SECTION 15732 - PACKAGED ROOFTOP AIR-CONDITIONING UNITS
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Submittals: Product Data and Shop Drawings.
B. Comply with ASHRAE 15.
C. EER: Equal to or greater than prescribed by the energy code adopted by the Authority Having Jurisdiction.
D. Warranties: Submit a written warranty, signed by the manufacturer, agreeing to the repair or replacement of components that fail within 5 years of Substantial Completion.
PART 2 - PRODUCTS
2.1 PACKAGED UNITS, 5 TO 20 TONS
A. Factory assembled and tested, consisting of compressors, condensers, evaporator coils, condenser and evaporator fans, refrigeration and temperature controls, filters, and dampers.
1. Refer to Rooftop Heating/Cooling Unit Schedule on drawing M600 for capacities, and manufacturers.
2. Evaporator Fans: Belt or direct driven, forward curved centrifugal.
3. Exhaust/Relief Fans: Direct drive, forward curved centrifugal or propeller.
4. Condenser Fans: Direct drive propeller.
5. Refrigerant Coils: Aluminum fins and copper coil.
6. Compressors: Serviceable hermetic or fully hermetic, with safety controls, hot gas bypass, and timed off controls.
7. Heat Exchangers: Gas fired, with gas controls, electronic ignition, high limit cutout, and forced draft proving switch.
8. Economizer controls (Comparative Enthalpy, 100% capacity).
9. Smoke Detectors: Photoelectric in supply and/or return as called for in schedule on sheet M600.
10. Operating Controls: Two stage heating and two stage cooling on units 7-1/2 tons and over.
11. Roof curb.
12. Control Wiring from T-stat to rooftop unit: Shall be 18ga / 7 conductor, rated for plenum applications.
13. Control Wiring from T-stat to remote sensor: Shall be a separate 18ga / 2 conductor shielded, rated for plenum applications.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Install units level and plumb and firmly anchored.
B. Connect gas piping to burner with pipe same size as gas train inlet, and provide union with sufficient clearance for burner removal and service.
C. Install ducts to termination in roof mounting frames. Terminate ducts through roof structure.
D. Connect units to wiring systems and to ground.
END OF SECTION 15732

SECTION 15810 - DUCTS AND ACCESSORIES
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Submittals: Product Data for fire and smoke dampers.
B. Comply with NFPA 90A for systems serving spaces more than 25,000 cu. ft. in volume or building Types II, IV, and V construction more than 3 stories in height.
C. Comply with NFPA 90B for systems serving spaces in 1 or 2 family dwellings or serving spaces less than 25,000 cu. ft..
D. Comply with NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations," for kitchen hood ducts.
E. Comply with UL 181 and UL 181A for ducts and closures.
F. Testing, Adjusting, and Balancing Agency Qualifications: AABC certified (to be furnished by Tenant).
PART 2 - PRODUCTS
2.1 DUCTS
A. Spiral Duct: Spiral Lock Seam, without insulation, G90 galvanized finish, ASTM A-653/924
1. Basis of Design Manufacturers: Lindab SPIROsafe, alternates to the basis of design must be submitted for review.
2. Fittings: Factory produced standing seam construction with internal sealing. Fittings with a major axis of 36" or smaller shall be 20 gauge. Fittings with a major axis of 37"-48" shall be 18 gauge.
B. Galvanized Steel Sheet: Forming steel, ASTM A 653/653M, G90 coating designation.
C. Duct Liner: ASTM C 1071, Type II, with an airstream surface coated with a temperature resistant coating. Thickness: 1-1/2 inch. R-value: 8.
1. Adhesive: ASTM C 916, Type I.
2. Mechanical Fasteners: Galvanized steel pin, length as required to penetrate liner plus a 1/8 inch projection maximum into the airstream.
D. Joint and Seam Tape: Comply with UL 181A.
E. Joint and Seam Sealant: Comply with UL 181A.
F. Rectangular Metal Duct Fabrication: Comply with SMACNA's "HVAC Duct Construction Standard" for metal thickness, reinforcing types and intervals, tie rod applications, and joint types and intervals.
2.2 ACCESSORIES
A. Volume Control Dampers: Factory fabricated volume control dampers, complete with required hardware and accessories. Single blade and multiple opposed blade, standard leakage rating, and suitable for horizontal or vertical applications.
B. Fire Dampers: Factory-fabricated fire dampers, complete with required hardware and accessories. UL labeled according to UL 555, "Fire Dampers".
C. Flexible Connectors: Flame retardant or noncombustible fabrics, coatings, and adhesives complying with UL 181, Class 1.
D. Flexible Ducts: Factory fabricated, insulated, round duct, with an outer jacket enclosing 2 inch thick, glass fiber insulation, R-value: 6.0, around a continuous inner liner.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Duct System Pressure Class: Construct and install each duct system with 2 inch positive and negative duct pressure classifications.
B. Conceal ducts from view in finished and occupied spaces. Except where noted as exposed.
C. Avoid passing through electrical equipment spaces and enclosures.
D. Support and connect metal ducts according to SMACNA's "HVAC Duct Construction Standard".
E. Install duct accessories according to applicable portions of details of construction as shown in SMACNA standards.
F. Install liner and/or insulation on ductwork per the material schedule on sheet M010.
G. Install volume control dampers in lined duct with methods to avoid damage to liner and to avoid erosion of duct liner.
H. Install fire and smoke dampers according to manufacturer's UL approved written instructions.
I. Install fusible links in fire dampers.
J. Provide saddle taps at tees for exposed ductwork.
3.2 TESTING, ADJUSTING, AND BALANCING
A. The Tenant will supply an independent balance agent to to balance and adjust the HVAC installation. The balance agent will be responsible for any pulley or belt changes required.
B. The GC is to have trained staffed available during the balancing to correct issues noted by the balance agent.
C. The balance agent is to balance airflow within distribution systems, including submains, branches, and terminals to indicated quantities +/- 10%. The hood exhaust system shall be balanced to a tolerance of -0+10% and the make-up air system to a tolerance of -10+0%.
D. The balance agent is to supply a copy of the balance report to the Tenant, engineer and general contractor for review.
END OF SECTION 15810

SECTION 15855 - DIFFUSERS, REGISTERS, AND GRILLES
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Submittals: None.
PART 2 - PRODUCTS
2.1 OUTLETS AND INLETS
A. All air terminal devices:
1. Refer to Grills, Registers, and Diffusers Schedule for equipment schedule
2. Manufacturer: As scheduled (NO SUBSTITUTIONS)
3. Material: As scheduled.
4. Finish: As scheduled.
5. Mounting: As scheduled.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Coordinate location and installation with duct installation and installation of other ceiling and wall mounted items.
B. Locate ceiling diffusers, registers, and grilles, as indicated on the architectural "reflected ceiling plans." Unless otherwise indicated, locate units in center of acoustical ceiling panels.
END OF SECTION 15855

HVAC GENERAL NOTES

A GENERAL NOTES APPLY TO HVAC SHEETS.
B WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE AUTHORITY HAVING JURISDICTION, INCLUDING APPLICABLE SECTIONS OF NFPA, THE MECHANICAL CODE, AND ANY INTERIM AMENDMENTS AT THE TIME OF THE PROPOSAL. PURCHASE PERMITS ASSOCIATED WITH THE WORK. OBTAIN INSPECTIONS REQUIRED BY CODE. SEE ARCHITECTURAL SHEETS FOR THE PREVAILING CODES.
C CONTRACTOR AND SUBCONTRACTORS SHALL REVIEW A COMPLETE SET OF THE CONSTRUCTION DOCUMENTS.
D COORDINATE WORK WITH THE WORK OF OTHER TRADES. EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND OF THE EXISTING CONDITIONS AT THE PROJECT SITE.
E DRAWINGS FOR THE MECHANICAL WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWING SHALL NOT BE SCALED FOR EXACT MEASUREMENTS, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, OFFSETS, ACCESSORIES, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
F DUCT DIMENSIONS ON PLANS INDICATE DIMENSIONS OF INTERNAL FREE AREA.
G PERFORATED CEILING DIFFUSERS SHALL BE 4-WAY UNLESS NOTED OTHERWISE.
H COORDINATE ROOF WORK WITH THE OWNER'S CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
I UNLESS NOTED OTHERWISE RECTANGULAR DUCT ELBOWS GREATER THAN 45° SHALL BE MITERED ELBOWS WITH DOUBLE-THICKNESS TURNING VANES AND RECTANGULAR DUCT ELBOWS 45° OR LESS SHALL BE RADIUSED ELBOWS WITH AN INSIDE RADIUS OF AT LEAST 1/2 THE WIDTH OF THE DUCT.
J REPLACE AIR FILTERS WITH NEW, CLEAN MERV 8 AIR FILTERS AT TURNOVER.
K THE TERM "FURNISH" MEANS SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS. THE TERM "INSTALL" DESCRIBES THE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.
L INSTALL LABELING CALLED FOR IN THE MECHANICAL DRAWINGS USING ENGRAVED PHENOLIC PLATES (WHITE WITH BLACK LETTERING).
M PROVIDE P3000 12 GA. UNISTRUT WITH PG FINISH FOR DUCT SUPPORTS AND OTHER UNISTRUT IN AREAS EXPOSED TO VIEW. SLOTTED UNISTRUT AND OTHER UNISTRUT WITH HOLES IS NOT ACCEPTABLE.

