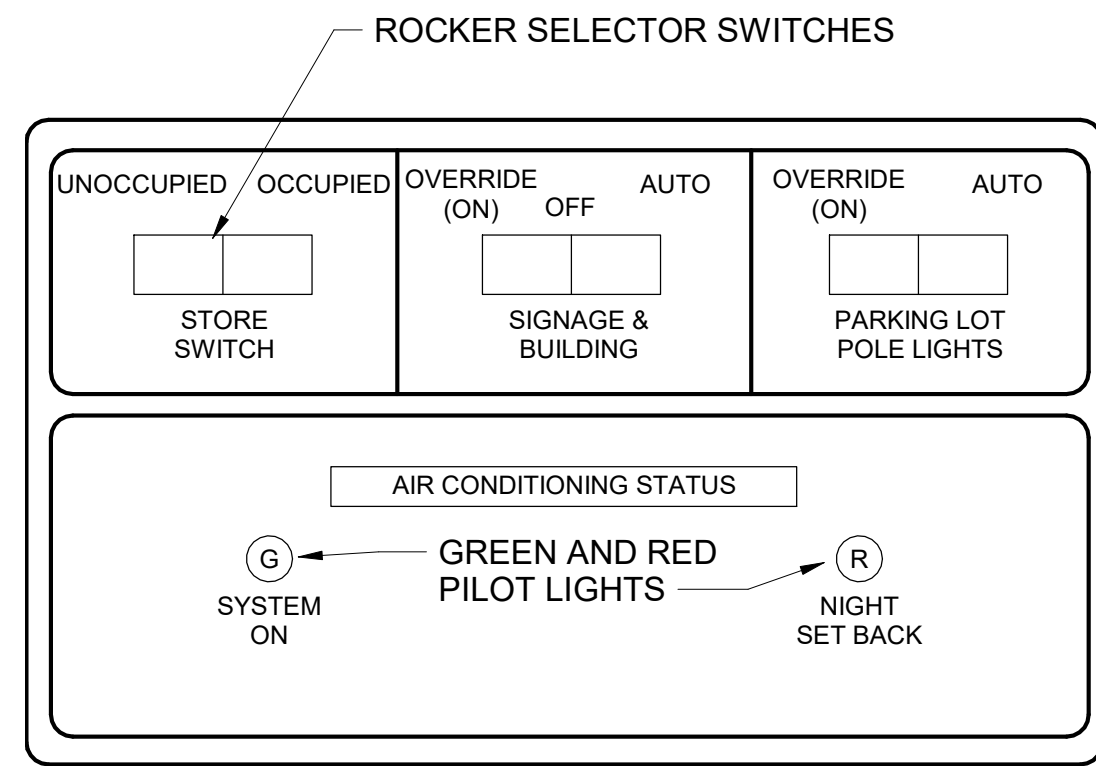




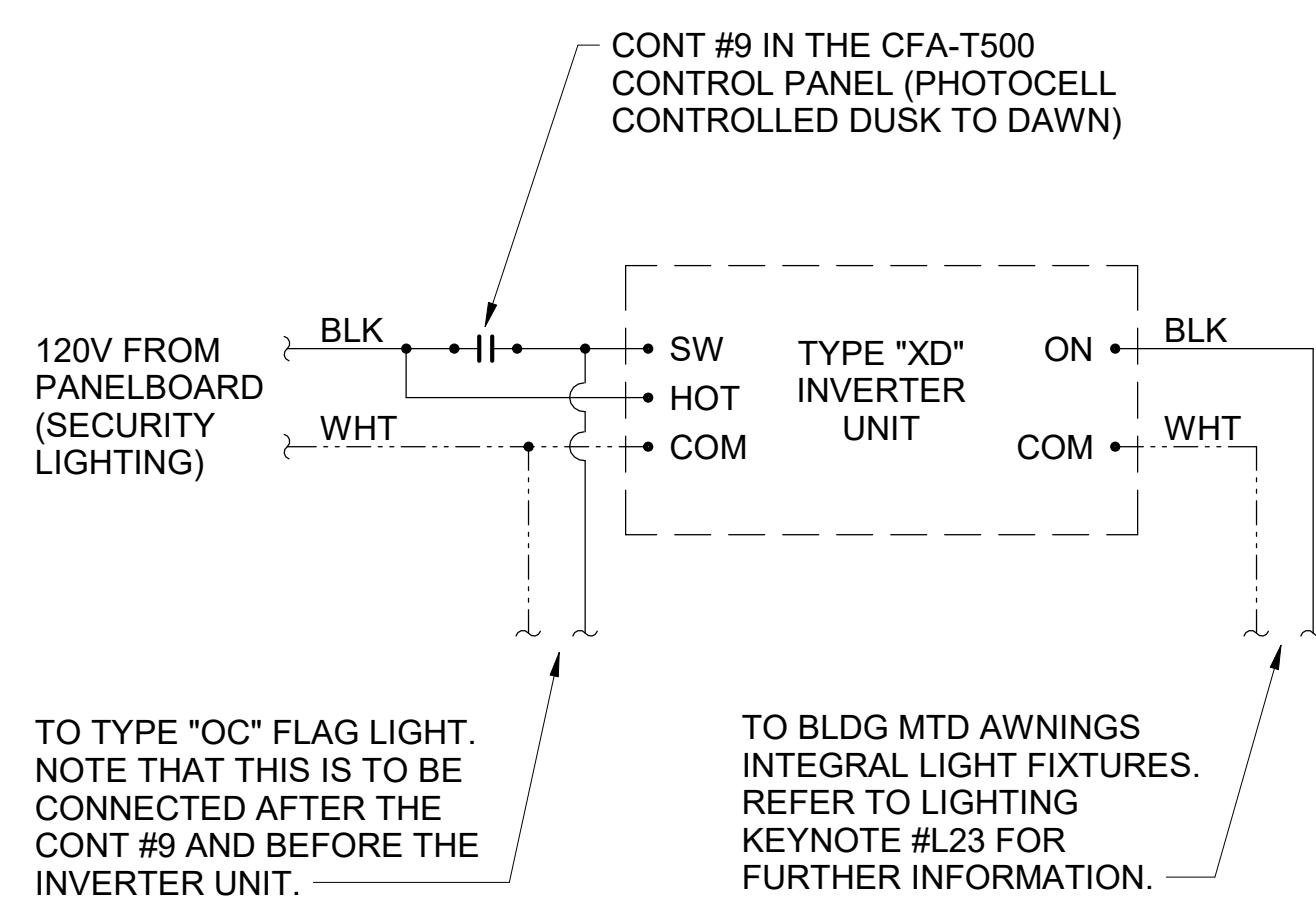
**E3** HME UNIT POWER & DATA BOX DETAIL  
NO SCALE



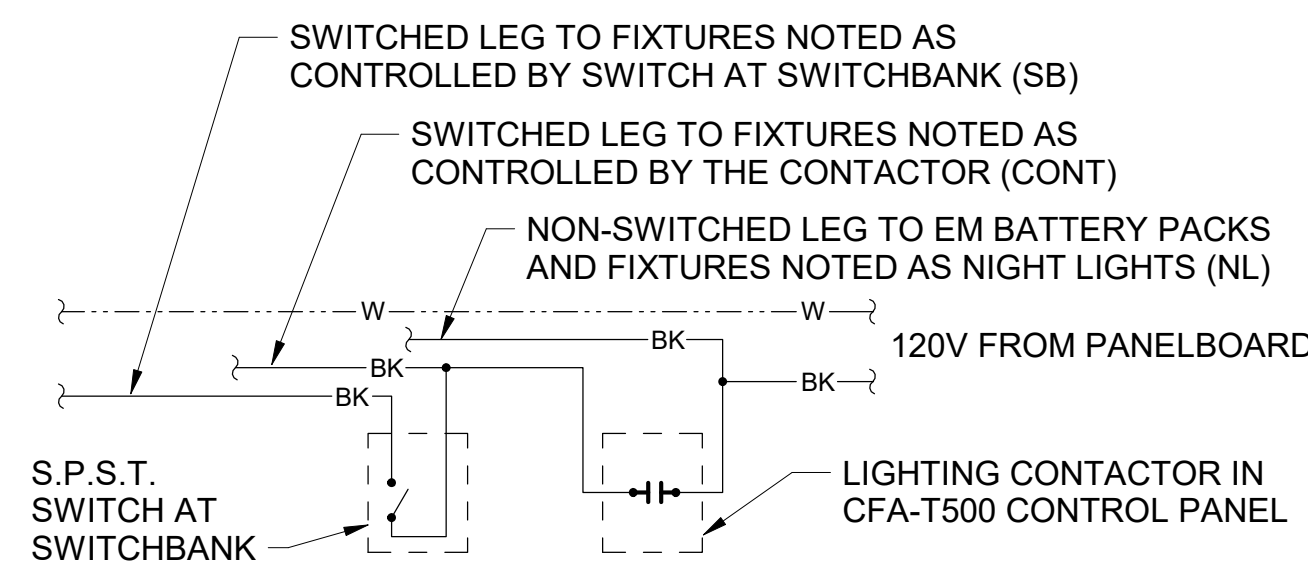
**D4** PIN & SLEEVE BOX DETAIL  
NO SCALE



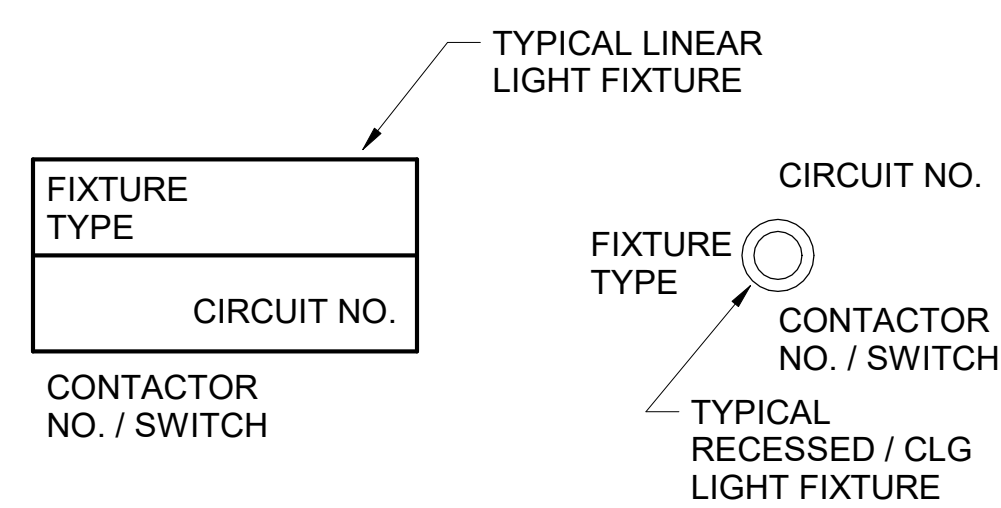
**D3** OPEN-CLOSED CONTROL SWITCH  
NO SCALE



**C4** INVERTER XD WIRING DIAGRAM  
NO SCALE



**B4** LIGHTING CONTROL DIAGRAM  
NO SCALE



**A4** LIGHT FIXTURE NOMECLATURE  
NO SCALE

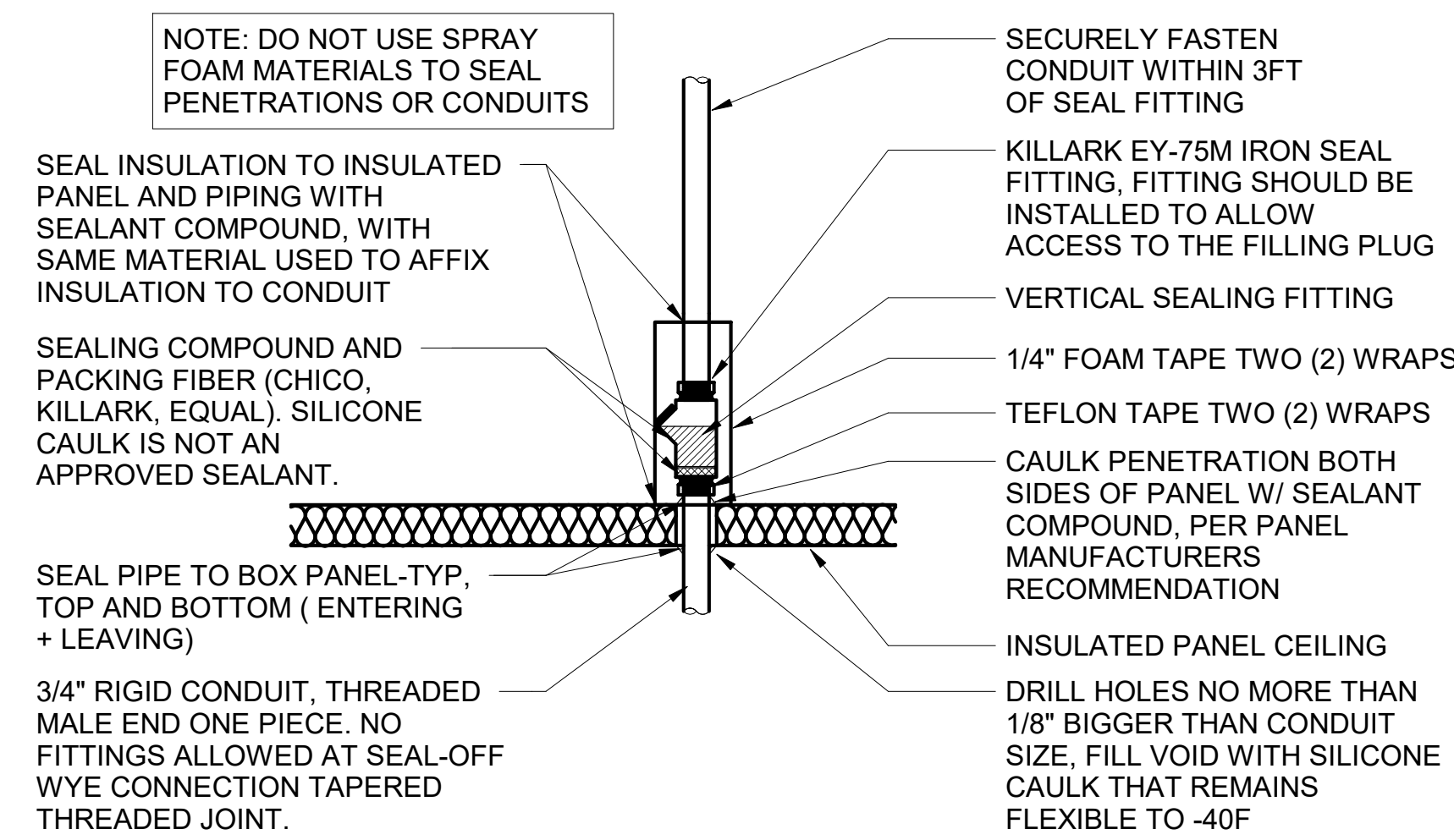
**SIGNAGE NOTE**

THE ELECTRICAL SUBCONTRACTOR SHALL INCLUDE THE ELECTRICAL ROUGH-IN AND FINAL CONNECTIONS OF ALL SIGNAGE (BUILDING MOUNTED AND GROUND MOUNTED ON THE SITE) IN HIS SCOPE OF WORK AND UNDER HIS LOCAL CODE PERMITTING PROCESS. PROVIDE A COPY OF THE PERMIT (WHICH SPECIFICALLY INCLUDES THE SIGNAGE) TO THE SIGN VENDOR IN ORDER TO EXPEDITE THE SIGN VENDOR'S PERMIT PROCESS.

CIR C-1	CONTACTOR-1	KITCHEN LTG	CIR C-7	CONTACTOR-2	DINING LTG
CIR C-3	120 VOLT COIL	KITCHEN LTG	CIR C-9	120 VOLT COIL	SERV AREA LTG
CIR C-5	(STORE SWITCH ON AND OFF)	RESTROOM LTG / EF-3	CIR C-15	(STORE SWITCH ON AND OFF)	WATER RECIRC PUMP
CIR C-11		DINING LTG	SPARE		SPARE
CIR C-43	CONTACTOR-3	BLDG. SIGNAGE	CIR C-45	120 VOLT COIL	BLDG. SIGNAGE
CIR C-47	(P'CELL ON AND SWITCH OFF)	BLDG. SIGNAGE	CIR C-49		BLDG. SIGNAGE
SPARE	CONTACTOR-4	SPARE	CIR C-37	120 VOLT COIL	MAIN ID SIGN
CIR C-39	(P'CELL ON AND SWITCH OFF)	MAIN ID SIGN	CIR C-41		MAIN ID SIGN
SPARE	CONTACTOR-5	SPARE	CIR C-31	CONTACTOR-5	SPARE
SPARE	120 VOLT COIL	BLDG LIGHTING	SPARE	(P'CELL ON AND SWITCH OFF)	SPARE
SPARE		SPARE	SPARE		SPARE
SPARE	CONTACTOR-6	SPARE	CIR C-21	CONTACTOR-7	PARKING LOT LTG
SPARE	120 VOLT COIL	SPARE	CIR C-23	120 VOLT COIL	PARKING LOT LTG
SPARE	(P'CELL ON AND SWITCH OFF)	SPARE	SPARE	(P'CELL ON AND SWITCH OFF)	SPARE
SPARE		SPARE	SPARE		SPARE
SPARE	CONTACTOR-8	SPARE	CIR C-29	CONTACTOR-9	SECURITY/FLAG LTG
SPARE	120 VOLT COIL	SPARE	CIR C-50	120 VOLT COIL	SPARE
SPARE	(STORE SWITCH ON AND OFF)	SPARE	SPARE	(PHOTOCELL ON AND OFF)	SPARE
SPARE		SPARE	SPARE		SPARE
CIR C-48	CONTACTOR-10	EXHAUST FAN EF-1	CIR C-54	CONTACTOR-11	HOOD CJ FAN/LIGHTS
CIR C-50	120 VOLT COIL	EXHAUST FAN EF-2	SPARE	120 VOLT COIL	SPARE
SPARE	(SWITCH ON & OFF, FS ON)	SPARE	SPARE	(SWITCH ON & OFF, FS ON)	SPARE

**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 FS SYSTEM IS INITIATED.  
 5) CIRCUITS C-49, C-25, AND C-27 WILL BE SPARES IF NOT NEEDED.

**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		
□	SURFACE MOUNTED LIGHTING FIXTURE		⊕	GROUND	
⊞	RECESSED LED TROFFER LIGHTING FIXTURE		(M)	MOTOR	
○	SURFACE MOUNTED LED LIGHTING FIXTURE		(EF)	EXHAUST FAN MOTOR	
○	RECESSED LED LIGHTING FIXTURE		(J)	JUNCTION BOX	
○	WALL MOUNTED LIGHTING FIXTURE, SEE LIGHTING FIXTURE SCHEDULE	AS NOTED, 6" FROM CEILING TO TOP	(1)	CONDUIT AND WIRE "MARK" NUMBER, REFER TO CONDUCTORS AND CONDUIT SCHEDULE FOR SIZE	
○	WALL MOUNTED EXIT SIGN, SHADE INDICATES FACES, PROVIDE CHEVRON DIRECTIONALS WHEN NEEDED		(101)	KITCHEN EQUIPMENT "MARK" NUMBER, REFER TO KITCHEN EQUIPMENT SCHEDULE FOR REQUIREMENTS	
○	CEILING MTD EXIT SIGN, SHADING INDICATES FACES, PROVIDE W/ CHEVRON DIRECTIONALS WHEN NEEDED		(1)	NOTE NUMBER	
○	COMBO EXIT WITH TWO LAMPHEADS		(A)	HOOD EXTINGUISHING FIRE SUPPRESSION PULL STATION	
○	WALL MTD EMERGENCY BATTERY PACK LIGHTING FIXTURE	AS NOTED	(D)	SMOKE DETECTORS REMOTE STATUS INDICATOR W/ 1/2" C STUB-UP	
○	CEILING MTD EMERGENCY BATTERY PACK LIGHTING FIXTURE	AS NOTED	(B)	PUSHBUTTON	
○	FLUORESCENT STRIP LIGHTING FIXTURE		(B)	BELL, TYPE AS NOTED ON PLANS	
○	WALLWASHER TYPE RECESSED DOWNLIGHT, AIM LIGHT TOWARD WALL		(PE)	PHOTO-ELECTRIC CELL	
○	RECESSED LIGHTING FIXTURE W/ EMERGENCY BATTERY PACK		(T)	TRANSFORMER / DRIVER	
○	PENDANT LIGHTING FIXTURE	AS NOTED	(S)	LOCKABLE SINGLE POLE SWITCH	
○	LIGHTING TRACK WITH TRACK HEADS		ABBREVIATIONS		
WIRING DEVICES			AFF	ABOVE FINISHED FLOOR	
⊞	120 VOLT DUPLEX RECEPTACLE, 20 AMPS U.O.N.	14" UON	AFG	ABOVE FINISHED GRADE	
⊞	120 VOLT QUADRAPLEX RECEPTACLE, 20 AMPS U.O.N.	14" UON	AHU	AIR HANDLING UNIT	
⊞	120 VOLT SIMPLEX RECEPTACLE, 20 AMPS U.O.N.	14" UON	C	CONDUIT	
⊞	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	CL	CENTER-LINE	
⊞	SINGLE POLE TOGGLE SWITCH	48"	CT	CONTACTOR	
⊞	DOUBLE POLE TOGGLE SWITCH	48"	EF	EXHAUST FAN	
⊞	THREE WAY TOGGLE SWITCH	48"	FLA	FULL LOAD AMPS	
⊞	SWITCH WITH TIMER	48"	FS	FIRE SUPPRESSION	
⊞	MANUAL MOTOR STARTER SWITCH (WP=NEMA 3R)	48"	GF/GFI	GROUND FAULT CIRCUIT INTERRUPTER	
⊞	SWITCH WITH PILOT LIGHT (ON WHEN SWITCH IS ON)	48"	GND/GRD	GROUND	
⊞	KEY OPERATED SWITCH	48"	HT	HEIGHT	
CONDUIT/RACEWAYS			IG	ISOLATED GRD, PROVIDE ORANGE DEVICE WHEN ADJACENT TO WIRING DEVICE	
—	CONDUIT CONCEALED ABOVE CEILING OR IN WALL		MOCP	MAXIMUM OVER-CURRENT PROTECTION	
—	CIRCUIT HOMERUN TO PANELBOARD W/ MIN 2#12, 1#12G, 3/4" C		MUA	MAKE UP AIR UNIT	
—	CONDUIT TURNING UP		NEC	LOCALLY ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70)	
—	CONDUIT TURNING DOWN		NL	NIGHT LIGHT (ON 24 HOURS)	
—	CONDUIT CONCEALED IN OR BELOW SLAB (OR UNDERGROUND)		OC	ON CENTER	
—	FLEXIBLE LIGHT FIXTURE WHIP; SIX FOOT MAXIMUM LENGTH		POS	POINT OF SALE EQUIPMENT	
—	METAL CLAD CABLE ASSEMBLY - ONLY WHERE INDICATED ON DWGS OR SPECS		RTU	ROOF TOP UNIT	
DISTRIBUTION EQUIPMENT			TB	TERMINAL BLOCK	
□	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" *	TL	TWIST-LOCK TYPE DEVICE	
□	FUSIBLE SAFETY SWITCH, SIZE & TYPE AS NOTED ON PLANS (AMP/POLES/FUSE AMP/ENCLOSURE) OR ON SCHEDULE, NEMA 1 ENCLOSURE UNLESS NOTED WP FOR NEMA 3R.	6'-6" *	TR	TAMPER-RESISTANT	
□	FLUSH MOUNTED LIGHTING PANELBOARD	6'-6" *	UON	UNLESS OTHERWISE NOTED	
□	SURFACE MOUNTED LIGHTING PANELBOARD	6'-6" *	WP	WEATHERPROOF (NEMA 3R)	
TELEPHONE			→	TELEPHONE OUTLET	18" UON
* 6'-6" DISTANCE IS TO TOP-MOST DISCONNECTING DEVICE OR HIGHEST POSITION OF OPERATING HANDLE OF DISCONNECTING DEVICE			→	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		
			(K)	SECURITY ALARM KEYPAD	
			(S)	SECURITY SYSTEM KEY NOTE	



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 Atlanta, Georgia  
 30349-2998



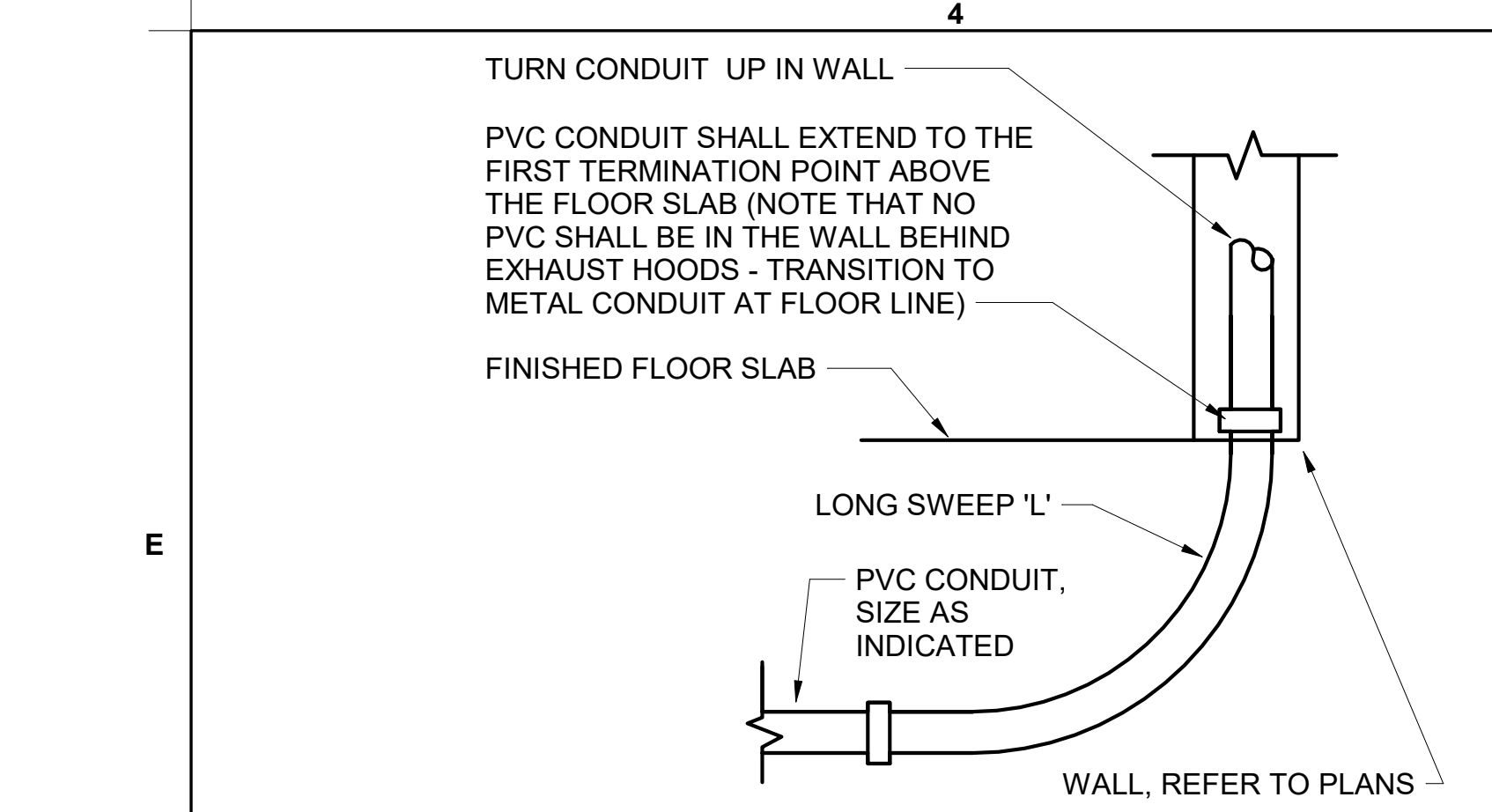
**CHICK-FIL-A**  
 University City  
 8637 OLIVE RD  
 UNIVERSITY CITY, MO 63132

