





**Chick-fil-A**

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

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INTERPLAN LLC

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CORPORATE SEAL:



**CHICK-FIL-A**  
**CAROLINA FOREST**  
85 Rodeo Dr  
Myrtle Beach  
SC 29579

**FSU#01762**  
BUILDING TYPE / SIZE: S04-152  
RELEASE: 22.05

PRINTED FOR  
**CONSTRUCTION**

REVISION SCHEDULE

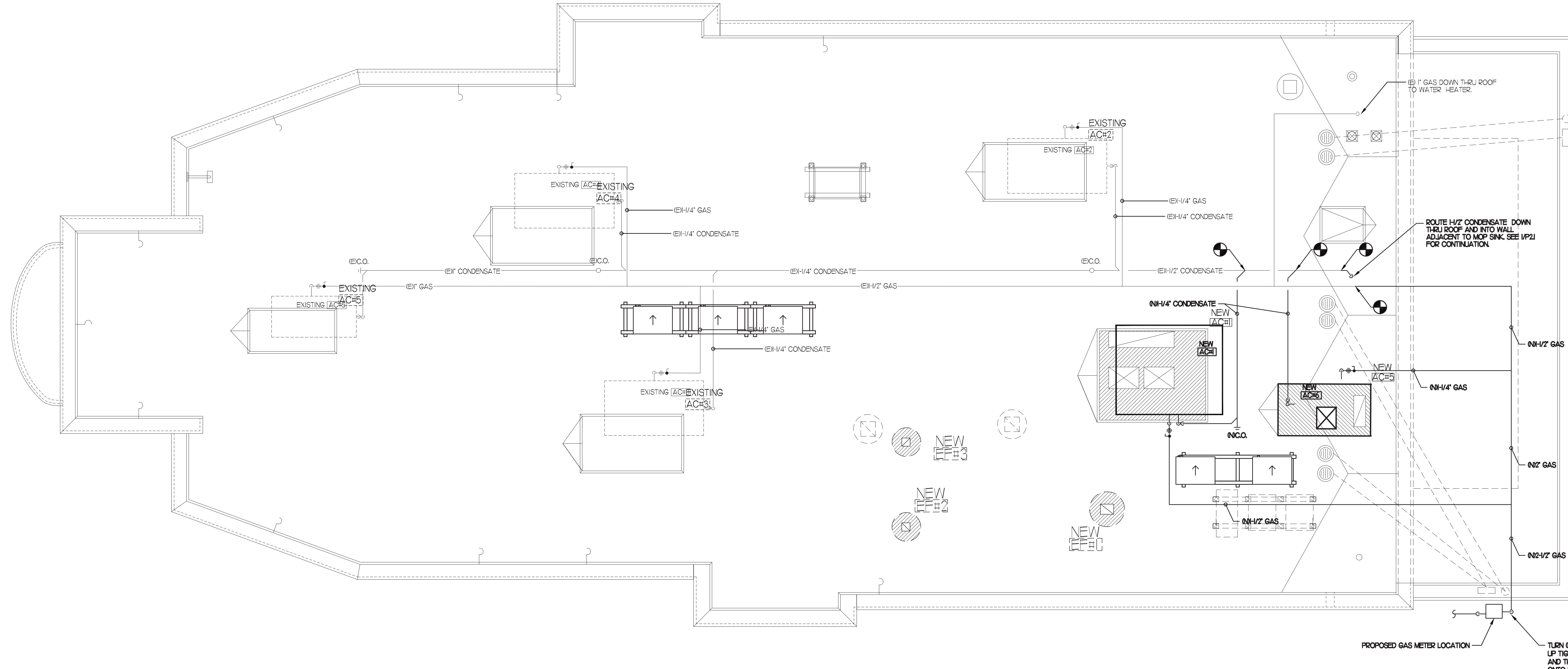
NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 2020.0330  
DATE November 2022  
DRAWN BY AE  
CHECKED BY DAK

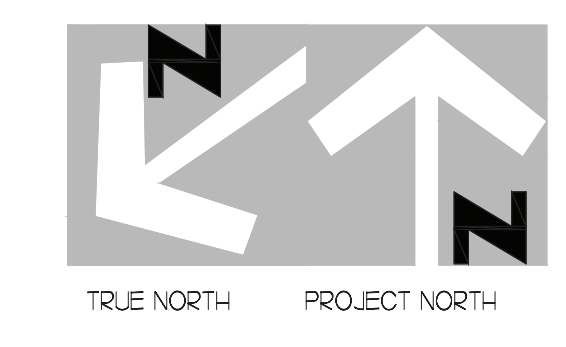
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SHEET  
ROOF PIPING PLAN

SHEET NUMBER  
**P4.1**



**1 ROOF PIPING PLAN**  
SCALE: 1/4"=1'-0"



**PIPING LEGEND**

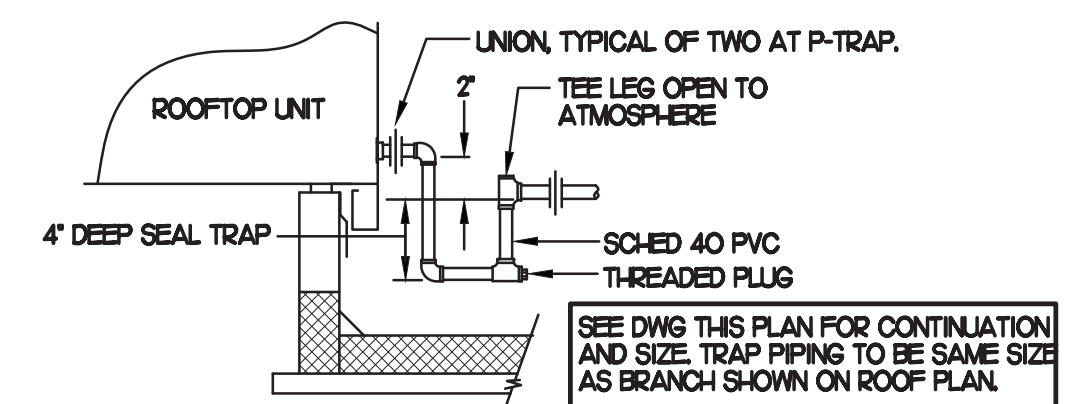
⊖	EXISTING
○	NEW
—	NEW PIPING
- - -	EXISTING PIPING
- - -	BELOW GRADE (B/G) PIPING

PIPING ON ROOF SHALL NOT BE INSTALLED NEARER THAN 1'-0" FROM INSIDE EDGE OF PARAPET, UNO.

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

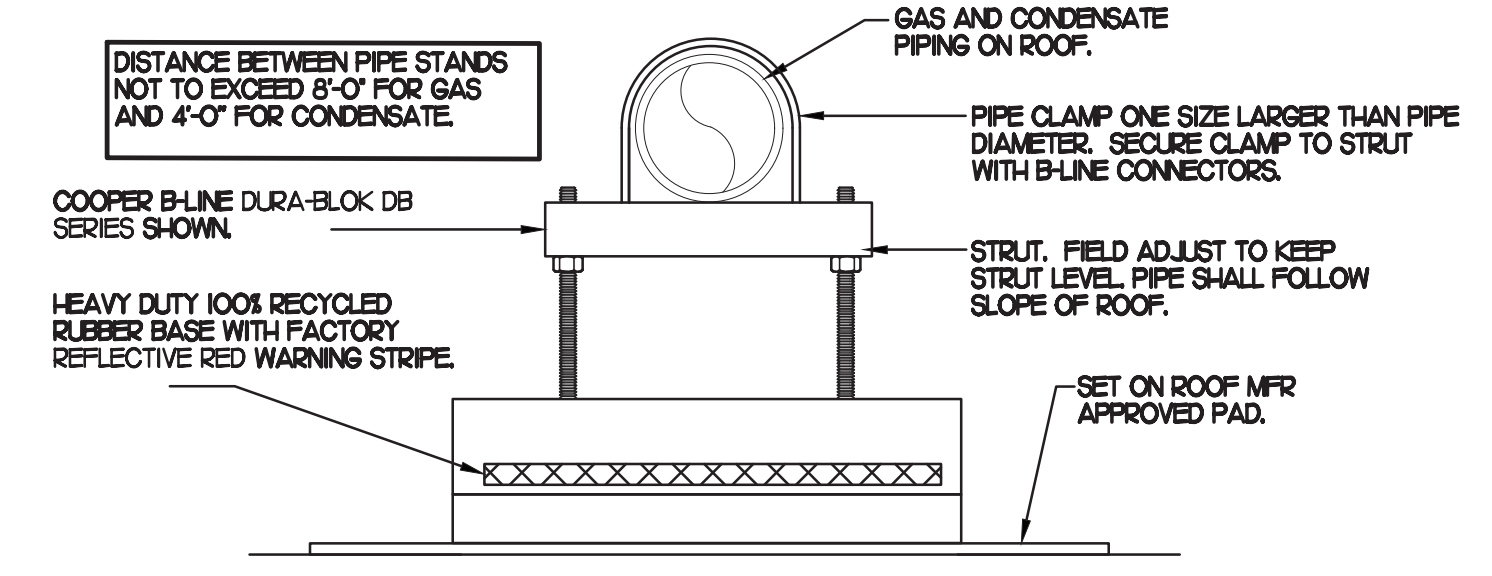
SEE DETAIL 6/A-1/B FOR ROOFTOP PIPE PENETRATIONS.

CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC.



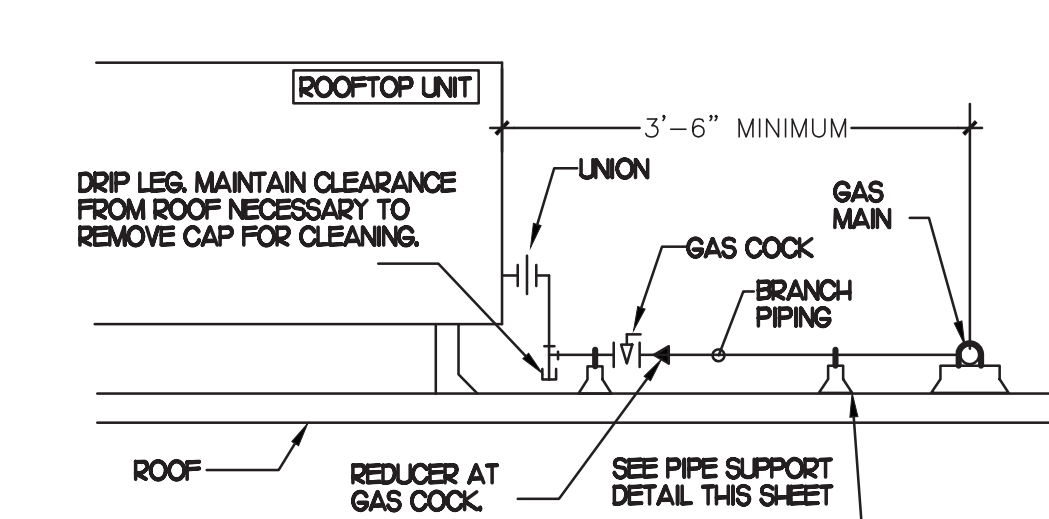
**2 CONDENSATE DRAIN PIPING**  
NO SCALE

- NOTES:**
- NON ADJUSTABLE MODEL DB#10 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. REPAIR OF SYSTEMS DUE TO CONFLICTS WITH EQUIPMENT ACCESS OPENINGS SHALL BE DONE AT PLUMBING CONTRACTOR'S EXPENSE.



**3 PIPING SUPPORT**  
NO SCALE

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



**4 GAS PIPING AT RTU**  
NO SCALE

**5 GAS CONNECTION SCHEDULE**

EQUIPMENT	GAS LOAD
NEW AC#1	480,000 BTUS
EXISTING AC#2	235,000 BTUS
EXISTING AC#3	235,000 BTUS
EXISTING AC#4	235,000 BTUS
EXISTING AC#5	125,000 BTUS
NEW AC#6	65,000 BTUS
EXISTING WATER HEATER	75,000 BTUS
<b>TOTAL CONNECTED LOAD</b>	<b>1,450,000 BTUS</b>

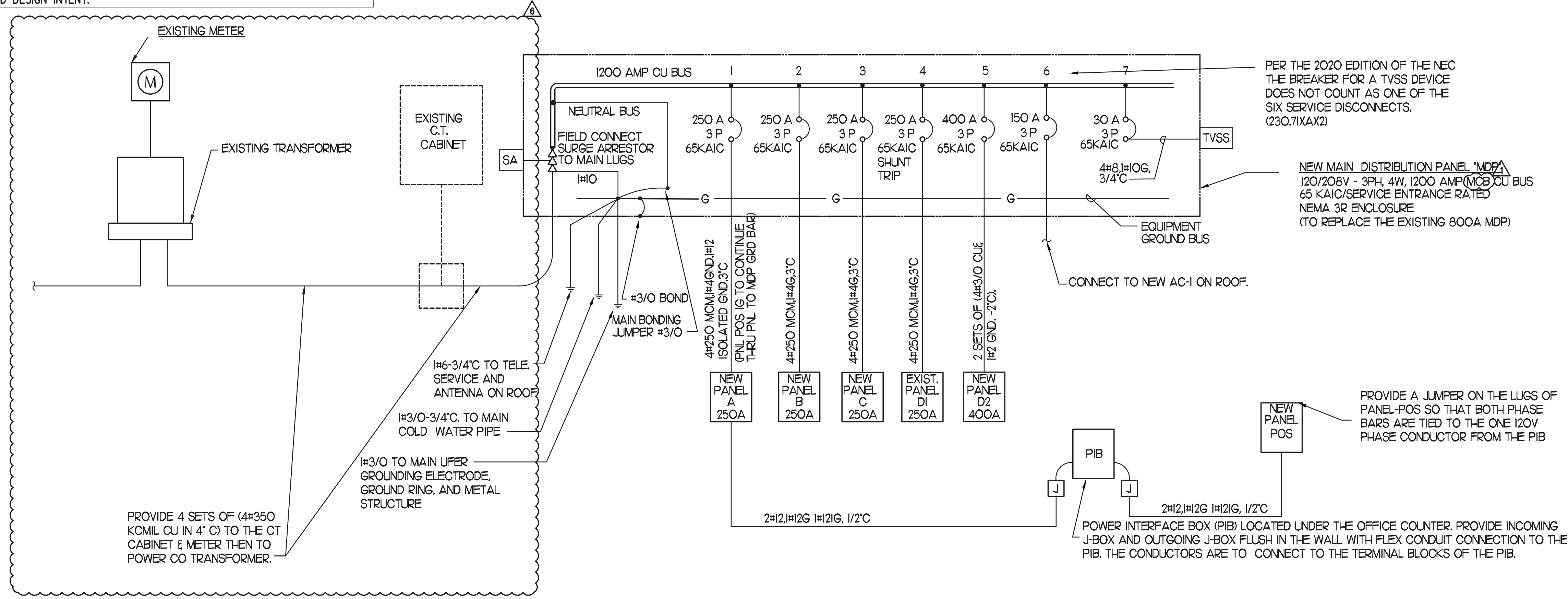
REMARKS: 1. EQUIVALENT TO 1,435.0 CFH @ PRESSURE DROP 0.5 IN. W.C. W/ DEVEL. LENGTH OF 135 FT  
2. 7" W.C. DELIVERY PRESSURE



NOTE!  
AS NOTED IN THE SPECIFICATIONS, ALL WIRING LAYOUTS, PIPING LAYOUTS AND DUCT LAYOUTS ARE SCHEMATIC. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONSTRUCTION AND STRUCTURE OF THE BUILDING AND SHALL BE VERIFIED AND COORDINATED IN THE FIELD. EACH TRADE CONTRACTOR SHALL VERIFY WITH THE GENERAL CONTRACTOR THAT HE HAS THOROUGHLY REVIEWED AND COORDINATED ALL LOCATIONS AND ROUTINGS WITH ALL OTHER TRADES PRIOR TO FABRICATION OF CONDUITS, DUCTS, OR PIPING, AND START OF INSTALLATION OF SAME (INCLUDING SPRINKLER PIPING WHEN PRESENT ON JOB). ANY INSTALLATION OR CONSTRUCTION CONFLICTS WHICH OCCUR IN THE FIELD SHALL BE RESOLVED BY THE TRADE CONTRACTOR TO THE SATISFACTION OF THE OWNER AND ARCHITECT AND AT NO EXPENSE TO THE OWNER, ARCHITECT AND/OR GENERAL CONTRACTOR.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.