HVAC MATERIAL SCHEDULE

	APPLICATION	ALLOWABLE MATERIAL
DUCT		
	CONCEALED, GENERAL EXHAUST	RECT. OR ROUND AS SHOWN
	CONCEALED, RETURN	RECT. OR ROUND AS SHOWN, LINED OR INSULATED
	CONCEALED, SUPPLY	RECT. OR ROUND AS SHOWN, LINED OR INSULATED
	CONCEALED, TYPE I HOOD EXHAUST	RECTANGULAR 16 GA. BLACK IRON W/ WRAP OR UL 1978 FACTORY-MANUFACTURED DUCT W/ WRAP (SUBMIT SHOP DRAWINGS FOR FACTORY-MANUFACTURED DUCT PRIOR TO ORDERING FOR APPROVAL)
	EXPOSED GENERAL EXHAUST	RECTANGULAR. NO EXPOSED DUCT-SEALING MASTIC
	EXPOSED RETURN	RECTANGULAR. NO EXPOSED DUCT-SEALING MASTIC
	EXPOSED SUPPLY	RECT. LINED OR ROUND AS SHOWN, NO EXPOSED DUCT-SEALING MASTIC

HVAC ABBREVIATIONS

(E)	EXISTING
ABV	ABOVE
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BOH	BACK OF HOUSE
CLG	CEILING
CTE	CONNECT TO EXISTING
DN	DOWN
EXT'G	EXISTING
FLR	FLOOR
FOH	FRONT OF HOUSE
GYP	GYPSUM BOARD
NTS	NOT TO SCALE
O/H	OVERHEAD
OBD	OPPOSED BLADE DAMPER
TYP	TYPICAL
U/G	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
VFD	VARIABLE FREQUENCY DRIVE
VSC	VARIABLE SPEED CONTROLLER
W/	WITH
WIC	WALK-IN COOLER
C02AS	TENANT'S CO2 ALARM SUPPLIER
GC	GENERAL CONTRACTOR
HES	TENANT'S HVAC EQUIPMENT SUPPLIER
HS	TENANT'S HOOD SUPPLIER
KES	TENANT'S KITCHEN EQUIPMENT SUPPLIER
LL	LANDLORD
MSS	TENANT'S MUSIC SYSTEMS SUPPLIER
SPS	TENANT'S SODA POP SUPPLIER
TAB	TENANT'S TEST AND BALANCE VENDOR
TCC	TENANT'S CABLING CONTRACTOR
TDC	TENANT'S DUCT CLEANER
TEMS	TENANT'S ENERGY MANAGEMENT SYSTEM SUPPLIER
TLS	TENANT'S LIGHT/LAMP SUPPLIER
TMB	TENANT'S MENU BOARD SUPPLIER
TMS	TENANT'S MILLWORK SUPPLIER
TP	TENANT'S PHONE SUPPLIER
TPS	TENANT'S PANELBOARD SUPPLIER
TRS	TENANT'S RAILING SUPPLIER
TSV	TENANT'S SIGN VENDOR
TUV	TENANT'S UV SNAITIZER SUPPLIER
WCS	TENANT'S WALK-IN COOLER SUPPLIER
WHS	TENANT'S WATER HEATER SUPPLIER

HVAC SYMBOLS

CEILING DIFFUSER
CEILING-MOUNTED RETURN OR EXHAUST REGISTER
SUPPLY REGISTER
RETURN GRILLE
FLEXIBLE DUCT
MITERED CORNER WITH TURNING VANES
DUCTWORK INTERNAL FREE DIMENSIONS (WIDTH/HEIGHT)
RECTANGULAR TO ROUND DUCT TRANSITION
DUCT-MOUNTED SMOKE DETECTOR
MOTOR-OPERATED DAMPER
MANUAL VOLUME DAMPER
GREASE DUCT CLEANOUT
MITERED CORNER WITHOUT TURNING VANES
GRIDPOINT THERMOSTAT
GRIDPOINT ZONE SENSOR MODULE
GRIDPOINT SUPPLY PROBE
PLAN NOTE: SEE PLAN NOTES LISTED ON THE SAME SHEET FOR NOTE MEANING
CONNECT TO EXISTING
EQUIPMENT TAG: SEE EQUIPMENT SCHEDULE ON SHEET M600 FOR EQUIPMENT INFORMATION
AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET
GRILL, REGISTER, OR DIFFUSER TAG: TAG, NECK SIZE, AIRFLOW [CFM]

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Contents: HVAC SPECIFICATIONS

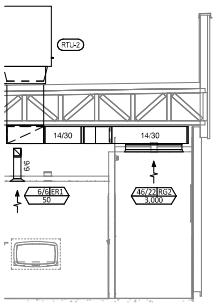
M010

HVAC PLAN NOTES

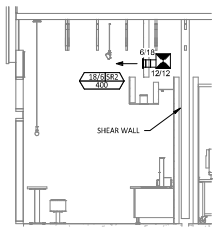
1. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING MOUNTED EQUIPMENT LOCATION. TYPICAL.
2. PAINT DUCTWORK VISIBLE THROUGH DINING ROOM SUPPLY REGISTERS BLACK. TYPICAL.
3. PENETRATIONS THROUGH SHEAR WALL SHALL BE LIMITED TO 10" DIAMETER (OR A GROUP OF PENETRATIONS ALL CONTAINED WITHIN 10" DIAMETER). IF LARGER PENETRATIONS OR GROUPS OF PENETRATIONS ARE REQUIRED COORDINATE WITH STRUCTURAL ENGINEER FOR APPROPRIATE BRACING. SEE STRUCTURAL DRAWINGS FOR SHEAR WALL LOCATION.
4. 30/14 DUCT UP FOR TRANSITION TO RTU-1 RETURN CONNECTION IN ROOF CURB. RTU-1 SHALL HAVE AN INTEGRAL SMOKE DETECTOR MOUNTED IN THE RETURN AIR STREAM. INTERLOCK SMOKE DETECTOR TO RTU-1 OPERATION.
5. 30/14 DUCT UP FOR TRANSITION TO RTU-2 RETURN CONNECTION IN ROOF CURB. RTU-2 SHALL HAVE AN INTEGRAL SMOKE DETECTOR MOUNTED IN THE RETURN AIR STREAM. INTERLOCK SMOKE DETECTOR TO RTU-2 OPERATION.
6. 26/16 DUCT UP FROM BUILDING SUPPLY THROUGH ROOF. TRANSITION TO RTU-1 SUPPLY CONNECTION IN ROOF CURB.
7. 24/20 DUCT UP FROM BUILDING SUPPLY TO RTU-2 SUPPLY CONNECTION. TRANSITION IN ROOF CURB.
8. 14/14 DUCT UP THROUGH ROOF. TRANSITION TO MAU-1 SUPPLY CONNECTION IN ROOF CURB.
9. 16/16 DUCT UP FROM HOOD THROUGH ROOF TO EF-1 COMPLIANT WITH NFPA 96. PROVIDE RADIUSED ELBOWS WITH AN INSIDE RADIUS OF 0.5W AT ELBOWS IN GREASE DUCT.
10. 8/6 DUCT UP THROUGH ROOF TO EF-2.
11. 28/6 DUCT DOWN TO MAKEUP AIR PSP DUCT CONNECTION. TRANSITION TO SUPPLY PLENUM OPENING SIZE. TYPICAL FOR 3.
12. 8" DIA. DUCT DOWN TO AC PSP DUCT CONNECTION. TRANSITION TO SUPPLY PLENUM OPENING SIZE. TYPICAL. CAP UNUSED DUCT CONNECTIONS.
13. INSTALL SINGLE-GANG VERTICAL J-BOX FOR GRIDPOINT THERMOSTATS FURNISHED BY TEMS FOR RTU-1 AND RTU-2 AT THIS LOCATION AT 48" AFF. COORDINATE WITH ELECTRICAL SWITCHING IN THIS AREA. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
14. INSTALL GRIDPOINT ZONE SENSOR MODULE FURNISHED BY TEMS FOR RTU-1 AT THIS LOCATION 72" AFF DIRECTLY TO WALL (NO JUNCTION BOX). COORDINATE LOCATION WITH EQUIPMENT. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
15. INSTALL GRIDPOINT ZONE SENSOR MODULE FURNISHED BY TEMS FOR RTU-2 AT THIS LOCATION 66" AFF DIRECTLY TO WALL (NO JUNCTION BOX). COORDINATE LOCATION WITH EQUIPMENT. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
16. INSTALL GRIDPOINT SUPPLY PROBE FURNISHED BY TEMS FOR RTU-1 IN THE SUPPLY DUCTWORK UPSTREAM FROM THE FIRST BRANCH CONNECTION. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
17. INSTALL GRIDPOINT SUPPLY PROBE FURNISHED BY TEMS FOR RTU-2 IN THE SUPPLY DUCTWORK UPSTREAM FROM THE FIRST BRANCH CONNECTION. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
18. INSTALL REMOTE TEMPERATURE SENSOR FOR HOOD HD-1 AT THIS LOCATION 72" AFF. COORDINATE LOCATION WITH EQUIPMENT. PROVIDE (2) #18 G. THERMISTOR CABLE FROM TEMPERATURE SENSOR TO HOOD CONTROL PANEL.
19. INSTALL KITCHEN HOOD, HD-1. SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL HOOD ACCORDING TO THE REQUIREMENTS OF ITS LISTING, IN COMPLIANCE WITH NFPA 96, THE BUILDING CODE, AND AUTHORITIES HAVING JURISDICTION. HOOD SHALL HAVE AN INTEGRAL DUCT COLLAR TEMPERATURE SENSOR TO AUTOMATICALLY ENERGIZE THE EXHAUST AND MAKEUP AIR FANS IF COOKING TEMPERATURES ARE DETECTED. EXHAUST DUCT SYSTEM TO BE WELDED OR FACTORY-MANUFACTURED WATER AND AIR TIGHT. INSTALL CLEANOUTS PER CODE AND AS SHOWN. INSTALL HOOD PER DETAILS 2, 4, AND 9/M700. CHIPOTLE WILL PROVIDE AN INDEPENDENT TESTING AGENCY FOR TESTING THE INTEGRITY OF THE GREASE DUCT SYSTEM.