**FSR#04714**  
 BUILDING TYPE / SIZE: P14 LSR ALL  
 RELEASE: 22-08  
 PRINTED FOR:  
**ISSUED FOR CONSTRUCTION**

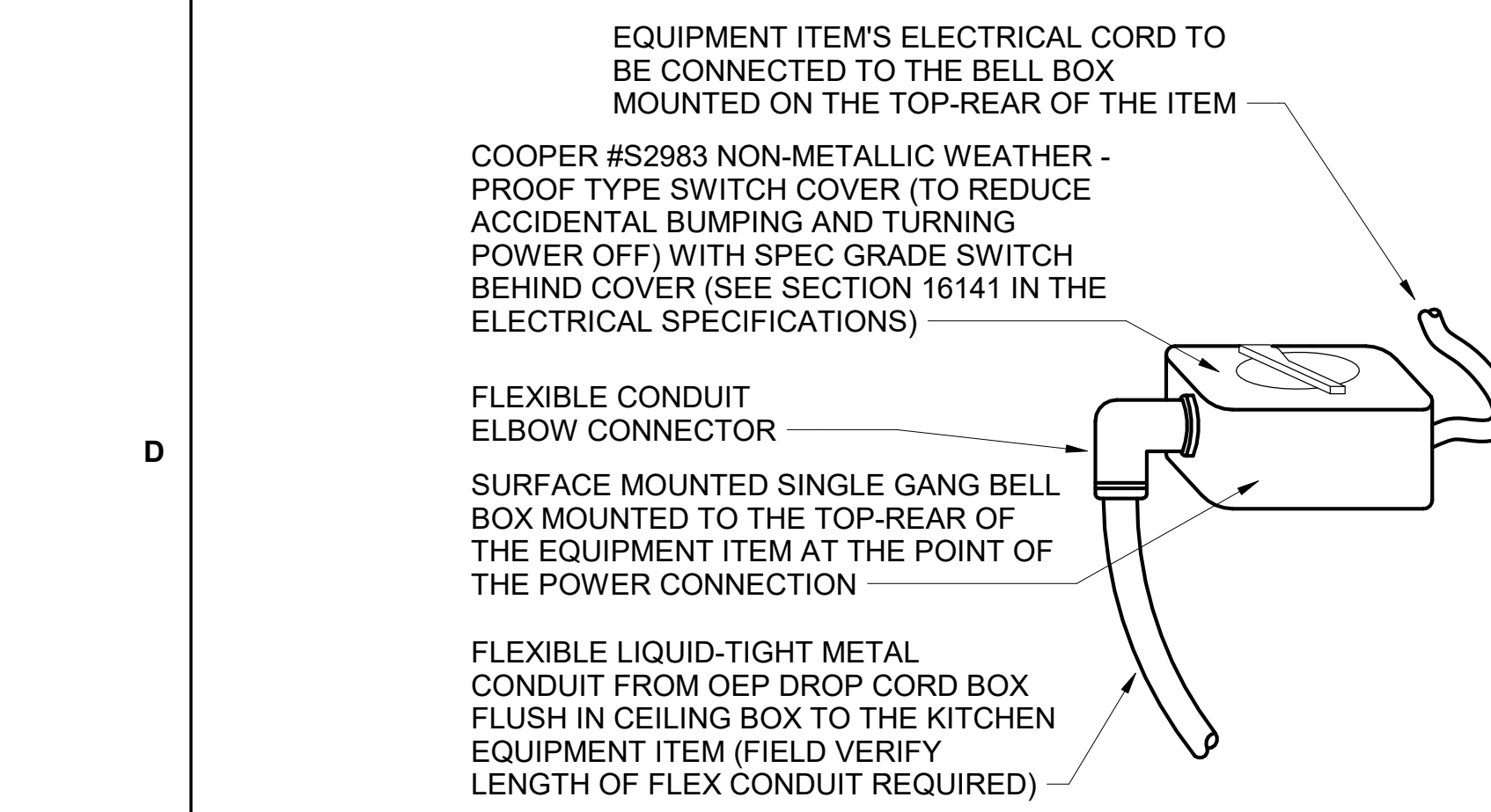
REVISION SCHEDULE		DESCRIPTION
NO.	DATE	
2	05/11/23	ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT # 22-2313.00  
 DATE 05/11/23  
 DRAWN BY JR  
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**ELECTRICAL SCHEDULES AND DETAILS**  
 SHEET NUMBER

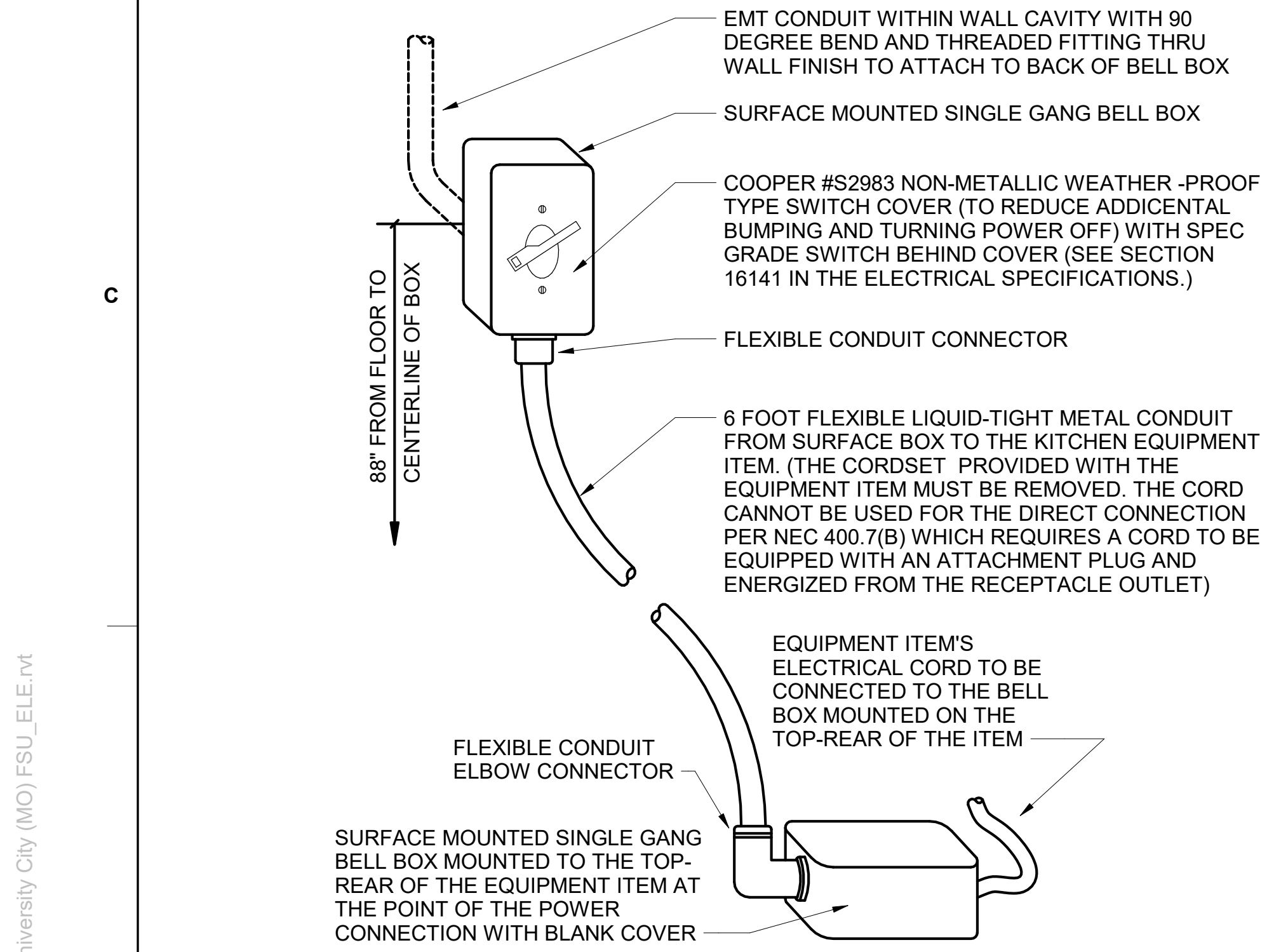




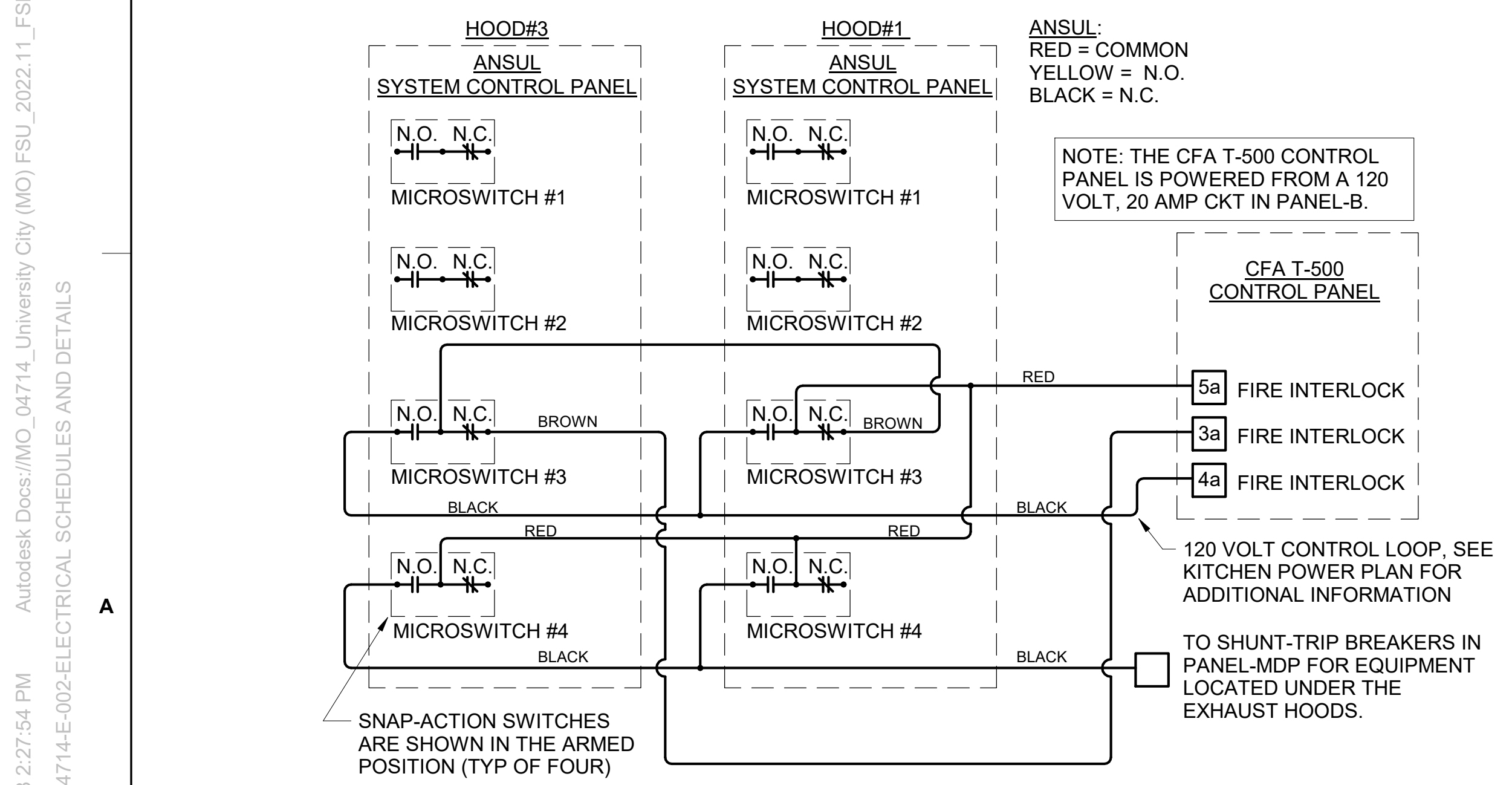
**D4** INTERIOR PVC CONDUIT DETAIL  
NO SCALE



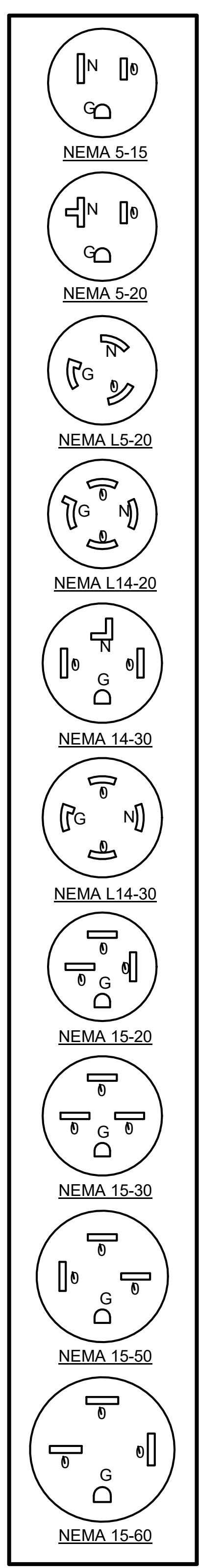
**C4** DIRECT CONNECTION - ISLAND LOCATION  
NO SCALE



**B4** DIRECT CONNECTION - WALL LOCATION  
NO SCALE



**A4** FIRE SUPPRESSION 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 P14 EDITION**

ITEM NO.	DESCRIPTION OF EQUIPMENT	VOLTS	PH	KW	AMPS	NEMA-RATING	COMMENTS AND REMARKS
180	ORDER REGISTER	120	1		0.70	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		1.7	5-20P	PROVIDED WITH 120V/24V POWER SUPPLY ADAPTER FOR USE WITH 120V IG OUTLET
183	ORDER MONITOR	120	1		0.125	5-20P	PROVIDED BY CFA IT
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	0.017		5-15P	CLOCK STYLE RECEPTACLE REQUIRED
211C	ILLUME ALPHA FLY LIGHT	120	1	0.007		5-20P	EC TO REMOVE PLUG AND HARDWIRE IN FIELD
269	FIRE SUPPRESSION SYSTEM	120	1		VERIFY	DIRECT CONNECTION	REMOTE CABINET - REFER TO SHOP DRAWINGS - FED FROM CFA-T500 PANEL
270	FIRE SUPPRESSION SYSTEM	120	1		VERIFY	DIRECT CONNECTION	LOCATED ABOVE HOOD - BEHIND CLOSURE PANEL - REFER TO SHOP DRAWINGS - FED FROM CFA-T500 PANEL
300a	MILKSHAKE BASE DISPENSER	120	1		4.00	5-20P	
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	1.650	13.80		PROVIDE QUICK DISCONNECT HOSES
308	SINGLE COFFEE MAKER	208	1	4.000	19.20	L14-30P	QUICK DISCONNECT HOSES PROVIDED BY CFA WAREHOUSE
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
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 (6) #44231, (2) #44233, (6) DR. PEPPER PUMPS, & (2) #C77004
363H	HIGH-TEMP UPRIGHT DISHWASHER	208	3		53.68	DIRECT CONNECTION	INCLUDES 6 FT BRAIDED HOSE AND INTEGRATED DRAIN WATER TEMPERING SYSTEM - ORDER WITH ASR-LEFT-AM16 ACCESSORY
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
400	SINGLE UPRIGHT FREEZER (30" WIDE)	115	1	1.100	9.40	5-15P	HINGE RIGHT - PROVIDE FINISHED BACK - ORDER ON 4 5/8 IN CASTERS
404L	UNDERCOUNTER FREEZER (27")	115	1		8.00	5-15P	HINGE LEFT - ORDER ON 4 IN CASTERS
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	4.70	5-20P	HINGE RIGHT - ORDER ON 4" CASTERS
420L	SINGLE UNDERCOUNTER REFRIGERATOR	115	1	0.564	4.70	5-20P	HINGE LEFT - ORDER ON 4 IN CASTERS
421	DOUBLE UNDERCOUNTER REFRIGERATOR	115	1	0.756	6.30	5-15P	ORDER ON 4 IN CASTERS
422T	REFRIGERATED EQUIPMENT STAND (48")	115	1	0.80	6.70	L5-15P	EC TO CHANGE PLUG TO TWIST LOCK - PROVIDED W/9' CORD - ORDER ON 4" CASTERS
431	DOUBLE REFRIGERATED WORK TABLE	115	1	0.756	6.30	5-15P	ORDER ON 6 IN 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
439	40" COLD RAIL	115	1	0.800	7.10	5-15P	COMPRESSOR ON RIGHT - SUPPLIED WITH 9 FT CORD AND PLUG
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	115	1		9.0	L5-15P	PROVIDE WITH TWIST LOCK PLUG; ORDER ON 4" CASTERS WITH PAN PKG.; SESC TO PROVIDE PAN PKG.
442WCT	SINGLE UPRIGHT REFRIGERATOR (30" WIDE)	115	1		7	L5-15P (BY EC)	HINGE RIGHT - PROVIDE FINISHED BACK - ORDER ON 6 IN CASTERS - EC TO CHANGE PLUG TO TWIST LOCK
443GT	SINGLE UPRIGHT REFRIGERATOR (24" WIDE)	115	1		8.00	L5-15P (BY EC)	HINGE RIGHT - HALF HEIGHT GLASS DOORS - 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
444SL	SINGLE THAWING CABINET (32" WIDE)	115	1		16.00	DIRECT CONNECTION	HINGE LEFT - 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	1.80	15.00	5-15P	
500B	RADIANT TOASTER	208	1	5.50	24.00	L6-30P	PROVIDED WITH TWIST LOCK PLUG
503T	EGG STATION	208	1	2.5	12.5	L6-20P	PROVIDED WITH TWIST LOCK PLUG
505VT	VECTOR OVEN	208	3	7.90	22.00	L15-30P (BY EC)	HINGE RIGHT - EC TO CHANGE PLUG TO TWIST LOCK
522	SINGLE OPEN FRYER	208	3	22.000	62.00	PIN & SLEEVE	PIN & SLEEVE PROVIDED WITH EQUIPMENT AND RECEPTACLE BOX PROVIDED WITH HALTON ITEMS - (1) POWER CONNECTION PER WELL
522A	DOUBLE OPEN FRYER	208	3	22/22	62/62	PIN & SLEEVE	PIN & SLEEVE PROVIDED WITH EQUIPMENT AND RECEPTACLE BOX PROVIDED WITH HALTON ITEMS - (1) POWER CONNECTION PER WELL
523	PRESSURE FRYER	208	3	13.500	38.00	15-50P	PROVIDED WITH 6 FT CORD AND PLUG
524	DUAL SIDE CLAMSHELL GRILL	208	3	9	24.1/28.2/23.1	15-50P	PROVIDED WITH 5' CORD & PLUG
560	FRY HOLDING STATION	120	1	1.90	15.4	DIRECT CONNECTION	
562A	HIGH DENSITY HOT HOLDING TOWER	120	1	1.80	16.00	5-20P	PROVIDED WITH 8 FT CORD AND PLUG
563DL	DOUBLE TIER SANDWICH SLIDE	120	1	1.09	9.13	5-15P	CORD EXITS LEFT - 6' CORD AND PLUG
563S	SINGLE TIER SANDWICH SLIDE	120	1	0.548	4.56	5-15P	CORD EXITS RIGHT - 6' CORD AND PLUG
564BD	VISUAL HOT HOLDING CABINET (2x2 LANDSCAPE)	120	1	0.660	5.50	5-15P	DUAL-SIDED DISPLAY - ORDER WITH LIDS/TRAY SEALS, AMBER PANS, AND FALSE BOTTOMS
565C	FOOD COOKER/WARMER	115	1	1.200	12.50	5-15P	ORDER WITH (1) 3VOL042, (2) 3VOL043, (8) 3VOL051, AND (8) 3VOL061
580H	VISUAL HOT HOLDING CABINET (5x2)	120	1	1.920	16.00	5-20P	ORDER WITH LIDS/TRAY SEALS
592	RETHERMALIZER	208	3	8.000	22.00	15-30P	PROVIDED WITH 6' CORD AND ANGLE PLUG - WATER SUPPLY TO BE S/S BRAIDED HOSE WITH MALE QUICK CONNECT ADAPTER
600T	MIXER	120	1		8.00	L5-20P (BY EC)	EC TO CHANGE PLUG TO TWIST LOCK - ORDER WITH (1) 3HOB405, (1) 3HOB061, (1) 3HOB318, (2) 3HOB319, AND (1) 3HOB058
607	COUNTERTOP LEMON JUICER	115	1			5-15P	
669	OFFICE SAFE	120	1				INSTALL SAFE PER MANUFACTURE'S WRITTEN INSTRUCTIONS
672	DIGITAL MENU BOARD	120	1			5-15P	PROVIDED BY COATES



**FSR#04714**  
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22-2313.00	

DATE	
05/11/23	

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JR	

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**ELECTRICAL SCHEDULES AND DETAILS**

SHEET NUMBER: **E-002**

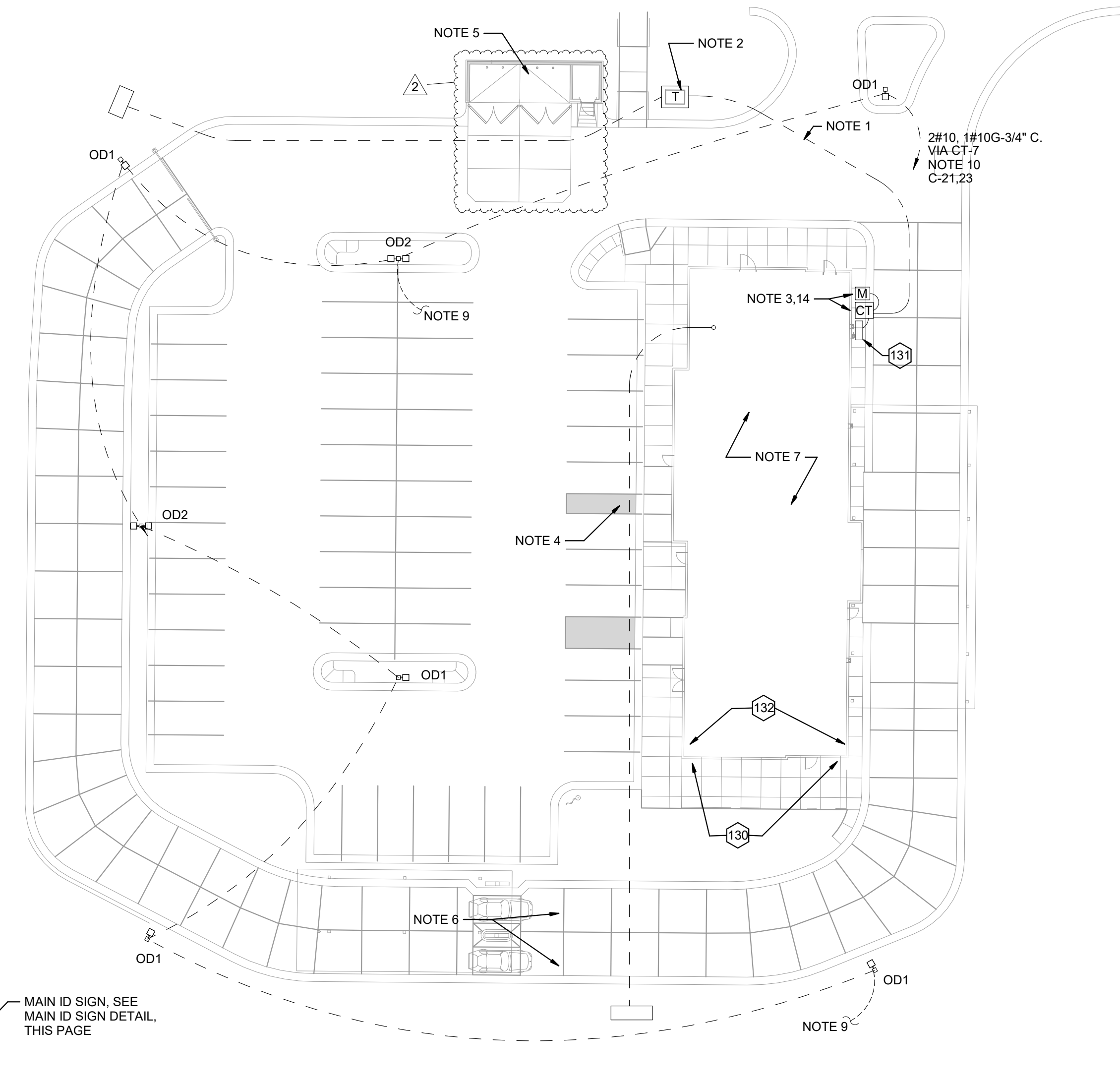
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## ELECTRICAL SITE PLAN KEYNOTES

(APPLIES TO THE ELECTRICAL SITE PLAN ONLY)

- PROPOSED LOCATION OF SECONDARY UNDERGROUND ELECTRICAL UTILITY LINES.
- PROPOSED LOCATION OF PAD MOUNTED TRANSFORMER FURNISHED BY THE ELECTRICAL UTILITY COMPANY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE:
  - PROVIDE THREE 4" SCH. 40 PVC CONDUIT TO UTILITY SOURCE, AT MINIMUM 30" BELOW FINISHED GRADE AND IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS. COORDINATE ALL REQUIREMENTS WITH THE UTILITY COMPANY PRIOR TO BID.
  - 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.
  - CONCRETE PAD FOR UTILITY TRANSFORMER IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS.
  - METERING CONDUIT. SEE NOTE-14.
- LOCATION OF TERMINATION OF SECONDARY SERVICE LATERAL AT PANEL 'MDP'. REFER TO "SINGLE-LINE
- 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-221 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.
  - 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-221 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.
- LOCATION OF DUMPSTER. REFER TO "REFUSE ENCLOSURE PLAN - ELECTRICAL", SHEET E-303 FOR ELECTRICAL REQUIREMENTS IN THIS AREA.
- REFER TO SHEET E-303 FOR ELECTRICAL REQUIREMENTS AT MENU BOARD, DRIVE-THRU CANOPY, AND PRESELL MENU BOARD.
- REFER TO SHEETS E-901, & E-902 FOR ELECTRICAL SPECIFICATIONS PERTAINING TO ELECTRICAL WORK DESCRIBED ON THIS SHEET.
- REFER TO SHEET E-211 FOR LIGHTING FIXTURE SCHEDULE.
- PROVIDE UNDERGROUND CONDUIT TO JUNCTION BOX IN OFFICE FOR POLE MOUNTED SECURITY CAMERA. REFER TO SHEET E-302 FOR LOCATION OF JUNCTION BOX IN OFFICE AND REQUIRED SIZE OF CONDUIT. COORDINATE EXACT CAMERA LOCATION WITH CHICK-FIL-A SECURITY SYSTEM REPRESENTATIVE PRIOR TO ROUGH-IN.
- CONNECT SITE LIGHTING CIRCUITS TO TERMINAL BLOCKS LOCATED IN THE "CFA-T500" CONTROL PANEL (TYPICAL). SEE PANEL SCHEDULES ON SHEET E-501.
- 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 REPRESENTATIVE PRIOR TO BID AND PRIOR TO CONDUIT INSTALLATION.
- 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.)
- PROVIDE WEATHERPROOF 20A SPST TOGGLE SWITCH 18" AFG AND CONNECTION TO MAINTENANCE DISCONNECT SWITCH FOR MAIN I.D. SIGN.
- 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.