### 1 SINGLE LINE DIAGRAM

NOT TO SCALE

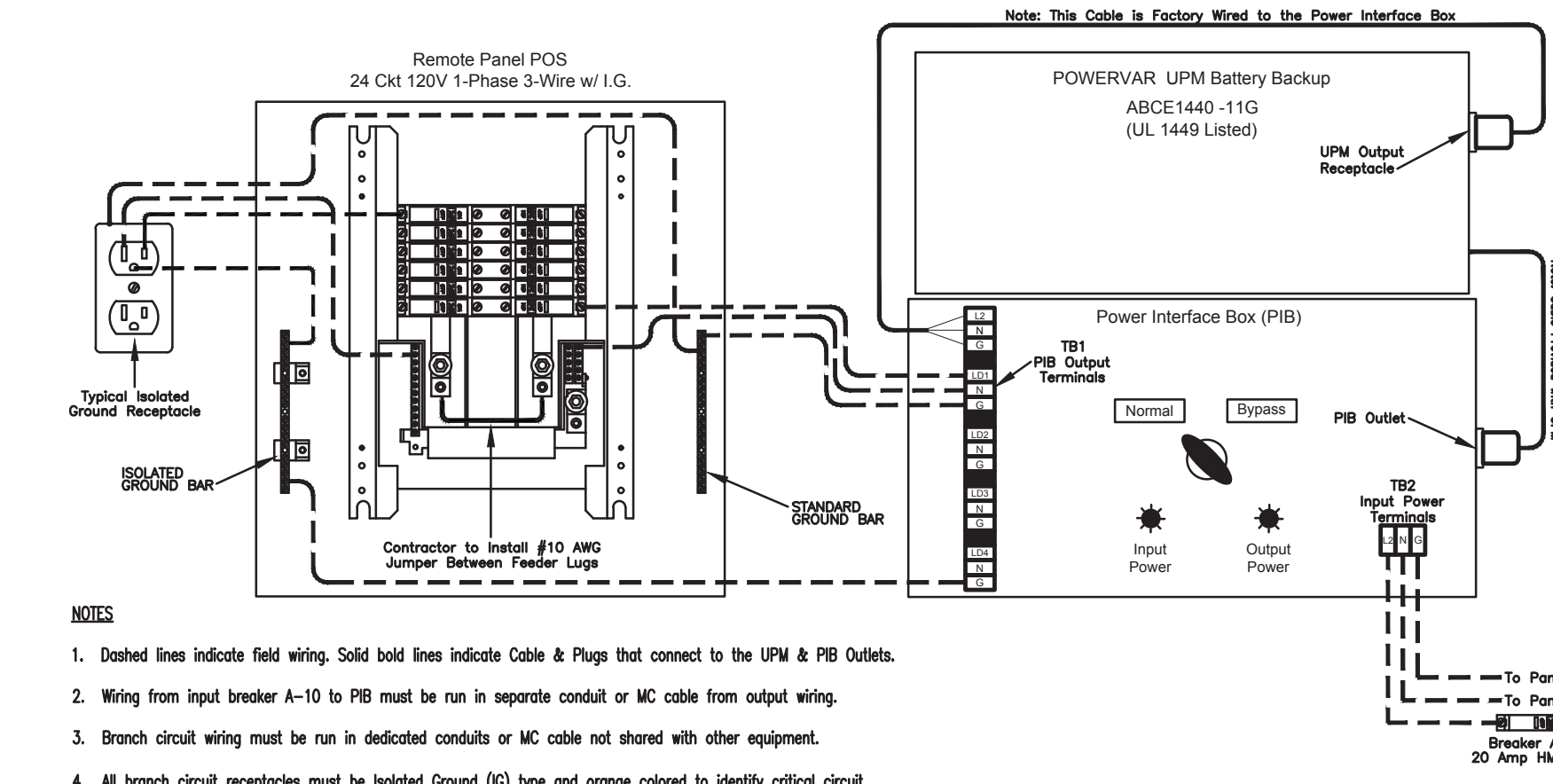
### 3 SINGLE LINE DIAGRAM NOTES

- 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 THE 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.
  - CONDUCTORS #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 BLACK-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 UL 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, EMT, OR RIGID. FLEXIBLE CONDUIT MAY ONLY BE USE FOR FINAL CONNECTIONS AND WITH GREEN EQUIPMENT GROUNDING CONDUCTOR.

### 4 SWITCHGEAR AND CONTROL EQUIPMENT NOTES:

- PURCHASE PANELBOARDS, SURGE ARRESTOR, AND TVSS FROM ONE OF THE TWO NATIONAL ACCOUNTS VENDORS (SEE SHEET E4.2 SECTION 016440, PANELBOARDS) PROVIDING SIEMENS OR SQUARE D EQUIPMENT NO SUBSTITUTIONS ALLOWED.
- PURCHASE CONTROL PANEL "CFA-1500" OR ANY ADDITION SUB PANELS 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. CONTACT: SCOTT DYER (877)544-6679. CONTRACTOR SHALL PROVIDE PANEL FEEDERS A, B, C, D1, D2 & POS BRANCH CIRCUIT CONDUIT AND WIRE, AND INSTALL ALL EQUIPMENT AS REQUIRED. ALL BREAKERS AND PANELS SHALL BE SIEMENS OR SQUARE D, DEPENDING ON THE CHICK-FILA REGION THE STORE IS LOCATED. SQUARE D EQUIPMENT: CONTACT GRAY BAR. SIEMENS EQUIPMENT: CONTACT SUNCOAST. SCOTT DYER (877)544-6679. 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 NOT BE LENGTHENED FROM WIRE LENGTH PROVIDED WITH THE TVSS OR SURGE SUPPRESSOR DEVICE.

LOAD SUMMARY	
(NOT ALL ELECTRIC RESTAURANT)	
THE FOLLOWING IS BASED ON NEC 2005-220.88 / 2008-220.88 / 2011-220.88/2014-220.88/2017-220.88	
LIGHTING	24883
RECEPTS TO 10 KVA	10000
RECEPTS REMAINING	7250
SPACE HEATING	0
AIR CONDITIONING	110884
NON-SEASONAL MOTORS	14459
WATER HEATER	240
KITCHEN EQUIPMENT	394815
CONTINUOUS LOADS	0
NON-CONTINUOUS LOADS	0
TOTAL CONNECTED KVA	562.5 KVA
IF TOTAL IS 0-200 KVA, THEN TOTAL LOAD 100%	
IF TOTAL IS 201-325 KVA, THEN LOAD OVER 200 AT 50% + 200	
IF TOTAL LOAD IS 326-800 KVA, THEN LOAD OVER 325 AT 45% + 262.5	
	KVA 369.4
IF TOTAL LOAD IS OVER 800 KVA, THEN LOAD OVER 800 AT 20% + 476.3	
DIVERSIFIED AMPS AT 208 VOLT	1025.3 AMPS



POWERVAR LAPC with POWER INTERFACE BOX (PIB) and Panel POS Wiring Diagram

### 2 CONDUIT AND CONDUCTORS SCHEDULE (Based on 2005, 2008, 2011, 2014 and 2017 NEC)

Mark No.	OCP Device	Total Ampacity	Conductors		Phase & Neutral		Min Eq		No. Sets		Raceway Size (nominal inches)					
			Qty	Size	Type	Qty	Size	EMT	MC	RIGID	PVC	EMT	MC	PVC		
1	20	20	-	2	12	THHN	1	12	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
2	20	20	-	3	12	THHN	1	12	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
3	20	20	-	4	12	THHN	1	12	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
4	25	30	-	2	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
5	25	30	-	3	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
6	25	30	-	4	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
7	30	30	-	2	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
8	30	30	-	3	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
9	30	30	-	4	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
10	40	40	-	2	8	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
11	40	40	-	3	8	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
12	40	40	-	4	8	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	1.00
13	50	55	-	2	6	THHN	1	10	One	0.75	0.75	0.75	0.75	1.00	1.00	1.00
14	50	55	-	3	6	THHN	1	10	One	0.75	0.75	0.75	0.75	1.00	1.00	1.00
15	50	55	-	4	6	THHN	1	10	One	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	60	70	-	2	4	THW	1	8	One	1.00	1.00	1.00	1.00	1.25	1.00	1.25
17	60	70	-	3	4	THW	1	8	One	1.25	1.00	1.25	1.25	1.25	1.25	1.25
18	60	70	-	4	4	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
19	70	70	-	2	4	THW	1	8	One	1.00	1.00	1.00	1.00	1.25	1.00	1.25
20	70	70	-	3	4	THW	1	8	One	1.25	1.00	1.25	1.25	1.25	1.25	1.25
21	70	70	-	4	4	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
22	80	85	-	3	3	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
23	80	85	-	4	3	THW	1	8	One	1.25	1.25	1.25	1.25	1.50	1.25	1.50
24	90	95	-	3	2	THW	1	8	One	1.25	1.25	1.25	1.25	1.50	1.25	1.50
25	90	95	-	4	2	THW	1	8	One	1.50	1.25	1.50	1.50	1.50	1.50	1.50
26	100	110	-	3	1	THW	1	6	One	1.50	1.50	1.50	1.50	2.00	2.00	2.00
27	100	110	-	4	1	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
28	110	-	115	3	2	THW	1	6	One	1.25	1.25	1.25	1.25	1.50	1.25	1.50
29	110	-	115	4	2	THW	1	6	One	1.50	1.25	1.50	1.50	1.50	1.50	1.50
30	125	-	130	3	1	THW	1	6	One	1.50	1.50	1.50	1.50	2.00	2.00	2.00
31	125	-	130	4	1	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
32	150	-	150	3	1/0	THW	1	6	One	2.00	1.50	2.00	2.00	2.00	2.00	2.00
33	150	-	150	4	1/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
34	175	-	175	3	2/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.50	2.50
35	175	-	175	4	2/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.50	2.50
36	200	-	200	3	3/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.50	2.50
37	200	-	200	4	3/0	THW	1	6	One	2.50	2.50	2.50	2.50	2.50	2.50	2.50
38	225	-	230	3	4/0	THW	1	4	One	2.50	2.00	2.50	2.50	2.50	2.50	2.50
39	225	-	230	4	4/0	THW	1	4	One	2.50	2.50	2.50	2.50	2.50	2.50	3.00
40	250	-	255	4	250	THW	1	4	One	2.50	3.00	3.00	3.00	3.00	3.00	3.00
41A	300	-	285	4	300	THW	1	4	One	3.00	3.00	3.00	3.00	3.00	3.00	3.00
41B	300	-	310	4	350	THW	1	4	One	3.00	3.00	3.00	3.00	3.00	3.00	3.00
42A	350	-	335	4	400	THW	1	4	One	3.00	3.50	3.50	3.50	3.50	3.50	3.50
42B	350	-	380	4	500	THW	1	4	One	3.50	3.50	3.50	3.50	3.50	3.50	3.50
43A	400	-	380	4	500	THW	1	3	One	3.50	3.50	3.50	3.50	3.50	3.50	3.50
43B	400	-	400	4	3/0	THW	2	3	Two	2.50	2.50	2.50	2.50	2.50	2.50	2.50
44A	600	-	570	4	300	THW	2	1	Two	3.00	3.00	3.00	3.00	3.00	3.00	3.00
44B	600	-	620	4	350	THW	2	1	Two	3.00	3.00	3.00	3.00	3.00	3.00	3.50
45A	800	-	760	4	500	THW	2	1/0	Two	3.50	3.50	3.50	3.50	3.50	3.50	3.50
45B	800	-	820	4	600	THW	2	1/0	Two	4.00	4.00	4.00	4.00	4.00	4.00	4.00
46	1000	-	1005	4	400	THW	3	2/0	Three	3.50	3.50	3.50	3.50	3.50	3.50	3.50
47	1200	-	1240	4	350	THW	4	3/0	Four	3.50	3.50	3.50	3.50	3.50	3.50	4.00
48	1600	-	1675	4	400	THW	5	4/0	Five	4.00	4.00	4.00	4.00	4.00	4.00	4.00

Notes:  
Conductors are rated at 600 volt or below and are to be copper.  
NEC Table 310.16 (310.15(B)(16) in 2014) is used for the basis of the conductor ampacities, which is not more than three current carrying conductors in a raceway at an ambient temperature of 30 deg C with 60 deg C rated conductors and connectors per 110.14-C-1 for up to 100 amp rated and up to #1 AWG conductors for equipment terminations and 75 deg C rated conductors and termination connectors for larger than 100 amp or above #1 AWG conductors.  
NEC Tables 4, 5, and Appendix C is used for the basis of the conduit sizes. Table C1 for EMT, Table C4 for IMC, Table C8 for Rigid, and Table C10 for PVC (Sch 40).  
All Branch Feeders and Branch Circuits shall include a green Equipment Grounding Conductor.  
Omit Grounding conductor on Service Entrance Feeders.  
Omit Neutral conductor on all Delta primary transformer feeders or 3 phase loads not requiring a neutral.  
The above conductors are not calculated for Voltage Drop. Any circuits that exceed 100 feet shall be calculated by the Installer to have less than a three percent voltage drop on feeders and five percent on branch circuits per the NEC.



**Chick-fil-A**  
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ARCHITECTURE  
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PERMITTING

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SEAL:



CORPORATE SEAL:



**CHICK-FIL-A**  
**CAROLINA FOREST**  
85 Rodeo Dr  
Myrtle Beach  
SC 29579

**FSU#01762**

BUILDING TYPE / SIZE:	S04-152	
RELEASE:	22.05	
PRINTED FOR:	CONSTRUCTION	
REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
1	08/20/22	ISSUE FOR CONSTRUCTION
2	08/20/22	REVISED COMMENTS

CONSULTANT PROJECT # 2020.0330  
DATE November 2022  
DRAWN BY MI  
CHECKED BY SN  
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SHEET  
SINGLE LINE RISER  
DIAGRAM  
SHEET NUMBER