HVAC PLAN NOTES

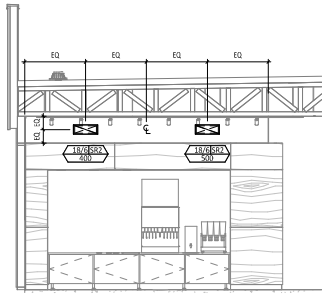
20. INSTALL REMOTE CONDENSING UNIT FOR WALK-IN COOLER ON ROOF AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILTER DRIER, PRESSURE CONTROL, LOW AMBIENT CONTROLS, AND WEATHERPROOF HOUSING. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. INSTALLATION SHALL COMPLY WITH ASHRAE/ANSI STANDARD 15. INSTALL THE REFRIGERANT LINE SET UNDER THE ROOF DECK TO WITHIN 3' OF THE CONDENSING UNIT. CUT 2-1/2" HOLE IN WALK-IN COOLER ROOF FOR REFRIGERANT LINE SET AND SEAL PER THE COOLER MANUFACTURER'S INSTALLATION INSTRUCTIONS AFTER LINE SET IS INSTALLED.
21. INSTALL REMOTE CONDENSER FOR ICE MACHINE ON ROOF AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILTER DRIER, PRESSURE CONTROL, LOW AMBIENT CONTROLS, AND WEATHERPROOF HOUSING. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. SEAL PIPING PENETRATIONS THROUGH ROOF. INSTALLATION SHALL COMPLY WITH ASHRAE/ANSI STANDARD 15. INSTALL THE REFRIGERANT LINE SET UNDER THE ROOF DECK TO WITHIN 3' OF THE REMOTE CONDENSER. IF REFRIGERANT PIPING TO ICE MAKER IS EXPOSED TO PUBLIC VIEW CONCEAL WITHIN A STAINLESS STEEL SHROUD AS SHOWN IN THE ARCHITECTURAL DRAWINGS.
22. INSTALL ROOFTOP EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
23. INSTALL EXHAUST FAN EF-1 PER DETAIL 5/M700 AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL GREASE VIROGUARD SYSTEM FURNISHED BY CHIPOTLE ON EXHAUST FAN, EF-1.
24. PROVIDE SUPPLY DIFFUSER CONNECTION TO SUPPLY SYSTEM PER DETAIL 1/M700. TYPICAL.
25. PROVIDE AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET. WIRE A UNIT BACK TO EACH SMOKE DETECTOR. MOUNT UNIT 60" AFF. TYPICAL.
26. INSTALL REME HALO AIR PURIFIER FURNISHED BY TUV IN RTU PER DETAIL 6/M700. SEE ELECTRICAL DRAWINGS FOR POWER CONNECTION INFORMATION. INSTALL UV WARNING STICKERS ON FACE OF ENCLOSURE PER DETAIL AND ON ANY RTU ACCESS DOOR(S) THROUGH WHICH THE REME HALO WOULD BE VISIBLE IF OPENED.
27. MAINTAIN 10' CLEARANCE BETWEEN WATER HEATER FLUE TERMINATION AND OUTSIDE AIR INTAKES. MAINTAIN 10' CLEARANCE BETWEEN WATER HEATER COMBUSTION AIR INTAKE AND EXHAUST FAN EF-1 DISCHARGE. SEE PLUMBING DRAWINGS FOR MORE INFORMATION ON WATER HEATER FLUE AND COMBUSTION AIR TERMINATIONS.
28. ADJUST SUPPLY REGISTERS SO THAT SUPPLY AIR HITS WALL ON OPPOSITE SIDE OF ROOM AT APPROXIMATELY 7' AFF WITH NO DRAFTS FELT IN THE DINING ROOM.
29. CONNECT DUCT HEATER (DH-1) TO THERMOSTAT AS THIRD STAGE OF HEAT.



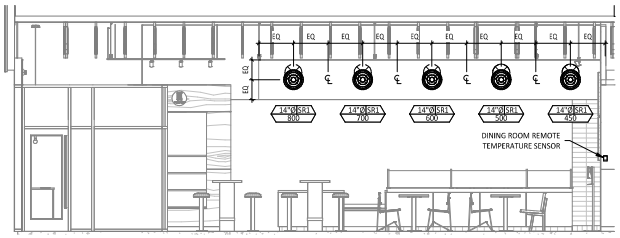
6 M100 **HVAC DINING ROOM RETURN SECTION**
1/4" = 1'-0"



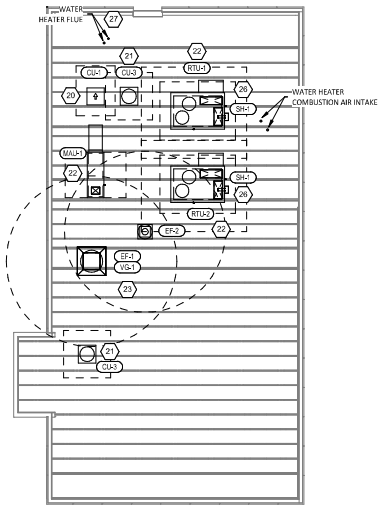
5 M100 **HVAC DINING ROOM SECTION**
1/4" = 1'-0"



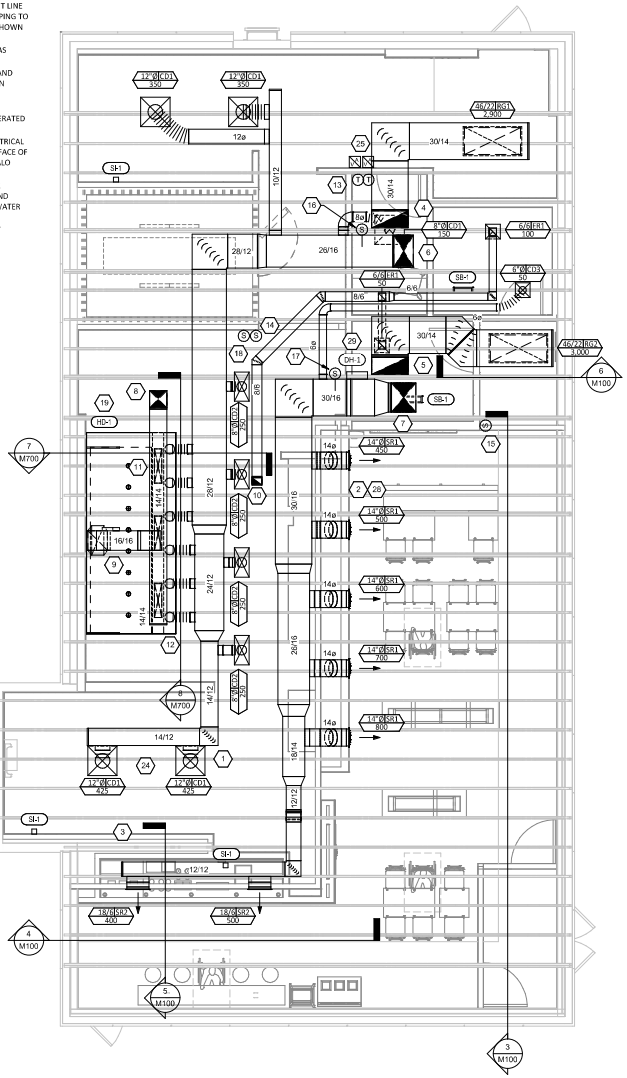
4 M100 **HVAC DINING ROOM SECTION**
1/4" = 1'-0"



3 M100 **HVAC DINING ROOM SECTION**
1/4" = 1'-0"



2 M100 **HVAC ROOF PLAN**
1/8" = 1'-0"



1 M100 **HVAC FLOOR PLAN**
1/4" = 1'-0"

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Contents: HVAC PLAN

M100

VIROGUARD SCHEDULE

TAG	COUNT	DESCRIPTION	DUCT CONNECTION SIZE	FAN	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN MANUFACTURER
VG-1	1	VIROGUARD HOOD EXHAUST FAN ROOFTOP CONTAINMENT SYSTEM	16" X 16"	CAPTIVE-AIRE DU180HFA	TOC	GC	ENVIROMATIC

SANITIZING EQUIPMENT SCHEDULE

TAG	COUNT	DESCRIPTION	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN MANUFACTURER	BASIS FOR DESIGN MODEL	REMARKS
SB-1	2	BATHROOM AIR PURIFICATION UNIT	TUV	GC	RGF ENVIRONMENTAL GROUP	BRU ASSEMBLY	SEE ELECTRICAL SHEETS FOR CONNECTION INFORMATION
SH-1	2	HVAC AIR PURIFICATION UNIT	TUV	GC	RGF ENVIRONMENTAL GROUP	REME-HALO	SEE DETAIL E/M700 FOR INSTALLATION INFORMATION.
SI-1	3	ICE MACHINE TREATMENT SYSTEM	TUV	GC	RGF ENVIRONMENTAL GROUP	IMS B-GA	SEE PLUMBING DRAWINGS FOR INSTALLATION INFORMATION.

FAN SCHEDULE

TAG	DESCRIPTION	AIRFLOW	E.S.P.	WEIGHT	ELECTRICAL MOTOR POWER	ELECTRICAL V/P/H	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN MANUFACTURER	BASIS FOR DESIGN MODEL	REMARKS
EF-1	UPBLAST UL762 EXHAUST FAN	2,550 CFM	1.20 in-wg	400 lb	2 hp	208/3/60	HS	GC	CAPTIVE-AIRE	DU180-HFA	DIRECT DRIVE UL762 UPBLAST EXHAUST FAN FURNISHED WITH WEATHERPROOF DISCONNECT AND VENTED ROOF CURB
EF-2	DOWNBLAST RESTROOM EXHAUST FAN	150 CFM	0.60 in-wg	100 lb	0.18 hp	120/1/60	HS	GC	CAPTIVE-AIRE	DR12HFA	DIRECT DRIVE DOWNBLAST RESTROOM EXHAUST FAN FURNISHED WITH INTEGRAL DISCONNECT, SPEED CONTROL, BACKDRAFT DAMPER, AND CURB

CONDENSING UNIT SCHEDULE

TAG	DESCRIPTION	NOMINAL CAPACITY	NUMBER OF COMPRESSORS	NUMBER OF CIRCUITS	REFRIGERANT TYPE	REFRIGERANT CHARGE	WEIGHT	ELECTRICAL MOCP	ELECTRICAL FLA	ELECTRICAL V/P/H	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN MANUFACTURER	BASIS FOR DESIGN MODEL	REMARKS
CU-1	CONDENSING UNIT - WALK-IN COOLER		1	1	R-448A	9.9 lb	200 lb	15 A	7 A	208/3/60	WCS	GC	EVERIDGE	RFO130E4SEA	FURNISHED WITH WALK-IN COOLER
CU-3	REMOTE CONDENSER - LOW CAPACITY MACHINE ICE MAKER		0	1	R-404A	0 lb	150 lb			208/1/60	KES	GC	SCOTSMAN	ERC311-32	FURNISHED WITH ICE MAKER
CU-3	REMOTE CONDENSER - SODA MACHINE ICE MAKER		0	1	R-404A	0 lb	100 lb			120/1/60	KES	GC	SCOTSMAN	ERC111-1	FURNISHED WITH ICE MAKER