C1 ELECTRICAL SITE PLAN  
1" = 20'-0"

## GENERAL ELECTRICAL SITE PLAN NOTES

(APPLIES TO THE ELECTRICAL SITE PLAN ONLY)

- 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.
- SITE WORK, UTILITY, AND ROADWAY INFORMATION ARE TAKEN FROM BOUNDARY AND TOPO SURVEY SITE PLANS. REFER TO C-DRAWINGS.
- MINIMUM CONDUIT SIZE SHALL BE 3/4" C. MINIMUM CONDUCTOR SIZE SHALL BE #10AWG COPPER UNLESS OTHERWISE NOTED.
- REFER TO BUILDING ELECTRICAL DRAWINGS FOR EXTERIOR LIGHTING CONTROL.
- 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.
- 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").
- 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.
- 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.

### 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: CONSTRUCTION HOTLINE/ RYAN AMAREN  
(866) 992-6619  
CONSTRUCTIONHOTLINE@AMAREN.COM

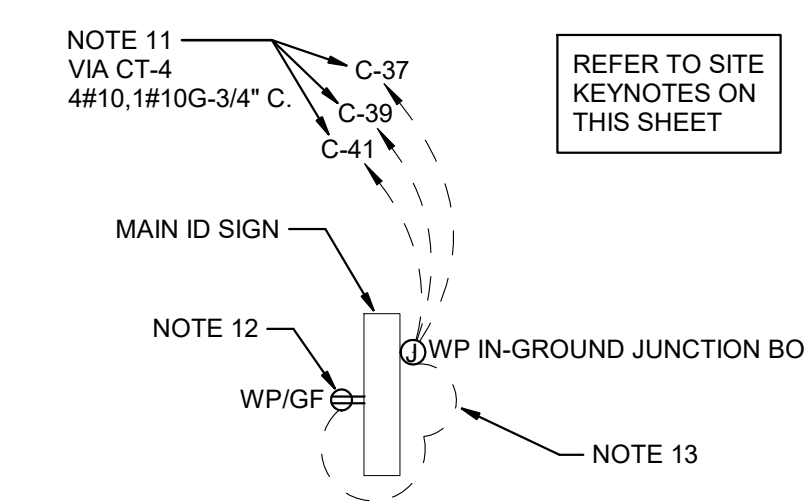
TELEPHONE UTILITY: TERRY RODGERS / JEFF DEFILIPPO  
AT&T  
(636) 448-4621 / (636) 949-4228  
TR5397@ATT.COM / JD9364@ATT.COM

## 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.

## ELECTRICAL KEYNOTES

- 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.
- 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.
- 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.



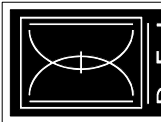
A1 MAIN ID SIGN DETAIL  
N.T.S.



Chick-fil-A

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

DICKERSON ENGINEERING, INC.  
Professional Electrical Engineers  
1000 N. W. 10th St., Suite 100  
Fort Lauderdale, FL 33304  
Tel: (954) 339-0234  
Fax: (954) 339-0234  
DEI: 22089.17



CHICK-FIL-A  
University City

8637 OLIVE RD  
UNIVERSITY CITY, MO 63132

FSR#04714

BUILDING TYPE / SIZE: P14 LSR ALL

RELEASE: 22.08

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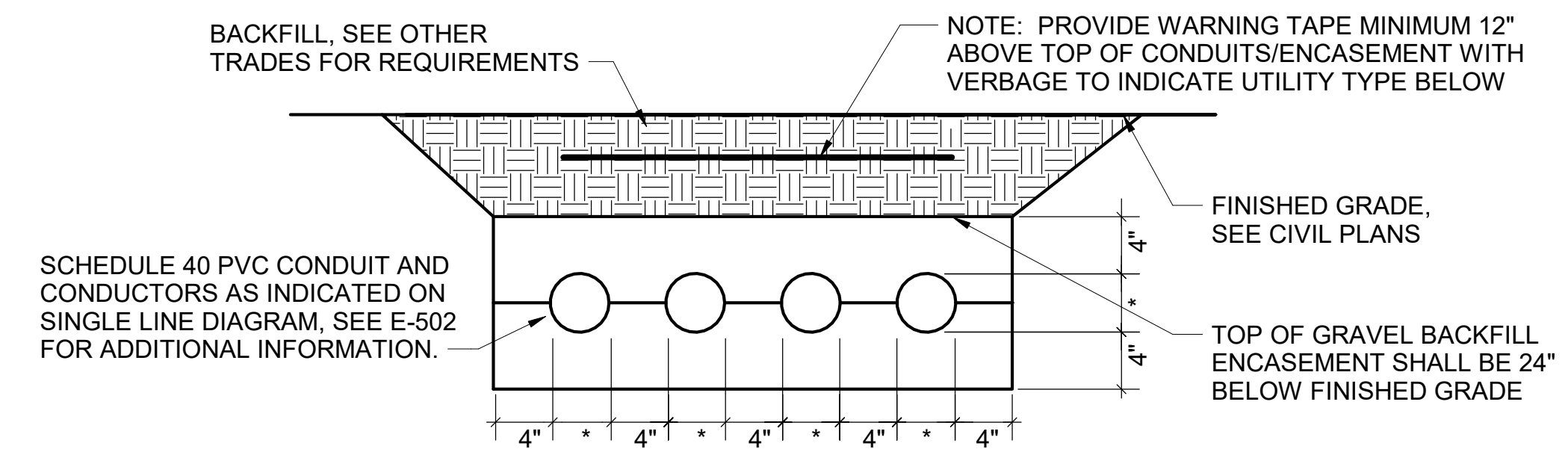
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SHEET ELECTRICAL SITE PLAN

SHEET NUMBER

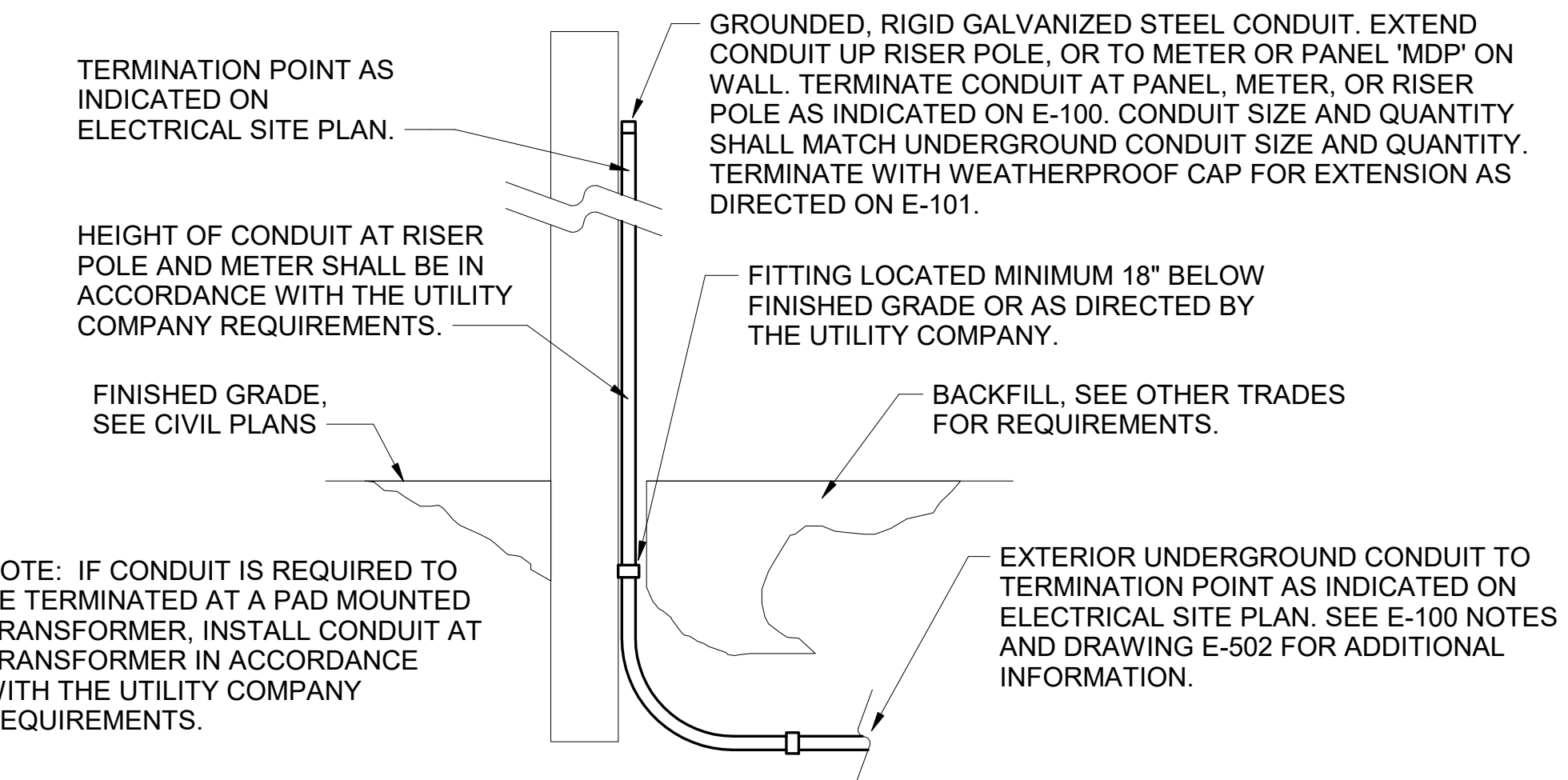
E-100



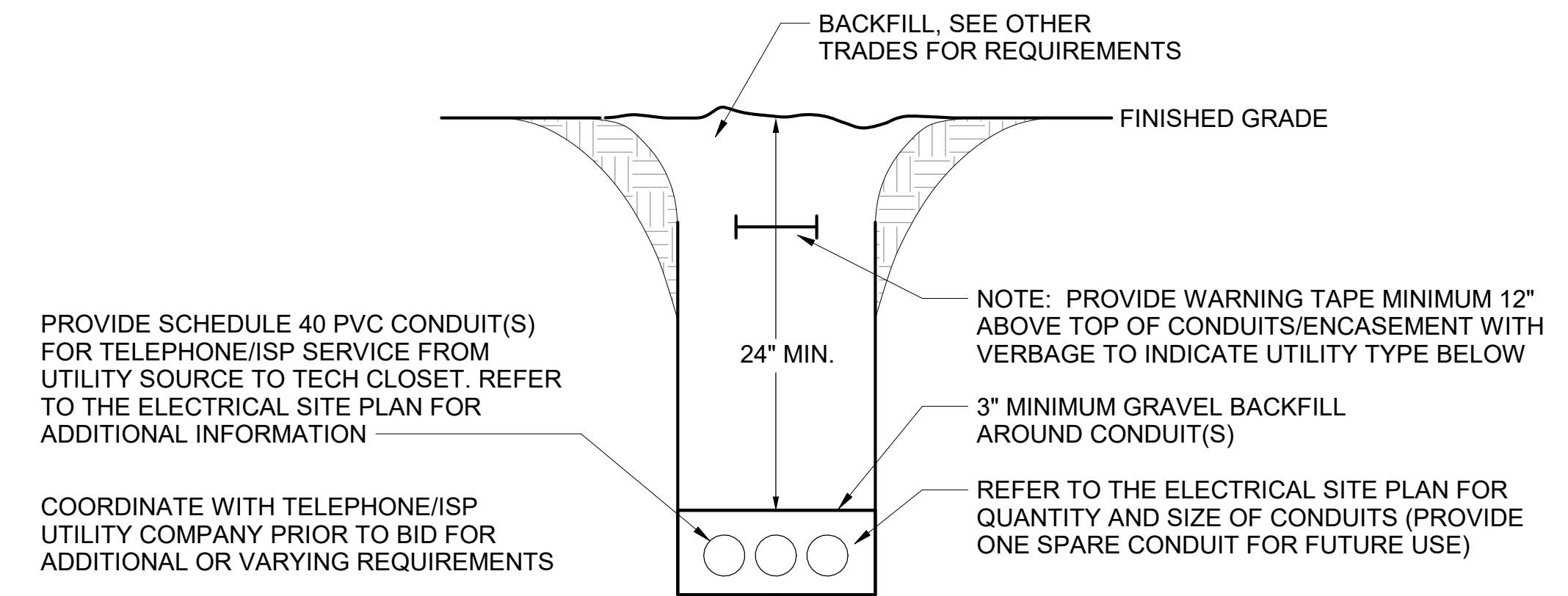


NOTE: WHERE THE SECONDARY CONDUITS FROM THE UTILITY TRANSFORMER TO THE CURRENT TRANSFORMER CABINET (OR MAIN PANELBOARD) ARE FURNISHED BY THE UTILITY COMPANY (FOR INSTALLATION BY THE CONTRACTOR) OR ARE FURNISHED AND INSTALLED BY THE UTILITY COMPANY, THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH THE UTILITY COMPANY PRIOR TO BID. REFER TO THE ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.

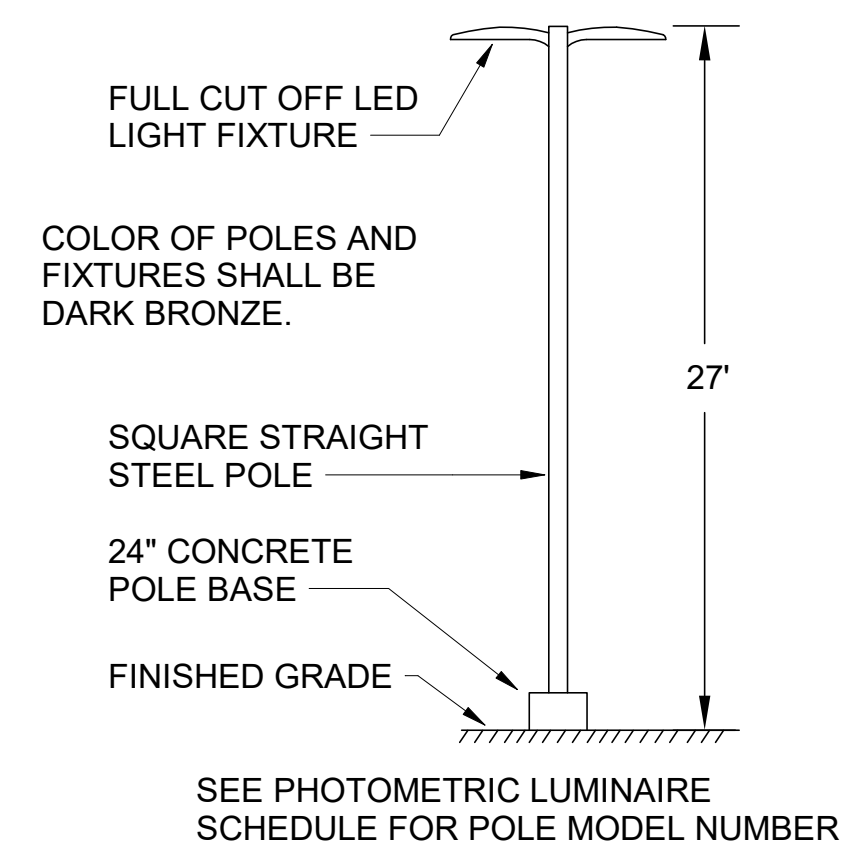
**E1** ELECTRICAL SERVICE LATERAL CONDUIT DETAIL  
N.T.S.



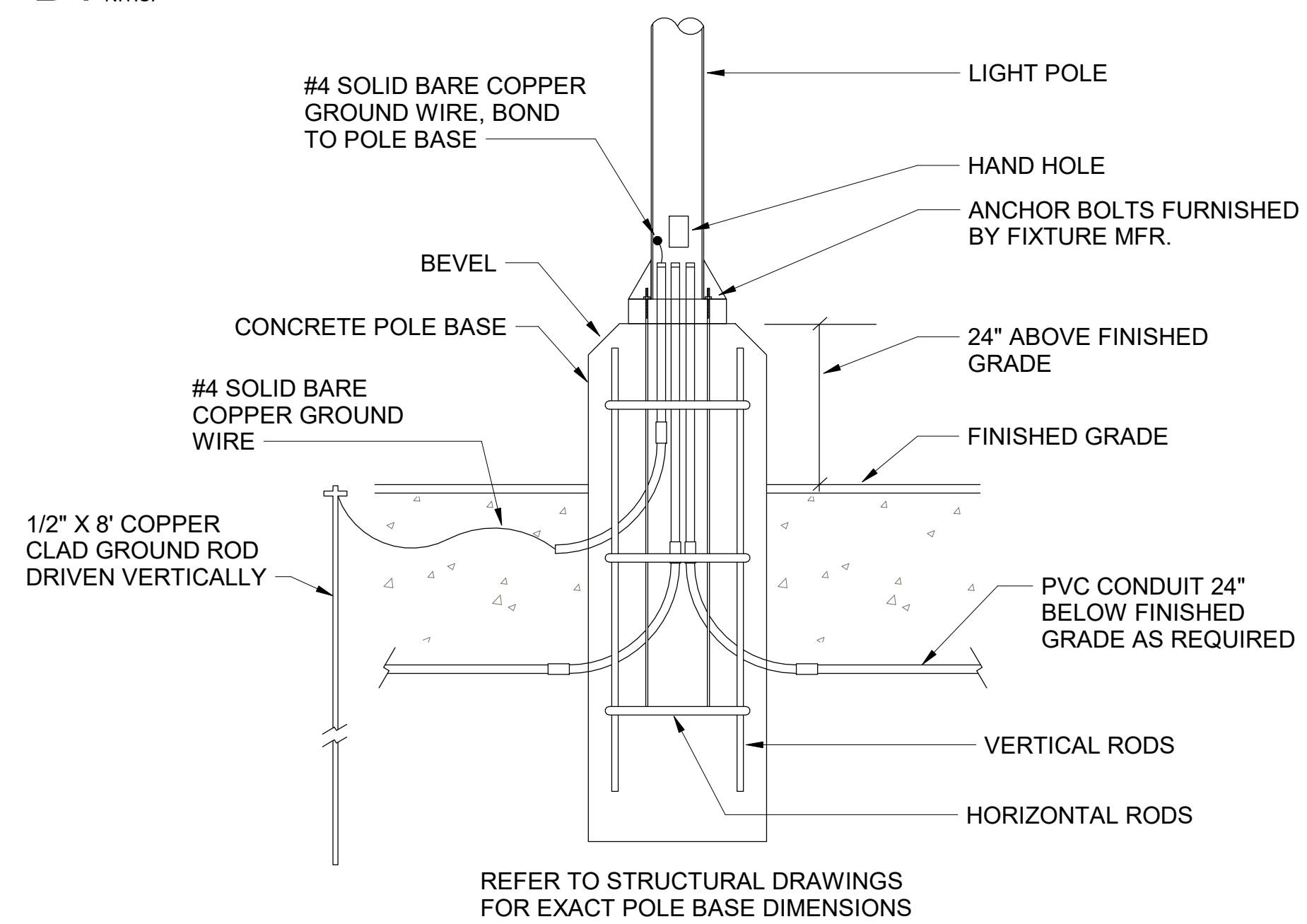
**C1** EXTERIOR CONDUIT TURN UP DETAIL  
N.T.S.



**B1** TELEPHONE SERVICE CONDUIT DETAIL  
N.T.S.



**A3** SITE LIGHTING POLE DETAIL  
N.T.S.

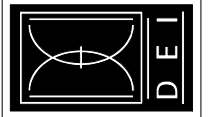


**A1** TYPICAL LIGHT POLE BASE DETAIL  
N.T.S.



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

DICKERSON ENGINEERING, INC.  
Professional Engineering Firm  
2345 NORTH WASHINGTON, U. 60704  
ARLINGTON, VIRGINIA  
TEL: 703-261-1234  
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DEI: 22089.17



**CHICK-FIL-A**  
University City  
8637 OLIVE RD  
UNIVERSITY CITY, MO 63132

**FSR#04714**

BUILDING TYPE / SIZE: P14 LSR ALL  
RELEASE: 22.08  
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**ELECTRICAL SITE DETAILS**

SHEET NUMBER

**E-101**

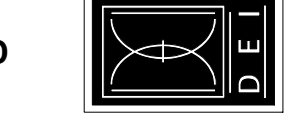




Chick-fil-A

Chick-fil-A  
5200 Buffington Road  
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DICKERSON ENGINEERING, INC.  
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**CHICK-FIL-A**  
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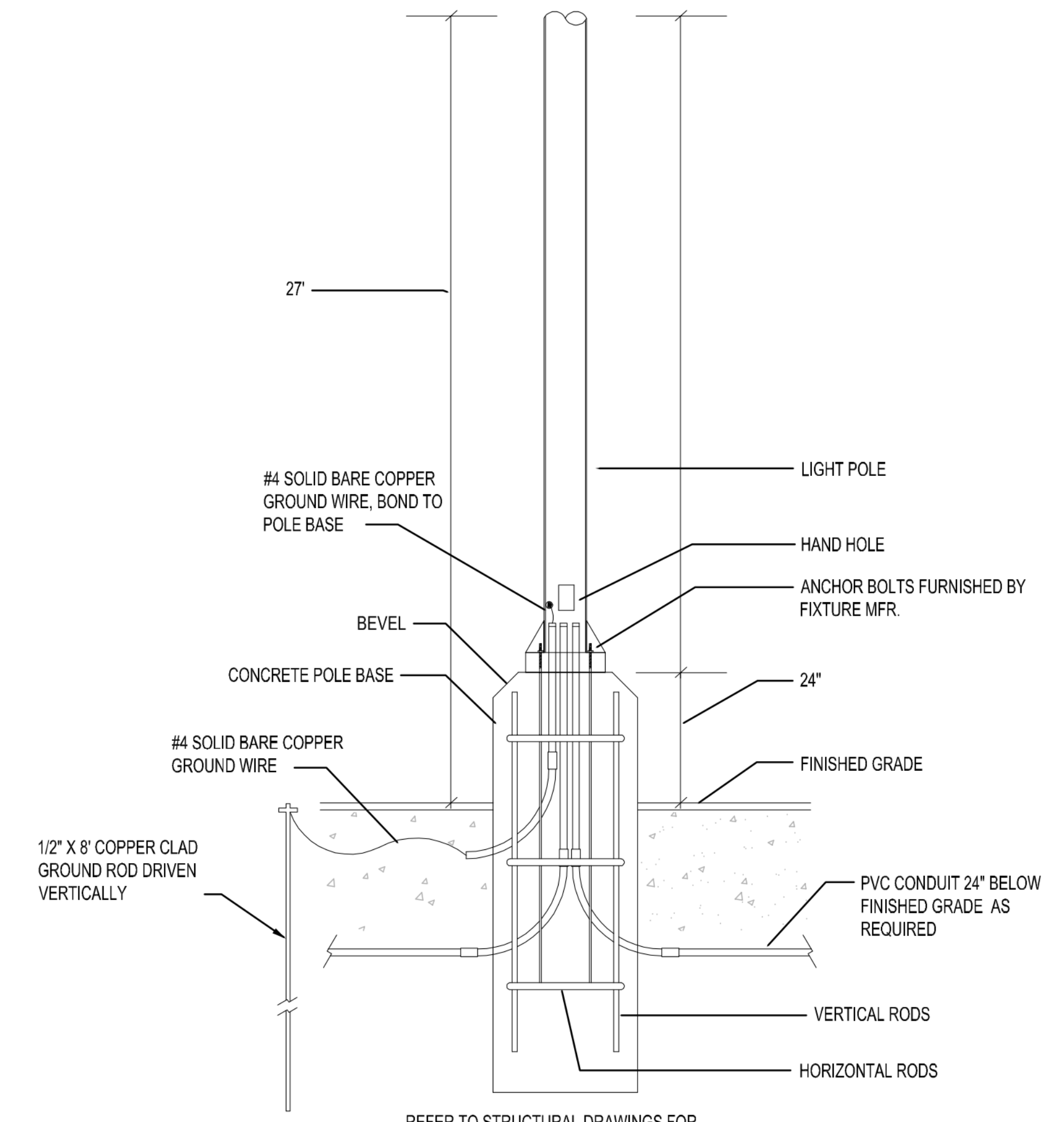
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**SITE PHOTOMETRIC PLAN**  
SHEET NUMBER