# I. SECTION C1500 - PLUMBING SPECIFICATIONS

- PART I - PRODUCTS (C1510)
- 1.01 GENERAL REQUIREMENTS
- A. THE FOLLOWING SPECIFICATIONS ARE THE MINIMUM REQUIREMENT. WHERE FEDERAL, STATE OR LOCAL REQUIREMENTS DIFFER FROM THIS SPECIFICATION, THE MORE RESTRICTIVE OF THE TWO SHALL BE FOLLOWED.
- 1.02 SCOPE
- A. HOT AND COLD POTABLE WATER PIPING ABOVE SLAB SHALL BE TYPE 'L' HARD DRAWN COPPER OR FLOWGUARD GOLD CPVC AS MANUFACTURED BY NIBCO OR CHARLOTTE PIPE & FOUNDRY AND MEETING ASTM D-2846. FILTERED WATER PIPING SHALL BE FLOWGUARD GOLD CPVC. HOT AND COLD PIPING WITHIN SLABS BEHIND KITCHEN HOODS SHALL BE COPPER.
- B. POTABLE WATER PIPING BELOW SLAB AND OUTSIDE BELOW GRADE SHALL BE TYPE 'Y' SOFT ANNEALED SEAMLESS, NO JOINTS SHALL BE ALLOWED BELOW SLAB. POTABLE WATER PIPING BELOW GRADE SHALL BE SLEEVED FOR ITS ENTIRE LENGTH WITH POLY SLEEVE AS PROVIDED BY IPS WATER-TITE. ALL SLAB PENETRATIONS SHALL BE SLEEVED WITH POLY SLEEVE TO PROTECT PIPING FROM CORROSION BY CONCRETE.
- C. COPPER PIPE FITTINGS SHALL BE WROUGHT COPPER SWEEP PATTERN FITTINGS SOLDERED USING 95-5 LEAD-FREE SOLDER MEETING ASTM B-32 OR BRAZED WITH SIL-FOS. SOLDER FLUXES SHALL MEET ASTM B-813 AND SHALL BE LEAD FREE. BRAZING FLUXES SHALL MEET AWS F83-A OR F83-C.
- D. WATER PIPING DOWNSTREAM OF SOFT DRINK CARBONATORS SHALL BE PROVIDED AND INSTALLED BY LOCAL SOFT DRINK VENDOR.
- E. CPVC FITTINGS FOR PIPING SHALL BE SOLVENT WELD TYPE MEETING ASTM D-2846 WITH CEMENTS MEETING ASTM F-493 AND PRIMER MEETING ASTM F-656. CURE TIME MUST COMPLY WITH MANUFACTURERS RECOMMENDATIONS. FOR CPVC PIPING INSTALLATION, WALL STUBS AT FIXTURES AND EQUIPMENT SHALL BE COPPER AND SHALL BE SERIES 630-C. CPVC-TO-COPPER STUB OUT ELBOWS BY SLOUX CHIEF.
- F. NIPPLES, ELBOWS, AND OTHER ACCESSORY FITTINGS REQUIRED TO COMPLETE ANY WATER PIPING CONNECTION SHALL BE BRASS OR OF SIMILAR TYPE METAL AS THE FITTING TO WHICH IT IS CONNECTED. GALVANIZED FITTINGS ARE PROHIBITED. EXCEPT GALVANIZED HEAT TREATING WATER HEATER NIPPLES IF INTERNALLY PROTECTED WITH TEFLON OR POLYMER CORROSION-RESISTANT COATING.
- G. ALL HVAC CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC DWV AS MANUFACTURED BY CHARLOTTE PIPE AND MEETING ASTM D-1784, D-1785 AND D-2665.
- H. U.N.O. ALL SANITARY WASTE, VENT, STORM DRAINAGE PIPING AND FITTINGS INSIDE THE BUILDING, ABOVE AND BELOW GRADE, AND FOR ROOFTOP CONDENSATE, SHALL BE SOLID WALL SCHEDULE 40 PVC DWV AS MANUFACTURED BY CHARLOTTE PIPE AND MEETING ASTM D-2665 AND D-2649. FOAM CORE AND/OR CELLULAR CORE PVC PIPING SHALL NOT BE ALLOWED. PVC PIPING OUTSIDE THE BUILDING, BELOW GRADE, SHALL BE TYPE SDR-35 MEETING ASTM D-3034, U.N.O.
- I. DWV PIPE AND FITTINGS WITHIN WALLS BEHIND KITCHEN HOODS SHALL BE SERVICE WEIGHT HUBLESS CAST IRON WITH SLEEVE, SHIELD, AND DRAWBACK JOINTS MEETING ASTM A-888 AND ASTM C-564.
- J. PVC-DWV FITTINGS FOR PIPING SHALL BE SOLVENT WELD TYPE INSIDE AND UNDERSLAB MEETING ASTM D-2665, D-3311 AND F-186. CEMENTS SHALL MEET ASTM D-2664 AND PRIMER MEETING ASTM F-656. CURE TIME MUST COMPLY WITH MANUFACTURERS RECOMMENDATIONS. EXTERIOR PIPING JOINTS SHALL BE NEOPRENE PUSH-ON TYPE.
- K. PROVIDE 1" THICK PIPE INSULATION FOR ALL ABOVE SLAB HOT AND TEMPERED WATER PIPING. PROVIDE 1/2" THICK INSULATION FOR ALL ABOVE SLAB COLD WATER, FILTERED WATER, CONDENSATE PIPING, AND HORIZONTAL RAIN WATER CONDUCTORS INSIDE THE BUILDING. PIPING INSULATION SHALL BE KNAUF 1000F 25/50 FIBERGLASS PIPE COVERING, WHITE KRAFT PAPER VAPOR BARRIER (02 PERMS) BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBERS. MAXIMUM THERMAL CONDUCTIVITY OF 0.23 AT 75F. LONGITUDINAL LAP SHALL BE SELF SEALING. INSULATION FOR WALK-IN COOLER/FREEZER CONDENSATE PIPING SHALL BE ARMACELL-AR ARMAFLEX WITH MINIMUM 3/2" WALL THICKNESS.
- L. PIPE INSULATION AND COVERINGS SHALL HAVE A RATING OF NOT GREATER THAN 25 FLAME SPREAD, NO HIGHER THAN 50 SMOKE DEVELOPED, AND NO MORE THAN 50 FUEL CONTRIBUTED. THE ONLY EXCEPTION SHALL BE ARMAFLEX AP WHEN SPECIFIED, WHICH SHALL NOT EXCEED 100 SMOKE DEVELOPED.
- M. A PVC 25/50 PRE-FORMED COVER SHALL BE PROVIDED AT ALL INSULATED PIPING FITTINGS EQUAL TO PROTO PVC CORP LOSMOKE, 800-875-7788.
- N. ALL NATURAL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL MEETING ASTM A53 WITH SCREWED OR WELDED FITTINGS AND GASKET TYPE UNIONS AND FLANGES. FOR SCREWED PIPING, PIPING SHALL BE JOINED WITH BLACK 150 POUND MALLEABLE IRON SCREWED FITTINGS AS ALLOWED BY LOCAL AUTHORITY. CONTRACTOR SHALL VERIFY THE NEED FOR WELDED PIPING AS REQUIRED BY THE LOCAL GAS CODE AND/OR APPLICABLE LOCAL ORDINANCES AND AMENDMENTS.
- O. EXPOSED SUPPORTS AND ATTACHMENTS SHALL BE STAINLESS STEEL, CHROME OR CHROME PLATED. GALVANIZED ATTACHMENTS WILL NOT BE ACCEPTED.
- P. USE MATERIALS SPECIFIED ON THESE PLANS. SUBSTITUTIONS ARE ALLOWED ONLY IF SPECIFIED MATERIALS ARE UNAVAILABLE. PRODUCT SUBSTITUTIONS WILL NOT BE ACCEPTED WITHOUT PRIOR APPROVAL. ALL WATER PIPING, FITTINGS, FIXTURES AND ACCESSORIES SHALL BE CERTIFIED LEAD FREE AS DEFINED IN, AND PER THE INTENT OF, THE "REDUCTION IN LEAD IN DRINKING WATER ACT."
- PART II - EXECUTION (C15100)
- 2.01 TRENCHING (C15100)
- A. EXCAVATION, BACKFILLING, AND TRENCH WORK SHALL BE DONE IN ACCORDANCE WITH LATEST O.S.H.A. AND APPLICABLE SAFETY STANDARDS.
- B. PROVIDE NECESSARY SHORING AND CLEANING TO KEEP TRENCHES IN GOOD WORKING CONDITION, INCLUDING PUMPING OUT WATER.
- C. IN MOSTLY ROCK MATERIAL, TRENCHES SHALL BE EXCAVATED TO 6" BELOW THE ELEVATION OF THE BOTTOM OF THE PIPES. AFTER EXCAVATION, TRENCH SHALL THEN BE FILLED TO THE PROPER ELEVATION WITH CRUSHED LIMESTONE GRAVEL. SHALL BE REMOVED FROM UNDER PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.
- D. IN MOSTLY EARTH OR SAND MATERIAL, TRENCHES SHALL BE EXCAVATED TO 6" BELOW THE ELEVATION OF THE BOTTOM OF THE PIPES. AFTER EXCAVATION, TRENCH SHALL THEN BE FILLED TO THE PROPER ELEVATION WITH FINE SAND OR GRAVEL. TRENCH BOTTOM SHALL BE REMOVED AT PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.
- E. BACKFILLING AND TAMPING SHALL BE CAREFULLY DONE BY HAND SIMULTANEOUSLY ALONG BOTH SIDES OF THE PIPE USING ROCK FREE EARTH, CRUSHED STONE OR SAND UNTIL THE PIPE IS COVERED TO A DEPTH OF AT LEAST 12". BACKFILL SHALL BE ACCOMPLISHED IN SUCCESSIVE 6" LAYERS. THE REST OF THE FILL-UP TO THE TOPSOIL LAYER MAY BE GRAVEL OR ROCK FREE EARTH.

- F. ACCEPTABLE SOIL MATERIALS FOR BACKFILL AND FILL SHALL BE FREE OF CLAY, ROCK OR GRAVEL LARGER THAN 2" IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS AND OTHER DELETERIOUS MATTER HAVING A PLASTICITY INDEX LESS THAN 30. BACKFILL SHALL BE ACCOMPLISHED IN LAYERS OF NOT MORE THAN 6" AND EACH LAYER SHALL BE COMPACTED. THE LAST 12" OF BACKFILL SHALL BE ROCK FREE TOPSOIL.
- G. SURFACE SHALL BE RESTORED TO ITS ORIGINAL CONDITION.
- 2.02 INSTALLATION (C15100)
- A. WATER PIPING IN EXTERIOR WALL SHALL BE INSTALLED ON THE HEATED SIDE OF WALL INSULATION.
- B. EXPOSED HOT AND COLD WATER TRIM FITTINGS AND ACCESSORIES IN FINISHED AREAS SHALL BE CHROME FINISHED.
- C. ACCEPTABLE METHODS OF PIPE SUPPORT WITHIN WALLS SHALL BE THE SUMNER SYSTEM, POSIFIX, STAKFIX, PIPEFIX, HOLDRITE OR CHANNEL.
- D. PROVIDE J.R. SMITH OR APPROVED EQUAL SHOCK ABSORBERS #6005 THRU 5050 SIZE AS RECOMMENDED BY MANUFACTURER INSTALLED ON HOT AND COLD WATER BRANCH LINES CONTAINING SINGLE LEVER FAUCETS, FLUSH VALVES OR EQUIPMENT WITH QUICK CLOSING VALVES BETWEEN THE LAST TWO FIXTURES AS SHOWN ON THE CONTRACT DRAWINGS. SHOCK ABSORBERS SERVICING FIXTURES WITH FLUSH VALVES SHALL BE SECURELY ANCHORED IN THEIR VERTICAL POSITION.
- E. SANITARY WASTE LINES SHALL BE UNIFORMLY GRADED TO ELEVATIONS SHOWN. IF NO ELEVATIONS ARE GIVEN, SEWERS SHALL BE PITCHED NOT LESS THAN 1/4" PER FOOT FOR ALL PIPING 2-1/2" IN DIAMETER AND SMALLER AND 1/8" PER FOOT FOR ALL PIPING 3" IN DIAMETER AND LARGER.
- F. STORM PIPING SHALL BE SLOPED AT 1/2" PER FT (2%) UNLESS NOTED OTHERWISE ON PLANS.
- G. SUPPORT HORIZONTAL PIPING ACCORDING TO LOCAL PLUMBING CODE. HANGER RODS SHALL BE SIZED AS FOLLOWS:
- |                        |                              |
|------------------------|------------------------------|
| NOMINAL PIPE SIZE (IN) | MINIMUM HANGER DIAMETER (IN) |
| 1/2                    | 3/8                          |
| 3/4 TO 1-1/2           | 3/8                          |
| 2 TO 2-1/2             | 3/8                          |
| 3 TO 6                 | 1/2                          |

- H. HANGERS FOR PIPING GREATER THAN 1" SHALL PASS OVER THE INSULATION, PROVIDE SADDLES FOR INSULATED PIPING.
- I. INSULATION SHALL BE APPLIED WITH JOINTS TIGHTLY BUTTED. OPEN CRACKS, VOIDS AND DEPRESSIONS SHALL BE FILLED WITH HYDRAULIC SETTING CEMENT. LAPPING MATCHING THE FINISH SHALL BE PASTED NEATLY OVER JOINTS. FITTINGS AND VALVES SHALL BE INSULATED WITH THE SAME TYPE.
- J. PROVIDE AND INSTALL A CUT-OFF VALVE, UNION AND FULL SIZE DIRT LEG AT CONNECTION TO EACH GAS-FIRED PIECE OF EQUIPMENT. INSTALL PIPING AT AND AROUND EQUIPMENT SO AS TO NO WAY OBSTRUCT EQUIPMENT ACCESS PANELS AND/OR ACCESS DOORS.
- K. COORDINATE ABOVE-CEILING PIPING LOCATIONS AND ROUTING WITH HVAC CONTRACTOR AND M-SHEETS PRIOR TO INSTALLATION. ALL MAIN DUCT TRUNK LOCATIONS SHALL TAKE PRIORITY. PIPING MAY REQUIRE REMOVAL AND REINSTALLATION AT PLUMBING CONTRACTOR'S EXPENSE IF PIPING OBSTRUCTS THE M-SHEET DUCT LAYOUT AS SHOWN OR PREVENTS ACCESS TO GREASE DUCT CLEANOUT OPENINGS.
- L. ALL GAS PIPING ABOVE ROOF SHALL BE CLEANED FREE OF RUST AND PAINTED WITH COAT OF ZINC RUST PRIMER AND ONE COAT OF ALUMINUM BASE PAINT. METER AND GAS RISER SHALL BE PRIMED AND PAINTED TO MATCH BUILDING. APPLY TWO COATS OF ASPHALTUM BASE PAINT TO PIPING BURIED UNDERGROUND.

- 2.03 TESTING (C15100)
- A. POTABLE WATER PIPING SHALL BE PRESSURE TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.
- B. THE POTABLE WATER SYSTEM SHALL BE FLUSHED OUT PROGRESSIVELY BY OPENING OUTLETS AND FLOWING WATER UNTIL IT RUNS CLEAR. AFTER PIPE CLEANING IS COMPLETED, THE STRAINERS SHALL BE REMOVED, CLEANED, AND REPLACED. THEN THE ENTIRE POTABLE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION.
- C. THE SANITARY WASTE SYSTEM SHALL BE FLUSHED OUT PROGRESSIVELY WITH FLOWING WATER UNTIL IT RUNS CLEAR.
- D. THE ENTIRE SANITARY WASTE SYSTEM AND STORM DRAINAGE SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.
- E. NATURAL GAS PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

- PART III - MANUFACTURERS
- 3.01 PRODUCTS - PIPING SYSTEMS, ETC (C15100)
- A. HYDRANTS, CARRIERS, DRAINS, AND SHOCK ABSORBERS: JAY R. SMITH, JONES STEPHENS CORP, WATTS ZURN, OR JOSAM.
- B. ALTERNATE FIXTURES, ONLY AS SHOWN ON PLANS. APPROVED JAY R. SMITH (JRS), WATTS (WTS), AND ZURN (ZRN) MODEL NUMBERS LISTED ON FIXTURE SCHEDULE, THIS SHEET.
- 3.02 PRODUCTS - RESTROOM FIXTURES PORCELAIN & VALVES (C15405)
- A. PREFERRED FIXTURES: TOTO. NO EXCEPTION.
- B. ALTERNATE FIXTURES: ONLY AS SHOWN ON PLANS.
- C. FITTINGS: AS SPECIFIED ON THE PLANS. NO SUBSTITUTIONS ALLOWED.
- D. FLUSH VALVES AND LAVATORY FAUCETS: TOTO MANUFACTURING. NO SUBSTITUTIONS ALLOWED.
- E. PREFERRED TOILET SEATS: TOTO. ALTERNATE TOILET SEATS: CHURCH, BEMIS, AND BENEKE.
- F. FLOOR SINKS: ZURN WITH ALUMINUM SEDIMENT BUCKETS. NO SUBSTITUTIONS ALLOWED.