MAKEUP AIR UNIT SCHEDULE

TAG	DESCRIPTION	AIRFLOW	E.S.P.	HEATING INPUT	HEATING OUTPUT	HEATING EAT	WEIGHT	ELECTRICAL MOTOR POWER	ELECTRICAL V/P/H	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN MANUFACTURER	BASIS FOR DESIGN MODEL	REMARKS
MAU-1	DIRECT-FIRED MAKEUP AIR UNIT	1,300 CFM	0.50 in-wg	225,000 Btu/h	220,000 Btu/h	14 °F	650 lb	1 hp	208/3/60	HS	GC	CAPTIVE-AIRE	A1-D.250-1SD	12.5:1 MAX TURNDOWN. FURNISHED WITH DISCONNECT, ROOF CURB, SCREEN INTAKE, AND WASHABLE ALUMINUM FILTERS

DUCT HEATER SCHEDULE

TAG	DESCRIPTION	TOTAL [CFM]	DUCT SIZE DUCT WIDTH	DUCT SIZE DUCT HEIGHT	NUMBER OF STEPS	MBH	EAT [DEG. F]	ELECTRICAL KW	ELECTRICAL V/P/H	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN MANUFACTURER	BASIS FOR DESIGN MODEL	REMARKS
DH-1	DINING ROOM DUCT HEATER	4000 CFM	30"	16"	3	49	83	14	208/3/60	GC	GC	INDEECO	OPEN COIL	THERMAL CUTOUT, AIRFLOW SWITCH, VERIFY DUCT SIZE PRIOR TO ORDERING

KITCHEN HOOD SCHEDULE

TAG	DESCRIPTION	MAX COOKING TEMP.	EXHAUST PLENUM AIRFLOW	EXHAUST PLENUM E.S.P.	EXHAUST PLENUM DUCT COLLARS NO.	EXHAUST PLENUM DUCT COLLARS WIDTH	EXHAUST PLENUM DUCT COLLARS LENGTH	PERFORATED SUPPLY PLENUMS LENGTH	PERFORATED SUPPLY PLENUMS WIDTH	PERFORATED SUPPLY PLENUMS MAU PLENUM AIRFLOW	MAU PLENUM DUCT COLLARS NO.	MAU PLENUM DUCT COLLARS WIDTH	MAU PLENUM DUCT COLLARS LENGTH	PERFORATED SUPPLY PLENUMS AC PLENUM AIRFLOW	AC PLENUM DUCT COLLARS NO.	AC PLENUM DUCT COLLARS DIAMETER	NO. OF LIGHT FIXTURES	WEIGHT	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN MANUFACTURER	BASIS FOR DESIGN MODEL	REMARKS
HD-1	TYPE I CANOPY HOOD WITH PERFORATED MAU AND AC SUPPLY PLENUMS	600 °F	2,550 CFM	0.97 in-wg	1	10"	2' - 0"	12' - 9"	4' - 3"	1,300 CFM	3	6"	2' - 4"	700 CFM	6	8"	8	1,150 lb	HS	GC	CAPTIVE-AIRE	5424 ND-2-ACPSP-F	MAT'L: 18 GA. TYPE 430 SS. FURNISHED WITH VERTICAL END PANELS, VAPORPROOF INCANDESCENT LIGHT FIXTURES, 16" TALL HE SS FILTERS, INTEGRAL UTILITY CABINET, KITCHEN EXHAUST SUPPRESSION SYSTEM, DUCT COLLAR TEMPERATURE SENSOR, PREWIRE PACKAGE, SPARE FIRE SYSTEM DRY CONTACT, AND 4-POLE 20A CONTACTOR

ROOFTOP UNIT SCHEDULE

TAG	DESCRIPTION	NOMINAL CAPACITY	EER	AIRFLOW TOTAL	AIRFLOW OA	AIRFLOW E.S.P.	NET COOLING CAPACITY TOTAL	NET COOLING CAPACITY SENSIBLE	NET COOLING CAPACITY EAT DB	NET COOLING CAPACITY EAT WB	NET COOLING CAPACITY COND. EAT	HEATING CAPACITY INPUT	HEATING CAPACITY OUTPUT	HEATING CAPACITY EAT	NUMBER OF COMPRESSORS	NUMBER OF CIRCUITS	REFRIGERANT TYPE	REFRIGERANT CHARGE	WEIGHT	ELECTRICAL MOCP	ELECTRICAL FLA	ELECTRICAL V/P/H	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN MANUFACTURER	BASIS FOR DESIGN MODEL	REMARKS
RTU-1	KITCHEN ROOFTOP UNIT	8.5 ton	11.2	3,400 CFM	500 CFM	0.80 in-wg	82,180 Btu/h	66,720 Btu/h	76 °F	62 °F	96 °F	179,200 Btu/h	144,800 Btu/h	55 °F	2	1	R-410A	14 lb	1,300 lb	50 A	42 A	208/3/60	HES	GC	CARRIER	48FC_N09	FURNISHED WITH COMP. ENTHALPY ECON., BAROMETRIC RELIEF, RET. SMOKE DETECTOR W/ REMOTE KEYED ANNUNCIATOR/RESET, M.O.D., MERV-8 FILTERS, CURB, HAIL GUARD, TOOLLESS HINGED ACCESS PANELS, DISCONNECT, & UNIT-MOUNTED CONVENIENCE RECEPTACLE
RTU-2	DINING ROOM ROOFTOP UNIT	10 ton	11	4,000 CFM	1,000 CFM	0.80 in-wg	101,920 Btu/h	89,300 Btu/h	78 °F	62 °F	96 °F	200,000 Btu/h	164,000 Btu/h	46 °F	2	1	R-410A	15.2 lb	1,500 lb	60 A	51 A	208/3/60	HES	GC	CARRIER	48FC_N12	FURNISHED WITH COMP. ENTHALPY ECON., BAROMETRIC RELIEF, RET. SMOKE DETECTOR W/ REMOTE KEYED ANNUNCIATOR/RESET, M.O.D., MERV-8 FILTERS, CURB, HAIL GUARD, TOOLLESS HINGED ACCESS PANELS, DISCONNECT, & UNIT-MOUNTED CONVENIENCE RECEPTACLE

AIR BALANCE SCHEDULE

TAG	SUPPLY FLOW	RETURN FLOW	EXHAUST FLOW	SUBTOTAL
EF-1	0 CFM	0 CFM	2,550 CFM	-2,550 CFM
EF-2	0 CFM	0 CFM	150 CFM	-150 CFM
MAU-1	1,300 CFM	0 CFM	0 CFM	1,300 CFM
RTU-1	3,400 CFM	2,900 CFM	0 CFM	500 CFM
RTU-2	4,000 CFM	3,000 CFM	0 CFM	1,000 CFM
NET PRESSURIZATION				100 CFM

CONTROL FUNCTIONS

A. THE MAIN COOKING EXHAUST FAN AND MAKE-UP AIR UNIT SHALL BE INTERLOCKED TO OPERATE TOGETHER. THIS CONTROL CIRCUIT IS ACTIVATED BY A SWITCH AND INCLUDES A FIRE PROTECTION OVERRIDE.

B. THE TEMPERATURE IN EACH ZONE IS CONTROLLED BY SPACE TEMPERATURE SENSORS CONNECTED TO THE THERMOSTATS LOCATED IN THE OFFICE. ALL ZONES SHALL OPERATE WITH CONTINUOUS FAN OPERATION DURING OCCUPIED TIMES AND INTERMITTENTLY AS NEEDED TO MAINTAIN SET POINTS DURING UNOCCUPIED TIMES. OUTSIDE AIR DAMPERS SHALL BE OPEN CONTINUOUSLY WHEN EITHER IN OCCUPIED MODE OR WHEN THE HOOD SYSTEM IS ON AND SHALL BE CLOSED DURING UNOCCUPIED PERIODS.

C. THE THERMOSTATS SHALL DETERMINE OCCUPIED/UNOCCUPIED STATUS BASED ON THE SCHEDULE IN THE ENERGY MANAGEMENT SYSTEM.

AIR TERMINAL SCHEDULE

TAG	DESCRIPTION	FACE SIZE	MATERIAL	FINISH	MOUNTING	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN MANUFACTURER	BASIS FOR DESIGN MODEL	NOTES
CD1	PERFORATED CEILING DIFFUSER	24" X 24"	ALUMINUM	WHITE	LAY-IN CEILING	GC	GC	NAILOR	4320A TYPE L	PROVIDE WITH INTEGRAL OBD
CD2	PERFORATED CEILING DIFFUSER	24" X 12"	ALUMINUM	WHITE	LAY-IN CEILING	GC	GC	NAILOR	4320A TYPE L	PROVIDE WITH INTEGRAL OBD, REMOVE 4-WAY DEFLECTORS
CD3	PERFORATED CEILING DIFFUSER	12" X 12"	ALUMINUM	WHITE	SURFACE MOUNT	GC	GC	NAILOR	4320A TYPE S	PROVIDE WITH INTEGRAL OBD
ER1	PERFORATED CEILING EXHAUST	12" X 12"	ALUMINUM	WHITE	SURFACE MOUNT	GC	GC	NAILOR	4330R TYPE S	PROVIDE INTEGRAL OBD
RG1	PERFORATED CEILING RETURN	48" X 24"	ALUMINUM	WHITE	LAY-IN CEILING	GC	GC	NAILOR	4330R TYPE L	
RG2	PERFORATED CEILING RETURN	48" X 24"	ALUMINUM	WHITE	SURFACE MOUNT	GC	GC	NAILOR	4330R TYPE S	
SR1	ADJUSTABLE TURBO NOZZLE	SEE NECK SIZE	ALUMINUM	WHITE	WALL	GC	GC	AIR CONCEPTS	ANR-14	PROVIDE WITH CONCEALED MOUNTING AND FACE-ACCESSIBLE OBD
SR2	DOUBLE DEFLECTION SUPPLY REGISTER	SEE NECK SIZE	ALUMINUM	WHITE	WALL	GC	GC	NAILOR	51DH	PROVIDE WITH INTEGRAL OBD