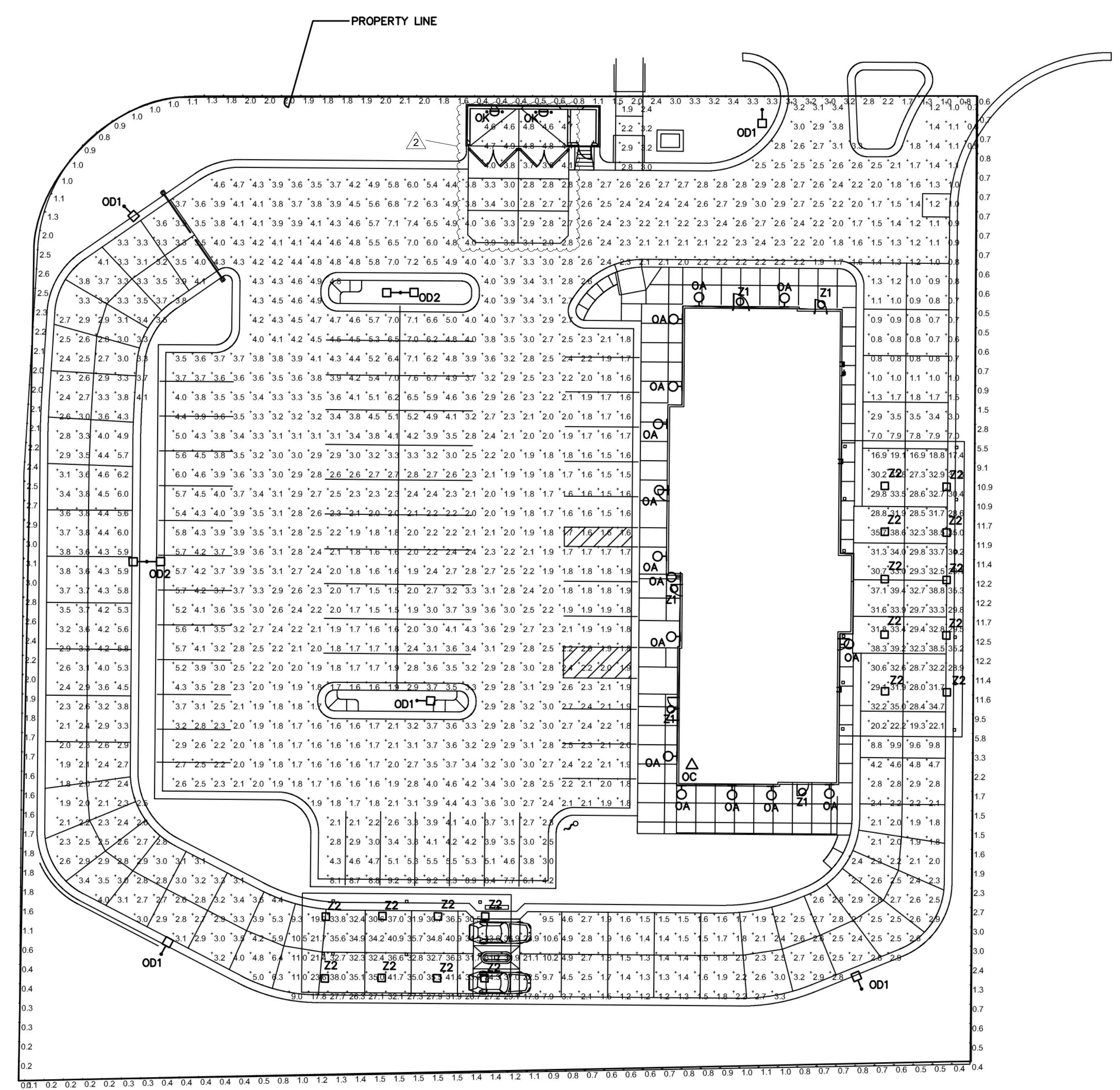
**E-102**



2 TYPICAL POLE BASE DETAIL  
NOT TO SCALE

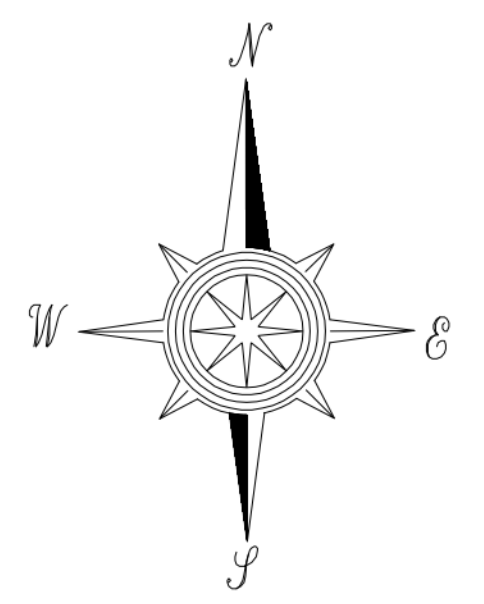
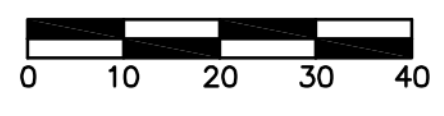
PHOTOMETRIC STATISTICS (MAINTAINED) IN PARKING LOT (NOT INCLUDING UNDER CANOPY LIGHTING)

AVERAGE	3.1 FC
MAX	11.0 FC
MIN	0.7 FC



1 PHOTOMETRIC PLAN

SCALE: 1"=20'-0"



FIXTURE	HEIGHT (UNLESS NOTED OTHERWISE)	LIGHT LOSS FACTOR	COLOR	LIGHT FIXTURE SPECIFICATION	POLE	COMMENTS
OC	ON BUILDING	.9	4000K	HUBBELL - FL-42L-95-4K7-N-U-K-DB		
OD1	27'	.9	4000K	COOPER/LUMARK - PRV-C60D-UNV-T4-SA-BZ	SSS-4A-25-SFM-1-4 (SINGLE LUMINAIRE)	
OD2	27'	.9	4000K	(2) COOPER/LUMARK - PRV-C60D-UNV-T4-SA-BZ	SSS-4A-25-SFM-2-4 (TWO LUMINAIRES)	
OA	8'	.9	3000K	PROGRESS LIGHTING - P5675-31 WITH TOP COVER LENS		
OK	8'	.9	3000K	HUBBELL - LNC-5LU-3K-3-1		
Z1	10'	.9	3000K	PROVIDED WITH CANOPY		
Z2	9.5'	.5	3000K	LSI - CRUS-SC-LED-LW30-UE-WHT		

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



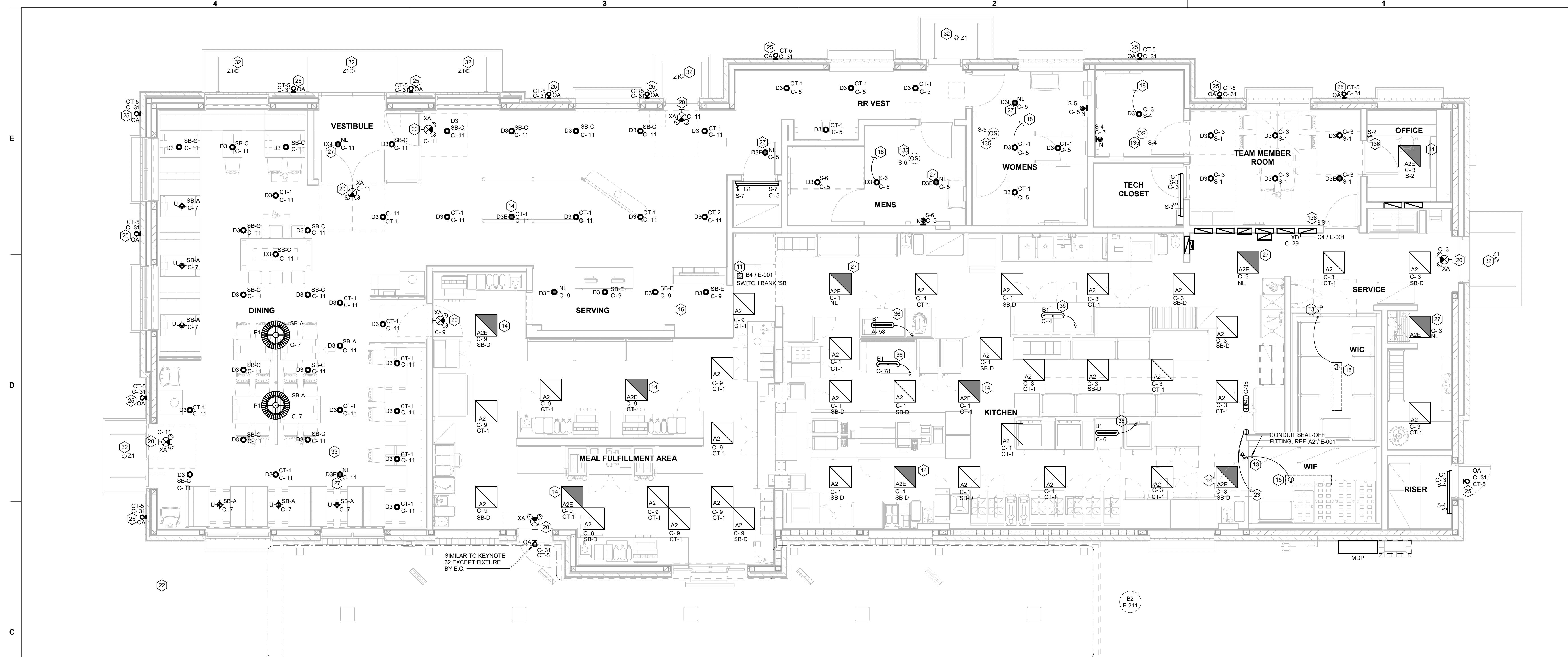
**CHICK-FIL-A**  
 University City  
 8637 OLIVE RD  
 UNIVERSITY CITY, MO 63132

**FSR#04714**  
 BUILDING TYPE / SIZE: P14 LSR LRG  
 RELEASE: 22-08  
 PRINTED FOR:  
**ISSUED FOR CONSTRUCTION**

NO.	DATE	DESCRIPTION
2	05/11/23	ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT # 22-2313.00  
 DATE 05/11/23  
 DRAWN BY: Author  
 CHECKED BY: Author  
 PRODUCED FOR: Author  
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**LIGHTING PLAN**

SHEET NUMBER **E-211**



**C1 LIGHTING PLAN**  
 1/4" = 1'-0"

**POWER PLAN GENERAL NOTES**

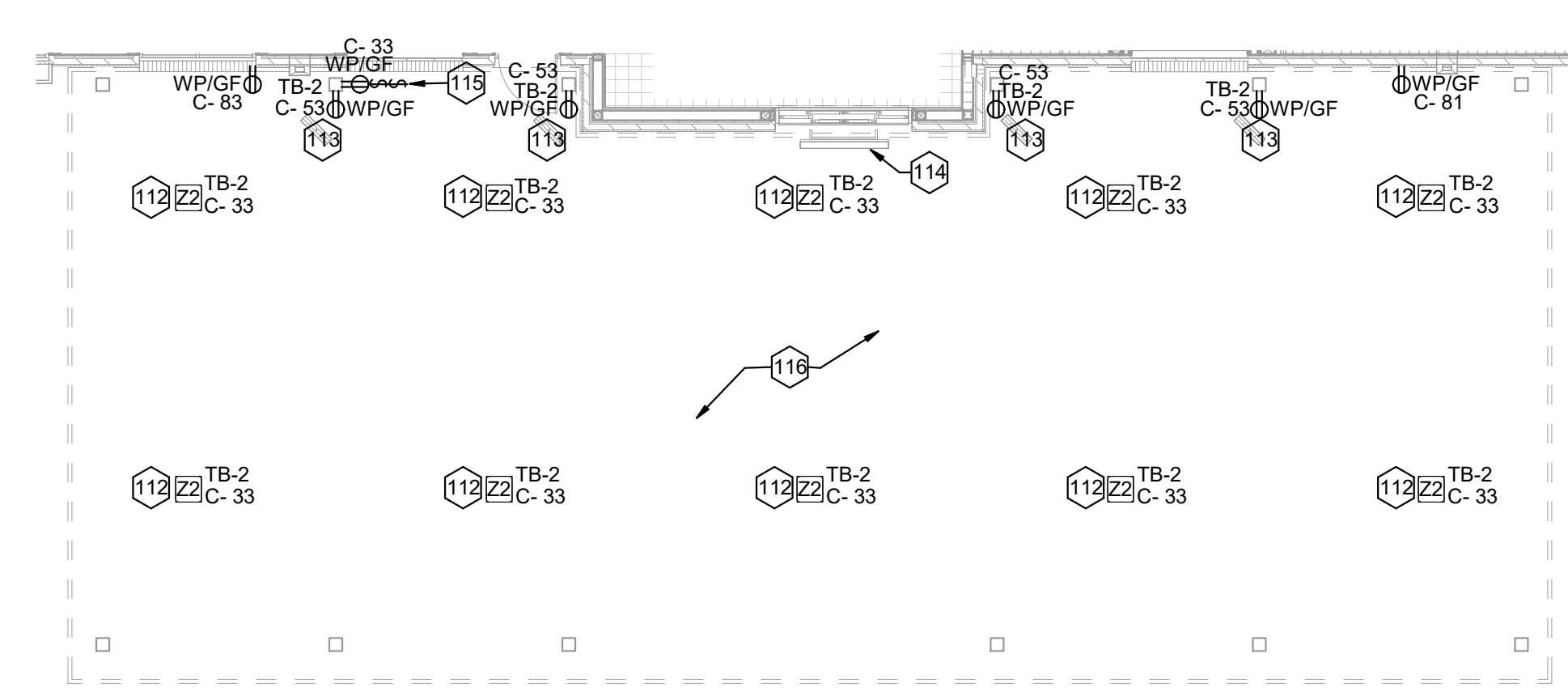
- A. ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
- B. REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
- C. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
- D. PROVIDE INSULATED BUSHING AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING.
- E. 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.

**ELECTRICAL KEYNOTES**

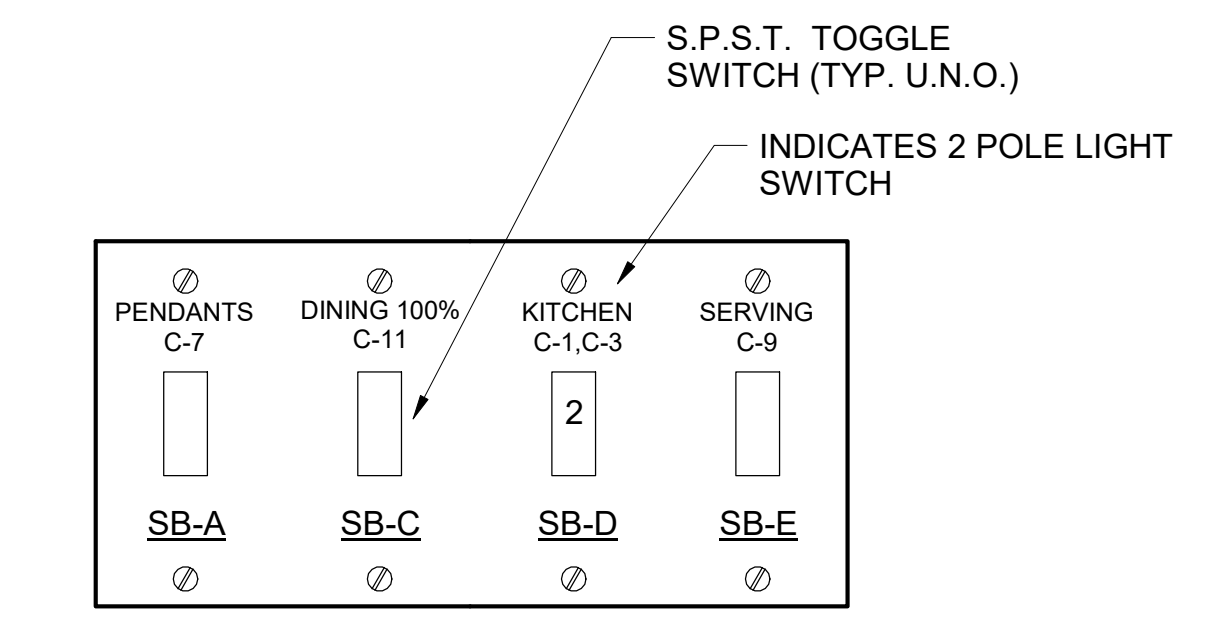
- 11 APPROXIMATE LOCATION OF SWITCH BANK 'SB'. SEE DETAIL ON THE LIGHTING PLAN FOR MORE INFORMATION.
- 13 FOR CONTROL OF LIGHTING FIXTURE IN WALK-IN COOLER AND FREEZER, SWITCH FURNISHED WITH EQUIPMENT, INSTALLED BY ELECTRICAL CONTRACTOR.
- 14 CONNECT FIXTURE SO THAT BATTERY PACK IS NOT SWITCHED WITH LIGHTS, BUT ALL LAMPS ARE SWITCHED.
- 15 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.
- 16 THE LIGHT FIXTURES IN THE MEAL FULFILLMENT AREA ARE PROVIDED WITH LAMP SHIELDING VIA A LENS.
- 18 TO THE TOILET EXHAUST FAN ON ROOF. SEE SHEET E-250, ROOF ELECTRICAL PLAN.
- 20 THIS FIXTURE SHALL NOT BE SWITCHED. CONNECT TO CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS.
- 22 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, CONTACTOR #9 (AHEAD OF THE INVERTER, NOT THRU THE INVERTER.)
- 23 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.
- 25 ROUTE THROUGH CONTROL PANEL CFA-T500 AND CONTROLLED BY OCCUPIED SWITCH AND PHOTOCELL.
- 27 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.
- 32 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.
- 33 REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR LOCATIONS OF PENDANTS, DOWNLIGHTS, ACCENTS LIGHTS, AND OTHER CEILING MOUNTED LIGHT FIXTURES.

**ELECTRICAL KEYNOTES**

- 36 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.
- 112 CEILING LIGHT FIXTURE PROVIDED BY THE CANOPY SUPPLIER AND INSTALLED BY ELECTRICAL CONTRACTOR.
- 113 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 FLUSH AND CORD CONNECTION.
- 114 INFRARED GAS HEATER WITH INTEGRAL ON-OFF SWITCH PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR.
- 115 PROVIDE ONE DUPLEX GFCI (WITH IN-USE WP COVER PLATE) AND TWO 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.
- 116 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.
- 135 PROVIDE A CEILING MOUNTED 'DUAL TECHNOLOGY' LINE VOLTAGE OCCUPANCY SENSOR EQUIVILANT TO SENSOR SWITCH # CMR-PDT-9. SENSOR SHALL CONTROL LIGHTS IN ROOM ONLY.
- 136 PROVIDE 120V OCCUPANCY SENSOR, SENSOR SWITCH #WSX-SA-WH OR EQUIVILANT. WIRE LIGHTS IN ROOM UPSTREAM OF T-500 CONTACTOR.



**B2 CANOPY PLAN**  
 1/8" = 1'-0"



**B1 SWITCH BANK "SB" DETAIL**  
 NO SCALE

NOTE: LOCATE JUNCTION BOXES IN CEILING SPACE ABOVE THE LOCATION OF THE SWITCHBANK FOR SPLICING OF LINE, LOAD, AND SWITCHED CONDUCTORS. PROVIDE GANGED BACKBOX FOR SWITCHES AS REQUIRED AND LABEL ALL CONDUCTORS SO AS TO INDICATE THEIR USE (LINE, LOAD, SWITCH), THE LOAD SERVED, AND THE CIRCUIT NUMBER.

**LIGHTING FIXTURE (LUMINAIRE) SCHEDULE - CHICK-FIL-A P14 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
A2	COOPERMETALUX	22FP4240C	39 VA	39 VA	120 V	RECESSED	2X2 LED FLAT PANEL
A2E	COOPERMETALUX	22FP4240C	39 VA	39 VA	120 V	RECESSED	2X2 EMERGENCY LED FLAT PANEL
B1	COOPERMETALUX	2VT3-LD5-4-G-120V-L840-D1-SSL-U	32 VA	120 V	120 V	SURFACE	MOUNT LIGHT TO BTM OF OVERHEAD WIRE SHELVING WITH CORD & PLUG
D3	COOPERHALO	H0620D010-HM612830-61NDC	21 VA	120 V	120 V	RECESSED	LED DOWNLIGHT WITH CLEAR REFLECTOR & TRIM RATED 2000 LUMENS, 3000K COLOR TEMP
D3E	COOPERHALO	H0620D010EM14-HM612830-61NDCIEM	21 VA	120 V	120 V	RECESSED	SAME AS D3 EXCEPT WITH EMERGENCY BATTERY PACK/INTEGRAL TEST SWITCH
G1	COOPERMETALUX	4SLSTF4040DD-JNV	44 VA	120 V	120 V	SURFACE	4760 LUMEN 4 FOOT LENSED LED STRIPLIGHT, MTD ABOVE DOOR FRAME
N	MINKA	4531-267B	11 VA	120 V	120 V	WALL	LAVATORY WALL SCONCE-SHADE POINTED DOWN W/LED LAMP & CL ON LAVATORY
OA	PROGRESS LIGHTING	P5675-31 WITH P8799 TOP COVER LENS	24 VA	120 V	120 V	WALL	5" DIAMETER, 14" HEIGHT, WET LOCATION, UPDOWN CYLINDER W/ 12 WATT PAR30 3K NFL LED LAMPS
OC	HUBBELL	FL-42L-95-4K7-N-U-K-DB (SEE NOTE 4)	97 VA	120 V	120 V	PIPE	FLOODLIGHT MTD ON ROOF ON 2" PIPE SUPPORT (BY OTHERS) AND AIMED AT FLAG AFTER DARK
OD1	COOPERLUMARK	LUMINAIRE: PRV-C600-UNV-T4-SA-BZ, POLE: SSP25-4.0-7-BR2-DM180-BC (SINGLE LUMINAIRE)	163 VA	208 V	208 V	<varies>	COORDINATE WITH THE SPECIFIC SITE CONDITIONS FOR THE TYPE OF POLES REQUIRED, THE HEIGHT, AND THE CONFIGURATION. CONTACT VENDOR IF HIGHER THAN 100 MPH WIND LOADING REQUIRED.
OD2	COOPERLUMARK	LUMINAIRE: PRV-C600-UNV-T4-SA-BZ, POLE: SSP25-4.0-7-BR2-DM180-BC (TWO LUMINAIRES AT 180 DEGREES)	306 VA	208 V	208 V	POLE W/CONCRETE BASE	COORDINATE WITH THE SPECIFIC SITE CONDITIONS FOR THE TYPE OF POLES REQUIRED, THE HEIGHT, AND THE CONFIGURATION. CONTACT VENDOR IF HIGHER THAN 100 MPH WIND LOADING REQUIRED.
OK	HUBBELL	LNC-SLU-3K-3-1	13 VA	120 V	120 V	WALL	LED WALLPACK W/ CENTERLINE OF FIXTURE AT 67" ABV 00" (FINISH FLOOR LINE)
P1	MEYDA	142776	22 VA	120 V	120 V	PENDANT	31" DIA PEACH BASKET PENDANT WITH BTM AT 6'-8" AFF ABV TABLE, 8'-0" OTHERWISE
U	BESA LIGHTING	BES00298-060	8 VA	120 V	120 V	PENDANT	RED FRIT GLASS, BRONZE CABLE & CANOPY, 6'-8" AFF
XA	COOPER-SURE-LITES	APCH7R	4 VA	120 V	120 V	WALL	EXIT SIGN WITH BATTERY PACK AND TWO INTEGRAL ADJUSTABLE LAMP HEADS
XD	MULE LIGHTING	SPS-220/250-120/277	250 VA	120 V	120 V	WALL	INVERTER UNIT FOR EXTERIOR EGRESS LTG. ON AT DUSK, OFF AT DAWN, ON DURING PWR OUTAGE
Z1	COOPERHALO	SLD40593VH	13 VA	120 V	120 V	SURFACE	LED DOWNLIGHT PROVIDED BY CANOPY SUPPLIER, INSTALLED BY CANOPY SUPPLIER, CONNECTION BY ELECTRICAL CONTRACTOR
Z2	LSI	CRUS-SC-LED-LW30-UE-WHT	74 VA	120 V	120 V	RECESSED	CANOPY LIGHT PROVIDED BY CANOPY SUPPLIER AND INSTALLED BY ELECTRICAL CONTRACTOR

NOTES:  
 1. LUMINAIRES UTILIZING DOUBLE-ENDED LAMPS AND CONTAIN BALLASTS THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECTING MEANS EITHER INTERNAL OR EXTERNAL 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 C16500 FOR VENDOR INFORMATION.  
 3. THE ASTERISK (\*) BESIDE THE FIXTURE MARK IN THE ABOVE SCHEDULE INDICATES THE FIXTURE IS A NON-PROTOTYPICAL LIGHT FIXTURE PER THE CFA NATIONAL P12 PROTOTYPE.  
 4. IF TYPE OC IS GROUND MOUNTED IN LIEU OF ROOF MOUNTED, PROVIDE EITHER THE FL-VISOR-DB (VISOR) OR THE FL-LOUVER-SB (LOUVER) FOR GLARE CONTROL.