# 2. PLUMBING FIXTURES

- RESTROOM FIXTURES (C15405)
- P-1 WATER CLOSET: TOTO MODEL CT705LNNKI BOWL WITH 128 GPF, TET-4-LNG # 320P ECO-POWER FLUSH VALVE AND SC534 SEAT. NO SUBSTITUTIONS. WHITE, FLOOR MOUNTED, FLUSH VALVE TYPE. VITREOUS CHINA, 1/2" TOP SPLD, ELONGATED BOWL, ELECTRONIC SENSOR OPERATED HANDS-FREE FLUSH VALVE. WHITE OPEN FRONT SEAT WITH CHECK HINGE. CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.
- P-2 WATER CLOSET (ADA) TOTO MODEL CT705LNNKI BOWL WITH 128 GPF TET4A32CP ECO-POWER FLUSH VALVE AND SC534 SEAT. NO SUBSTITUTIONS. H.C. ACCESSIBLE, WHITE, FLOOR MOUNTED, 17-1/2" HIGH, FLUSH VALVE TYPE. VITREOUS CHINA, 1/2" TOP SPLD, ELONGATED BOWL, ELECTRONIC SENSOR OPERATED HANDS-FREE FLUSH VALVE. WHITE OPEN FRONT SEAT WITH CHECK HINGE. CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.
- P-3 URINAL: TOTO MODEL UT445U URINAL WITH TEU 1 UA 12CP 0/25 GPF SELF SUSTAINED HYDROPOWER SELF-GENERATING ELECTRONIC SENSOR OPERATED FLUSH VALVE. NO SUBSTITUTIONS. VITREOUS CHINA, 3/4" TOP SPLD. SENSOR OPERATED WITH MANUAL OVERRIDE BUTTON. INTERNAL VALVE FILTER PROTECTION. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO PRODUCTS.
- P-4 LAVATORY FAUCET: BUILT-IN COUNTERTOP LAVATORY PROVIDED BY OWNER. TOTO MODEL TEL 105-D10ET # CP ECO-POWER SENSOR HOT/COLD FAUCET WITH THERMOSTATICALLY CONTROLLED ASSE 1070 MIXING VALVE FAUCET, 0.09 GALLONS PER CYCLE. NO SUBSTITUTIONS. PROVIDE MCGUIRE LFT75 SUPPLY WITH STOP, MCGUIRE B5-WC GRID DRAIN WITH OFFSET TAILPIPE, MCGUIRE 8872 POLISHED CHROME P-TRAP. P-TRAP SHALL BE PARALLEL WITH BACK WALL. PROVIDE A TRELOER INC. HAND LAY-GUARD INSULATION KITS MODEL1S 10E-2 AND 10E-2. CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

- PLUMBING (C15100)
- P-5 KITCHEN HAND SINK ROUGH IN SINK AND FAUCET WITH 1.0 GPM AERATOR FURNISHED BY OWNER. CONTRACTOR SHALL INSTALL WALL HUNG, STAINLESS STEEL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LFT75 SUPPLIES WITH STOPS AND A MCGUIRE 891Z POLISHED CHROME P-TRAP. ADJUST FAUCET OUTLET TEMPERATURE TO 110 DEGREES F OR HIGHER AS REQUIRED BY LOCAL JURISDICTION.
- P-5A KITCHEN DUMP SINK ROUGH IN SINK BY TMS. FAUCET: TOTO MODEL HTELK5-C20ECP - PROVIDED BY HJC WITH TP2094 NOZZLE. CONTRACTOR SHALL INSTALL WALL HUNG, STAINLESS STEEL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. MCGUIRE LFT75 SUPPLIES WITH STOPS AND A MCGUIRE 891Z POLISHED CHROME P-TRAP PROVIDED BY HJC.
- P-6 SERVING COUNTER DROOP IN SINK ROUGH IN SINK AND FAUCET WITH 1.0 GPM AERATOR FURNISHED BY OWNER. CONTRACTOR SHALL INSTALL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE 891Z POLISHED CHROME P-TRAP AND MCGUIRE LFT75 STOPS WITH 90° CHROME PLATED 3/8" COPPER RISERS. ADJUST FAUCET OUTLET TEMPERATURE TO 110 DEGREES F OR HIGHER AS REQUIRED BY LOCAL JURISDICTION.
- P-7 MOP SINK FAUCET/MOP SINK BASIN BUILT BY GENERAL CONTRACTOR PROVIDE TSS BRASS MODEL B-2345 FAUCET WITH CERAMIC SPRING CHECK VALVE CARTRIDGES. HOSE THREAD SPOUT OUTLET, TOP BRACE, ADJUSTABLE INLET SPREAD FROM 3" TOP OF INLET. TSS BRASS MODEL 49-072 HOSE 1/2" DIA X 1/2" FEMALE NPT CHROME ADAPTOR. NO SUBSTITUTIONS. SEE ALSO P-16.
- P-8 VEGETABLE PREP SINK ROUGH IN SINK AND FAUCET WITH 0.65 GPM SPRAY HEAD FURNISHED BY OWNER. CONTRACTOR SHALL INSTALL SINK AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LFT08 STOPS AND BRASS/RAFT 3" CHROME PLATED 1/2" OD COPPER RISERS MODEL 3-36AC, ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH PRE-RINSE SPRAY. INSTALL ADD-ON FAUCET WITH 1/8" SPOUT AT BASE OF PRE-RINSE RISER. SEE K-SHEET ELEVATIONS FOR FAUCET LOCATIONS. PROVIDE 1/2" SOHD 80 PVC PIPE AND FITTINGS. INDIRECT WASTE MANIFOLD FROM SINK BASIN TO FLOOR SINK P-13B, NO P-TRAPS REQUIRED. PROVIDE CLEANOUT AT EACH END.
- P-9 FOUR COMPARTMENT POT SINK ROUGH IN SINK AND FAUCETS WITH 0.65 GPM SPRAY HEAD FURNISHED BY OWNER. CONTRACTOR SHALL INSTALL SINK, ASSEMBLE & MOUNT TWO FAUCETS, AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LFT08 STOPS AND BRASS/RAFT 3" CHROME PLATED 1/2" OD COPPER RISERS MODEL 3-36AC, ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH PRE-RINSE SPRAY. INSTALL ADD-ON FAUCET WITH 1/8" SPOUT AT BASE OF PRE-RINSE RISER. ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH DOUBLE JOINT SPOUT ON OPPOSITE SIDE. SEE K-SHEET ELEVATIONS FOR FAUCET LOCATIONS. PROVIDE 1/2" SOHD 80 PVC PIPE AND FITTINGS. INDIRECT WASTE MANIFOLD FROM EACH SINK BASIN TO FLOOR SINK P-13A, NO P-TRAPS REQUIRED. PROVIDE CLEANOUT AT EACH END.

- P-10 FLOOR DRAIN (3") JONES STEPHENS CORP D53-144 PVC BODY, BRONZE SPLD WITH 6" DIAMETER NICKEL BRONZE STRAINER. ALT: (JRS) 210-4F-NB, (WTS) FDI03-A6-60, (ZRN) FRO9NP35-C.
- P-11 WALL HYDRANT (NON-FREEZE) WOODFORD MODEL 67-C AUTOMATIC DRAINING WALL HYDRANT WITH DUAL CHECK EFF. ASSE 1024 APPROVED, WALL CLAMP, POLISHED BRASS FINISH, 1" STYLE INLET, SEE WALL HYDRANT NOTES ON UPFL FOR WALL THICKNESS AT WALL HYDRANTS. ALT: (WTS) H1-42.
- P-12 FUNNEL DRAIN (3") JR. SMITH 35100S FUNNEL-OCEPTOR 3" INDIRECT WASTE RECEIVER WITH NICKEL BRONZE STRAINER AND FUNNEL. PROVIDE 6" SQUARE P12 STRAINER WITH 4" ROUND FUNNEL AT WALK-IN COOLER. ALT: (WTS) FDI03P-M6-F4-I, (ZRN) 21415-3N1-65-4.
- P-13A FLOOR SINK (POT SINK) ZURN MODEL 2190-KC1-3N1-I-23. CAST IRON INDIRECT WASTE RECEIVER WITH 12" SQUARE BODY, FLASHING CLAMP, 8" DEEP, ALUMINUM SEDIMENT BUCKET, AND NO GRATE. NO SUBSTITUTIONS.
- P-13B FLOOR SINK (VEGETABLE SINK) ZURN MODEL 2190-KC3-N1-I-23. CAST IRON INDIRECT WASTE RECEIVER WITH FLASHING CLAMP, 8" SQ. BODY, ALUMINUM SEDIMENT BUCKET, AND NO GRATE. NO SUBSTITUTIONS.
- P-13C FLOOR DRAIN DUMP SINK ZURN E21-PV3-S6 PVC BODY, BRONZE SPLD WITH 6" SQUARE NICKEL BRONZE STRAINER PROVIDED BY HJC. ALT: JONES STEPHENS CORP D50-077.

- P-14 CLEANOUTS INSIDE BUILDING JR. SMITH 4053L CLEANOUT WITH 4-1/2" SQUARE NICKEL BRONZE TOP AND TAPER THREAD BRONZE PLUG. SEE PLAN FOR SIZE. ALT: 0"X1/2" DIA (WTS) CO-20XP-S, (ZRN) ZN400-XN1-T-EP.
- P-15 CLEANOUTS OUTSIDE BUILDING JR. SMITH 4218L SERIES EXTRA HEAVY DUTY CAST IRON CLEANOUT, 'CO' CAST IN COVER, ABS PLUS, SPEEDI SET OUTLET. ALT: 0"X1/2" DIA (WTS) CO-X00-MF + CO-38V, (ZRN) Z1474-XN.
- P-16 3-WAY DIVERTER VALVE ASSEMBLY: WATTS MODEL LFB 6780 ROUGH BRASS LEAD-FREE DIVERTER BALL VALVE WITH 1/2" FIP INLET AND OUTLETS AND QUARTER TURN LEVER HANDLE. PROVIDE WITH TWO (2) FORGED BRASS 1/2" MIP X 1/2" MALE GARDEN HOSE T-HEAD ADAPTERS (LUMINEST MODEL G20-003 OR EQUAL). PROVIDE WITH ONE ASSE 101 APPROVED CHROME PLATED VACUUM BREAKER (WOODFORD MODEL 344-04 OR EQUAL). FOR INSTALLATION AT MOP SINK: SEE APP. PROVIDE ALSO TWO 3/4" CLOSE CHROME PLATED BRASS NIPPLE AND 3/4" POLISHED CHROME 90 DEGREE ELBOW.
- P-17 VACUUM RELIEF VALVE: WATTS MODEL HFN36M, 3/4" CONNECTION.
- P-18 EXPANSION TANK: STATE INDUSTRIES MODEL ETC-5X, ACCEPTANCE 3.05 GALLONS AT 40 PSI PRECHARGE, 3/4" CONNECTION. ALTERNATE MODELS SIZED PER WATER HEATER MANUFACTURER RECOMMENDATIONS ARE ACCEPTABLE.
- P-19 EXISTING WATER HEATER TO REMAIN.

- P-20 THERMOMETER: PROVIDE THERICE MODEL 8834-04-04 3" DIAL TYPE THERMOMETER WITH BOTTOM 1/2" NPT CONNECTION, 4" STEM AND 0 DEG F TO 200 DEG F RANGE. LEAD FREE.
- P-21 BACKFLOW PREVENTERS: COORDINATE LOCATION WITH CIVIL SITE UTILITY PLAN. BACKFLOW PREVENTER TYPE AND MODEL IS DETERMINED BY CIVIL ENGINEER IF LOCATED OUTSIDE THE BUILDING.

- DOUBLE CHECK TYPE: WATTS NO. LF0007MOT 1/2" DUAL CHECK MODULAR TYPE BACKFLOW PREVENTER MEETING ASSE 105 AND ANWA C510-92. WHERE REQUIRED BY LOCAL AUTHORITY, USE THE BPF TYPE BPF SHOWN BELOW. ALT: (ZRN) 112-350XL.
- REDUCED PRESSURE ZONE (RPZ) TYPE: WATTS NO. LF0009M2 1/2" MODULAR TYPE WITH TEST PORTS AND INTERMEDIATE RELIEF VALVE MEETING ASSE 105 AND ANWA C510-99. PROVIDE WATTS NO. 909-AG-C AIR GAP DEVICE. ALT: (ZRN) 112-975XL2L.

- P-22 MOP SINK CHECK VALVES: TSS BRASS 1/2" MODEL B-CVW-2 BALL CHECK.
- P-23 UTILITY CONNECTION (ICEMAKERS) PROVIDE A MCGUIRE MODEL LFH5T06S LEAD-FREE CHROME WHEEL ANGLE STOP, 1/2" FIP INLET AND OUTLET. PROVIDE CHROME WALL ESCUTCHEON. INSTALL WITH BPF P-34. SEE DETAIL 3/P-21 FOR PIPING AT ICE MAKERS.
- P-24 UTILITY CONNECTION (COFFEE & TEA BREWERS) PROVIDE A MCGUIRE MODEL LFH5T06S LEAD-FREE CHROME WHEEL ANGLE STOP, 1/2" FIP INLET AND OUTLET. PROVIDE CHROME WALL ESCUTCHEON. INSTALL WITH BPF P-34.
- P-25 SHOCK ABSORBER: JR. SMITH FIGURE 5005 THROUGH 5050, SIZE AS RECOMMENDED BY MANUFACTURER. ALT: (WTS) SSA + SSB, (ZRN) Z7000-100 + Z7000-300.
- P-26 FUNNEL DRAIN (3") JR. SMITH 35100S FUNNEL-OCEPTOR 3" INDIRECT WASTE RECEIVER WITH NICKEL BRONZE STRAINER AND FUNNEL. PROVIDE 6" ROUND P22 STRAINER WITH 3.25"X 6.25" OBLONG FUNNEL. ALT: (WTS) FD-103P-A6-G-I, (ZRN) ZN415-3N1-65-CP.

- P-26A TRAP SEAL PROTECTOR PREVENT TRAP GUARD MODEL TG3H 3" TRAP SEAL INSERT FOR INTERIOR INSTALLATION AND REPLACEMENT ACCESS THROUGH STRAINER. PROVIDE AT P-35 FLOOR DRAINS IN RESTROOMS, P-37 FLOOR DRAINS DINING ROOM, AND P-26 FUNNEL DRAINS IN MECH ROOM. TRAP GUARDS TO BE USED ALONG WITH MECHANICAL TRAP PRIMERS. PROVIDE PROSET MODEL TG33-ZURN WHEN USING ZURN FLOOR FIXTURES.
- P-27 WATER PRESSURE GAUGE: THERICE MODEL 800B, 2-1/2" ROUND, BOTTOM OUTLET WITH 1/4" NPT CONNECTION AND 0 TO 100 PSI RANGE.
- P-28 BALL VALVE: NIBCO MODEL 4660-T, 3/4", WITH IPS INLET AND OUTLET.
- P-29A ICE MACHINE TRENCH DRAIN ZURN STAINLESS DRAINS. TR12-CFA-18 STAINLESS STEEL TRENCH DRAIN, 14.5" X 18", STAINLESS STEEL SEDIMENT CLIP AND STAINLESS STEEL, SERRATED LADDER GRATE PROVIDED BY HJC. NO SUBSTITUTIONS.
- P-29B ICE MACHINE TRENCH DRAIN ZURN STAINLESS DRAINS. TR12-CFA-36 STAINLESS STEEL TRENCH DRAIN, 14.5" X 36", STAINLESS STEEL SEDIMENT CLIP AND STAINLESS STEEL, SERRATED LADDER GRATE PROVIDED BY HJC. NO SUBSTITUTIONS.
- P-29C ICE MACHINE TRENCH DRAIN ZURN STAINLESS DRAINS. TR12-CFA-48 STAINLESS STEEL TRENCH DRAIN, 14.5" X 48", STAINLESS STEEL SEDIMENT CLIP AND STAINLESS STEEL, SERRATED LADDER GRATE PROVIDED BY HJC. NO SUBSTITUTIONS.

- P-30 FILTERED WATER FAUCET (FAUCET PROVIDED BY OWNER) TWO-HANDLE WALL MOUNT FAUCET WITH SWING SPOUT. MOUNT ON WALL AS SHOWN ON K-SHEETS. PIPE FILTERED WATER TO BOTH SIDES OF FAUCET. CONNECT TO SPLIT PIPING WITH BRASS OR CHROME NIPPLES, GALVANIZED NOT ALLOWED.
- P-31 DUMPSTER POST HYDRANT (NON-FREEZE) WOODFORD MODEL Y2 LEVER TYPE POST-HYDRANT, 3/4" HOSE CONNECTION. LOCKABLE LEVER HANDLE, BRASS CASING, BRASS OPERATING ROD, ASSE 1022 APPROVED AND 24" DEPTH OF BURL.
- P-32 DUMPSTER PAD DRAIN: JR. SMITH FIGURE NO. Z2800C3 3" FLOOR DRAIN WITH 7-1/2" HINGED CAST IRON SLOTTED GRATE AND SEDIMENT BUCKET. PROVIDED AND INSTALLED BY SITE CONTRACTOR. ALT: (ZRN) Z560-3N1-I.
- P-33 TRAP PRIMER (MECHANICAL TYPE) PRECISION PRODUCTS PR-500. PROVIDE DISTRIBUTION UNIT WHERE SERVING MULTIPLE DRAINS. PROVIDE SCREWDRIVER STOP AT PRIMER INLET. ALT: (WTS) TP-300A-DR.
- P-34 DISPENSER BACKFLOW PREVENTER: WATTS MODEL HMF7RA122 ASSE 1024 RATED WITH 1/2" FIP INLET AND OUTLET, DUAL CHECK TYPE. PROVIDE 1/2" DIA X 2" LONG CHROME NIPPLE AT BFP INLET AND OUTLET. PROVIDE TSS BRASS MODEL B-010 CHROME WALL BRACKET.