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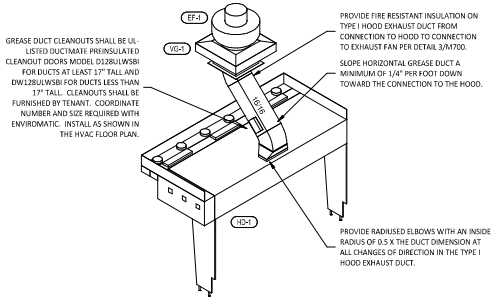
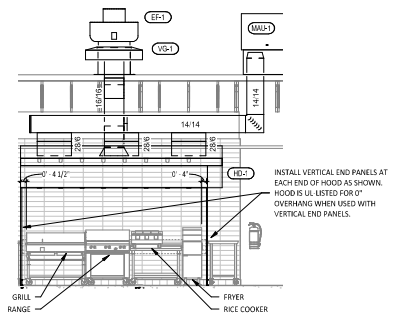
Contents: HVAC SCHEDULES

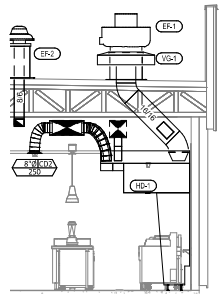
M600



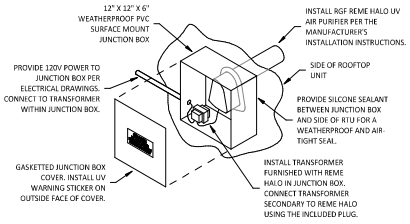
9 M700 **HOOD EXHAUST ISOMETRIC**
NOT TO SCALE



8 M700 **HOOD ELEVATION**
1/4" = 1'-0"



7 M700 **DUCT SECTION AT HOOD**
1/4" = 1'-0"



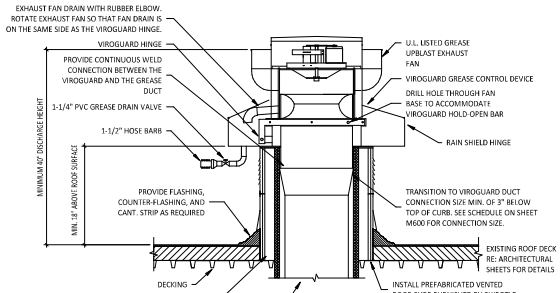
INSTALLATION LOCATION

INSTALL AIR PURIFIER WITH JUNCTION BOX ON OUTSIDE FACE OF ROOFTOP UNIT AND WITH UV LAMP TUBE EXTENDING INTO THE INTERIOR OF THE ROOFTOP UNIT. FIELD VERIFY EXACT LOCATION TO AVOID DAMAGING, TOUCHING, OR INTERFERING WITH ANY RTU INTERIOR COMPONENTS. INSTALLATION LOCATION SHALL BE AS FOLLOWS:

TRANE: INSTALL INTO THE SUPPLY AIR STREAM THROUGH THE REMOVABLE PANEL COVERING THE HORIZONTAL DISCHARGE SUPPLY AIR OPENING.

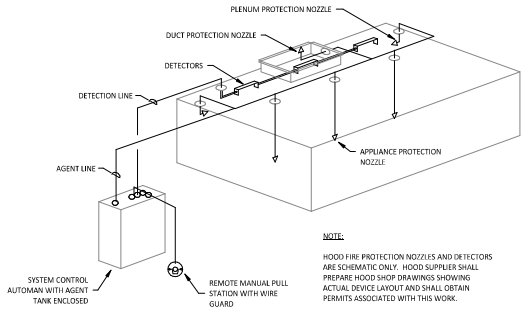
YORK: INSTALL INTO THE SUPPLY AIR PLENUM FROM THE BACK SIDE OF THE UNIT JUST ABOVE THE HEAT EXCHANGER.

6 M700 **UV AIR PURIFIER INSTALLATION**
NOT TO SCALE



NOTE:
1. INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 96 REQUIREMENTS.
2. HINGE FAN SO IT TIPS BACK TOWARD FAN DRAIN AND TOWARD VIROGUARD DRAIN.

5 M700 **GREASE EXHAUST FAN**
NOT TO SCALE



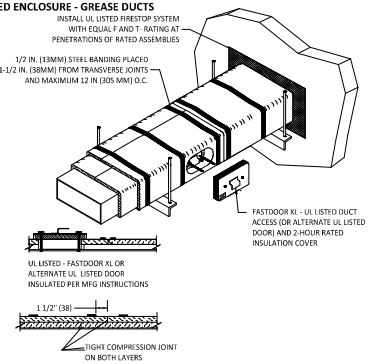
NOTE:

HOOD FIRE PROTECTION NOZZLES AND DETECTORS ARE SCHEMATIC ONLY. HOOD SUPPLIER SHALL PREPARE HOOD SHOP DRAWINGS SHOWING ACTUAL DEVICE LAYOUT AND SHALL OBTAIN PERMITS ASSOCIATED WITH THIS WORK.

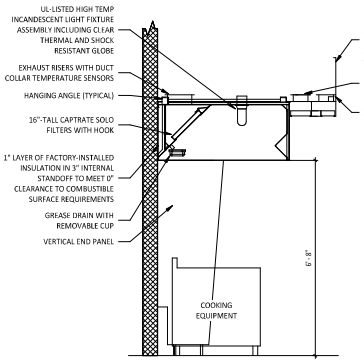
4 M700 **FIRE SUPPRESSION SYSTEM SCHEMATIC**
NOT TO SCALE

FIRE RATED ENCLOSURE - GREASE DUCTS

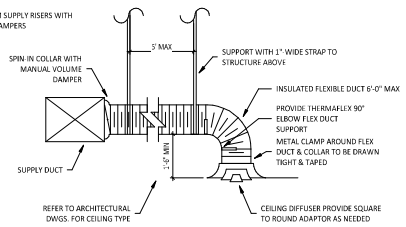
1. THERMAL CERAMICS FIREMASTER FASTWRAP XL IS TESTED TO ASTM E2336 AND UL LISTED PER HNKT.G18 TO PROVIDE ZERO CLEARANCE TO COMBUSTIBLES AND TO PROVIDE A 1- OR 2-HOUR ENCLOSURE. THROUGH PENETRATIONS FIRESTOP SYSTEMS ARE TESTED IN ACCORDANCE WITH ASTM E 814 (UL 1479). ICC CODE EVALUATION PER REPORT UL ER 14229-01.
2. COMPLIANT TO THE FOLLOWING CODES:
   - NFPA 96
   - INTERNATIONAL MECHANICAL CODES
   - UNIFORM MECHANICAL CODE.
   - CALIFORNIA MECHANICAL CODE
3. INSULATION APPLIED IN TWO LAYERS WITH TIGHT COMPRESSION JOINT ON BOTH LAYERS AT ALL JOINTS.
4. MINIMUM 16 GAUGE CARBON STEEL (OR 18 GAGE STAINLESS STEEL) RECTANGULAR OR ROUND GREASE EXHAUST DUCT
5. INSTALL UL LISTED AND LIQUID TIGHT THERMAL CERAMICS FASTDOOR XL ACCESS DOORS, OR ALTERNATE DOOR UL LISTED PER UL1978, AT ALL CHANGES IN DIRECTION AND AT MINIMUM EVERY 20 FT ON HORIZONTAL RUNS.
6. SUPPORT HANGER SYSTEMS DO NOT NEED TO BE WRAPPED PROVIDED THE HANGER RODS ARE MINIMUM OF 3/8 IN. DIAMETER AND SUPPORTS ARE MINIMUM 2 X 2 X 1/8 IN. STEEL ANGLE OR SMACNA EQUIVALENT SUPPORT SYSTEM.
7. THERMAL CERAMICS DUCT WRAP SHALL BE INSTALLED DIRECTLY ONTO THE DUCT AND APPLIED FROM THE HOOD CONNECTION TO THE CONNECTION TO THE FAN.
8. THERMAL CERAMICS DUCT ENCLOSURE SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND UL LISTINGS.



3 M700 **FIREMASTER DUCT WRAP - UL HNKT-G18**
NOT TO SCALE



2 M700 **HOOD SECTION VIEW**
NOT TO SCALE



NOTE:

1. METHOD OF INSTALLATION FOR AIRTIGHT SEAL IS TYPICAL FOR ALL FLEX CONNECTIONS TO AIR DISTRIBUTION DEVICES.

1 M700 **DIFFUSER CONNECTION**
NOT TO SCALE

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Contents: HVAC DETAILS

M700

SECTION 15055 - COMMON PIPING REQUIREMENTS
PART 1 - GENERAL
A. SECTION REQUIREMENTS
1. Comply with the requirements of the Building Code and the local authority having jurisdiction.
PART 2 - PRODUCTS
2.1 SUPPORTING DEVICES
A. Hanger and Pipe Attachments: Factory fabricated with galvanized coatings; nonmetallic coated for hangers in direct contact with copper tubing.
B. Building Attachments: Powder actuated type, drive pin attachments with pullout and shear capacities appropriate for supported loads and building materials; UL listing and FM approval for fire protection systems.
C. Mechanical Anchor Fasteners: Insert-type attachments with pullout and shear capacities appropriate for supported loads and building materials; UL listing and FM approval for fire protection systems.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Install piping free of sags and bends.
B. Install fittings for changes in direction and branch connections.
C. Install sleeves for pipes passing through concrete and masonry walls, gypsum board partitions, and concrete floor and roof slabs.
D. Exterior Wall, Pipe Penetrations: Mechanical sleeve seals installed in steel or cast iron pipes for wall sleeves.
E. Fire Barrier Penetrations: Seal pipe penetrations with through-penetration firestop systems.
F. Install unions adjacent to each valve and at final connection to each piece of equipment.
G. Install dielectric unions and flanges to connect piping materials of dissimilar metals in gas piping.
H. Install dielectric coupling and nipple fittings to connect piping materials of dissimilar metals in water piping.
I. Provide full ring escutcheons at plumbing penetrations through walls or ceilings. Tightly seal escutcheons to the adjacent surface.
3.2 HANGERS AND SUPPORTS
A. Install building attachments within concrete or to structural steel. Install additional attachments at concentrated loads, including valves, flanges, guides, strainers, expansion joints, and at changes in direction of piping.
B. Install powder actuated drive pin fasteners in concrete after concrete is cured. Do not use in lightweight concrete or in slabs less than 4 inches thick.
C. Install mechanical anchor fasteners in concrete after concrete is cured. Do not use in lightweight concrete or in slabs less than 4 inches thick.
D. Support fire protection system piping independent of other piping.
E. Load Distribution: Install hangers and supports so piping live and dead loading and stresses from movement will not be transmitted to connected equipment.
END OF SECTION 15055