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 50-LSF-04714-E-211-LIGHTING PLAN

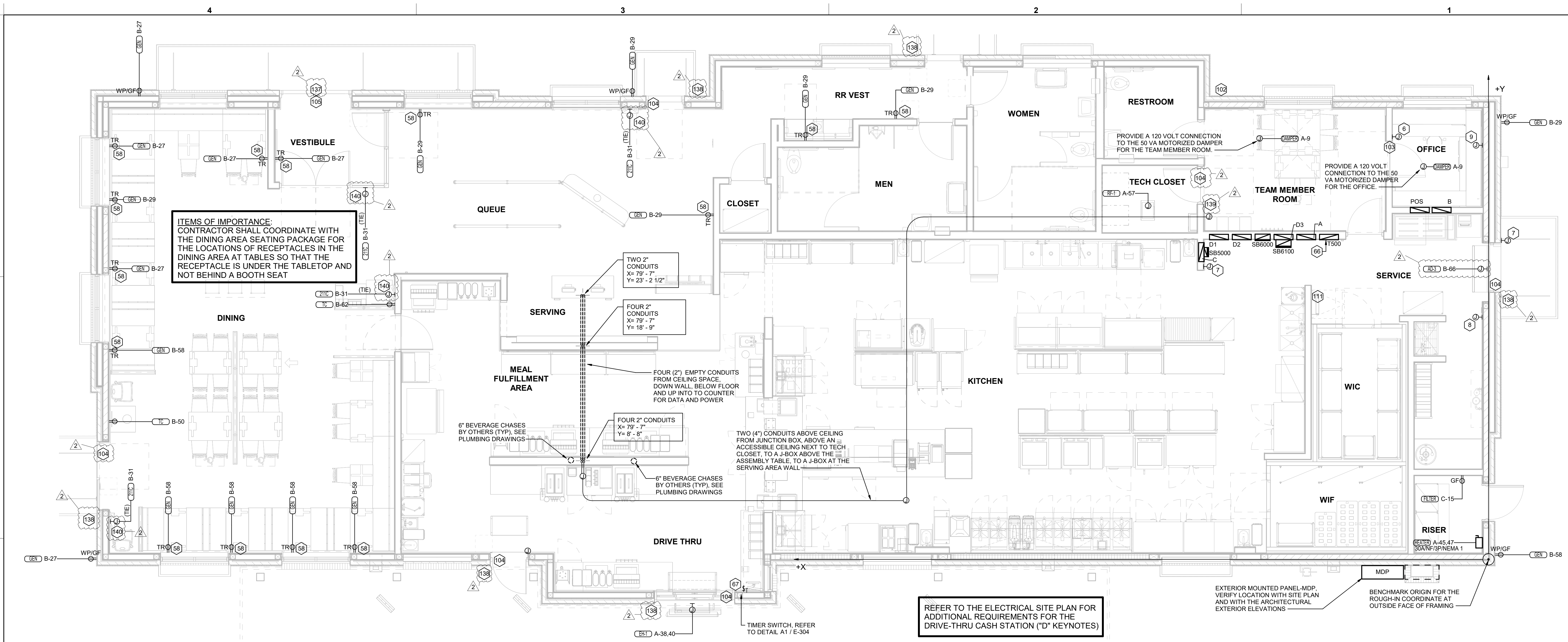




Chick-fil-A

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

DICKERSON ENGINEERING, INC.  
State Licensed Professional Engineer  
No. 00000000000000000000000000000000  
P.O. Box 10000000000000000000000000000000  
Atlanta, Georgia 30308-0000  
Tel: 404.525.1234  
Fax: 404.525.1234  
DEI: 22089.17



C1 POWER AND SYSTEMS PLAN  
1/4" = 1'-0"

**POWER PLAN GENERAL NOTES**

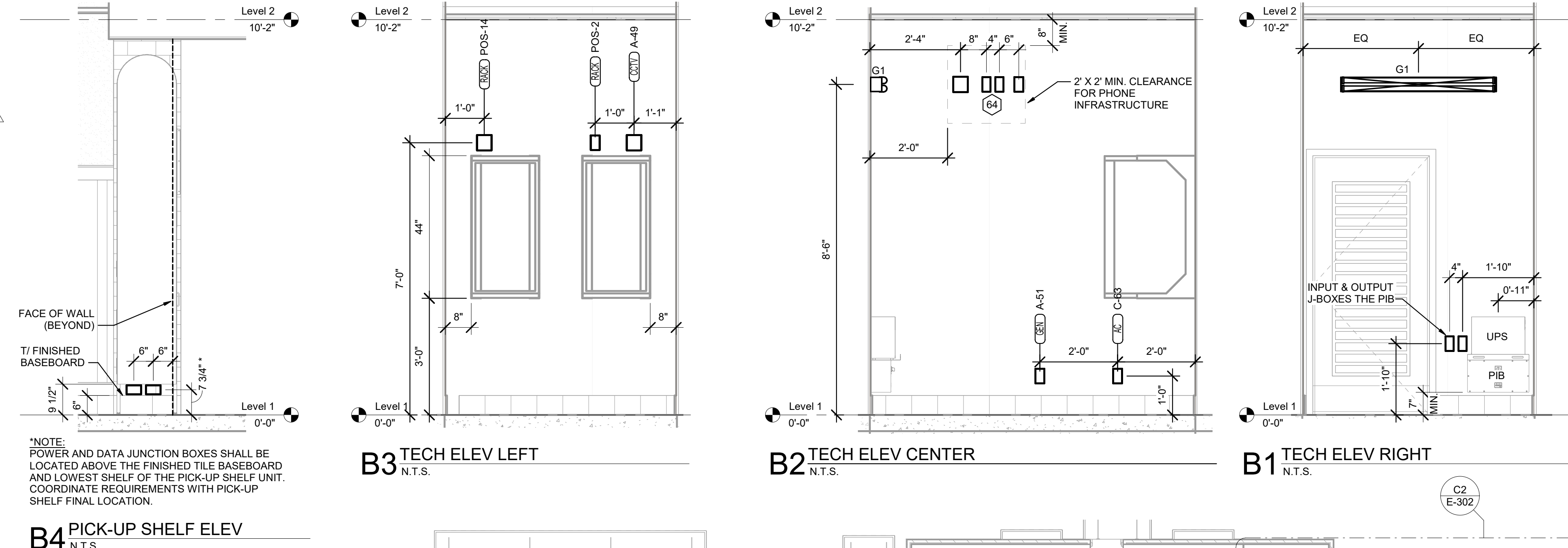
- A. ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
- B. REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
- C. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
- D. PROVIDE INSULATED BUSHING AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING.
- E. 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.

**ELECTRICAL KEYNOTES**

- 6 CO2 CENTRAL CONTROL UNIT - PROVIDE SINGLE-GANG BACKBOX AT 60" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE
- 7 CO2 ANNUNCIATOR UNIT - PROVIDE SINGLE-GANG BACKBOX AT 60" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE
- 8 CO2 SENSOR UNIT - PROVIDE SINGLE-GANG BACKBOX AT 12" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE
- 9 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
- 58 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.
- 64 PROVIDE TWO 6"X 6"X 4" 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.
- 66 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.
- 67 TIMER SWITCH FOR OUTSIDE ELECTRIC HEATER. REFER TO E304 FOR DETAILS AND WIRING SCHEMATIC.
- 102 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.

**ELECTRICAL KEYNOTES**

- 103 EXTEND 1/2" RIGID CONDUIT FROM TOP OF STRIKE-SIDE DOOR FRAME CHANNEL TO ABOVE ACCESSIBLE CEILING.
- 104 EXTEND 3/4" RIGID CONDUIT FROM ELECTRIC STRIKE MOUNTING POINT IN DOOR FRAME TO ABOVE ACCESSIBLE CEILING.
- 105 EXTEND 1/2" RIGID CONDUIT FROM HORIZONTAL FRAME MULLION TO ABOVE ACCESSIBLE CEILING. CONDUIT TO PENETRATE INTO HORIZONTAL MULLION ABOVE DOOR.
- 111 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.
- 137 EXTEND 1/2" RIGID CONDUIT FROM CUT IN TRANSFER HINGE TO ABOVE ACCESSIBLE CEILING.
- 138 PROVIDE SINGLE GANG JUNCTION BOX WITH WEATHERPROOF COVER PLATE AT 48" AFF WITHIN WALL. EXTEND 1/2" CONDUIT UP IN WALL ABOVE ACCESSIBLE CEILING.
- 139 INSTALL A SINGLE GANG DEEP JUNCTION BOX AT 48" AFF WITHIN WALL. INSTALL 1/2" EMT CONDUIT EXTENDED TO 6" ABOVE ACCESSIBLE CEILING ("STUB UP") UTILIZE SUITABLE BOX CONNECTOR OR EQUIVALENT AT THE END OF THE STUB UP TO PREVENT WIRE DAMAGE.
- 140 PROVIDE A SINGLE-GANG RECESSED BOX MOUNTED HORIZONTALLY FOR THE FLY SYSTEM ITEMS LOCATED IN THE DINING ROOM. CUT AND HARD-WIRE THE CORDSET FURNISHED WITH THE UNIT.

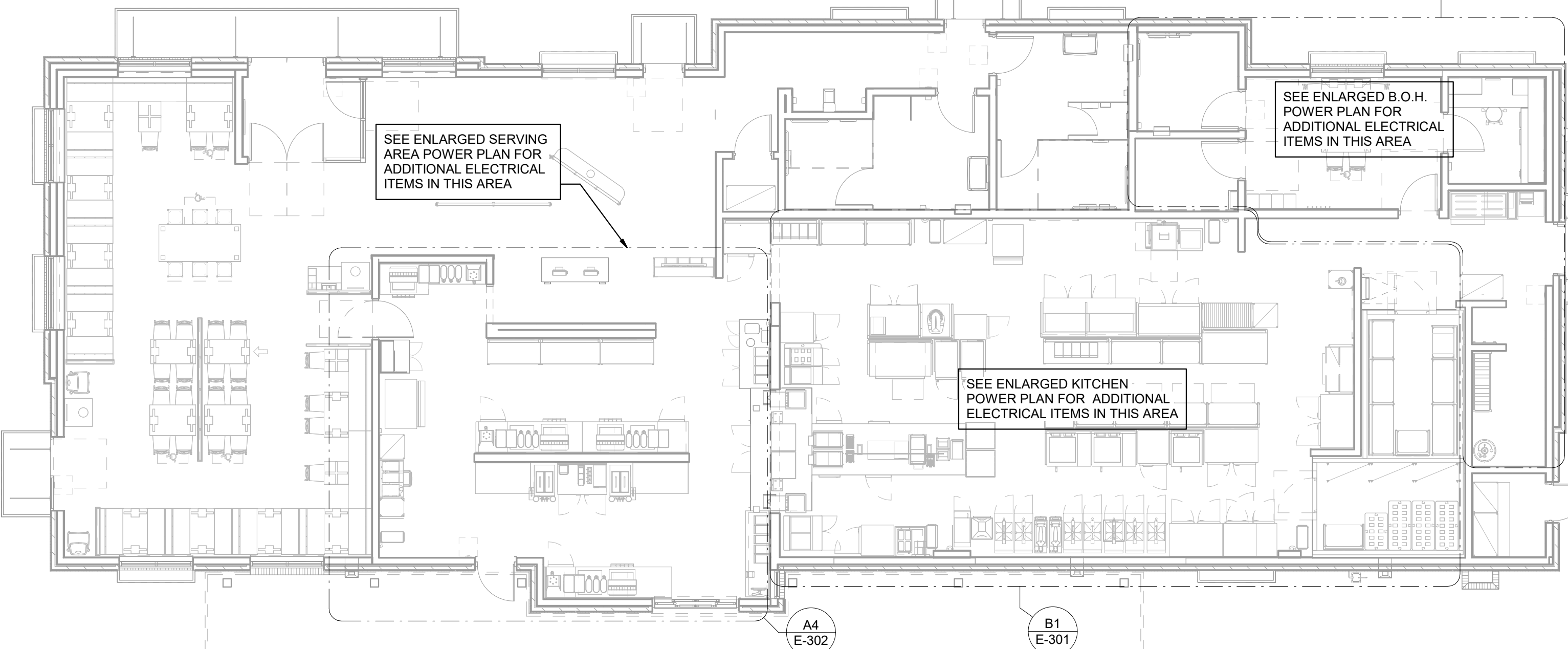


B3 TECH ELEV LEFT  
N.T.S.

B2 TECH ELEV CENTER  
N.T.S.

B1 TECH ELEV RIGHT  
N.T.S.

B4 PICK-UP SHELF ELEV  
N.T.S.



A1 ELECTRICAL KEY PLAN  
N.T.S.

**CHICK-FIL-A**  
University City  
8637 OLIVE RD  
UNIVERSITY CITY, MO 63132

**FSR#04714**

BUILDING TYPE / SIZE: P14 LSR LRG  
RELEASE: 22-08  
PRINTED FOR:  
**ISSUED FOR CONSTRUCTION**

REVISION SCHEDULE	
NO.	DATE
2	05/11/23

ISSUED FOR CONSTRUCTION  
CONSTRUCTION

CONSULTANT PROJECT # 22-2313.00  
DATE 05/11/23  
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AUTHOR  
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**POWER AND SYSTEMS PLAN**  
SHEET NUMBER  
**E-221**

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50-LSR-04714-E-902-ELECTRICAL SPECIFICATIONS

E  
D  
C  
B  
A

**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 "J" hooks on telephone type bridge 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) or #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 (for all Regions): from Villa Lighting, Dave Christanell (800)325-0963

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. MDP 100% rated main breaker, 1200 Amps or higher, shall be equipped with Arc Flash Maintenance Setting switch for use as a temporary arc-flash incident energy reduction device during maintenance activities.  
J. 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 C16441**  
**ENCLOSED SWITCHES**

**PART 1 - PRODUCTS**  
1.01 MANUFACTURERS  
A. Square D  
B. GE / ABB  
C. Siemens

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 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.

**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. 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 riser 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.

**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. Villa Lighting - all regions. Contact at Villa Lighting: Dave Christanell at 800-325-0963, fax- 314-531-8720, email - davec@villalighting.com  
B. Lamps to be Osram-Sylvania and will typically be provided with the luminaire by the lighting manufacturer.

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.

**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.

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 interior 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 3 - EXECUTION**  
3.01 INSTALLATION  
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 gasketed 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.  
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 'Limitron' 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.

**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 system will be provided by the system vendor. Contractor shall contact the owner and vendor and schedule the work.

**SECTION C16597**  
**TELEPHONE SERVICE**  
**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.

**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 system outlets as specified in Section 16141. Provide separate conduit to nearest accessible ceiling space from each outlet.

**SECTION C16597**  
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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 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**  
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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.

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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.  
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E. Special backboxes (unless otherwise noted) and faceplates will be furnished by the owner's vendor.



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DEI-22089-17

**CHICK-FIL-A**  
**University City**  
**8637 OLIVE RD**  
**UNIVERSITY CITY, MO 63132**

**FSR#04714**  
BUILDING TYPE / SIZE: P14 LSR ALL  
RELEASE: 22-08  
PRINTED FOR:  
**ISSUED FOR CONSTRUCTION**

REVISION SCHEDULE	
NO.	DATE
2	05/11/23

CONSULTANT PROJECT # 22-2313.00  
DATE 05/11/23  
DRAWN BY JR  
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**ELECTRICAL SPECIFICATIONS**  
SHEET NUMBER  
**E-902**

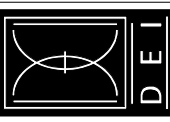




Chick-fil-A

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**CHICK-FIL-A**  
University City  
8637 OLIVE RD  
UNIVERSITY CITY, MO 63132

**FSR#04714**

BUILDING TYPE / SIZE: P14 LSR LRG  
RELEASE: 22-08

PRINTED FOR

**ISSUED FOR CONSTRUCTION**

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
2	05/11/23	ISSUED FOR CONSTRUCTION

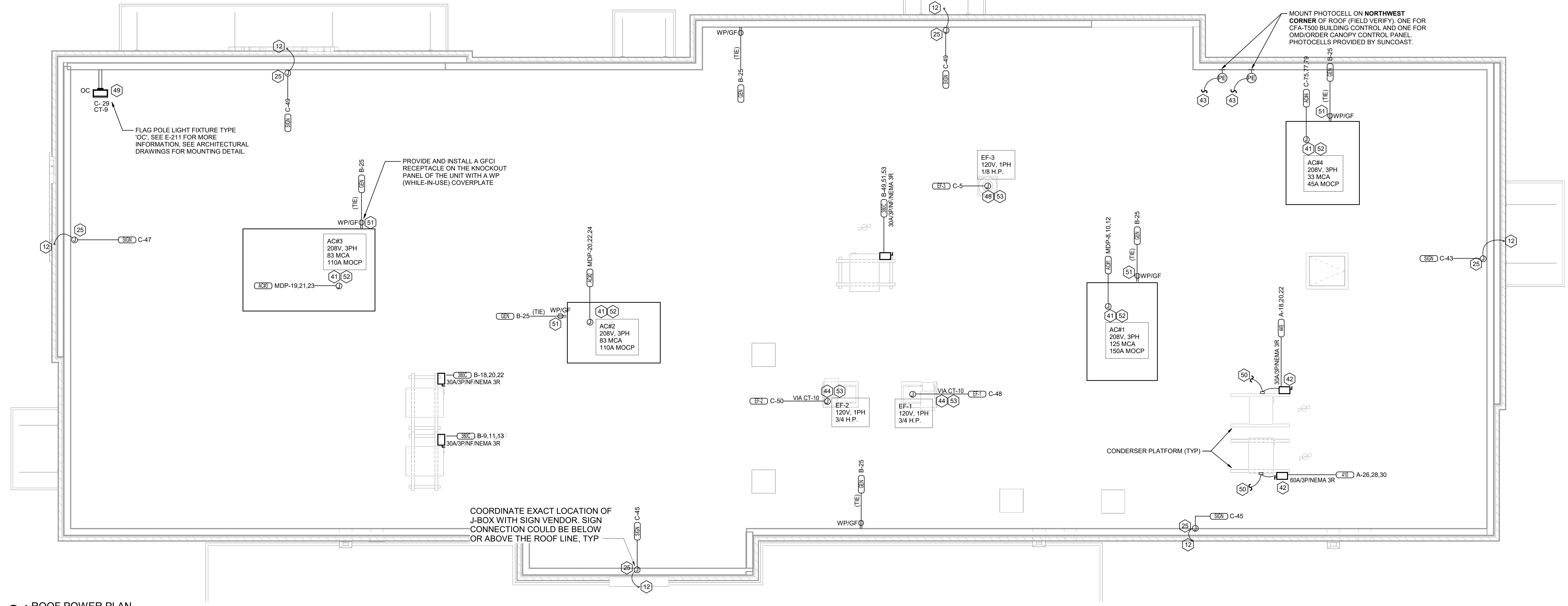
CONSULTANT PROJECT # 22-2313.00  
DATE 05/11/23

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**ROOF POWER PLAN**

SHEET NUMBER

**E-250**



**C1 ROOF POWER PLAN**  
1/4" = 1'-0"

**POWER PLAN GENERAL NOTES**

- A. ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
- B. REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
- C. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
- D. PROVIDE INSULATED BUSHING AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING.
- E. 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.

**ELECTRICAL KEYNOTES**

- 12 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.
- 25 ROUTE THROUGH CONTROL PANEL CFA-T500 AND CONTROLLED BY OCCUPIED SWITCH AND PHOTOCELL.
- 41 ROUTE ELECTRICAL CONDUITS TO UNIT CONNECTIONS THROUGH WEATHERPROOF RACEWAY FURNISHED WITH UNIT. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATIONS.
- 42 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.
- 43 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.
- 44 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 14" DIAMETER LOOP IN THE FLEXIBLE CONDUIT BETWEEN THE ROOF AND THE FAN ELECTRICAL CONNECTION.
- 48 COORDINATE EXACT LOCATION OF CONDUIT AND DISCONNECT AT EXHAUST FAN. CONDUIT SHALL BE ROUTED WITH DUCTWORK WITHIN FAN ROOF CURB AND TO THE FAN WIREWAY. PROVIDE SEALTIGHT FITTINGS AS THE CONDUIT ENTERS AND LEAVES THE DUCTWORK. INTERLOCK WITH LIGHTING CIRCUIT IN RESTROOM. REFER TO THE LIGHTING PLAN FOR CONTINUATION.
- 49 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.
- 50 CONNECT POWER FROM EACH CONDENSING UNIT'S COMPRESSOR CONTACTOR TO THE EVAPORATOR COIL UNIT'S JUNCTION BOX BELOW. REFER TO ENLARGED KITCHEN POWER PLAN FOR LOCATION.
- 51 CONTRACTOR SHALL PROVIDE A 120V GFCI TYPE 20 AMP CONVENIENCE RECEPTACLE WITH WP (WHILE-IN-USE) COVERPLATE MOUNTED TO THE KNOCKOUT PANEL OF THE UNIT AC UNIT.
- 52 A/C UNIT DISCONNECT IS FURNISHED WITH A/C UNIT AND SHALL BE CONNECTED BY THE CONTRACTOR.
- 53 EXHAUST FAN IS FURNISHED WITH A PREWIRED DISCONNECT.

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.

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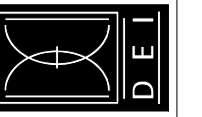




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**FSR#04714**

BUILDING TYPE / SIZE: P14 LSR ALL  
RELEASE: 22-08

PRINTED FOR  
**ISSUED FOR CONSTRUCTION**

**REVISION SCHEDULE**  
NO. DATE DESCRIPTION  
2 05/11/23 ISSUED FOR CONSTRUCTION

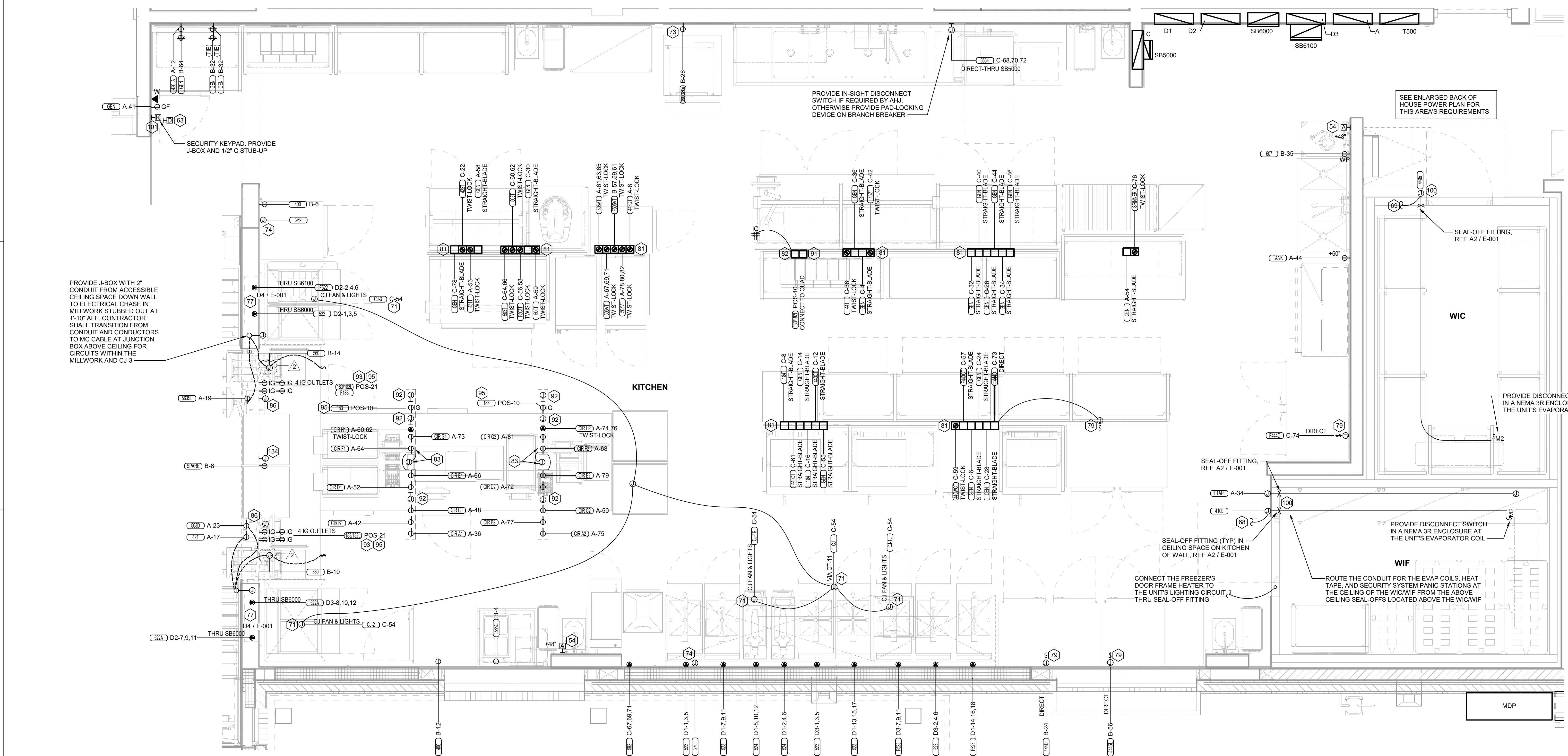
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**ENLARGED KITCHEN POWER PLAN**

SHEET NUMBER

**E-301**



**B1 ENLARGED KITCHEN POWER PLAN**  
1/2" = 1'-0"

**POWER PLAN GENERAL NOTES**

- A. ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
- B. REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
- C. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
- D. PROVIDE INSULATED BUSHING AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING.
- E. 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.

**ELECTRICAL KEYNOTES**

- 54 PROVIDE TWO-GANG DEEP BOX (2" MIN.) FOR FS PULL STATION. EXTEND 1/2" CONDUIT FROM BOX, STUBBED ABOVE CEILING.
- 63 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.
- 68 CONNECT EVAPORATOR UNIT IN FREEZER TO FREEZER CONDENSING UNIT CONTROLS LOCATED ON ROOF. SEE THE ROOF ELECTRICAL PLAN.
- 69 CONNECT EVAPORATOR UNIT IN COOLER TO COOLER CONDENSING UNIT CONTROLS LOCATED ON ROOF. SEE THE ROOF ELECTRICAL PLAN.
- 71 CONNECT AS REQUIRED TO CJ FAN VIA THE HOOD SUPPLIED SPEED CONTROLLER. CONNECT HOMERUN VIA A RELAY IN THE CFA-T500 CONTROL SECTION.
- 73 SEE THE ROOF ELECTRICAL PLAN FOR THE LOCATION OF THE ICE MAKER CONDENSERS AND ANY ADDITIONAL REQUIREMENTS.
- 74 PROVIDE 3#12 IN 1/2" CONDUIT BETWEEN THE CFA-T500 CONTROL PANEL AND THE FS SYSTEM PANEL(S). SEE FS SYSTEM WIRING DIAGRAM DETAIL ON SHEET E-002 FOR ADDITIONAL INFORMATION.
- 77 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 COUPLER WITH A PIN DEVICE INTEGRAL WITH THE OPEN FRYER TO PLUG INTO THE SLEEVE RECEPTACLE.
- 79 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.