- P-35 FLOOR DRAIN (3") JONES STEPHENS CORP D50-064 PVC BODY, BRONZE SPLD WITH 6" DIAMETER NICKEL BRONZE STRAINER. SEE DWG PH FOR DRAINS IN RESTROOMS REQUIRING 1/2" TRAP PRIMER CONNECTION. ALT: (WTS) FDI03-A6-60, (ZRN) FRO9NP35-C.
- P-36 BEVERAGE TOWER INDIRECT RECEIVER (3") JONES STEPHENS CORP D53-144 PVC BODY, BRONZE SPLD WITH 8" DIAMETER NICKEL BRONZE STRAINER. ALT: (JRS) 210-4F-NB, (WTS) FDI03-A6-60, (ZRN) FRO9NP35-C.
- P-37 FLOOR DRAIN (3") JONES STEPHENS CORP D50-076 PVC BODY, BRONZE SPLD WITH 6" SQUARE NICKEL BRONZE STRAINER. PROVIDE 1/2" TRAP PRIMER CONNECTION FOR DINING ROOM DRAINS. ALT: (WTS) FDI03-M6-7-60, (ZRN) FSO9NP35-C.
- P-38 HOT WATER CIRCULATING PUMP: TACO MODEL 006-SCT-HFC, 1/2" UNION CONNECTIONS, INTEGRAL FLOW CHECK, ELECTRICIAN TO PROVIDE AND WIRE PLUG AND COORD, 1/40 HP, 3 GPM AT 7 FT TOTAL DYNAMIC HEAD. PROVIDE CONTROL WIRING AND HONEYWELL MODEL L60060018 110 VAC AQUA-STAT, WITH ADJUSTABLE SETPOINT, MOUNTED DIRECTLY ON PIPE (ALL PROVIDED BY HJC). SET SHUT-OFF TEMPERATURE AT 180 DEG F.
- P-39 Z PRESSURE REDUCING VALVE: WATTS NO. HFP23-S8 WITH BUILT-IN BYPASS FEATURE. SET NO FLOW CONDITION AT 7 PSI. ALT: (ZRN) SERIES 500XLY8R.

- P-40 WYE STRAINER WITH #00 SCREEN: 2" WATTS LFT75M3, BRONZE WYE STRAINER WITH THEADED CONNECTION AND TAPPED RETAINER CAP. PROVIDE #00 MESH SCREEN. PROVIDE WATTS 1/2" BDC BRASS BOILER DRAIN WITH BRASS STREET 90 DEGREE ELBOW, MALE END SIZED FOR CONNECTION TO WYE STRAINER RETAINER CAP OUTLET TAP.
- P-41 DISHWASHER SUPPLY VALVES (CHAMPION) FULL-PORT LEAD-FREE STAINLESS STEEL BALL VALVES PROVIDED BY HJC WITH SPLIT-RING BRACKET, CHROME FITTINGS, PIPE NIPPLES AND ESCUTCHEON AS DETAILED ON 3/P-302.
- P-42 EMERGENCY THERMOSTATIC MIXING VALVE (EMERGENCY EYEWASH) BRADLEY MODEL 99-2000 FX8 THERMOSTATIC TEMPERING VALVE, ANSI Z36.1 CERTIFIED FOR EMERGENCY FIXTURES, ASSE 101 COMPLIANT, WITH DIAL THERMOMETER, INLET CHECK STOPS, ADJUSTABLE SETPOINT, ACCURATE WITHIN +/- 3 DEG F. INCLUDES INTEGRAL COLD WATER BYPASS WITH POSITIVE HOT WATER SHUT-OFF WHEN COLD WATER SUPPLY IS LOST. FACTORY SETPOINT OF 65 DEG F. MOUNTING BRACKET INCLUDED. FACTORY ASSEMBLED AND TESTED, ROUGH BRASS FINISH. NO SUBSTITUTIONS. CONTACT CHICK-FIL-A NATIONAL ACCOUNTS AT HAYNES, JONES, & CADBURY FOR PRICING AND DELIVERY.

- P-43 SUPPLY VALVE (REHEMATIZER) FULL-PORT LEAD-FREE STAINLESS STEEL BALL VALVE PROVIDED BY HJC WITH SPLIT-RING BRACKET, CHROME FITTINGS, PIPE NIPPLES AND ESCUTCHEON AS DETAILED ON 3/P-302.

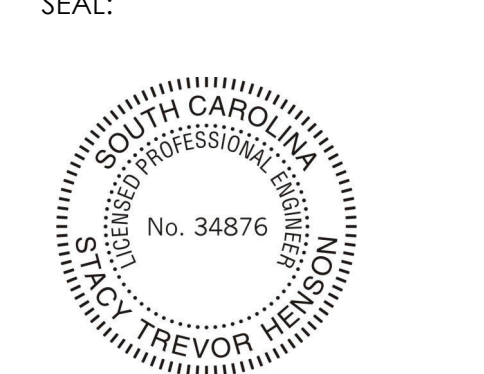
NATIONAL ACCOUNTS	
I.	TOTO VALVES AND FIXTURES (NO SUBSTITUTIONS). HAINES, JONES & CADBURY LLC. (HJC DISTRIBUTORS). PLEASE CONTACT HJC-CFA CUSTOMER SERVICE REPRESENTATIVE AT (800) 459-7099 OR VIA E-MAIL AT: CF@HJCINC.COM FOR NATIONAL ACCOUNT PRICING AND DELIVERY FOR ALL ITEMS ON PLUMBING FIXTURE SCHEDULE.



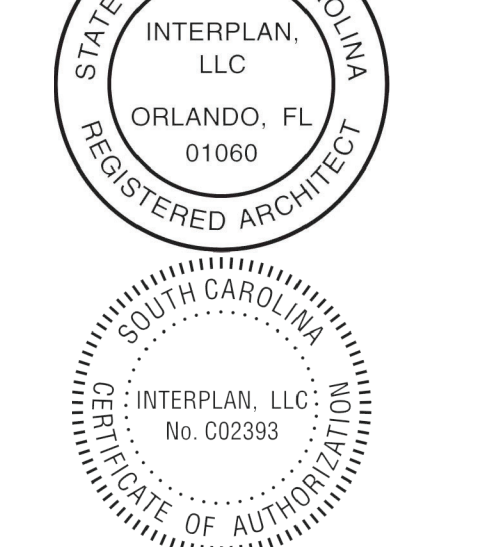
**Chick-fil-A**  
5200 Buffington Road  
Atlanta, Georgia  
30349-2998



INTERPLAN LLC  
ARCHITECTURE  
ENGINEERING  
PERMITTING  
220 E. CENTRAL PKWY., STE 4000  
ALAMONTONE SPRINGS, FL 32701  
407.645.5038



CORPORATE SEAL:  
INTERPLAN, LLC  
ORLANDO, FL  
014900



**CHICK-FIL-A**  
**CAROLINA FOREST**  
85 Rodeo Dr  
Myrtle Beach  
SC 29579

## FSU#01762

BUILDING TYPE / SIZE: S04-152  
RELEASE: 22.05

PRINTED FOR: CONSTRUCTION

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
0	08/20/22	OWNER REVISION

CONSULTANT PROJECT #: 2020-0330  
DATE: November 2022  
DRAWN BY: AE

CHECKED BY: DAK  
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PLUMBING SPECIFICATIONS