SECTION 15080 - MECHANICAL INSULATION
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Submittals: None.
B. Quality Assurance: Labeled with maximum flame-spread rating of 25 and maximum smoke developed rating of 50 according to ASTM E 84.
PART 2 - PRODUCTS
2.1 PIPE INSULATION
A. Preformed Glass Fiber Pipe Insulation: ASTM C 547, Class 1, with factory applied, all purpose, vapor retarder jacket.
B. Polyolefin Pipe Insulation: Unicellular polyethylene, preformed pipe insulation. Comply with ASTM C 534, Type I, except for density.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Install vapor barriers on insulated pipes with surface operating temperatures below 60 deg F.
B. Insulate fittings, valves, and specialties.
C. Seal vapor barrier penetrations for hangers, supports, anchors, and other projections.
D. Coat glass fiber pipe insulation ends with vapor barrier coating.
E. Roof Penetrations: Apply insulation for interior applications to a point even with the top of the roof flashing.
F. Exterior Wall Penetrations: For penetrations of below grade exterior walls, terminate insulation flush with mechanical sleeve seal.
G. Interior Walls and Partitions Penetrations: Apply insulation continuously through walls and partitions, except fire rated walls and partitions.
H. Fire Rated Walls and Partitions Penetrations: Terminate insulation at penetrations through fire rated walls and partitions. Seal around penetration with through penetration firestop systems.
I. Floor Penetrations: Terminate insulation at the underside of the floor assembly and at the floor support at top of floor. Seal around penetration with through penetration firestop systems.
J. Glass Fiber Insulation Installation: Bond insulation to pipe with adhesive. Seal seams and joints with vapor barrier compound.
K. Interior Piping System Applications: Insulate the following piping systems:
1. Domestic cold, hot, and recirculation water pipes.
2. Exposed sanitary drains and water supply pipes for public hand sinks.
3. Refrigerant piping.
L. Do not apply insulation to the following systems, materials, and equipment:
1. Flexible connectors.
2. Fire protection piping systems.
3. Sanitary drainage and vent piping.
4. Chrome plated pipes and fittings, except for plumbing fixtures for the disabled.
5. Piping specialties, including air chambers, unions, strainers, check valves, plug valves, and flow regulators.
M. Pipe Insulation Thickness Application Schedule: Insulate piping with the following materials and thicknesses:
1. Domestic Hot and Recirculation water pipes: 1-inch preformed glass fiber pipe insulation.
2. Domestic Cold Water: 1/2-inch preformed glass fiber pipe insulation.
3. P-Trap and Fixture Supplies for public hand sinks: ADA-compliant pre-formed insulation.
END OF SECTION 15080

SECTION 15110 - VALVES
PART 1 - GENERAL (Not Applicable)
PART 2 - PRODUCTS
2.1 GENERAL DUTY VALVES
A. End Connections: Threads shall comply with ANSI B1.20.1. Flanges shall comply with ANSI B16.1 for cast iron valves and ANSI B16.24 for bronze valves. Solder joint connections shall comply with ANSI B16.18.
B. Ball Valves: Rated for 150 psig saturated steam pressure, 400 psig WOG pressure; 2 piece construction; with bronze body, standard (or regular) port, chrome plated brass ball, replaceable "Teflon" or "TFE" seats and seals, blowout proof stem, and vinyl covered steel handle.
C. Plug Valves: Rated at 150 psig WOG; bronze body, with straightaway pattern, square head, and threaded ends.
D. Swing Check Valves: Class 125, cast bronze body and cap; with horizontal swing, Y-pattern, and bronze disc.
E. Valves for Copper Tube: Solder ends, except provide threaded ends for heating hot water and low pressure steam service.
F. Valves for Steel Pipe: Threaded ends.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Use gate and ball valves for shutoff duty and ball for throttling duty.
B. Locate valves for easy access and provide separate support where necessary.
C. Install accessible valves for each fixture and item of equipment.
D. Install valves in horizontal piping with stem at or above center of pipe.
E. Install valves in a position to allow full stem movement.
F. Install check valves for proper direction of flow in horizontal position with hinge pin level.
END OF SECTION 15110

SECTION 15140 - DOMESTIC WATER PIPING
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Performance Requirements: Unless otherwise indicated minimum pressure requirements for water piping are as follows:
1. Service Entrance Piping: 100 psig.
2. Domestic Water Piping: 80 psig.
B. Comply with NSF 14 "Plastic Piping Components and Materials."
C. Comply with NSF 61 "Drinking Water System Components -- Health Effects."
PART 2 - PRODUCTS
2.1 PIPES AND TUBES (See Material Schedule on sheet P010 for where those materials are to be used)
A. Hard Copper Tube: ASTM B 88, Types L and M, water tube, drawn temper.
B. PVC Plastic. Water Pipe: ASTM D 1785, Schedule 80, plain ends.
2.2 FITTINGS
A. Wrought Copper, Solder Joint Pressure Fittings: ASME B 16.22.
B. Cast Copper Alloy, Solder Joint Pressure Fittings: ASME B 16.18.
C. Bronze Flanges: ASME B 16.24, Classes 150 and 300.
D. Copper Unions: ASME B 16.18, cast copper alloy body, hexagonal stock, with ball and socket joint, metal to metal seating surfaces, and solder joint, threaded, or solder joint and threaded ends. Threads complying with ASME B 1.20.1.
E. PVC Plastic, Schedule 80, Socket Type Pipe Fittings: ASTM D 2467.
2.3 JOINING MATERIALS
A. Solder Filler Metal: ASTM B 32, lead free.
B. Brazing Filler Metals: AWS A5.8, alloys to suit system requirements.
C. Solvent Cements: As recommended by manufacturer.
D. Plastic Pipe Seals: ASTM F 477, elastomeric gasket.
PART 3 - EXECUTION
3.1 VALVE APPLICATIONS
A. Install gate valves close to main on each branch and riser serving two or more plumbing fixtures or equipment connections and where indicated.
B. Install gate or ball valves on inlet to each plumbing equipment item, on each supply to each plumbing fixture not having stops on supplies, and elsewhere as indicated.
C. Install drain valve at base of each riser, at low points of horizontal runs, and where required to drain water distribution piping system.
D. Install swing check valve on discharge side of each pump and elsewhere as indicated.
E. Install ball valves in each hot water circulating loop and discharge side of each pump.
3.2 PIPING INSTALLATIONS
A. Install hangers and supports at intervals indicated in the applicable plumbing code and as recommended by pipe manufacturer.
B. Support vertical piping at each floor.
3.3 INSPECTING AND CLEANING
A. Inspect and test piping systems following procedures of authorities having jurisdiction.
B. Clean and disinfect water distribution piping following procedures of authorities having jurisdiction.
END OF SECTION 15140

SECTION 15150 - SANITARY WASTE AND VENT PIPING
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Minimum Pressure Requirement for Soil, Waste and Vent: 10 feet head.
B. Comply with NSF 14 "Plastic Piping Components and Related Materials".
PART 2 - PRODUCTS
2.1 PIPES AND TUBES
A. PVC Plastic, DWV Pipe: ASTM D 2665, Schedule 40, plain ends.
2.2 FITTINGS
A. PVC Plastic, DWV Pipe Fittings: ASTM D 2665, made to ASTM D 3311; socket type; drain, waste, and vent pipe patterns.
PART 3 - EXECUTION
3.1 PIPING INSTALLATION
A. Install cleanout and extension to grade at connection of building sanitary drain and building sanitary sewer.
B. Locate drainage piping runouts as close as possible to bottom of floor slab supporting fixtures or drains.
3.2 INSPECTION
A. Inspect and test piping systems following procedures of authorities having jurisdiction.
END OF SECTION 15150

SECTION 15198 - NATURAL GAS PIPING
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Quality Assurance: Comply with NFPA 54 and the Plumbing Code.
PART 2 - PRODUCTS
2.1 PIPE, TUBE, AND SPECIALTIES
A. Steel Pipe: ASTM A 53, Type S (Seamless), Grade B, Schedule 40, plain ends.
B. Malleable Iron Threaded Fittings: ASME B16.3, Class 150.
C. Manual Valves: Comply with standards listed or, if appropriate, to ANSI Z21.15.
D. Gas Stops: AGA certified, bronze-body, plug type with bronze plug, for 7-psig or less natural gas. Include AGA stamp, flat or square head or lever handle, and threaded ends complying with ASME B1.20.1.
E. Gas Valves: 150-psig WOG, cast-iron or bronze body, bronze plug, straightaway pattern, square head, tapered-plug type.
F. Gas Pressure Regulators: ANSI Z21.18, single stage, steel jacketed, corrosion resistant pressure regulators. Include atmospheric vent, elevation compensator. Regulator pressure ratings, inlet and outlet pressures, and flow volume in cubic feet per hour of natural gas at specific gravity are as indicated.
G. Line Gas Pressure Regulators: Inlet pressure rating not less than system pressure.
H. Flexible Connectors: ANSI Z21.24, copper alloy.
I. Strainers: Bronze body, Y-pattern, full size of connecting piping. Include stainless-steel screens with 3/64 inch perforations and a pressure rating of 125-psig- minimum, WOG working pressure.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Close equipment shutoff valves before turning off gas to premises or section of piping. Perform leakage test as specified to determine that all equipment is turned off in affected piping section.
B. Install shutoff valve, downstream from gas meter, outside building at gas service entrance.
C. Install gas stops for shutoff to appliances with NPS 2" or smaller low pressure gas supply.
D. Drips and Sediment Traps: Install drips at points where condensate may collect. Include outlets of gas meters. Locate where readily accessible to permit cleaning and emptying. Do not install where condensate would be subject to freezing.
E. Install gas piping at uniform slope of 0.1 percent upward toward risers.
F. Connect branch piping from top or side of horizontal piping.
G. Install strainers on supply side of each control valve, gas pressure regulator, solenoid valve, and elsewhere as indicated.
H. Install valves in accessible locations, protected from damage.
I. Install gas valve upstream from each gas pressure regulator. Where two gas-pressure regulators are installed in series, valve is not required at second regulator.
J. Connect gas piping to equipment and appliances with shutoff valves and unions. Install gas valve upstream from and within 36 inches of each appliance using gas. Install union or flanged connection downstream from valve.
K. Inspect, test, and purge piping according to NFPA 54, Part 4, "Gas Piping Inspection, Testing, and Purging", and requirements of authorities having jurisdiction.
END OF SECTION 15198