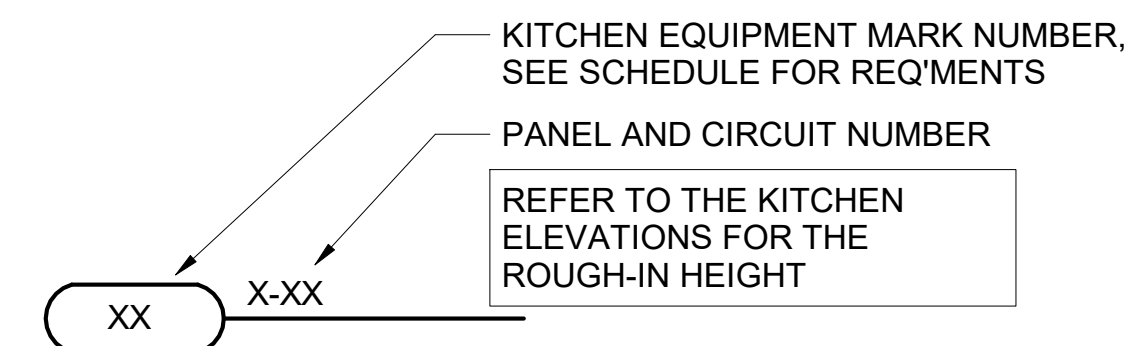
**ELECTRICAL KEYNOTES**

- 81 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 TWIST-LOCK PLUGS AS NOTED ON PLAN. CONTACT BRIDGID DEFRAFRANCESCHI EMAIL: BRIDGID1985@GMAIL.COM (800-633-7584) 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 #FS075-U-GHS OR EQUIVALENT.
- 82 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) DUPLEX OUTLETS. OUTLET BOX TO BE MOUNTED TO THE OVERHEAD SHELVING AT THE PRINTER AND MONITOR MOUNTING BRACKET.
- 83 COORDINATE WITH THE EQUIPMENT SUPPLIER FOR THE CHASE LOCATIONS. ROUTE ONE SET OF CIRCUIT 'A' THRU 'H' AND POS CIRCUIT TO EACH JUNCTION BOX PROVIDED ABOVE CEILING. CONNECT TO PREWIRED LABELED CIRCUITS. ENSURE CIRCUITS ARE LABELED CORRECTLY FOR EACH PREWIRED OUTLET PROVIDED IN EACH CHASE.
- 86 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.
- 91 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.
- 92 3/4" FLEX PROVIDED FOR DATA CABLES IN CHASE.
- 93 PROVIDE ORANGE ISOLATED GROUND (IG) DUPLEX RECEPTACLE.
- 95 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.
- 100 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.
- 101 PROVIDE SINGLE GANG BOX WITHOUT COVER PLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING.
- 134 PROVIDE A JUNCTION BOX WITH A 1" CONDUIT FOR DATA AND/OR SYSTEMS STUBBED UP INTO CEILING SPACE FOR APPROVED OPERATOR OPTIONAL EQUIPMENT.

**NOTE FOR GF TYPE RECEPTACLES IN KITCHEN/FOOD PREP AREAS:**  
THE CONTRACTOR SHALL PROVIDE GROUND FAULT CIRCUIT INTERRUPTER PROTECTION FOR PERSONNEL FOR ALL 125V - 250V RECEPTACLES SUPPLIED BY 120V SINGLE-PHASE BRANCH CIRCUITS 50 AMPS OR LESS, 208V SINGLE-PHASE BRANCH CIRCUITS 50 AMPS OR LESS, AND 208V THREE-PHASE BRANCH CIRCUITS 100 AMPS OR LESS. SEE FLOOR PLANS FOR ADDITIONAL INFORMATION.

**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 GROUND 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.



**A1 KITCHEN EQUIP NOMENCLATURE**  
NO SCALE

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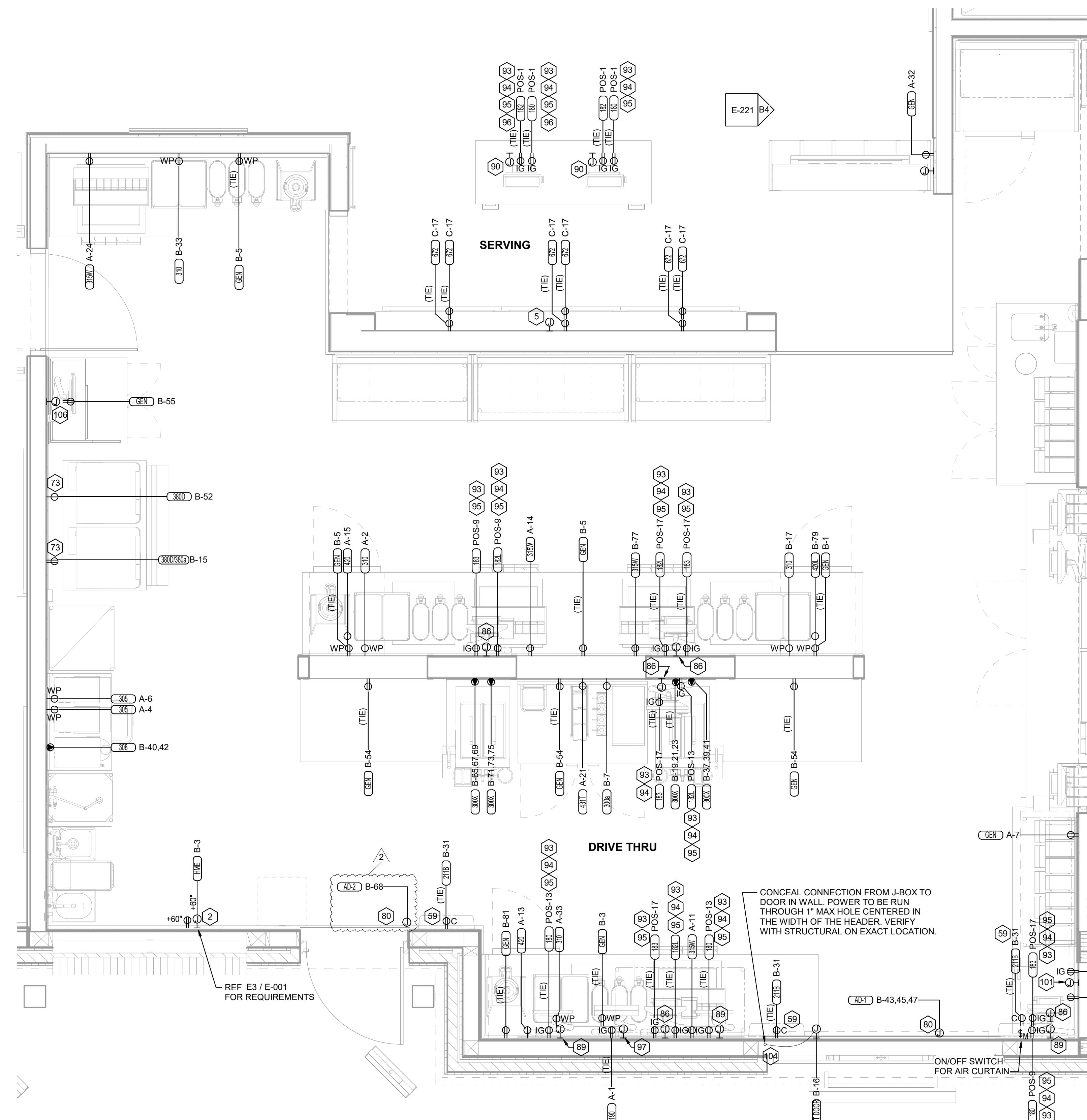
**POWER PLAN GENERAL NOTES**

- A. ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
- B. REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
- C. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
- D. PROVIDE INSULATED BUSHING AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING.
- E. 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.

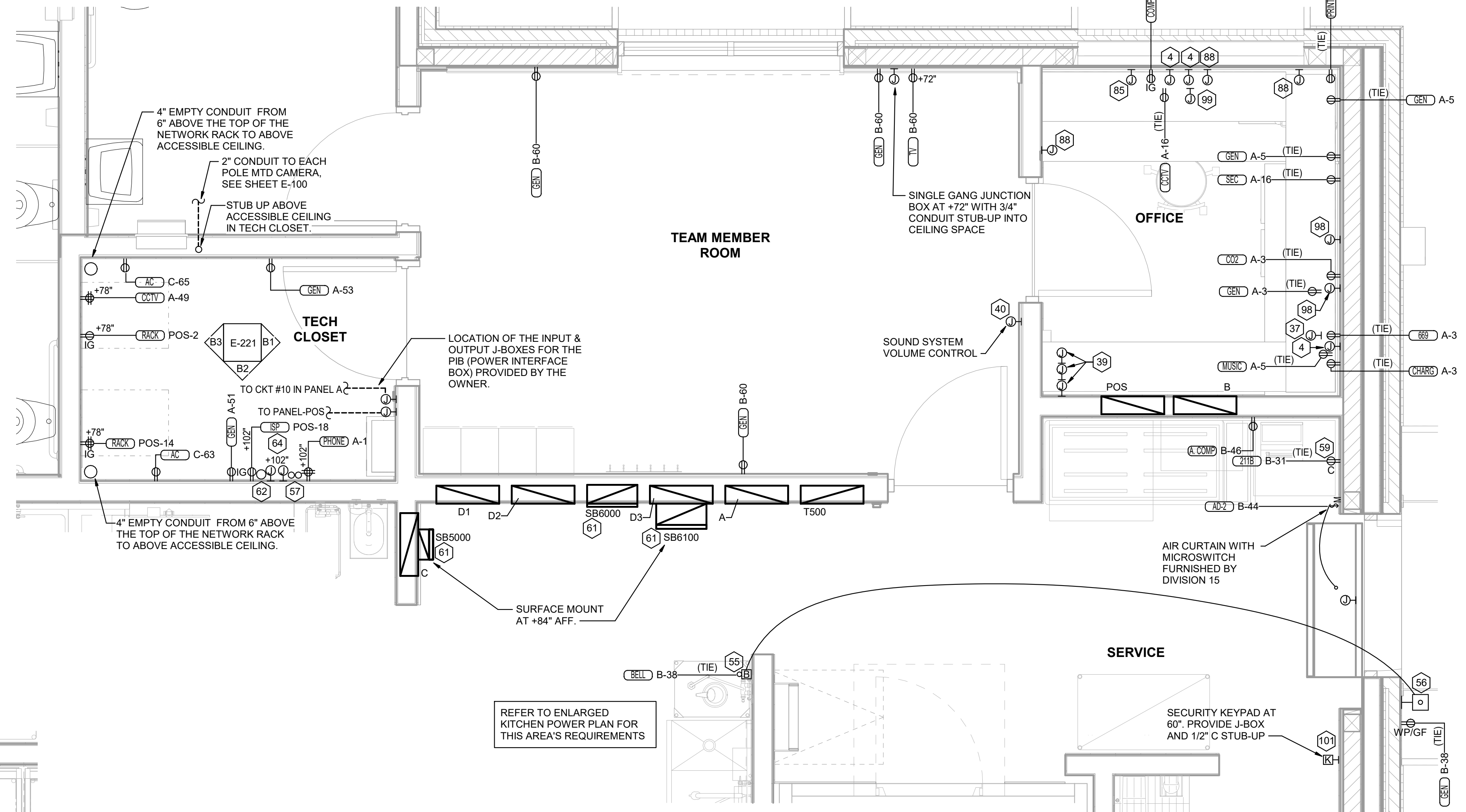
**NOTE FOR GF TYPE RECEPTACLES IN KITCHEN/FOOD PREP AREAS:**  
THE CONTRACTOR SHALL PROVIDE GROUND FAULT CIRCUIT INTERRUPTER PROTECTION FOR PERSONNEL FOR ALL 125V - 250V RECEPTACLES SUPPLIED BY 120V SINGLE-PHASE BRANCH CIRCUITS 50 AMPS OR LESS, 208V SINGLE-PHASE BRANCH CIRCUITS 50 AMPS OR LESS, AND 208V THREE-PHASE BRANCH CIRCUITS 100 AMPS OR LESS. SEE FLOOR PLANS FOR ADDITIONAL INFORMATION.

**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.

**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 GROUND RECEPTACLES ARE NOT AVAILABLE.)



**A4 ENLARGED SERVING AREA POWER PLAN**  
1/2" = 1'-0"



**C2 ENLARGED BOH POWER PLAN**  
1/2" = 1'-0"

**ELECTRICAL KEYNOTES**

- 2 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.
- 4 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.
- 5 PROVIDE SINGLE-GANG JUNCTION BOX WITH A 3/4" EMPTY CONDUIT STUBBED UP INTO THE ACCESSIBLE CEILING SPACE FOR FUTURE MENU BOARD CABLES.
- 37 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.
- 39 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.
- 40 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.
- 55 PROVIDE EDWARDS #340-4N5 VIBRATING 4" DIAMETER BELL. THE BELL SHALL BE RATED AT 120 VOLTS.
- 56 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 SWITCHPLATE.
- 57 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.
- 59 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 CORSET FURNISHED WITH THE UNIT, BUT COIL THE CORD ON THE BACK OF THE UNIT AND TUCK INTO THE BACKBOX.
- 61 SB6000 PANEL ENCLOSURE WITH 3 LITTLEFUSE SHOCKBLOCK GFCI PROTECTION DEVICES, SB6100 SHOCK BLOCK GFCI PROTECTION DEVICE, AND SB5000 SHOCK BLOCK GFCI PROTECTION DEVICE. 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.
- 62 ONE 3" ISP SERVICE CONDUIT. EXTEND WITH PULL STRING FROM J-BOX TO SUPPLIER'S SOURCE. REFER TO ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.
- 64 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.
- 73 SEE THE ROOF ELECTRICAL PLAN FOR THE LOCATION OF THE ICE MAKER CONDENSERS AND ANY ADDITIONAL REQUIREMENTS.
- 80 JUNCTION BOX ABOVE CEILING FOR AIR CURTAIN.
- 85 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.

**ELECTRICAL KEYNOTES**

- 86 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.
- 88 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.
- 89 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.
- 90 PROVIDE SINGLE-GANG EXTRA DEEP JUNCTION BOX MOUNTED ON THE MOUNTING PLATE WITHIN THE FRONT SERVING COUNTER CASEWORK. MOUNT BOX ADJACENT TO THE RECEPTACLE FOR EQUIPMENT 180. DO NOT MOUNT BOX BETWEEN EQUIPMENT 180 AND EQUIPMENT 182 RECEPTACLES.
- 93 PROVIDE ORANGE ISOLATED GROUND (IG) DUPLEX RECEPTACLE.
- 94 PROVIDE GROUND FAULT PROTECTION FOR THESE DEVICES VIA A GROUND FAULT CIRCUIT BREAKER IF LOCAL CODE DEFINES THIS A FOOD PREPARATION AREA.
- 95 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 TO OTHER ON J-HOOKS. NO SPLICES IN ANY HOMERUN CABLES FROM FIRST RECEPTACLE TO BREAKER.
- 96 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.
- 97 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.
- 98 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.
- 99 PROVIDE 4"W X 4"H X 3" D JUNCTION BOX WITHOUT COVERPLATE AND EXTEND A 2" CONDUIT DOWN THROUGH SLAB AND BELOW GRADE TO EACH OF THE SITE'S POLE MOUNTED CAMERA LOCATIONS (SEE ELECTRICAL SITE PLAN FOR CONTINUATION) AND A 2" CONDUIT UP INTO THE ACCESSIBLE CEILING SPACE WITH A BUSHING ON THE CONDUIT END. PROVIDE A SINGLE-GANG JUNCTION BOX ADJACENT TO THE DOUBLE-GANG BOX WITH A 1.5" CONDUIT DOWN TO A SECOND SINGLE-GANG JUNCTION BOX AT THE CCTV MONITOR LOCATION.
- 101 PROVIDE SINGLE GANG BOX WITHOUT COVER PLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING.
- 104 EXTEND 3/4" RIGID CONDUIT FROM ELECTRIC STRIKE MOUNTING POINT IN DOOR FRAME TO ABOVE ACCESSIBLE CEILING.
- 106 PROVIDE SINGLE GANG JUNCTION BOX WITHOUT COVERPLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING.
- 107 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 "109" BOX NOTED BELOW.
- 109 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.



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**CHICK-FIL-A**  
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UNIVERSITY CITY, MO 63132

**FSR#04714**  
BUILDING TYPE / SIZE: P14 LSR ALL  
RELEASE: 22-08  
PRINTED FOR  
**ISSUED FOR CONSTRUCTION**

REVISION SCHEDULE		DESCRIPTION
NO.	DATE	ISSUED FOR CONSTRUCTION
2	05/11/23	ISSUED FOR CONSTRUCTION

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DATE 05/11/23  
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**ENLARGED SERVING AND BOH POWER PLAN**  
SHEET NUMBER





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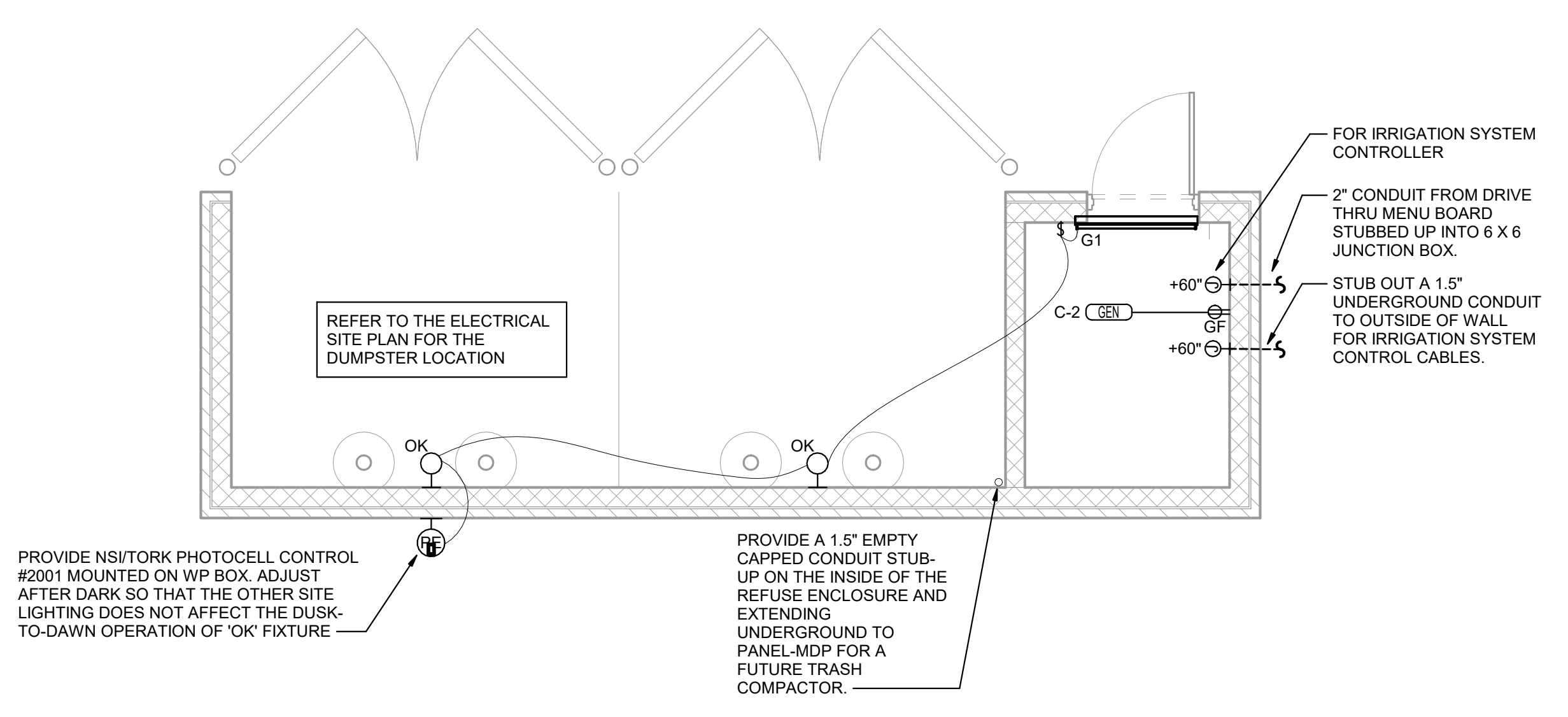


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8637 OLIVE RD  
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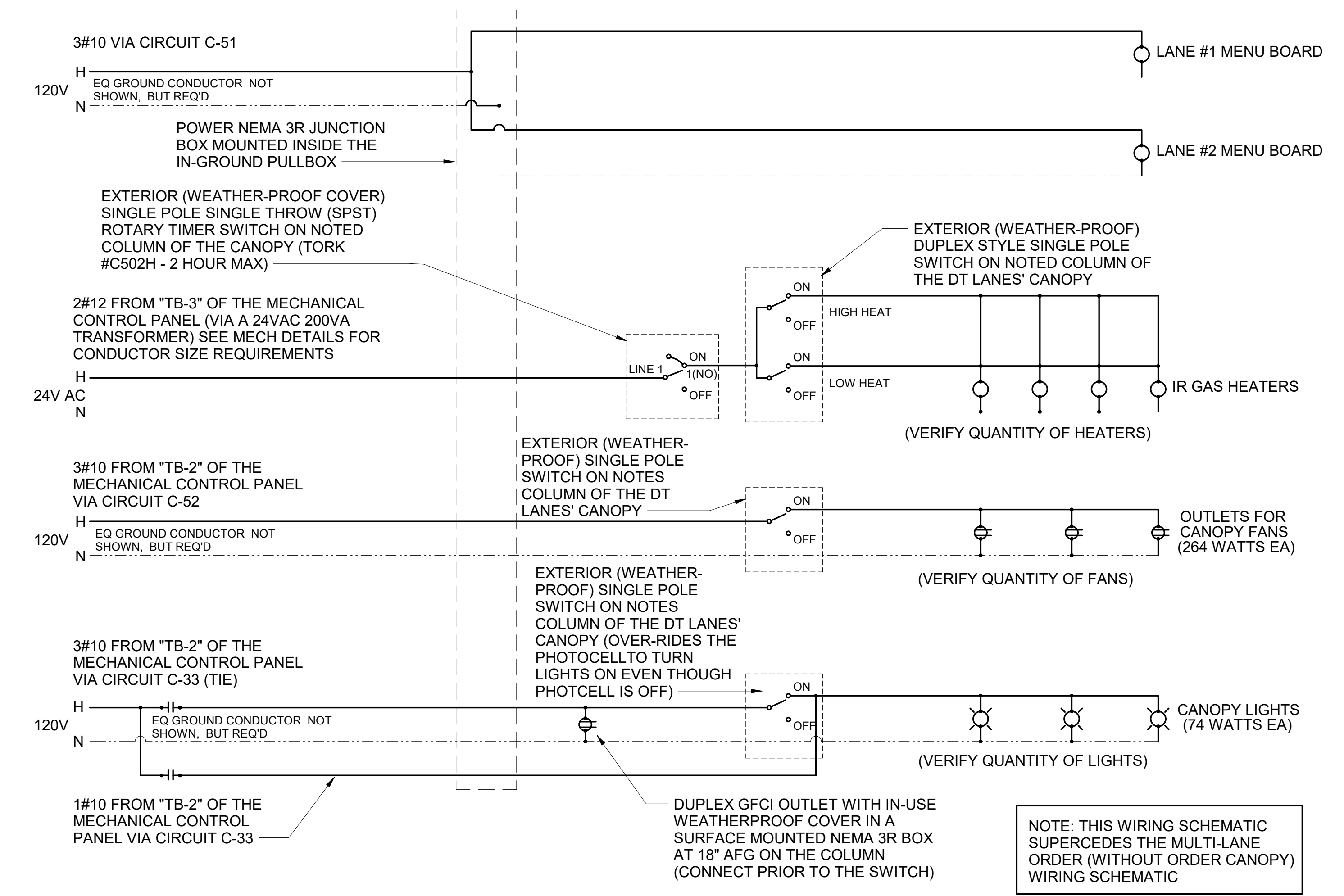
**FSR#04714**  
BUILDING TYPE / SIZE: P14 LSR ALL  
RELEASE: 22.08  
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REVISION SCHEDULE  
NO. DATE DESCRIPTION  
2 05/11/23 ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT # 22-2313.00  
DATE 05/11/23  
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SHEET  
**DT ORDERING AREA  
DETAILS & REFUSE  
ENCLOSURE PLAN**  
SHEET NUMBER