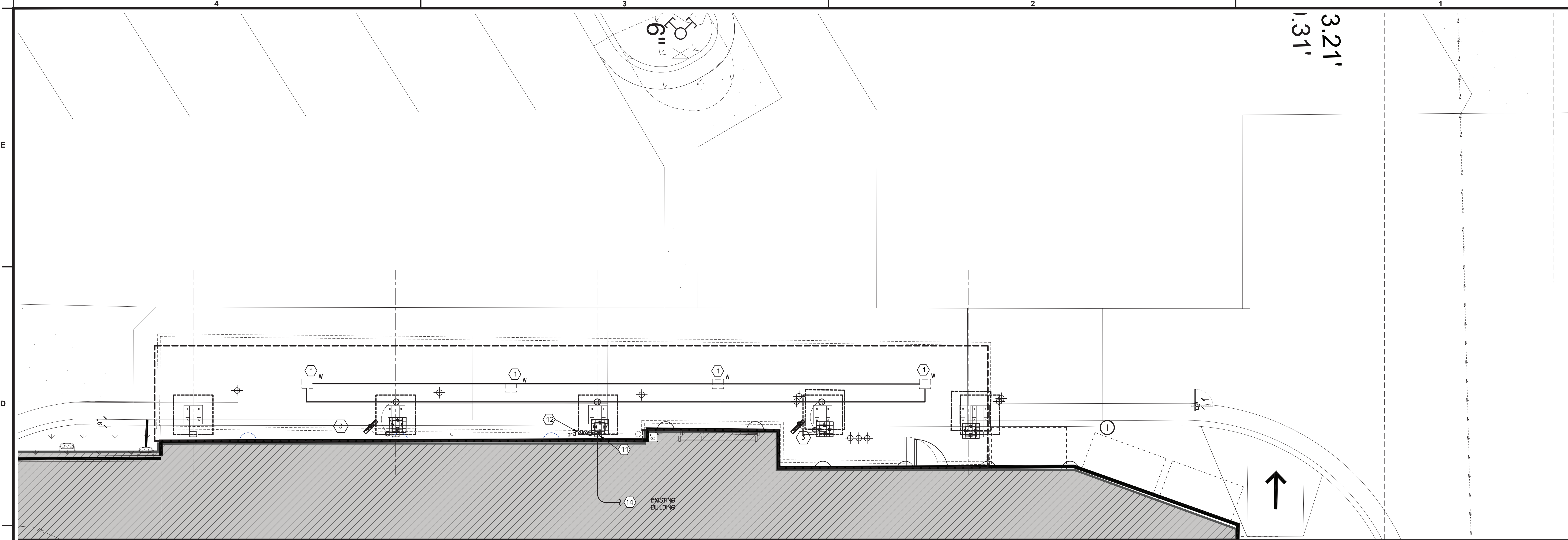
SHEET NUMBER  
**P7.1**



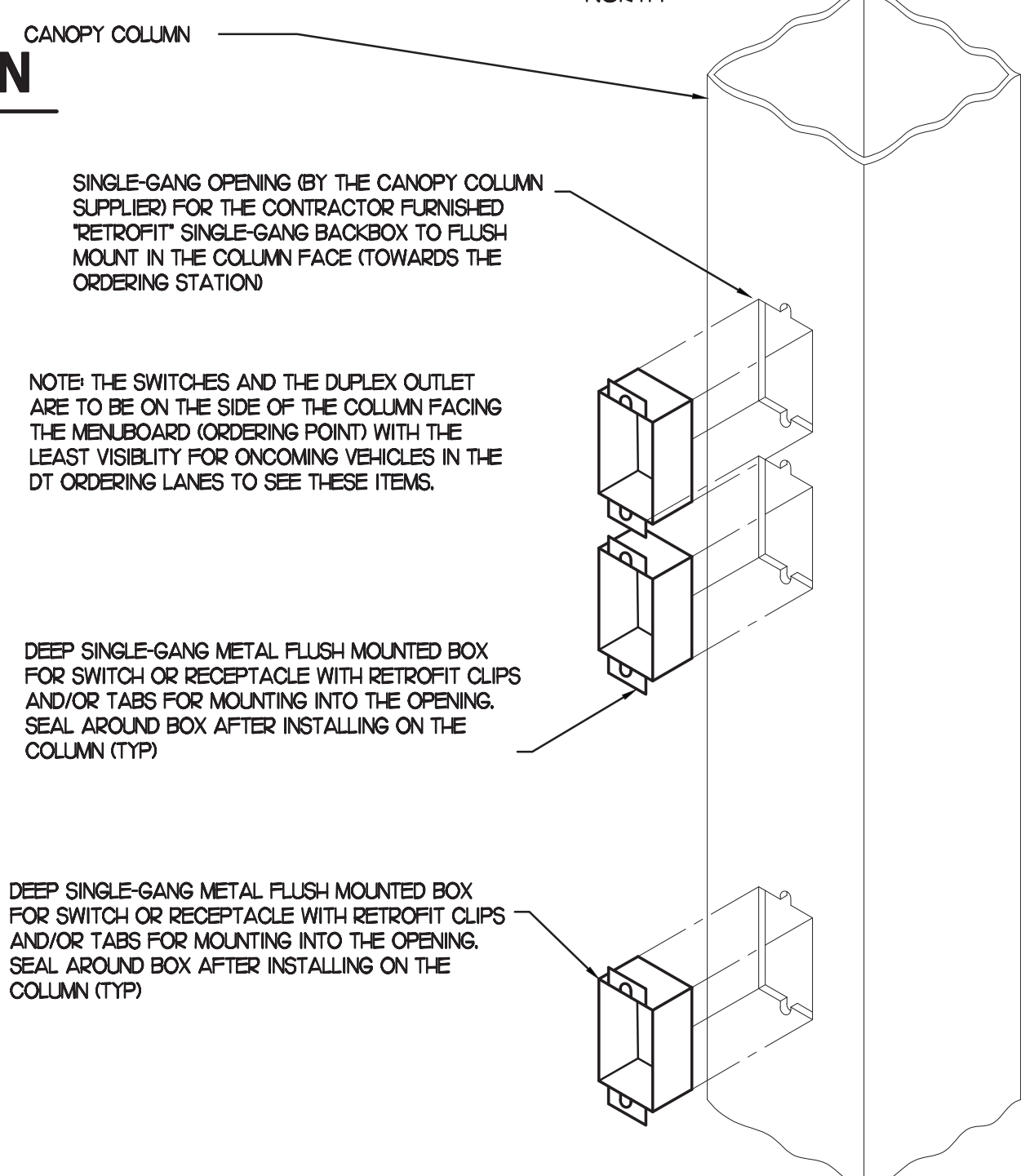




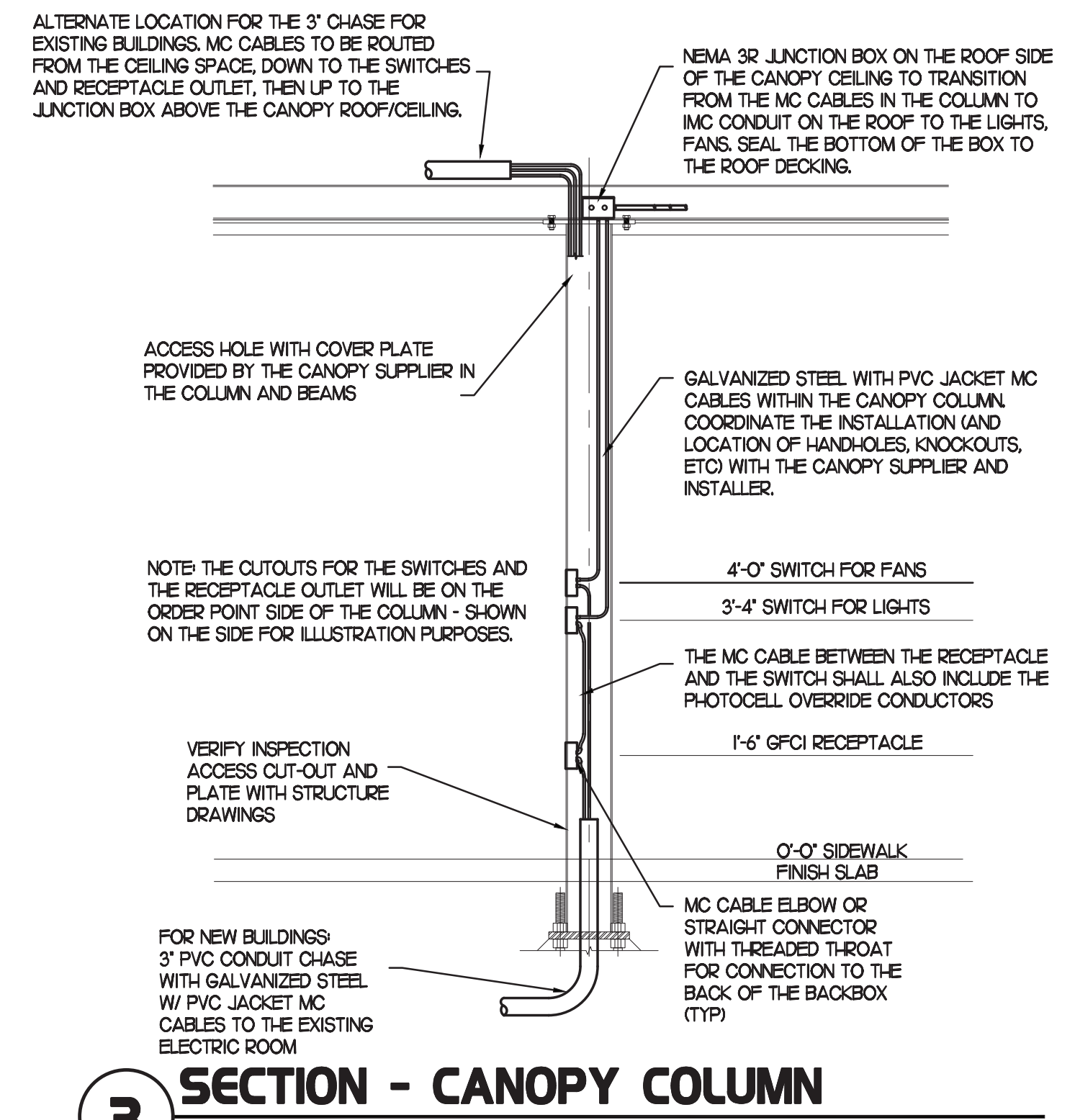




**1 ORDER MEAL DELIVERY (OMD) CANOPY POWER PLAN**  
1/4" = 1'-0"

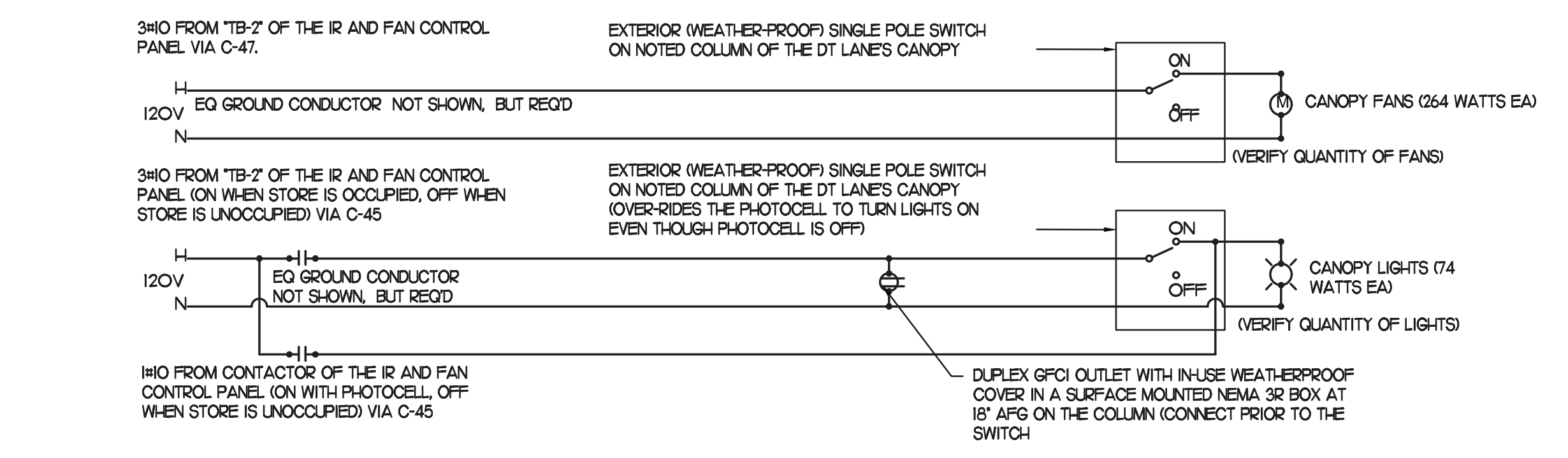


**4 CANOPY COLUMN ISOMETRIC**  
NOT TO SCALE



**3 SECTION - CANOPY COLUMN**  
NOT TO SCALE

- ELECTRICAL KEYNOTES (EXISTING BUILDING):**
- ① CEILING LIGHT PROVIDED BY CANOPY SUPPLIER AND INSTALLED BY E.C. REFER TO LIGHTING FIXTURE SCHEDULE ON BJA FOR MORE INFORMATION
  - ② NOT USED.
  - ③ AIR CIRCULATING FAN (WITH INTEGRAL ON-OFF SWITCH) PROVIDED BY OTHERS. FANS TO BE HARDWIRED IN APPROPRIATE CONDUIT ABOVE CANOPY AIR CIRCULATING FAN (WITH INTEGRAL ON-OFF SWITCH) PROVIDED BY OTHERS. FANS TO BE HARDWIRED IN APPROPRIATE CONDUIT ABOVE CANOPY
  - ④ THRU ⑩ NOT USED.
  - ⑪ AT EXISTING BUILDINGS STUB A 3" CHASE THRU THE EXTERIOR WALL FROM THE CEILING SPACE ABOVE THE KITCHEN TO ABOVE THE CANOPY'S COLUMN FOR THE MC CABLE POWER CIRCUITS TO GO THRU THE COLUMN MOUNTED SWITCHES AND OUTLET.
  - ⑫ PROVIDE ONE DUPLEX GFCI (WITH IN-USE WP COVER PLATE) AND TWO 120V SINGLE-POLE SWITCHES (EACH WITH HUBBELL HRW51550 WP COVER PLATE) MOUNTED ON THE COLUMN IN FLUSH MOUNTED METAL SINGLE GANG BOXES FOR LOCAL ON-OFF CONTROL OF THE FAN, AND CANOPY LIGHTS. SEE WIRING SCHEMATIC AND CANOPY COLUMN DETAILS FOR FURTHER INFORMATION. ALL SURFACE MOUNTED ITEMS AND COVER PLATES TO BE FIELD PAINTED MATTE BLACK.
  - ⑬ ALL CONDUIT AND BOXES SHALL BE CONCEALED FROM NORMAL VIEW, UNDERGROUND IN COLUMNS, OR ABOVE THE CANOPY (ON THE ROOF). MC CABLE (GALVANIZED STEEL WITH PVC JACKET) TO BE USED INSIDE THE COLUMNS, BUT MUST CONVERT BACK TO IMC ABOVE THE ROOF. ALL EXPOSED ELECTRICAL BOXES TO BE NEMA 3R CAST-METAL.
  - ⑭ PROVIDE ONE (1)80CU EQUIPMENT GROUND TO BE BONDED TO CANOPY STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS



**2 MEAL DELIVERY CANOPY POWER WIRING SCHEMATIC**  
NO SCALE



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Atlanta, Georgia  
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SEAL:



CORPORATE SEAL:



**CHICK-FIL-A**  
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Myrtle Beach  
SC 29579

**FSU#01762**

BUILDING TYPE / SIZE: S04-152  
RELEASE: 22.05

PRINTED FOR  
**CONSTRUCTION**

**REVISION SCHEDULE**

NO.	DATE	DESCRIPTION
2	11/02/22	ARCHITECTURAL CORRECT.

**CONSULTANT PROJECT #** 2020.0330  
**DATE** November 2022  
**DRAWN BY** MI  
**CHECKED BY** SN  
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**SHEET** OMD POWER AND LGT PLAN

**E1.1B**



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 bridle rings, a minimum of 6 feet on centers. Clearly identify all differing types of cables being run and tag with tape tags regarding telephone, POS System, music/communication, security, etc. for various system utilizing said cable. Identification tape shall be provided at minimum intervals of 25 feet on center and within each building space.

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

SECTION C16140  
WIRING DEVICES AND PLATES

PART 1 - PRODUCTS

- 1.01 WALL SWITCHES
- a. Shall be purchased from the National Accounts Vendor indicated on the plans.
- B. Ratings: 20 amps, 120/277 volts a.c. or as identified on drawings.
- C. 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)

- 1.02 RECEPTACLES
- A. Shall be purchased from the National Accounts Vendor indicated on the plans.

- B. Devices: (Cooper/Arrow Hart catalog numbers are listed unless otherwise noted):
  - 1. Specification grade devices (grey device color in Kitchen, brown device color in Dining, and orange for IG type) to be 20 amp, 125 volts, a.c. receptacles:
    - Single (simplex) device: #1877-GY (Kitchen) or #1877-B (Dining)
    - Duplex device: #CR20-GY (Kitchen) or #CR20-B (Dining)
    - Tamper resistant duplex device: #TR8200-B (Dining)
    - GF (ground-fault circuit interrupter) duplex device: #VGF20-GY (Kitchen) or #VGF20-B (Dining)
    - IG (isolated ground) duplex device: #IGS362-RN (orange face)

- 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 Cooper/Arrow Hart, or approved equal, smooth satin stainless steel 302-SS series for switches and receptacles in the Kitchen areas. All other areas shall be brown Nylon plastic.

- B. Provide blank plates on all outlet boxes for future outlets, or outlets without devices. Plate style shall match device plates.

- C. 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.

- D. Where devices installed in exposed boxes or conduit fittings: provide properly designed plates and covers equal to Arrow Hart RS-Series exposed work covers.

- E. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted boxes.

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. Siemens (West, Midwest and Southwest Regions) from Suncoast Environmental Controls (SEC), Scott DYER (877) 544-6679.
- B. Square-D (Northeast, Atlantic, and Southeast Regions) from Accu-serv, Bob Harpring (502)961-0096

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 or tin plated aluminum.

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

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

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

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

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

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

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

PART 2 - EXECUTION

- 2.01 INSTALLATION
- A. Panelboards shall be mounted at height above finished floor such that the height of the top-most breaker in the panel is not more than 6-1/2 feet above finished floor in its highest position per the NEC.

- B. Where multiple panelboards are installed on walls in common areas of buildings, the panelboards shall be installed with the top of all panelboards at the same height.

- C. Provide blank filter 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. General Electric.
- C. Siemens

1.02 ENCLOSED SWITCHES

- A. Nonfusible switch assemblies: NEMA KS 1, General Duty Type for 208 volt load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover with switch in on position. Handle lockable in off position. Provide equipment ground lug in each switch.

- B. Enclosures: NEMA KS 1.
  - 1. Interior dry locations: Type 1.
  - 2. Exterior locations: Type 3R.

SECTION C16442  
UTILITY SERVICE ENTRANCE AND DISTRIBUTION SYSTEM

PART 1 - GENERAL

1.01 SYSTEM DESCRIPTION

- A. The underground electrical system service characteristics shall be 208Y/120 volts, Three Phase, Four Wire service and shall extend from utility company transformer secondary.

- B. Metering of electrical usage shall be located as required by local electrical utility company. Coordinate requirements with local utility company.

- C. Distribution system originates at secondary of utility transformer and includes service entrance conduit and conductors, distribution equipment, lighting panelboards, utilization equipment, overcurrent devices, disconnecting means, controls, branch and feeder circuits, etc.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Furnish service entrance conduit, cable, and miscellaneous hardware as required by plans and specifications for electrical service entrance and system grounding at main electrical service.

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. Accu-Serv Lighting - North region and Southeast region. Contact at Accu-Serv: Bob Harpring at 877-707-7378, fax - 502-961-0357, email - bharpring@accu-serv.com

- 2. Villa Lighting - Central region, Southwest region, and West region. Contact at Villa Lighting: Dave Christanell at 800-325-0963, fax- 314-531-8720, email - davec@villalighting.com

- B. Ballasts to be electronic ballast provided with lighting fixture by the manufacturer.

- C. Lamps to be Osram-Sylvania and will typically be provided with the luminaire by the lighting manufacturer.

- 1.02 FIXTURE REQUIREMENTS
- A. Provide regulating, HPF ballasts in all HID lighting fixtures. HID lamp types shall be as indicated on the drawings.

- B. Recessed fluorescent lighting fixture ballasts shall be provided with integral thermal protection.

- C. Provide energy-saving Instant or Rapid Start lamps for all fluorescent fixtures.

- D. All lamps and ballasts shall meet or exceed the requirements of the National Energy Policy Act of 1992 and any other applicable Codes or Criteria.

- E. All components of recessed fixtures shall be accessible without disturbing fixture in or on ceiling.

- F. Energy saving ballasts and energy saving lamps provided shall be compatible for operation together.

- G. Exterior fixtures and poles shall be suitable for exterior use, shall be UL Listed, and shall be a standard design for exterior application.

- H. Exterior poles for fixtures with luminaires installed shall be designed for maximum constant velocity wind load with luminaires installed, applicable to the geographic area.

1.03 CONTROLS

- A. Lighting contactors shall be Square-D, General Electric, 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 conduit shall contain a separate insulated green No. 12 copper ground wire. Flexible conduit shall be connected to junction box and fixture. Green ground wire shall provide ground continuity between conduit system and fixture. Grounding conductors shall be permanently and mechanically connected between fixture and conduit system so as to be electrically continuous.

- C. Fixtures surface mounted on exposed tee bar ceilings shall use grip clamps on tee bars to support fixtures.

- D. Wire shall be continuous from splice in outlet box of building wiring system to lamp socket or ballast terminals.

- E. Maintain the integrity of enclosures on enclosed and gasketed fixtures. Minimize the number of enclosure penetrations and make such penetrations water and dust tight with appropriate gaskets and fittings.

- F. Concrete bases shall be provided for all exterior ground mounted or pole mounted fixtures.

- G. Install accessories furnished with each fixture.

- H. Wiring from pole bases to pole mounted luminaire shall be No. 12 with fuse protection provided by a 30 amp, 600 volt waterproof fusible with Bussman "Limtron" 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.

- 3.02 FIELD QUALITY CONTROL
- A. Relamp fixtures that have failed lamps at substantial completion.

SECTION C16596  
SPECIAL SYSTEMS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Furnish and install raceway system for music/communications security, CCTV, POS, and other owner-furnished systems, consisting of empty conduits, junction boxes, outlet boxes, and device plates, etc., as specified and shown on owner selected vendor wiring schematics. Cable, equipment, and installation of the interior system will be provided by the owner's system vendor.

- B. Interior system equipment will be furnished by Owner's Vendor.

- C. Install special backboxes furnished by Owner's Vendor. Coordinate with the Vendor for the installation. Coordinate with the Vendor if backboxes are to be contractor provided in order to provide and install the appropriate item for the Vendor.

- PART 2 - PRODUCTS
- 2.01 MATERIALS
- A. Provide 4-11/16" square boxes, with plaster rings. Provide device plates for system outlets as specified in Section 16141. Provide separate conduit to nearest accessible ceiling space from each outlet.

- B. Cable shall be in conduit where installed in walls or inaccessible ceilings.

- C. Minimum conduit size shall be 3/4".

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Furnish and install conduits, junction boxes, outlet boxes, and plates.
- B. Provide one #10 equivalent nylon pull wire in each system empty conduit.

- C. Provide a complete raceway system in accordance with interior system vendor requirements. Interior system vendor shall review the drawings. Contractor shall provide for any additional or varying requirements.

- D. Final connections and testing of systems will be provided by the system vendor. Contractor shall contact the owner's vendor and schedule the work so as to complete system installation and testing prior to occupancy of the facility.

- E. Terminate each conduit stub-up or termination with nylon insulated bushing.

SECTION C16597  
TELEPHONE SERVICE

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Furnish and install telephone system consisting of empty conduits, junction boxes, outlet boxes, device plates, etc., as specified and shown on owner selected vendor wiring schematics. Cable, equipment, and installation of the interior system will be provided by the owner's system vendor.

- B. Provide underground PVC, Schedule 40, service conduit as required by plans.

- C. Telephone Utility Company will provide service entrance cable.

- D. Interior telephone system will be furnished by owner's vendor.

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

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Provide 4-11/16" square boxes, with plaster rings. Provide device plates for telephone outlets to match those specified in wiring device section. Provide separate conduit to nearest accessible ceiling space from each outlet.

- B. Minimum conduit size shall be 3/4".

- C. Provide lightning arrester for telephone service entrance at main telephone backboard in accordance with UL96A paragraph 11.2 and NFPA 780.

- D. Cable shall be in conduit where installed in walls or above inaccessible ceiling spaces.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Provide one #10 equivalent nylon pull wire in each empty telephone conduit.

- B. Provide trenching, backfilling, etc., for installation of service entrance conduit in accordance with other divisions, plans, and telephone utility requirements. Provide pull wire in empty conduit.

- C. Coordinate with the local utility for point of service and type of service required. Pay for any utility company charges and fees for establishment of service.

- D. Provide a complete raceway system in accordance with telephone utility company and interior system vendor/utility requirements. Telephone utility company and interior system vendor shall review the drawings. Contractor shall provide for any additional or varying requirements.

- E. Terminate each conduit stub-up or termination with nylon insulated bushings.

- F. Final connections and testing of system will be provided by the system vendor. Contractor shall contact the owner and vendor and schedule the work.

CLOSE OUT DOCUMENT REQUIREMENTS

Provide the following to the building owner upon completion of construction:

- 1. Submittal data stating equipment rating and selected options for each piece of equipment requiring maintenance.
- 2. Operation manuals and maintenance manuals for each piece of equipment requiring maintenance. Required routine maintenance actions shall be clearly identified.
- 3. Operating and maintenance manuals will be provided to owner by electrical contractor in accordance to section C405.6.4.2 of FBCEC.
- 4. A complete narrative of how each system is intended to operate.