SECTION 15410 - PLUMBING FIXTURES
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
Submittals: None.
A. Comply with requirements of Public Law 102-486, "Energy Policy Act", regarding water flow rate and water consumption of plumbing fixtures.
B. Comply with applicable standards below:
1. Enameled, Cast Iron Fixtures: ASME A112.19.1M.
2. National Sanitation Foundation Construction: NFS2.
3. Porcelain Enameled Fixtures: ASME A112.19.4M.
4. Slip Resistant Bathing Surfaces: ASTM F 462.
5. Stainless Steel Fixtures: ASME A112.19.3M.
6. Vitreous China Fixtures: ASME A112.19.2M.
PART 2 - PRODUCTS
2.1 Refer to the fixture schedule on drawing P600
PART 3 - EXECUTION
3.1 INSTALLATION
A. Install fixtures with flanges and gasket seals.
B. Install flushometer valves for accessible water closets and urinals with handle mounted on wide side of compartment. Install other actuators in locations that are easy for the disabled to reach.
C. Fasten wall hanging plumbing fixtures securely to supports attached to building substrate when supports are specified, and to building wall construction where no support is indicated.
D. Fasten floor mounted fixtures to substrate. With fixtures having holes for securing fixture to wall construction, fasten to reinforcement built into walls.
E. Fasten wall mounted fittings to reinforcement built into walls.
F. Fasten counter mounted plumbing fixtures to casework.
G. Secure supplies to supports or substrate within pipe space behind fixture.
H. Set mop basins in leveling bed of cement grout.
I. Install individual supply inlets, supply stops, supply risers, and tubular brass traps with cleanouts at fixture.
J. Install water supply stop valves in accessible locations.
K. Install traps on fixture outlets. Omit traps on fixtures having integral traps. Omit traps on indirect wastes, unless otherwise indicated or required by the Authority Having Jurisdiction.
L. Install full-ring escutcheons at wall, floor, and ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep pattern escutcheons where required to conceal protruding pipe fittings.
M. Install piping connections between plumbing fixtures and piping systems and plumbing equipment. Install insulation on supplies and drains of fixtures for the disabled.
N. Ground equipment. Tighten electrical connectors and terminals according to UL 486A and UL 486B.
END OF SECTION 15410

SECTION 15554 - FLUES AND VENTS
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Submittals: None.
PART 2 - PRODUCTS
2.1 GAS VENTS
A. Vent/air intake for high efficiency domestic water heater. Follow manufacturer's recommendations for sizing and material.
B. Accessories: Tees, elbows, increasers, draft hood connectors, metal cap with bird barrier, adjustable roof flashing, storm collar, support assembly, thimbles, firestopping spacers, and fasteners; fabricated of similar materials and designs as vent-pipe straight sections.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Install vents according to stipulated minimum clearances from combustibles.
B. Seal between sections of positive pressure vents using only sealants recommended by manufacturer.
C. Support vents at intervals to support the weight of the vent and all accessories, without exceeding loading of appliances.
END OF SECTION 15554

PLUMBING SYMBOLS

ELBOW UP
ELBOW DOWN
DOMESTIC COLD WATER
DOMESTIC FILTERED COLD WATER
DOMESTIC SOFTENED COLD WATER
DOMESTIC HOT WATER (110 DEGREES)
DOMESTIC HOT WATER RECIRC.
GAS
GAS (ON ROOF)
SANITARY WASTE
GREASE WASTE
SANITARY VENT
CONDENSATE DRAIN
PLAN NOTE: SEE PLAN NOTES LISTED ON THE SAME SHEET FOR NOTE MEANING
CONNECT TO EXISTING
REDUCED PRESSURE ZONE BACKFLOW PREVENTER
WATER METER
GAS METER
EQUIPMENT TAG: SEE EQUIPMENT SCHEDULE ON SHEET P600 FOR EQUIPMENT INFORMATION
VALVE
SOLENOID-OPERATED VALVE
WALL HYDRANT/ROOF HYDRANT
CHECK VALVE
CIRCUIT SETTER BALANCE VALVE RATED FOR POTABLE WATER
FLOOR DRAIN
FLOOR SINK
CLEANOUT

PLUMBING ABBREVIATIONS

(E)	EXISTING
ABV	ABOVE
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BOH	BACK OF HOUSE
CLG	CEILING
CTE	CONNECT TO EXISTING
CW	DOMESTIC COLD WATER
DN	DOWN
EXT'G	EXISTING
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FLR	FLOOR
FOH	FRONT OF HOUSE
FS	FLOOR SINK
FW	DOMESTIC FILTERED COLD WATER
GCO	GRADE CLEANOUT
GI	GREASE INTERCEPTOR
GT	GREASE TRAP
GW	GREASE WASTE
GYP	GYPSUM BOARD
HW	DOMESTIC HOT WATER
NTS	NOT TO SCALE
O/H	OVERHEAD
SAN	SANITARY WASTE

PLUMBING ABBREVIATIONS

ST	STORM SEWER
SW	DOMESTIC SOFTENED COLD WATER
TYP	TYPICAL
U/G	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
W/	WITH
WIC	WALK-IN COOLER
C02AS	TENANT'S CO2 ALARM SUPPLIER
GC	GENERAL CONTRACTOR
HES	TENANT'S HVAC EQUIPMENT SUPPLIER
HS	TENANT'S HOOD SUPPLIER
KES	TENANT'S KITCHEN EQUIPMENT SUPPLIER
LL	LANDLORD
MSS	TENANT'S MUSIC SYSTEMS SUPPLIER
SPS	TENANT'S SODA POP SUPPLIER
TAB	TENANT'S TEST AND BALANCE VENDOR
TCC	TENANT'S CABLING CONTRACTOR
TDC	TENANT'S DUCT CLEANER
TEMS	TENANT'S ENERGY MANAGEMENT SYSTEM SUPPLIER
TLS	TENANT'S LIGHT/LAMP SUPPLIER
TMB	TENANT'S MENU BOARD SUPPLIER
TMS	TENANT'S MILLWORK SUPPLIER
TP	TENANT'S PHONE SUPPLIER
TPS	TENANT'S PANELBOARD SUPPLIER
TRS	TENANT'S RAILING SUPPLIER
TSV	TENANT'S SIGN VENDOR
TUV	TENANT'S UV SNAITIZER SUPPLIER
WCS	TENANT'S WALK-IN COOLER SUPPLIER
WHS	TENANT'S WATER HEATER SUPPLIER

PLUMBING GENERAL NOTES

A GENERAL NOTES APPLY TO PLUMBING SHEETS.
B PLUMBING WORK SHALL BE DONE IN ACCORDANCE WITH THE PLUMBING CODE, LOCAL HEALTH DEPARTMENT STANDARDS, AND THE AUTHORITY HAVING JURISDICTION. SEE ARCHITECTURAL SHEETS FOR THE PREVAILING CODES.
C PIPING LAYOUTS ON DRAWINGS ARE SCHEMATIC. EXACT LOCATIONS ARE TO BE COORDINATED WITH THE EXISTING CONDITIONS AND THE WORK OF OTHER TRADES.
D CONCEAL PIPING UNLESS NOTED OTHERWISE. WATER SUPPLY PIPES SHALL BE INSTALLED LEVEL.
E PROVIDE SHUT-OFF VALVES FOR ISOLATION OF FIXTURE GROUPS AS SHOWN ON DRAWINGS IN ADDITION TO STOP VALVES AT EACH FIXTURE.
F PROVIDE STOP VALVES AT FIXTURES.
G PROVIDE TRAP PRIMERS FOR FLOOR DRAINS AS SHOWN ON SHEET P100.
H WHERE THE WATER OR GAS SUPPLY LINE SIZE SHOWN IN THE PLUMBING DIAGRAMS DIFFERS FROM THE FIXTURE OR EQUIPMENT CONNECTION SIZE, PROVIDE LINE SIZE PIPE TO WITHIN 6" OF THE FIXTURE OR EQUIPMENT BEFORE TRANSITIONING TO THE CONNECTION SIZE.
I PIPING IN EXTERIOR WALLS SHALL BE INSTALLED BETWEEN THE INSULATION AND THE INTERIOR WALL FINISHING MATERIAL.
J INSULATE THE HOT AND COLD WATER, CONDENSATE DRAINAGE, AND STORM PIPING PER THE SPECIFICATIONS AND DETAIL 8/P700.
K PROVIDE GAS SHUT-OFF VALVES AT EACH PIECE OF EQUIPMENT. PROVIDE ACCESSIBLE DIRT LEG AT THE BOTTOM OF VERTICAL SECTIONS OF GAS PIPE AND AT THE CONNECTION TO EACH PIECE OF EQUIPMENT.
L PLUMBING FIXTURES, ACCESSORIES, AND MATERIALS PROVIDED FOR DOMESTIC WATER SHALL BE LEAD FREE.
M PRIOR TO TURNOVER PERFORM A VIDEO INSPECTION OF THE SANITARY AND GREASE LINES FROM THE MAIN LINES WITHIN THE TENANT SPACE TO THE MAIN SEWER TO VERIFY THAT THE SANITARY WASTE SYSTEM IS CONNECTED, CLEAN, AND FREE OF SAGS, BELLIES, BREAKS, AND DEBRIS. DELIVER A REPORT AND COPY OF THE VIDEO TO THE TENANT'S CONSTRUCTION MANAGER PRIOR TO TURNOVER.
N THE TERM "FURNISH" MEANS SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS. THE TERM "INSTALL" DESCRIBES THE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.
O PRIOR TO CONNECTION TO ANY EXISTING SEWER SYSTEM PERFORM A DIE TEST TO VERIFY THE TYPE OF SYSTEM AND THE DIRECTION OF FLOW. REPORT ANY DEVIATION FROM THE CONSTRUCTION DOCUMENTS TO THE TENANT'S CONSTRUCTION MANAGER.
P PROVIDE SANITARY AND GREASE WASTE PIPES AT A MINIMUM SLOPE OF 1/4" PER FOOT UNLESS NOTED OTHERWISE.
Q INSTALL SHUTOFF AND ISOLATION VALVES SHOWN TO BE ABOVE CEILINGS IN ACCESSIBLE LOCATIONS WITHIN 12" OF LAY-IN CEILINGS.