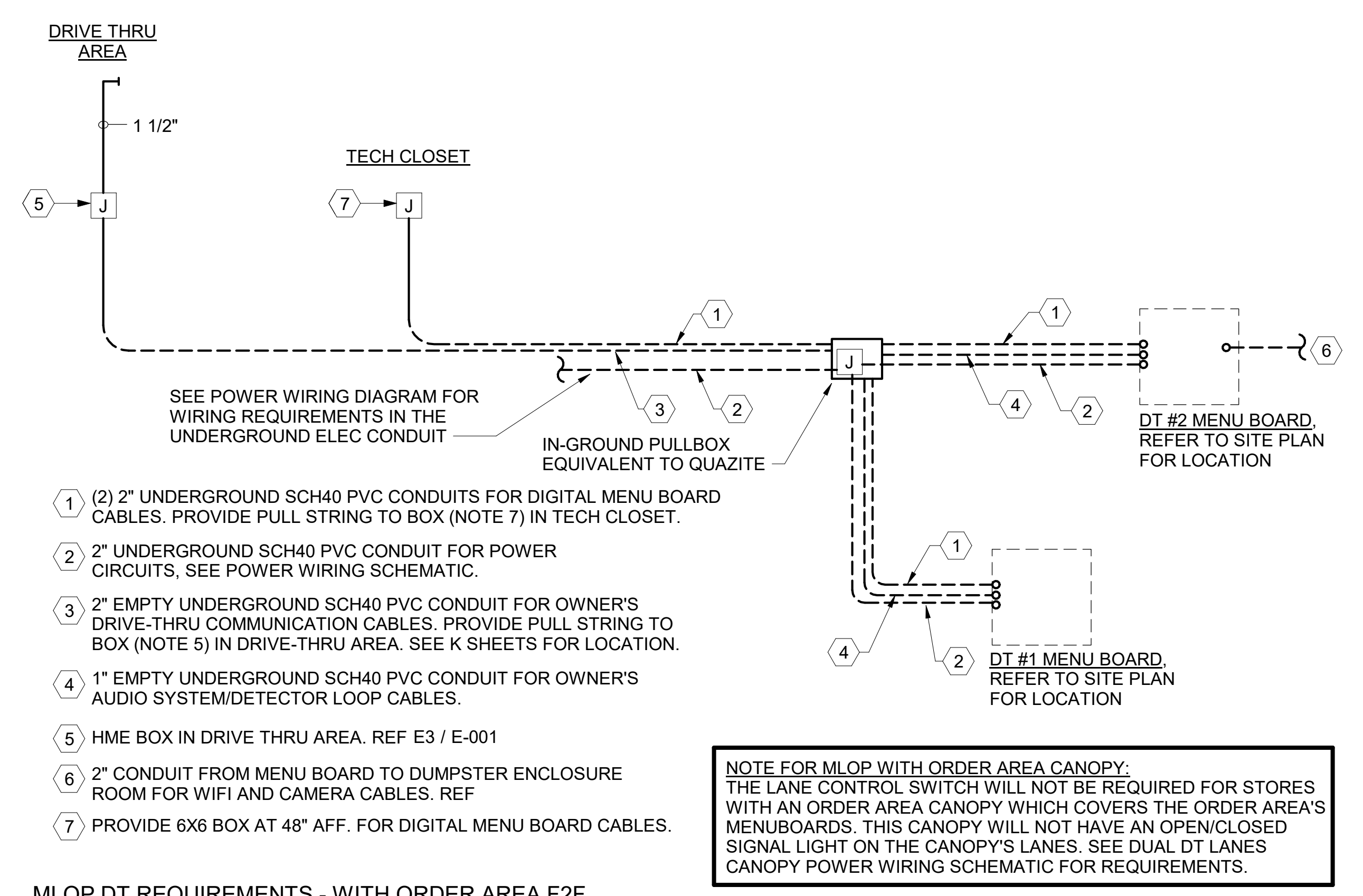
**E-303**



**D1 REFUSE ENCLOSURE ELECTRICAL PLAN**  
1/4\"/>



**B3 MULTI-LANE ORDER CANOPY POWER WIRING SCHEMATIC**  
N.T.S.



**A3 MLOP DT REQUIREMENTS - WITH ORDER AREA F2F CANOPY**  
NO SCALE

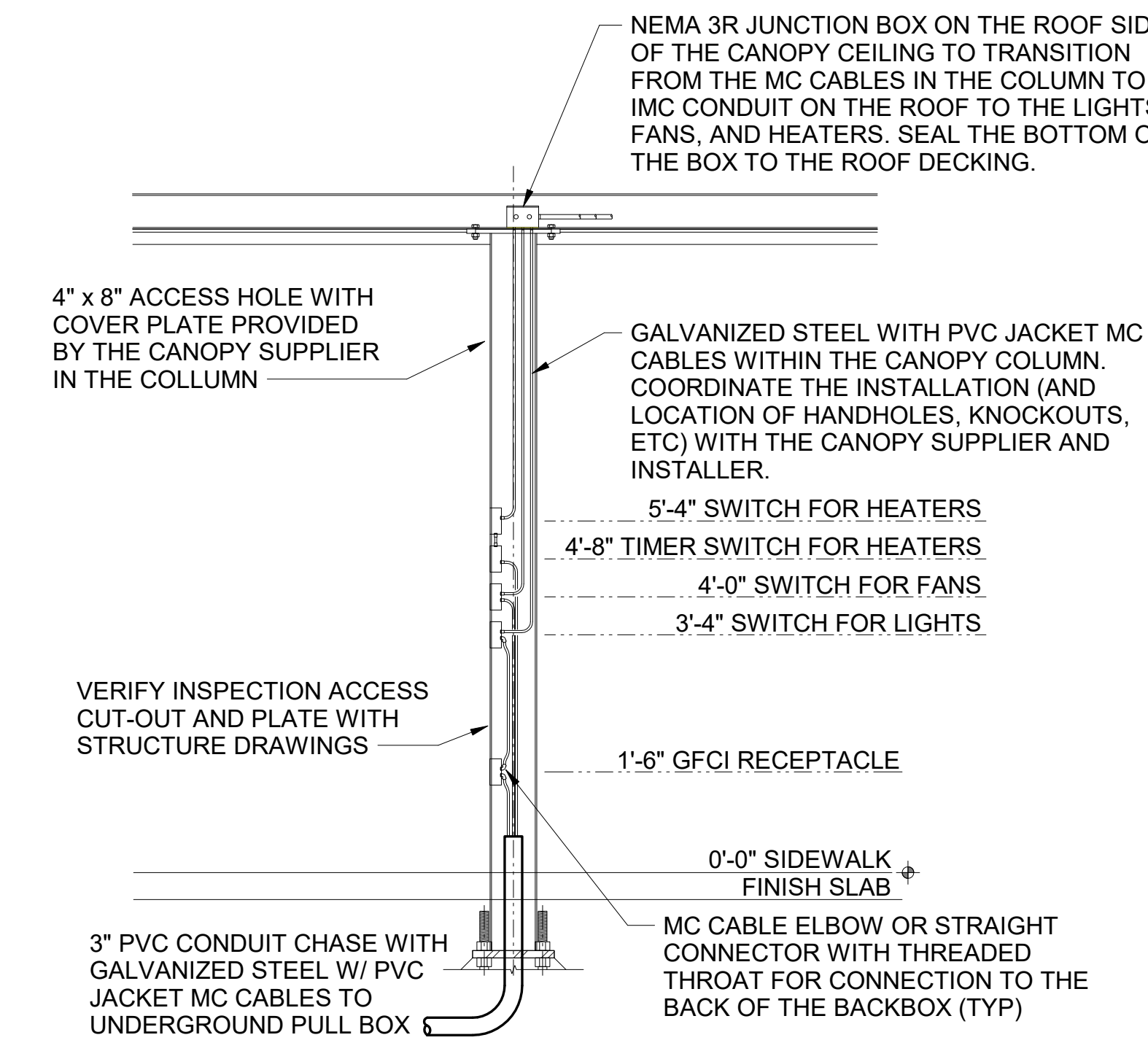
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50-LSR-04714-E-303-DT ORDERING AREA DETAILS & REFUSE ENCLOSURE PLAN



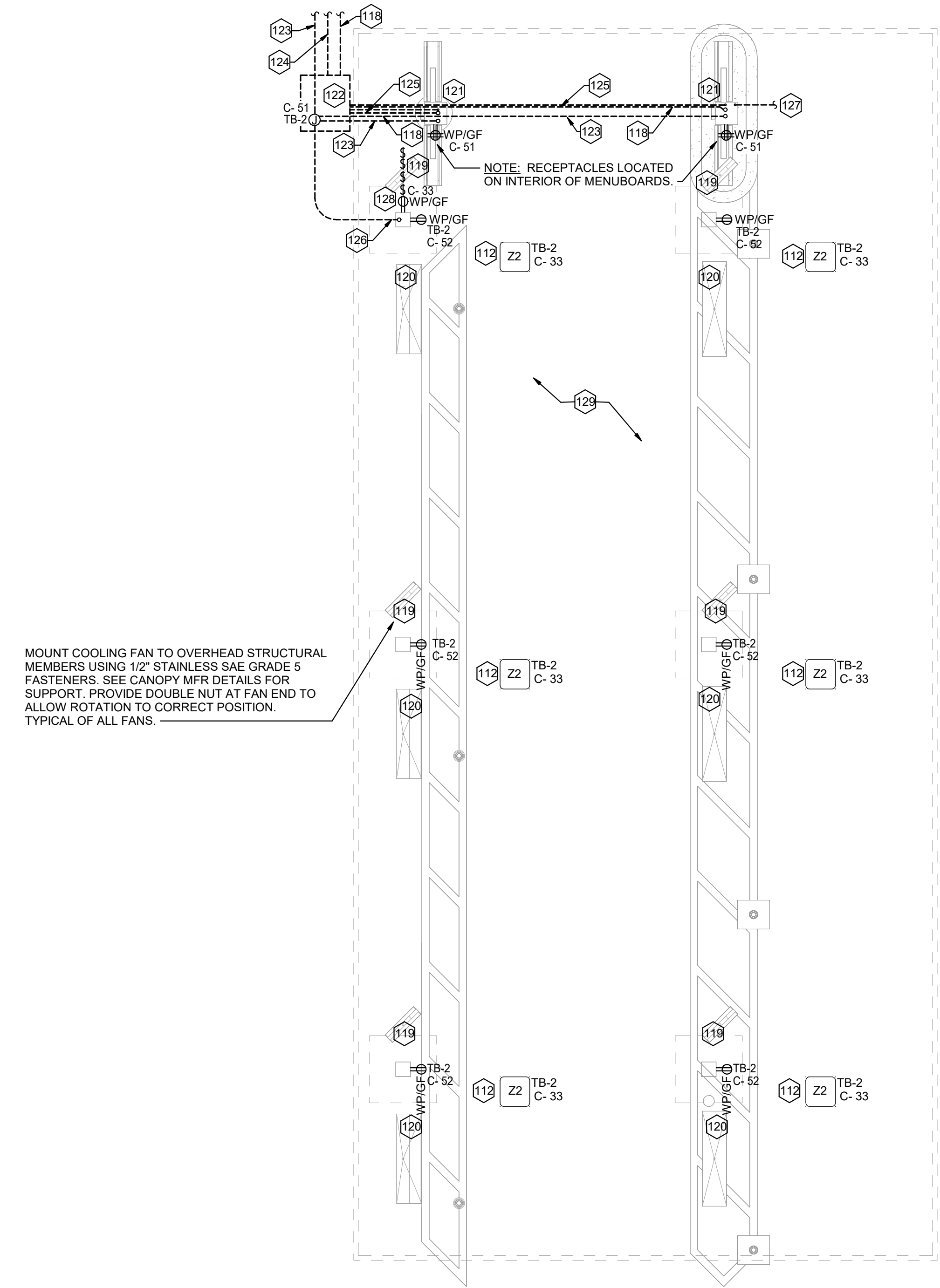
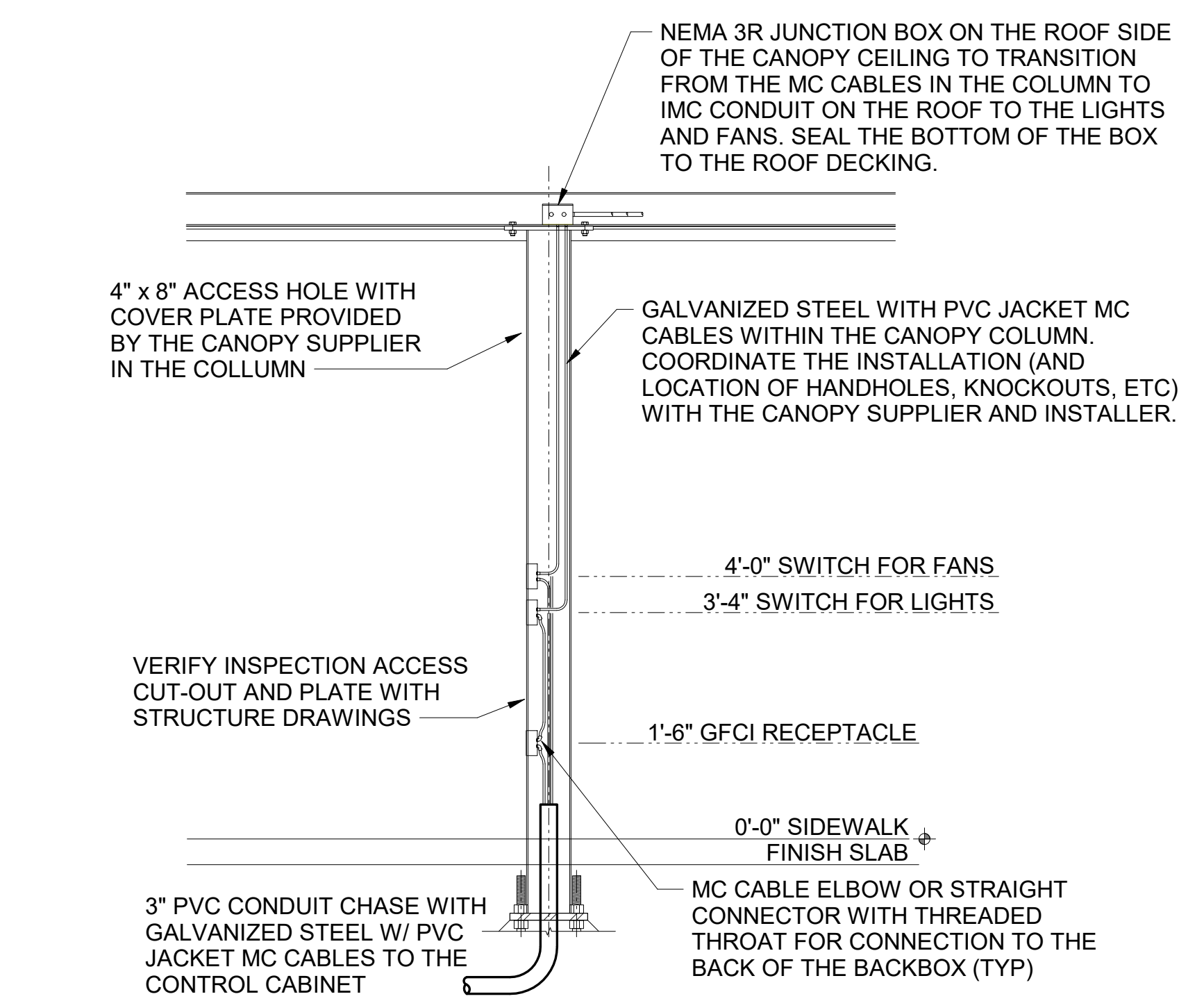
**ELECTRICAL KEYNOTES**

- 112 CEILING LIGHT FIXTURE PROVIDED BY THE CANOPY SUPPLIER AND INSTALLED BY ELECTRICAL CONTRACTOR.
- 118 CEILING LIGHT PROVIDED BY CANOPY SUPPLIER AND INSTALLED BY E.C.
- 119 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.
- 120 INFRARED GAS HEATER WITH INTEGRAL ON-OFF SWITCH PROVIDED BY OTHERS.
- 121 MENUBOARD PROVIDED BY OTHERS.
- 122 PROVIDE IN-GROUND QUAZITE PULLBOX FOR MLOP DATA CABLES WITH POWER NEMA 3R JUNCTION BOX MOUNTED INSIDE THE PULLBOX.
- 123 2" UNDERGROUND SCH40 PVC CONDUIT WITH POWER CIRCUITS. SEE WIRING SCHEMATIC.
- 124 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.
- 125 1" EMPTY UNDERGROUND SCH40 PVC CONDUIT FOR OWNER'S AUDIO SYSTEM/DETECTOR LOOP CABLES.
- 126 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, 120 VOLT POWER FOR FANS, AND 24 VOLT POWER FOR THE INFRARED GAS HEATERS.
- 127 2" CONDUIT FROM DRIVE-THRU MENU BOARD TO DUMPSTER ENCLOSURE ROOM FOR WIFI AND CAMERA CABLES.
- 128 PROVIDE ONE DUPLEX GFCI (WITH IN-USE WP COVER PLATE), TWO 120V SINGLE-POLE SWITCHES (EACH WITH HUBBELL #RW51550 WP COVER PLATE), AND ONE DUPLEX SINGLE-POLE SWITCH (WITH HUBBELL #RW51470 WP COVER PLATE) MOUNTED ON THE COLUMN IN B12 PLATES TO BE FIELD PAINTED MATTE BLACK.
- 129 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. REFER TO THE MECHANICAL DRAWINGS FOR LOCATIONS OF GAS PIPING ABOVE THE ROOF AND INSTALL CONDUIT ALONG THE SAME LOCATIONS USING THE SAME PIPE STAND FOR PIPING AND CONDUIT. ALL EXPOSED ELECTRICAL BOXES TO BE NEMA 3R CAST-METAL.

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

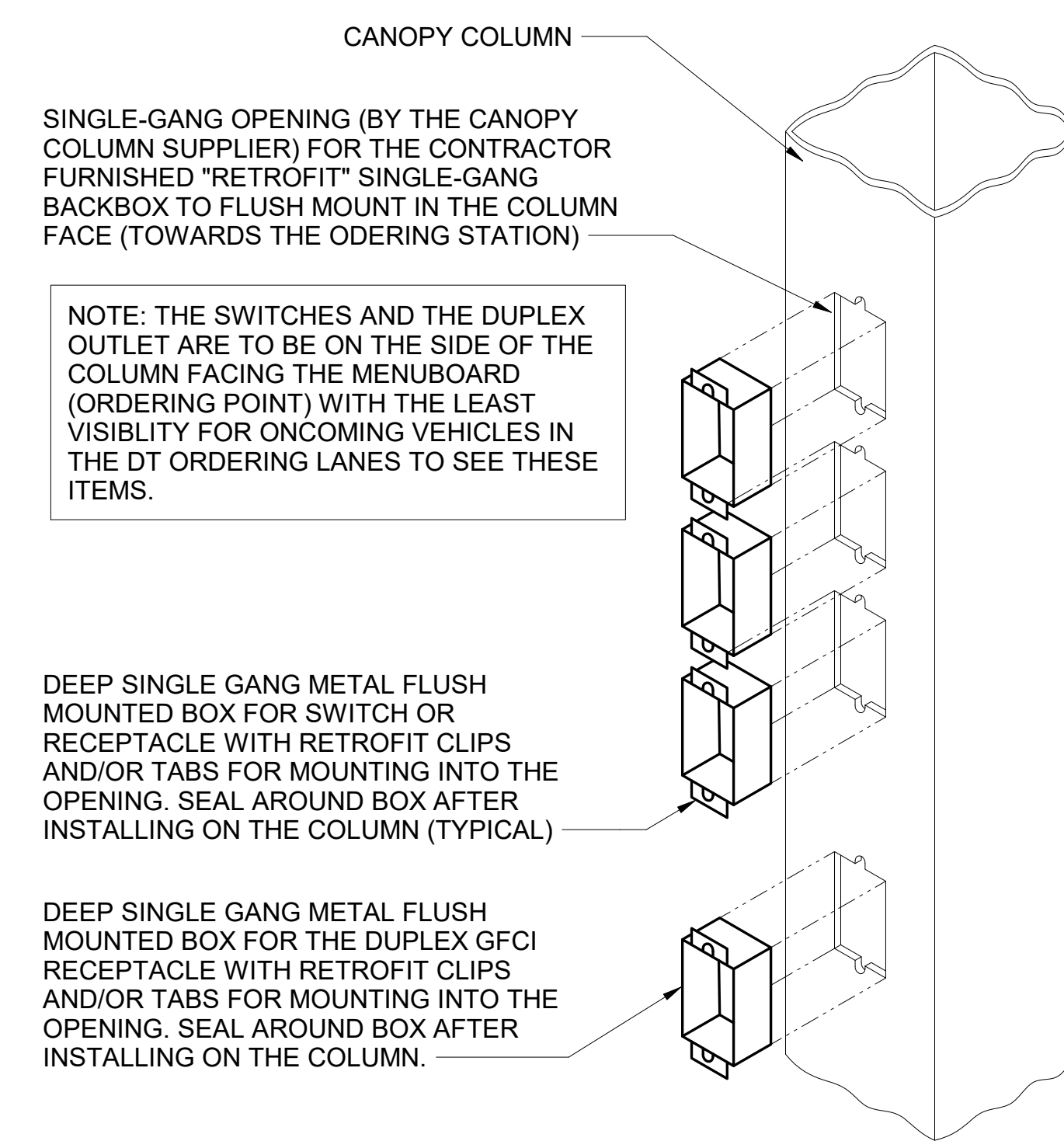


**D1 MEAL DELIVERY CANOPY COLUMN SECTION**  
N.T.S.

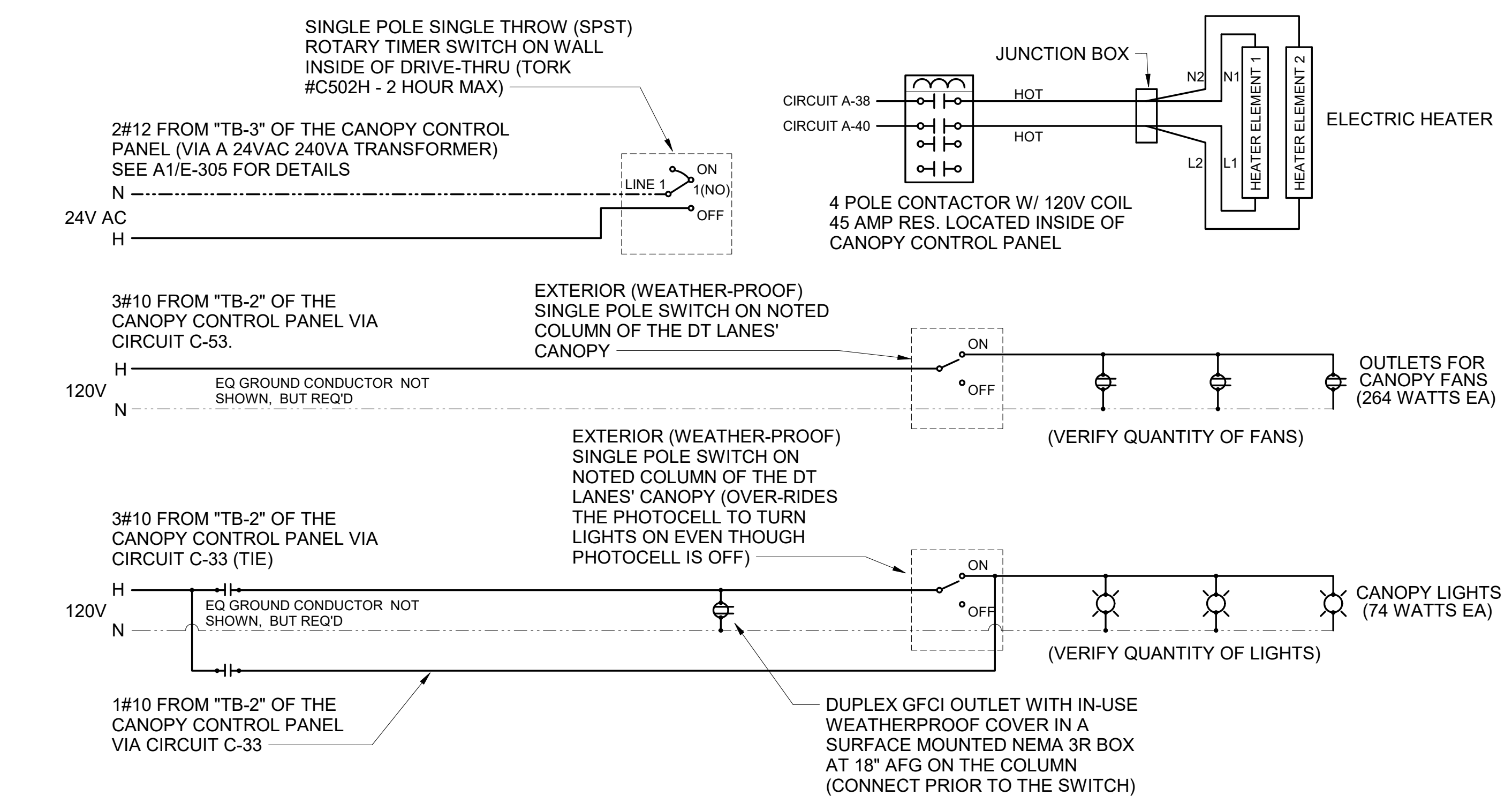
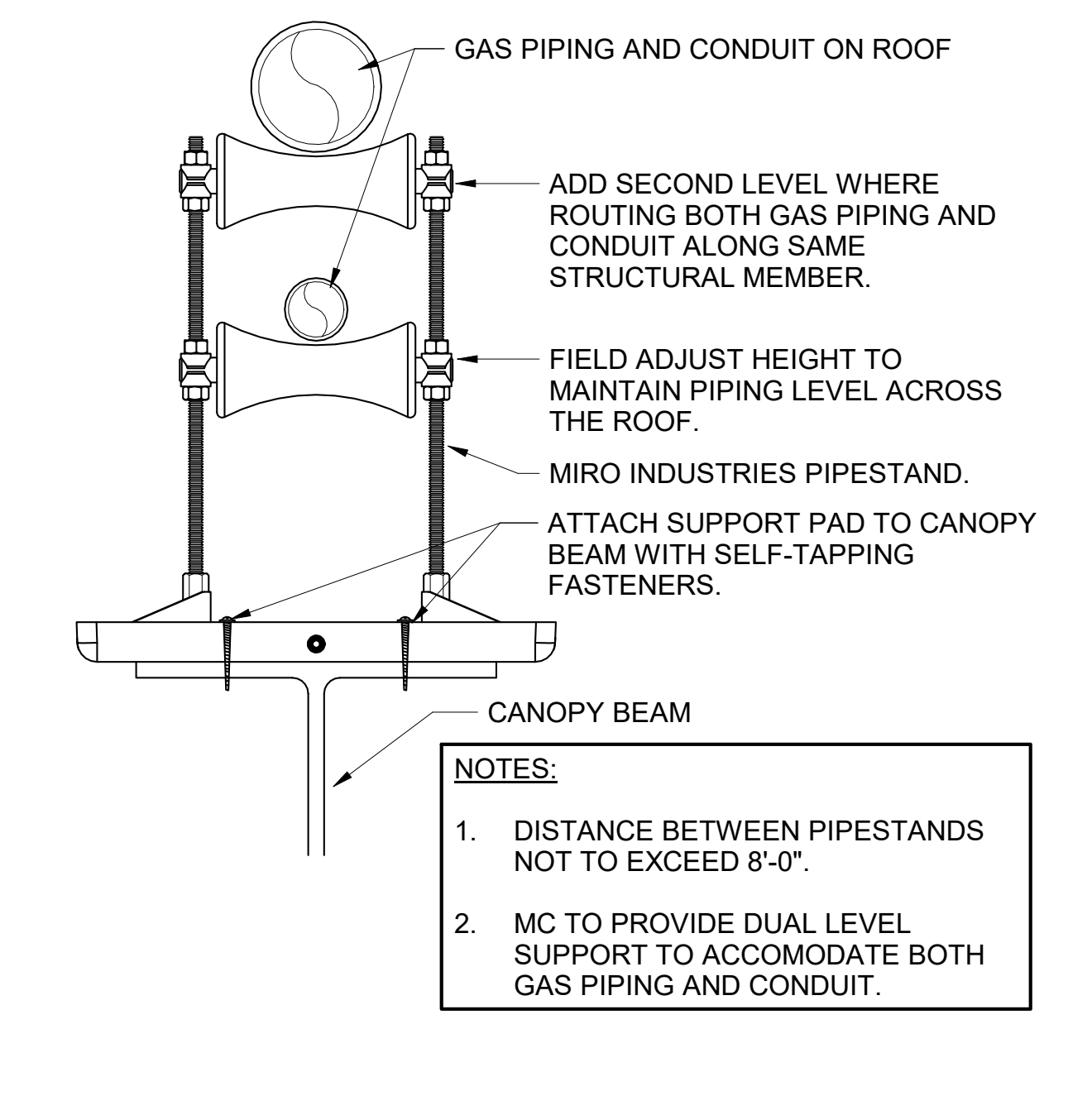


**B4 MLOP ORDER CANOPY POWER PLAN**  
1/4" = 1'-0"

**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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University City  
8637 OLIVE RD  
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**FSR#04714**  
BUILDING TYPE / SIZE: P14 LSR ALL  
RELEASE: 22-08  
PRINTED FOR  
**ISSUED FOR CONSTRUCTION**

REVISION SCHEDULE		
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**ORDER CANOPY PLAN AND DETAILS**  
SHEET NUMBER

5/11/2023 2:30:45 PM Autodesk Docs://MO\_04714\_University City (MO)\_FSU\_2022.11\_FSR04714\_University City (MO)\_FSU\_ELE.rvt 50-LSR-04714-E-304-ORDER CANOPY PLAN AND DETAILS







Distribution Panel: MDP

LOCATION: OUTSIDE
SUPPLY FROM: UTILITY
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:

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Lists various electrical loads and their specifications.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Summarizes total connected load and demand.