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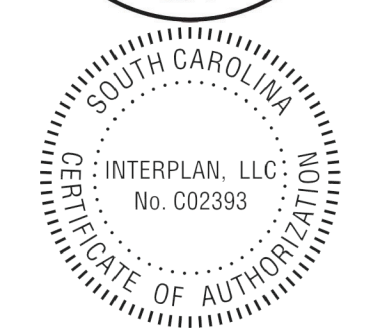
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**CHICK-FIL-A**  
**CAROLINA FOREST**  
85 Rodeo Dr  
Myrtle Beach  
SC 29579

**FSU#01762**

BUILDING TYPE / SIZE: S04-152  
DATE: 2020 0330  
RELEASE: November 2022  
PRINTED FOR: CONSTRUCTION

REVISION SCHEDULE  
NO. DATE DESCRIPTION







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. all references shall be made to the Florida building code FBCB (6th edition) ; FBCEC (6th edition) and NEC 2014

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 include 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 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 isolated ground (green + yellow stripe) conductor for isolated ground circuits (POS System), fitting 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 fittings.  
H. Conduit, connectors, couplings and fittings shall be UL listed and labeled.

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

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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 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.

1.03 INTERMEDIATE METAL CONDUIT (IMC)  
A. Use Intermediate Metal Conduit (IMC) where drawings call for conduit to be:  
1. Installed for panelboard feeders.  
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 for outlet boxes.

1.07 MC (METAL-CLAD) CABLE  
A. MC Cable may be used, concealed above ceiling and in walls, when allowed by local codes and article 330 of the national electrical code for the connection of the Point Of Sales (POS) system equipment only.

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 roll 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.

SECTION C16121  
CONDUCTORS  
PART 1 - PRODUCTS  
1.01 CONDUCTORS  
A. Provide 98% conductivity copper conductors with 600-volt insulation. For conductors No. 12 AWG and No. 10 AWG, provide solid type. For all conductors No. 8 AWG and larger, provide stranded type. All conductors shall have THHN/THWN insulation unless noted otherwise.  
B. Conductors shall be manufactured by Triangle, American, Rome, Southwire or approved equal.  
C. Provide No. 14 AWG type THHN fixture conductors, for conductors entering lighting fixtures.  
D. Branch circuit conductors shall be minimum #12 AWG, copper.

PART 2 - EXECUTION  
2.01 INSTALLATION  
A. Install pull boxes in circuits or feeders over 100 feet long.  
B. Make all splices or connections only at outlet, pull or junction boxes.  
C. All conductors and connections shall test free of grounds, shorts, and opens prior to energizing circuit.  
D. Provide No. 10 wire in lieu of No. 12 wire for any branch circuit in excess of 100 feet linear length to prevent excessive voltage drop.

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

SECTION C16122  
OUTLET AND JUNCTION BOXES  
PART 1 - GENERAL  
1.01 PROJECT CONDITIONS  
A. Verify field measurements are as shown on drawings.  
B. Verify locations of floor boxes and outlets in work areas prior to rough-in.  
PART 2 - PRODUCTS  
2.01 OUTLET BOXES  
A. Sheet metal outlet boxes: galvanized steel.  
B. Cast boxes: type FS, cast ferrolloy, Provide gasketed cover by box manufacturer.  
C. Manufacturers: National, Appleton, General Electric, RACO, OR Steel City.  
D. Provide boxes for fixtures with fixture studs in center.  
E. Outlet boxes for lighting, switches and receptacles in interior areas with exposed conduit shall be pressed steel and in exterior areas with exposed conduit shall be cast metal with threaded hubs, "FS" type. Use galvanized steel for concealed boxes. Boxes shall be 1-1/2" deep minimum.

2.02 PULL AND JUNCTION BOXES  
A. Sheet metal boxes: galvanized steel.  
B. Surface-mounted cast metal box: type 4; flat-flanged, surface-mounted junction box.  
1. Material: galvanized cast iron.  
2. Cover: furnish with ground flange, neoprene gasket, and stainless steel cover screws.  
C. In-ground cast metal box: inside flanged, recessed cover box for flush mounting.  
1. Material: galvanized cast iron.  
2. Cover: furnish with 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 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.

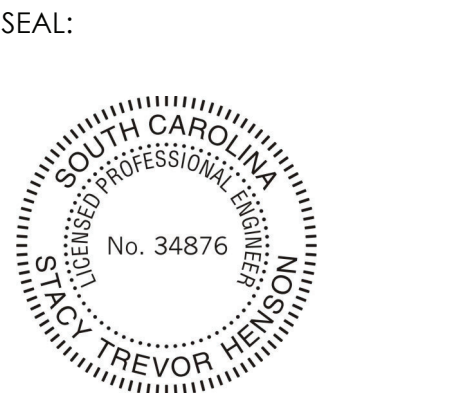


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CHICK-FIL-A  
CAROLINA FOREST  
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Myrtle Beach  
SC 29579

FSU#01762

BUILDING TYPE / SIZE: S04-152  
RELEASE: 22.05  
PRINTED FOR: CONSTRUCTION

REVISION SCHEDULE		
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DATE November 2022  
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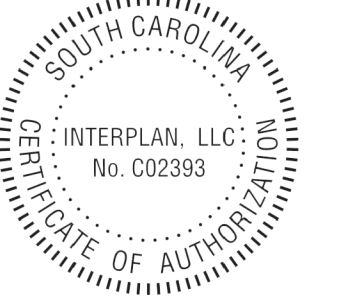
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BUILDING TYPE / SIZE: S04-152  
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NO. DATE DESCRIPTION

02 04/11/23 INTERNAL COORDINATION

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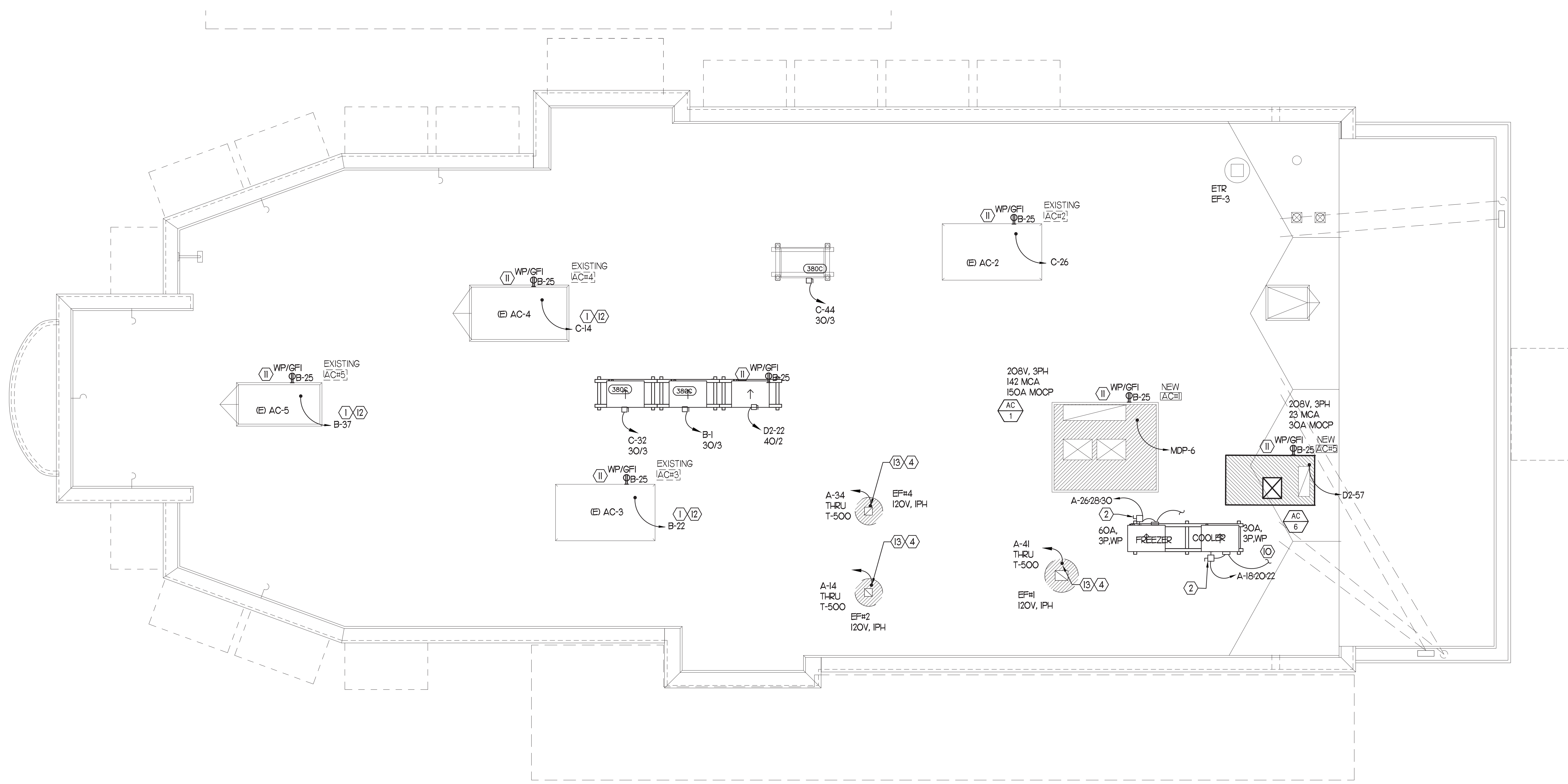
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ROOF ELECT. PLAN

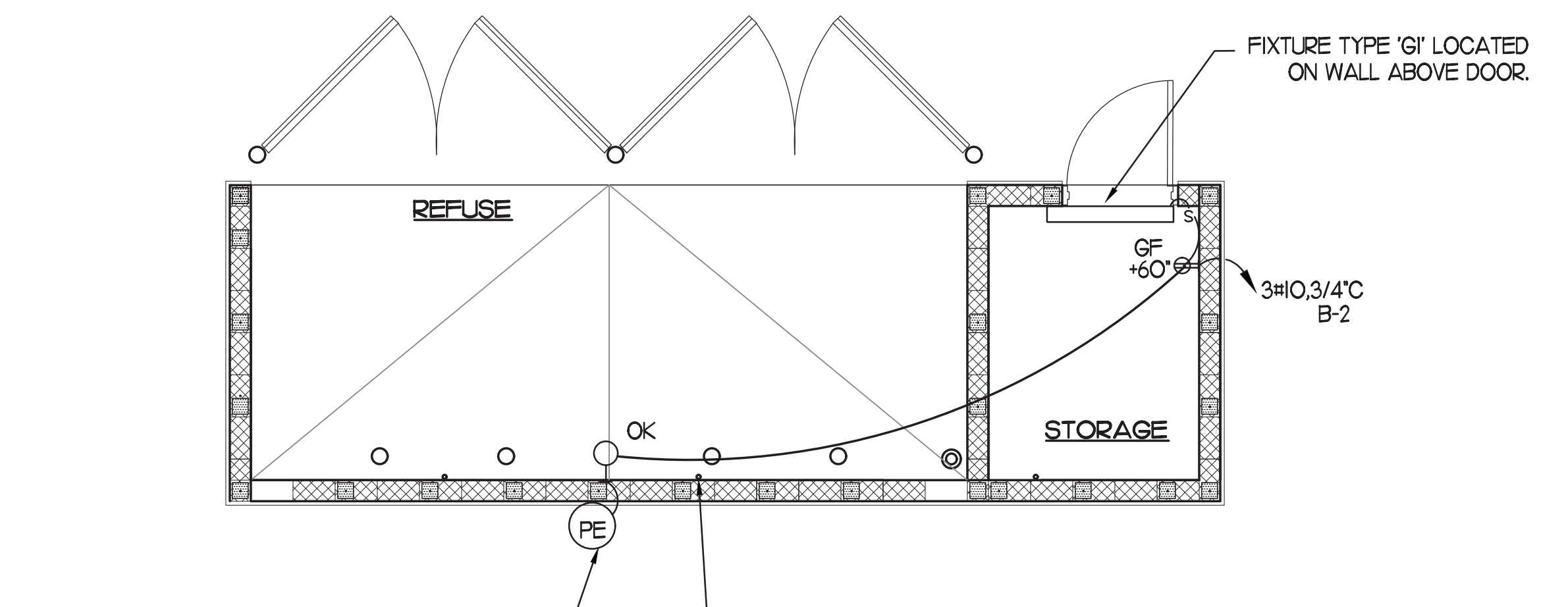
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**E2.3**

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**1 ROOF ELECTRICAL PLAN**  
SCALE: 1/4" = 1'-0"



PROVIDE TORK PHOTOELECTRIC CELL #2101. MOUNT ON BOX WITH 1/2" CONDUIT EXTENSION. ADJUST SLIDE POSITION AFTER DARK SO THAT PARKING LOT LIGHTING DOES NOT PREVENT THE WALL-PACK FROM BEING ON WHILE THE PARKING LOT LIGHTING IS ON.

FIXTURE TYPE 'G' LOCATED ON WALL ABOVE DOOR.

GF +60'±

3#1/2, 3/4" C B-2

PROVIDE A 15' EMPTY CAPPED CONDUIT STUBBED-UP ON INSIDE OF REFUSE ENCLOSURE WALL AND EXTENDING UNDERGROUND TO THE INSIDE THE ELECTRIC ROOM FOR A FUTURE TRASH COMPACTOR.

**2 REFUSE ENCLOSURE PLAN - ELECTRICAL**  
SCALE: 1/4" = 1'-0"

**2 KEY NOTES - ROOF ELECTRICAL PLAN:**

- 1 NOT USED
- 2 MOUNT DISCONNECT SWITCHES FOR WIC AND WIF CONDENSERS ON UNISTRUIT WITH CONDUIT DOWN INTO CEILING SPACE BELOW THRU ROOF PENETRATION DEVICE (NOT THRU ROOF). PROVIDE FUSE SIZE PER MANUFACTURER REQUIREMENTS.
- 3 NOT USED
- 4 COORDINATE EXACT LOCATION OF CONDUIT AND DISCONNECT AT EXHAUST FAN. CONDUIT SHALL BE INSTALLED THROUGH ROOF ON OUTSIDE OF FAN CURB. CONDUIT SHALL BE LOCATED AT FAN HINGE SUCH THAT THE FAN HOOD CAN BE FULLY HINGED OPEN AND NOT TOUCH THE CONDUIT. PROVIDE 14" DIAMETER LOOP IN THE FLEXIBLE CONDUIT BETWEEN THE ROOF AND THE FAN ELECTRICAL CONNECTION.
- 5 NOT USED
- 6 NOT USED.
- 7 NOT USED
- 8 NOT USED
- 9 NOT USED
- 10 CONNECT POWER FROM EACH CONDENSING UNITS COMPRESSOR CONTACTOR TO THE EVAPORATOR COIL UNITS JUNCTION BOX BELOW REFER TO E2.2 FOR LOCATION.
- 11 CONVENIENCE RECEPTACLE PROVIDED PRE-INSTALLED IN HVAC UNIT. CONNECT TO 120 VOLT CIRCUIT AS REQUIRED AND/OR AS INDICATED.
- 12 A/C UNIT DISCONNECT IS FURNISHED WITH A/C UNIT AND SHALL BE CONNECTED BY THE CONTRACTOR.
- 13 EXHAUST FAN IS FURNISHED WITH A PREWIRED DISCONNECT.

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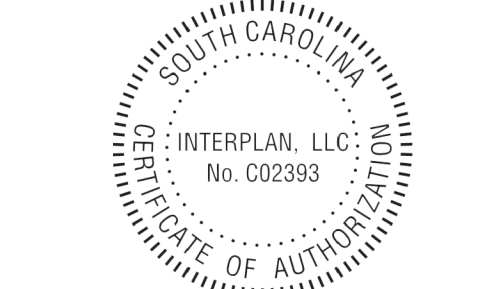
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BUILDING TYPE / SIZE: S04-152  
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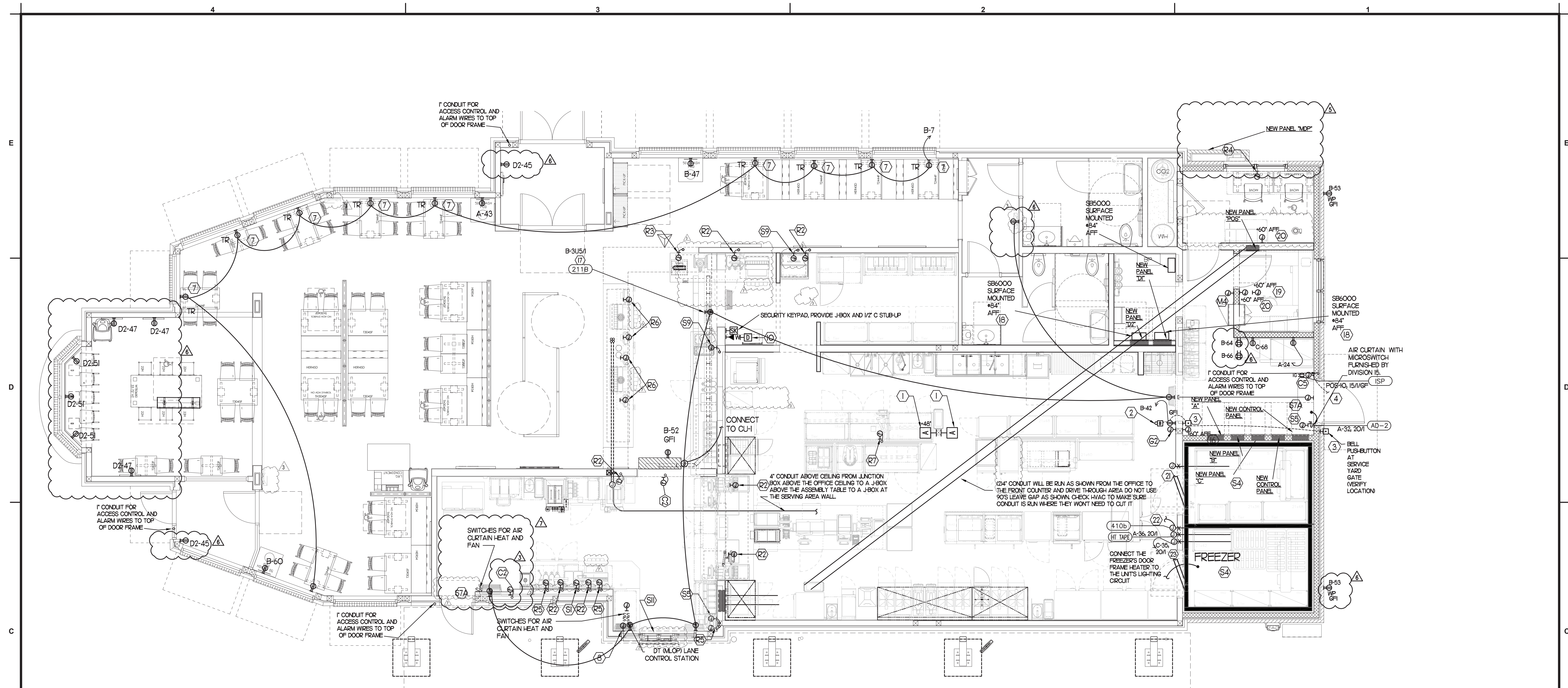
REVISION SCHEDULE	
NO.	DATE
01	08/28/2022
02	04/19/2023
03	06/29/2023
04	08/28/2023

NO.	DATE	DESCRIPTION
01	08/28/2022	ISSUE FOR CONSTRUCTION
02	04/19/2023	REVISION PARTS
03	06/29/2023	PRELIM COMMENTS
04	08/28/2023	CONSTRUCTION UPDATES

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POWER & SYSTEMS PLAN & NOTES  
 SHEET NUMBER

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**1 POWER & SYSTEM PLAN**  
 SCALE: 1/4" = 1'-0"

**2 KEY NOTES - POWER:**

- 1 PROVIDE 2 GANG DEEP BOX (2" MIN) FOR ANSLU PULL STATION. EXTEND 1/2" CONDUIT FROM BOX, STUBBED ABOVE CEILING.
- 2 NOT USED
- 3 NOT USED
- 4 ONE 3" ISP SERVICE CONDUIT. EXTEND WITH PULL STRING FROM THE J-BOX TO THE UTILITY SOURCE
- 5 NOT USED
- 6 NOT USED
- 7 TAMPER RESISTANT (TR) DUPLEX RECEPTACLE (IN DINING AREAS) WITH USB CHARGER SHALL BE COOPER/ARROW HART #177746-B (BROWN) WITH MATCHING COLOR DECOR STYLE PLATE. JUNCTION BOX WITH 3/4" CONDUIT STUB-UP INTO THE CEILING SPACE FOR OWNER'S AIR-ONE INTERCOM FOR THE MLOP ORDERING CONTROL STATION. PROVIDE BLANK PLATE IF BLDG IS SINGLE LANE DRIVE-THRU.
- 8 NOT USED
- 9 NOT USED
- 10 PROVIDE 2 GANG DEEP BOX (2" MIN) FOR EACH DUCT SMOKE DETECTOR INDICATED ON THE MECHANICAL DRAWINGS. FOR INSTALLATION OF DUCT DETECTOR REMOTE ANNUNCIATORS BY MECHANICAL. THE DUCT SMOKE REMOTE ANNUNCIATORS ARE PROVIDED TO THE ELECTRICIAN WITH THE SUNCOAST ELECTRONICS PACKAGE OF GEAR AND CONTROLS. EXTEND 1/2" CONDUIT FROM EACH BOX AND STUB ABOVE CEILING.
- 11 NOT USED
- 12 NOT USED FROM 12 TO 16
- 13 PROVIDE DUPLEX NEMA 5-15R CLOCK RECEPTACLE (SEE ELEVATIONS FOR MTG HT) FOR CONNECTION TO FLY SYSTEM EQUIPMENT #21. VERIFY HEIGHT FOR #21. DO NOT CUT THE CORDSET FURNISHED WITH THE UNIT, BUT COIL THE CORD ON THE BACK OF THE UNIT PER MANUFACTURER'S DIRECTIONS.
- 14 SB6000 PANEL ENCLOSURE WITH 3 LITTLE FUSE SHOCK GFCI PROTECTION DEVICES AND SB6000 PANEL ENCLOSURE 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.
- 15 PROVIDE CO2 CENTRAL CONTROL UNIT MOUNTED AT 60" AFF. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE-GANG J-BOX WITH 1/2" CONDUIT EXTENDED TO ABOVE ACCESSIBLE CEILING SPACE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND PER LOCAL CODE. FIELD VERIFY EXACT LOCATION AND ALL REQUIREMENTS PRIOR TO BID AND CONSTRUCTION.
- 16 PROVIDE CO2 ANNUNCIATOR MOUNTED AT 60" AFF. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE-GANG J-BOX WITH 1/2" CONDUIT EXTENDED TO ABOVE ACCESSIBLE CEILING SPACE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND PER LOCAL CODE. FIELD VERIFY EXACT LOCATION AND ALL REQUIREMENTS PRIOR TO BID AND CONSTRUCTION.
- 17 CONNECT EVAPORATOR UNIT IN COOLER TO COOLER CONDENSING UNIT CONTROLS LOCATED ON ROOF. SEE SHEET E2.3.
- 18 CONNECT EVAPORATOR UNIT IN FREEZER TO FREEZER CONDENSING UNIT CONTROLS LOCATED ON ROOF. SEE SHEET E2.3.
- 19 FACTORY PROVIDED JUNCTION BOX FOR WALK-IN FREEZER PRESSURE RELIEF. ELECTRICAL CONTRACTOR TO PROVIDE FIELD WIRING FROM UNSWITCHED LEG OF LIGHTING CIRCUIT SERVING WALK-IN FREEZER FIXTURES TO JUNCTION BOX.

**3 KEY NOTES - SECURITY:**

- 51 PROVIDE SINGLE GANG JUNCTION BOX AND STAINLESS STEEL COVER PLATE WITH 7/8" HOLE IN CENTER. EXTEND 1" E.C. UP IN WALL TO ABOVE ACCESSIBLE CEILING.
- 52 PROVIDE 4"W X 4"H X 3"D FLUSH JUNCTION BOX WITHOUT COVERPLATE. EXTEND 2" RIGID CONDUIT UP TO ABOVE ACCESSIBLE OFFICE CEILING AREA. PROVIDE BUSHING ON CONDUIT.
- 53 PROVIDE 4"W X 4"H X 3"D JUNCTION BOX WITHOUT COVERPLATE. EXTEND 2" RIGID E.C. UP TO ABOVE ACCESSIBLE OFFICE CEILING AREA. PROVIDE SINGLE-GANG J-BOX ADJACENT WITH 2" RIGID E.C. DOWN THROUGH SLAB AND BELOW GRADE TO REMOTE CAMERA LOCATION. USE ONLY LONG SWEEPS, 3 FEET PER 90 DEGREES. SEE ELECTRICAL SITE PLAN FOR CONTINUATION.
- 54 PROVIDE TWO GANG WEATHER-PROOF JUNCTION BOX AND STAINLESS STEEL COVER PLATE WITH 7/8" HOLE IN CENTER FOR PANIC BUTTON. MOUNT AT APPROXIMATELY 48" AFF. EXTEND 1/2" RIGID CONDUIT OVER TO THE WALL AND THEN UP TO ABOVE ACCESSIBLE CEILING. SEAL PENETRATION AT WIC/WIF CEILING.
- 55 PROVIDE SINGLE GANG BOX WITHOUT COVER PLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING AND TURN TOWARD SERVING AREA SIDE OF WALL.
- 56 PROVIDE SINGLE GANG JUNCTION BOX ON INSIDE FACE OF PARAPET WALL APPROX. 12" BELOW TOP OF PARAPET WALL. EXTEND 1/2" CONDUIT DOWN TO ABOVE ACCESSIBLE OFFICE CEILING.
- 57A EXTEND 3/4" RIGID CONDUIT FROM TOP OF STRIKE-SIDE DOOR FRAME CHANNEL TO ABOVE ACCESSIBLE CEILING.
- 57B EXTEND 1/2" RIGID CONDUIT FROM A POINT 3" WITHIN EITHER HINGE-SIDE DOOR VERTICAL FRAME MULLION TO ABOVE ACCESSIBLE CEILING.
- 58 PROVIDE SINGLE GANG JUNCTION BOX WITHOUT COVERPLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING AND TURN TOWARD SERVING AREA SIDE OF WALL.
- 59 PROVIDE SINGLE GANG WEATHER-PROOF JUNCTION BOX WITH STAINLESS STEEL COVER PLATE MOUNTED 18" FROM THE CORNER OF THE SERVICE YARD AND JUST BELOW ROOF DECK MOUNTING BRACKETS. ROUTE 1" EMT CONDUIT FROM THE BOX. SURFACE MOUNTED JUST BELOW THE ROOF DECK MOUNTING BRACKETS AND TERMINATE THE CONDUIT AT 59.
- 60 EXTEND 1/2" RIGID CONDUIT FROM A POINT 3" WITHIN STRIKE-SIDE WINDOW FRAME MULLION TO ABOVE ACCESSIBLE CEILING.
- 61 PROVIDE SINGLE GANG WEATHER-PROOF JUNCTION BOX WITH STAINLESS STEEL COVER PLATE MOUNTED JUST ABOVE THE STRIKE SIDE OF OUTSIDE DOOR ON INSIDE OF SERVICE YARD. ROUTE 1" EMT CONDUIT SURFACE MOUNTED FROM BOX JUST BELOW THE ROOF DECK MOUNTING BRACKETS. TERMINATE CONDUIT IN THE ACCESSIBLE CEILING SPACE INSIDE THE BUILDING.
- 62 NOT USED
- 63 PROVIDE JUNCTION BOX ON THE LATCH SIDE OF THE ROOF ACCESS HATCH WITH 1/2" C ABOVE THE CLG TO THE OFFICE CEILING SPACE FOR A DOOR CONTACT.

**4 GENERAL NOTES:**

- 1 ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
- 2 REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
- 3 ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
- 4 PROVIDE INSTALLED BUSHINGS AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING. 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.

**5 KEY NOTES - COMMUNICATIONS:**

- 61 PROVIDE DOUBLE-GANG RING (CARLON HSC200RR) WITH STAINLESS STEEL COVER PLATE AND HOLE IN PLATE FOR AUDIO WITH 2" CONDUIT UNDERGROUND TO THE DT DUAL-LANE (MLOPI) ORDERING AREA AND A 2" CONDUIT STUBBED UP INTO THE CEILING SPACE.
- 62 PROVIDE JUNCTION BOX, LESS COVER PLATE, AND EXTEND 3/4" E.C. UP IN WALL TO ABOVE CEILING FOR INSTALLATION OF WIRELESS COMMUNICATION CONTROL UNIT.
- 63 PROVIDE TWO DOUBLE-GANG RINGS (CARLON HSC200RR) WITH STAINLESS STEEL COVER PLATE AND HOLE IN PLATE FOR AUDIO WITH 2" CONDUIT STUBBED UP INTO THE CEILING SPACE. ONE RING SHALL BE ABOVE THE COUNTER AND ONE BELOW WITH A 2" CONDUIT BETWEEN THE RINGS.
- 64 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.
- 65 PROVIDE TWO 6"x6"x1/4" J-BOX (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"x36"x3/8" PLYWOOD BACKBOARD ON THE WALL ABOVE THE J-BOXES (AT THE CEILING) FOR USE BY THE ISP. PROVIDE A COPPER GROUND BAR AT THE BOTTOM OF THE BACKBOARD WITH #6 AWG INSULATED CU GROUNDING CONDUCTOR IN A 3/4" FROM THE GROUND BAR TO THE BUILDING'S ELECTRICAL SERVICE GROUNDING ELECTRODE SYSTEM (GES). 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. CONNECT TO CIRCUIT POS-12 (ISA/VP BRANCH BREAKER) AND LABEL THE RECEPTACLE FOR FIBER TO CABLE MODEM USE ONLY.

**6 CO2 DETECTOR NOTES:**

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

**7 KEY NOTES - MUSIC:**

- M1 PROVIDE JUNCTION BOX WITH STAINLESS STEEL COVER PLATE AND 3/4" HOLE IN PLATE WITH GROMMET ON HOLE IN PLATE. EXTEND 3/4" E.C. UP IN WALL TO ABOVE CEILING FOR MUSIC SYSTEM.
- M2 PROVIDE JUNCTION BOX WITH STAINLESS STEEL COVER PLATE AND 3/4" HOLE IN PLATE WITH GROMMET ON HOLE IN PLATE. EXTEND 3/4" E.C. UP IN WALL TO PARAPET WALL FOR THE SATELLITE DISH.
- M3 PROVIDE THREE SINGLE GANG EXTRA DEEP J-BOXES AT 74" AFF WITH 1/2" CONDUIT FROM EACH TO THE CENTER BOX AND A 1" CONDUIT STUBBED INTO THE CEILING SPACE FOR MUSIC SYSTEM VOLUME CONTROLS.
- M4 PROVIDE A SINGLE GANG EXTRA DEEP JUNCTION BOX AT 74" AFF WITH 1/2" CONDUIT STUBBED INTO THE CEILING SPACE FOR MUSIC SYSTEM VOLUME CONTROLS.

**8 KEY NOTES - POS SYSTEM:**

- 81 PROVIDE A 'RETROFIT' DOUBLE-GANG RING (CARLON HSC200RR) FOR OWNER'S DEVICE PLATE WITH A 3" EMPTY CONDUIT AT THE OPENING IN THE WALL UP TO THE CEILING SPACE FOR OWNER'S DATA CABLES.
- 82 PROVIDE JUNCTION BOX FOR TERMINATION OF 1" CONDUIT. PROVIDE 1" CONDUIT EXTENDING FROM CEILING AND TERMINATED AT JUNCTION BOX ON THE SERVING AREA SIDE OF THE WALL. COVER PLATE PROVIDED BY OWNER'S POS SYSTEM VENDOR.
- 83 PROVIDE A 2" CONDUIT FROM FACE OF WALL AND EXTEND CONDUIT TO JUNCTION BOX IN CEILING SPACE ABOVE SERVING AREA. CONDUIT SHALL TERMINATE FLUSH WITH FACE OF WALL BELOW COUNTER. CUSTOM STAINLESS STEEL COVER PLATE WITH GROMMET ON 2" DIAMETER HOLE AT CONDUIT TERMINATION IN WALL.
- 84 PROVIDE A 'RETROFIT' SINGLE GANG RING (CARLON HSC100RR) FOR OWNER'S DEVICE PLATE WITH A 2" EMPTY CONDUIT AT THE OPENING IN THE WALL UP TO THE CEILING SPACE FOR OWNER'S DATA CABLES.
- 85 PROVIDE JUNCTION BOX FOR TERMINATION OF 1" CONDUIT. PROVIDE 1" CONDUIT EXTENDING FROM CEILING AND TERMINATED AT JUNCTION BOX ON THE SERVING AREA SIDE OF THE WALL. POS SYSTEM SUPPLIER WILL PROVIDE COVER PLATE ON BOX.
- 86 PROVIDE SINGLE GANG EXTRA DEEP JUNCTION BOX MOUNTED ON THE MOUNTING PLATE WITHIN THE FRONT SERVING COUNTER CASEWORK.
- 87 PROVIDE SINGLE GANG EXTRA DEEP JUNCTION BOX MOUNTED FLUSH MOUNTED IN THE CEILING FOR POS DATA PLATE (BY OTHERS) FOR THE SALAD PREP AREA POS MONITOR AND PRINTER.