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 326-500 KVA, IF TOTAL LOAD IS OVER 500 KVA, DIVERSIFIED AMPS AT 208 VOLT.

CALCULATION PER NEC 220.88 (NOT ALL ELECTRICAL RESTAURANT LOAD)

Branch Panel: POS

LOCATION: BOH
SUPPLY FROM: A
MOUNTING: FLUSH
ENCLOSURE: NEMA 1
VOLTS: 120/120 Single
PHASES: 1
WIRES: 3
A.I.C. SERIES RATING: 10K
MAINS TYPE: MLO
MAINS RATING: 100 A
MCB RATING: PROVIDE A JUMPER FOR PHASE A & B

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Lists loads for Branch Panel POS.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Summarizes total connected load and demand for Branch Panel POS.

GFCI REQUIREMENTS PER 2017 NEC:

THE CONTRACTOR SHALL PROVIDE GROUND FAULT PROTECTION FOR ALL RECEPTACLE OUTLET BRANCH CIRCUITS IN THE KITCHEN / FOOD PREPARATION AREAS IN ACCORDANCE WITH THE 2017 EDITION OF THE NEC.

Branch Panel: A

LOCATION: BOH
SUPPLY FROM: MDP
MOUNTING: FLUSH
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

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Lists loads for Branch Panel A.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Summarizes total connected load and demand for Branch Panel A.

Branch Panel: B

LOCATION: BOH
SUPPLY FROM: MDP
MOUNTING: FLUSH
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

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Lists loads for Branch Panel B.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Summarizes total connected load and demand for Branch Panel B.

Branch Panel: C

LOCATION: BOH
SUPPLY FROM: MDP
MOUNTING: FLUSH
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

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Lists loads for Branch Panel C.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Summarizes total connected load and demand for Branch Panel C.

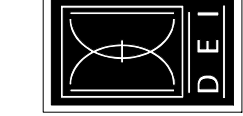
PANELBOARD NOTES

- (A) CONTROLLED BY RELAY IN CONTROL PANEL CFA-T500 AND STORE-OPEN EXHAUST FAN SWITCH.
(B) PANELBOARD SUPPLIER TO PROVIDE NOTATION ON CIRCUIT THAT THE CFA-T500 ALSO HAS AN INTEGRAL BREAKER ON THE FAN CIRCUITS...
(C) CONTROLLED BY EXTERIOR SIGN RELAY IN CONTROL PANEL CFA-T500.
(D) CONTROLLED BY EXTERIOR LIGHTING RELAY IN CONTROL PANEL CFA-T500.
(E) CONTROLLED BY EXTERIOR LIGHTING RELAY - DUSK TO DAWN ZONE.
(F) CONTROLLED BY PARKING LOT LIGHTING CONTROL SWITCH.
(G) GFCI TYPE BREAKER TO BE 30MA TYPE BREAKER.
(H) THE CONTRACTOR SHALL PROVIDE GROUND FAULT TYPE RECEPTACLES FOR ALL 120 VOLT, 15 AND 20 AMP RECEPTACLES IN THE KITCHEN/FOOD PREPARATION AREA UNLESS NOTED OTHERWISE...
(I) GFCI TYPE BREAKER TO BE 5MA TYPE BREAKER.
(J) ISOLATED GROUND.
(K) CONTROLLED BY INTERIOR LIGHTING RELAYS IN CONTROL PANEL T-500. LIGHTS SHALL TURN ON WHEN STORE IS OCCUPIED.
(L) LOCK-OFF.
(M) LOCK-OFF FOR MAINTENANCE.
(N) HIGH MAG LOAD.
(O) THRU (1) SB6100-020-0 GFCI PROTECTION DEVICE IN SB6000 PANEL ENCLOSURE OR (1) SB6100-021-0 GFCI PROTECTION DEVICE SURFACE MOUNTED ENCLOSURE FOR 80 AMP FRYERS; OR (1) SB5060-021-0 GFCI PROTECTION DEVICE SURFACE MOUNTED ENCLOSURE FOR 60 AMP DISHWASHER.
(P) SHUNT TRIP. INTERLOCK W/ FIRE SUPPRESSION SYSTEM VIA T-500 PANEL.
(Q) SURGE PROTECTION FOR INDIVIDUAL CIRCUIT. MOUNT SINGLE CIRCUIT SURGE PROTECTION DEVICE (SQUARE D) SDSA1175T TO FACEPLATE MOUNTED ON JUNCTION BOX DIRECTLY ABOVE PANELBOARD SERVING LOAD.



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30349-2998

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University City
8637 OLIVE RD
UNIVERSITY CITY, MO 63132

FSR#04714
BUILDING TYPE / SIZE: P14 LSR LRG

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NO. DATE DESCRIPTION
2 05/11/23 ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT # 22-2313.00
DATE 05/11/23

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PANEL SCHEDULES

SHEET NUMBER E-501a

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50-LSF-04714-E-501a-PANEL SCHEDULES



### Branch Panel: D1

LOCATION: BOH  
SUPPLY FROM: MDP  
MOUNTING: FLUSH  
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

NT	CKT	LOAD DESCRIPTION	TRIP	POLE	A	B	C	POLE	TRIP	LOAD DESCRIPTION	CKT	NT
I	1	PRESSURE FRYER (523)	50 A	3	4.563	2.892				50 A	3	I
--	3	--	--	--	4.563	3.384						--
--	5	--	--	--			4.563	2.772				--
I	7	PRESSURE FRYER (523)	50 A	3	4.563	2.892				50 A	3	I
--	9	--	--	--	4.563	3.384						--
--	11	--	--	--			4.563	2.772				--
I	13	PRESSURE FRYER (523)	50 A	3	4.563	4.560				50 A	3	I
--	15	--	--	--	4.563	4.560						--
--	17	--	--	--			4.563	4.560				--
	19	SPACE	--	1	--	--				1	--	SPACE
	21	SPACE	--	1	--	--				1	--	SPACE
	23	SPACE	--	1	--	--				1	--	SPACE
	25	SPACE	--	1	--	--				1	--	SPACE
	27	SPACE	--	1	--	--				1	--	SPACE
	29	SPACE	--	1	--	--				1	--	SPACE
Total Load:			24.03 kVA		25.02 kVA		23.79 kVA					
Total Amps:			200.6 A		208.8 A		198.3 A					
<b>Load Classification</b>			<b>Connected Load</b>	<b>Demand Factor</b>	<b>Estimated Demand</b>			<b>Panel Totals</b>				
KITCHEN EQUIPMENT (100% DEMAND)			72847 VA	100.00%	72847 VA			Total Conn. Load: 72.8 kVA				
								Total Est. Demand: 72.8 kVA				
								Total Conn.: 202.2 A				
								Total Est. Demand: 202.2 A				

### Branch Panel: D2

LOCATION: BOH  
SUPPLY FROM: MDP  
MOUNTING: FLUSH  
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

NT	CKT	LOAD DESCRIPTION	TRIP	POLE	A	B	C	POLE	TRIP	LOAD DESCRIPTION	CKT	NT
SB	1	OPEN FRYER (522)	80 A	3	7.446	7.446				80 A	3	SB
--	3	--	--	--		7.446	7.446					--
--	5	--	--	--			7.446	7.446				--
SB	7	OPEN FRYER (522A)	80 A	3	7.446	--				1	--	SPACE
--	9	--	--	--	7.446	--				1	--	SPACE
--	11	--	--	--			7.446	--		1	--	SPACE
	13	SPACE	--	1	--	--				1	--	SPACE
	15	SPACE	--	1	--	--				1	--	SPACE
	17	SPACE	--	1	--	--				1	--	SPACE
	19	SPACE	--	1	--	--				1	--	SPACE
	21	SPACE	--	1	--	--				1	--	SPACE
	23	SPACE	--	1	--	--				1	--	SPACE
	25	SPACE	--	1	--	--				1	--	SPACE
	27	SPACE	--	1	--	--				1	--	SPACE
	29	SPACE	--	1	--	--				1	--	SPACE
Total Load:			22.34 kVA		22.34 kVA		22.34 kVA					
Total Amps:			186.1 A		186.1 A		186.1 A					
<b>Load Classification</b>			<b>Connected Load</b>	<b>Demand Factor</b>	<b>Estimated Demand</b>			<b>Panel Totals</b>				
KITCHEN EQUIPMENT (100% DEMAND)			67011 VA	100.00%	67011 VA			Total Conn. Load: 67.0 kVA				
								Total Est. Demand: 67.0 kVA				
								Total Conn.: 186.0 A				
								Total Est. Demand: 186.0 A				

### Branch Panel: D3

LOCATION: BOH  
SUPPLY FROM: MDP  
MOUNTING: FLUSH  
ENCLOSURE: NEMA 1

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

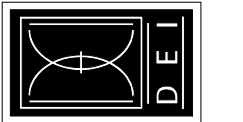
A.I.C. SERIES RATING: 65K/10K  
MAINS TYPE: MLO  
MAINS RATING: 250 A

NT	CKT	LOAD DESCRIPTION	TRIP	POLE	A	B	C	POLE	TRIP	LOAD DESCRIPTION	CKT	NT
I	1	PRESSURE FRYER (523)	50 A	3	4.563	4.563				50 A	3	I
--	3	--	--	--	4.563	4.563						--
--	5	--	--	--			4.563	4.563				--
I	7	SPARE/FUTURE FRYER (F523)	50 A	3	4.560	7.446				3	80 A	OPEN FRYER (522A)
--	9	--	--	--	4.560	7.446						--
--	11	--	--	--			4.560	7.446				--
	13	SPACE	--	1	--	--				1	--	SPACE
	15	SPACE	--	1	--	--				1	--	SPACE
	17	SPACE	--	1	--	--				1	--	SPACE
	19	SPACE	--	1	--	--				1	--	SPACE
	21	SPACE	--	1	--	--				1	--	SPACE
	23	SPACE	--	1	--	--				1	--	SPACE
	25	SPACE	--	1	--	--				1	--	SPACE
	27	SPACE	--	1	--	--				1	--	SPACE
	29	SPACE	--	1	--	--				1	--	SPACE
Total Load:			21.13 kVA		21.13 kVA		21.13 kVA					
Total Amps:			176.1 A		176.1 A		176.1 A					
<b>Load Classification</b>			<b>Connected Load</b>	<b>Demand Factor</b>	<b>Estimated Demand</b>			<b>Panel Totals</b>				
KITCHEN EQUIPMENT (100% DEMAND)			63398 VA	100.00%	63398 VA			Total Conn. Load: 63.4 kVA				
								Total Est. Demand: 63.4 kVA				
								Total Conn.: 176.0 A				
								Total Est. Demand: 176.0 A				



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**PANEL SCHEDULES**

SHEET NUMBER

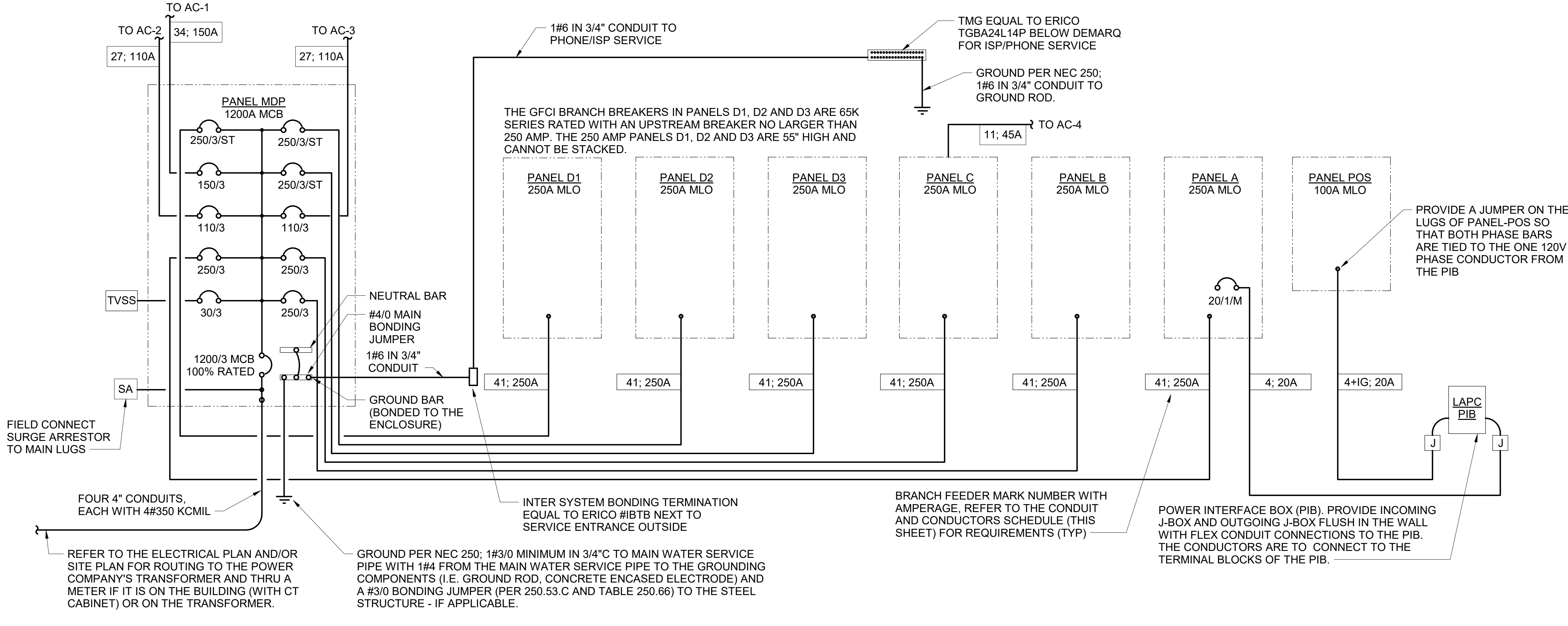
**E-501b**



**B1) CONDUIT AND CONDUCTORS SCHEDULE**

Mark No.	OCP Device (Amp/Poles)	Conductors Total Amps 60d C 75d C	Conductors			Raceway Size (Nominal Inches)									
			Phase & Neutral Qty	Size	Type	No. Sets	Phase EMT	Neutral & Equip Grd IMC	With IG PVC						
1	20/1	20	-	2	12	THHN	1	12	One	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
3	20/3	20	-	4	12	THHN	1	12	One	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
5	25/2	30	-	3	10	THHN	1	10	One	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
7	30/1	30	-	2	10	THHN	1	10	One	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
9	30/3	30	-	4	10	THHN	1	10	One	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
11	40/2	40	-	3	8	THHN	1	10	One	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	1.00
13	45/3	55	-	4	6	THHN	1	10	One	1.00	1.00	1.00	1.00	1.00	1.00
14	50/1	55	-	2	6	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75
15	50/2	55	-	3	6	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	1.00
16	50/3	55	-	4	6	THHN	1	10	One	1.00	1.00	1.00	1.00	1.00	1.00
17	60/1	70	-	2	4	THW	1	8	One	1.00	1.00	1.00	1.00	1.25	1.00
18	60/2	70	-	3	4	THW	1	8	One	1.25	1.00	1.25	1.25	1.25	1.25
19	60/3	70	-	4	4	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25
20	70/1	70	-	2	4	THW	1	8	One	1.00	1.00	1.00	1.00	1.25	1.00
21	70/2	70	-	3	4	THW	1	8	One	1.25	1.00	1.25	1.25	1.25	1.25
22	70/3	70	-	4	4	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25
23	80/2	85	-	3	3	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25
24	80/3	85	-	4	3	THW	1	8	One	1.25	1.25	1.25	1.25	1.50	1.50
25	90/2	95	-	3	2	THW	1	8	One	1.25	1.25	1.25	1.25	1.50	1.50
26	90/3	95	-	4	2	THW	1	8	One	1.50	1.25	1.50	1.50	1.50	1.50
27	100/2	110	-	3	1	THW	1	6	One	1.50	1.50	1.50	1.50	2.00	2.00
28	100/3	110	-	4	1	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00
29	110/2	-	150	3	1/0	THW	1	6	One	1.25	1.25	1.25	1.25	1.50	1.25
30	110/3	-	150	4	1/0	THW	1	6	One	1.50	1.25	1.50	1.50	1.50	1.50
31	125/2	-	150	3	1/0	THW	1	6	One	1.50	1.50	1.50	1.50	2.00	2.00
32	125/3	-	150	4	1/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00
33	150/2	-	150	3	1/0	THW	1	6	One	2.00	1.50	2.00	2.00	2.00	2.00
34	150/3	-	150	4	1/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00
35	175/2	-	175	3	2/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.00
36	175/3	-	175	4	2/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.50
37	200/2	-	200	3	3/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.50
38	200/3	-	200	4	3/0	THW	1	6	One	2.50	2.50	2.50	2.50	2.50	2.50
39	225/2	-	230	3	4/0	THW	1	4	One	2.50	2.00	2.50	2.50	2.50	2.50
40	225/3	-	230	4	4/0	THW	1	4	One	2.50	2.50	2.50	2.50	3.00	3.00
41	250/3	-	255	4	250	THW	1	4	One	2.50	3.00	3.00	3.00	3.00	3.00
42A	300/3	-	285	4	300	THW	1	4	One	3.00	3.00	3.00	3.00	3.00	3.00
42B	300/3	-	310	4	350	THW	1	4	One	3.00	3.00	3.00	3.00	3.00	3.00
43A	350/3	-	335	4	400	THW	1	4	One	3.00	3.50	3.50	3.50	3.50	3.50
43B	350/3	-	380	4	500	THW	1	4	One	3.50	3.50	3.50	3.50	3.50	3.50
44A	400/3	-	380	4	500	THW	1	3	One	3.50	3.50	3.50	3.50	3.50	3.50
44B	400/3	-	400	4	3/0	THW	1	3	Two	2.50	2.50	2.50	2.50	2.50	2.50
45A	600/3	-	570	4	300	THW	1	1	Two	3.00	3.00	3.00	3.00	3.00	3.00
45B	600/3	-	620	4	350	THW	1	1	Two	3.00	3.00	3.00	3.00	3.00	3.00
46A	800/3	-	760	4	500	THW	1	1/0	Two	3.50	3.50	3.50	3.50	3.50	3.50
46B	800/3	-	820	4	600	THW	1	1/0	Two	4.00	4.00	4.00	4.00	4.00	4.00
47	1000/3	-	1005	4	400	THW	1	2/0	Three	3.50	3.50	3.50	3.50	3.50	3.50
48	1200/3	-	1240	4	350	THW	1	3/0	Four	3.50	3.50	3.50	3.50	3.50	4.00
49	1600/3	-	1675	4	400	THW	1	4/0	Five	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 single-phase 2 pole loads and 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.



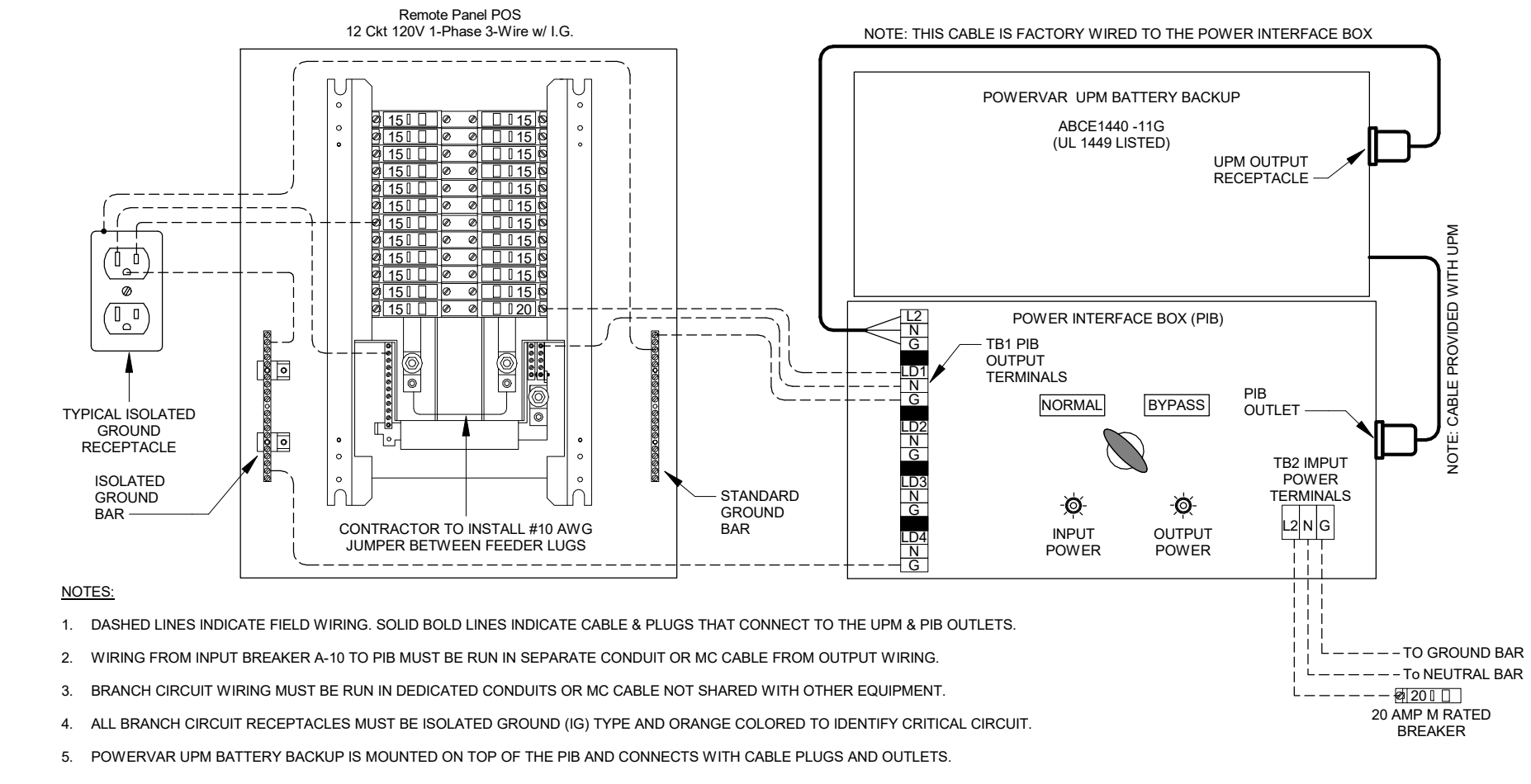
**C2 SINGLE LINE DIAGRAM**  
 NO SCALE

**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 FIT 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 AN APPROVED NATIONAL ACCOUNTS VENDOR (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, D1, D2, D3, 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.

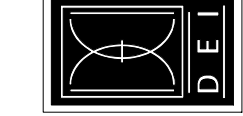


**A1 POS AND LAPC/PIB WIRING DIAGRAM**  
 NO SCALE



**Chick-Fil-A**  
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 30349-2998

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**CHICK-FIL-A**  
 University City  
 8637 OLIVE RD  
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**FSR#04714**  
 BUILDING TYPE / SIZE: P14 LSR ALL  
 RELEASE: 22.08  
 PRINTED FOR:  
**ISSUED FOR CONSTRUCTION**

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
2	05/11/23	ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT # 22-2313.00  
 DATE 05/11/23  
 DRAWN BY JR  
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**SINGLE LINE DIAGRAM AND NOTES**  
 SHEET NUMBER

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 50-LSR-04714-E-502-SINGLE LINE DIAGRAM AND NOTES



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 Carlon, 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 + yellow stripe) conductor for isolated ground circuits (POS 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: nonskid cover with 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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CONSULTANT PROJECT # 22-2313.00 DATE 05/11/23

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ELECTRICAL SPECIFICATIONS

SHEET ELECTRICAL SPECIFICATIONS SHEET NUMBER

E-901