PLUMBING MATERIAL SCHEDULE

APPLICATION	ALLOWABLE MATERIAL
NATURAL GAS PIPE	
CONCEALED	SCH. 40 STEEL PIPE, MALLEABLE IRON THREADED FITTINGS
EXPOSED	SCH. 40 STEEL PIPE, MALLEABLE IRON THREADED FITTINGS, PAINTED
SANITARY WASTE & VENT PIPE	
ABOVE GROUND HAND SINK DRAINS	BRASS WITH CHROME FINISH
ABOVE GROUND PREP SINK AND WARE WASHING SINK DRAINS	PVC PLASTIC DWV PIPE AND FITTINGS
ABOVE GROUND, CONCEALED	PVC PLASTIC DWV PIPE AND FITTINGS
BELOW GROUND	PVC PLASTIC DWV PIPE AND FITTINGS
WATER SUPPLY PIPE	
ABOVE GRADE	TYPE L COPPER TUBE

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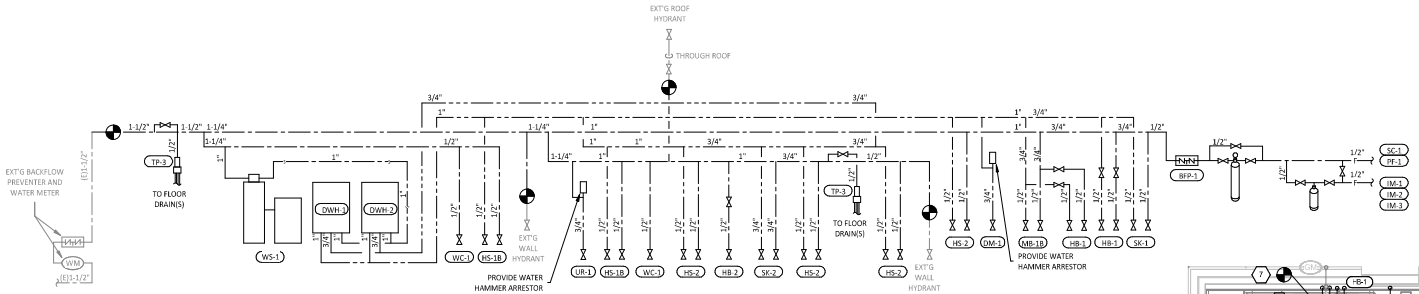
PLUMBING SPECIFICATIONS

P010



PLUMBING SUPPLY DIAGRAM

2 / P100 — NOT TO SCALE

PLUMBING SUPPLY PLAN NOTES

1. CONNECT TO THE EXISTING 1-1/2" DOMESTIC WATER SERVICE LEADING TO EXISTING WATER METER AND BACKFLOW PREVENTER WITHIN THE BUILDING.
2. PROVIDE 1/2" FILTERED WATER TO THE BAG-IN-BOX SODA CARBONATOR AT 102" AFF. SODA CARBONATOR SHALL HAVE AN INTEGRAL ASSE 1022-RATED CARBONATED BEVERAGE BACKFLOW PREVENTION DEVICE.
3. PROVIDE WATER HEATERS DWH-1 AND DWH-2 PER DETAIL 1/P700.
4. PROVIDE WATER FILTERS MOUNTED TO WALL PER DETAIL 11/P700. PROVIDE 1/2" SUPPLY PIPES FROM FILTERS TO ICE MAKER AND SODA CARBONATOR AS SHOWN.
5. PROVIDE 1/2" FILTERED WATER ROUGH-IN TO THE ICE MAKER AT 56" AFF. PROVIDE 6' LONG STAINLESS STEEL FLEXIBLE BRAIDED WASHING MACHINE WATER CONNECTOR WITH MINIMUM 0.43" ID (BRASSCRAFT SL12-72WA F OR EQUAL) FOR FINAL CONNECTION TO ICE MAKER.
6. PROVIDE DOMESTIC WATER ROUGH-INS FOR THE MOP BASIN FAUCET AT 36" AFF. PROVIDE DOMESTIC WATER ROUGH-INS FOR THE CHEMICAL DISPENSER FAUCET (HB-1) AT 64" AFF DIRECTLY ABOVE THE MOP BASIN FAUCET. SEE ARCHITECTURAL ELEVATION FOR ADDITIONAL INFORMATION.
7. CONNECT TO THE EXISTING GAS PIPE IN THE SPACE.
8. PROVIDE GAS CONNECTIONS TO THE COOKING EQUIPMENT PER DETAIL 7/P700.
9. SUPPORT THE GAS PIPE ON THE ROOF PER DETAIL 5/P700. WOOD BLOCKING IS NOT AN ACCEPTABLE METHOD OF SUPPORTING THE GAS PIPE.
10. PROVIDE ACCESSIBLE LINE-SIZED GAS VALVE, DIRT LEG, AND UNION AT GAS CONNECTION TO THE EQUIPMENT.
11. REFER TO ARCHITECTURAL DRAWINGS FOR PAINTING OF INTERIOR AND EXTERIOR EXPOSED GAS PIPE.
12. PROVIDE DOMESTIC WATER ROUGH-INS FOR THE CHEMICAL DISPENSER FAUCET (HB-1) AT 52" AFF. SEE ARCHITECTURAL ELEVATION FOR ADDITIONAL INFORMATION.
13. PROVIDE DOMESTIC WATER ROUGH-INS FOR THE VICTORY WASH DISPENSER FAUCET (HB-2) AT 52" AFF. SEE ARCHITECTURAL ELEVATION FOR ADDITIONAL INFORMATION.
14. PROVIDE ROUGH-INS TO RESTROOM HAND SINKS AS SHOWN IN DETAIL 14/P700.
15. PROVIDE KITCHEN EQUIPMENT GAS SHUTOFF 6" BELOW THE CEILING PER DETAIL 4/P700.
16. CONNECT CHEMICAL DISPENSER TO HB-1. CHEMICAL DISPENSER HAS AN INTEGRAL AIR GAP AS IS SHOWN IN DETAIL 10/P700.
17. PROVIDE ASSE 1016/1070 POINT-OF-USE THERMOSTATIC MIXING VALVE, WATTS LFUSG-B, ON WATER SUPPLY TO KITCHEN HAND SINKS. PROVIDE ANGLE STOP BELOW SINK, FASTEN MIXING VALVE TO WALL, AND MAKE FINAL CONNECTION FROM ANGLE STOPS TO MIXING VALVE AND FROM MIXING VALVE TO FAUCET USING BRAIDED STAINLESS STEEL HOSE. ADJUST MIXING VALVE FOR A DISCHARGE TEMPERATURE OF APPROXIMATELY 110° F.

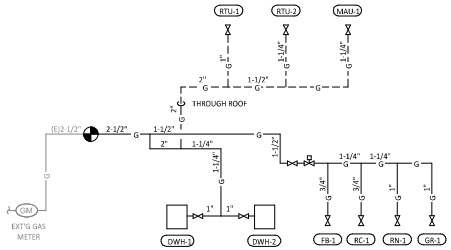
PLUMBING SUPPLY PLAN NOTES

18. PROVIDE ACCESSIBLE VALVE IN WATER SUPPLY TO FIXTURE AS SHOWN.
19. PROVIDE GAS CONNECTION TO THE RICE COOKER PER DETAIL 6/P700.
20. PROVIDE GAS ROUGH-IN TO FRYER BEHIND RICE COOKER TABLE SO THAT VALVES AND DIRT LEG ARE ACCESSIBLE ONCE FRYER IS SECURED INTO PLACE.
21. PROVIDE 1/2" FILTERED WATER ROUGH-IN TO THE ICE MAKER AT 24" AFF. PROVIDE 6' LONG STAINLESS STEEL FLEXIBLE BRAIDED WASHING MACHINE WATER CONNECTOR WITH MINIMUM 0.43" ID (BRASSCRAFT SL12-72WA F OR EQUAL) FOR FINAL CONNECTION TO ICE MAKER.
22. INSTALL RGF IMSB ICE MAKER SANITIZER FURNISHED BY TUV PER CHIPOTLE'S INSTALLATION INSTRUCTIONS.
23. PROVIDE 3/4" DOMESTIC HOT AND COLD WATER ROUGH-INS FOR THE PREP SINK (SK-2) FAUCET AT 24" AFF TO ALLOW FOR THE VICTORY WASH CHEMICAL DOCK TO BE INSTALLED DIRECTLY BELOW THE PREP SINK BASIN. MAKE FINAL CONNECTION TO PREP SINK FAUCET USING 3/4" BRAIDED STAINLESS STEEL WATER HEATER CONNECTOR HOSE.
24. PROVIDE 1/2" HOT WATER TO THE DISH MACHINE AT 66" AFF ABOVE LEFT SIDE OF DISH MACHINE. MAKING FINAL CONNECTION USING HOSE FURNISHED WITH DISH MACHINE. PROVIDE WATER HAMMER ARRESTOR ON HOT WATER LINE.
25. CONNECT TO EXISTING ROOF HYDRANT AS SHOWN.
26. PROVIDE FILTERED DOMESTIC WATER ROUGH-IN FOR THE SPEED FILL POT FILLER FAUCET (PF-1) AT 40" AFF. SEE ARCHITECTURAL ELEVATION FOR DETAIL.
27. PROVIDE WATER SOFTENER AS SHOWN IN DETAIL 16/P700.
28. INSTALL RGF IMSB ICE MAKER SANITIZER FURNISHED BY TUV PER CHIPOTLE'S INSTALLATION INSTRUCTIONS. LOCATE IMSB BELOW UTENSIL COUNTER IN A LOCATION THAT DOES NOT INTERFERE WITH THE ROLLING RACK BELOW THE UTENSIL COUNTER.
29. PENETRATIONS THROUGH SHEAR WALL SHALL BE LIMITED TO 10" DIAMETER IOR A GROUP OF PENETRATIONS ALL CONTAINED WITHIN 10" DIAMETER). IF LARGER PENETRATIONS OR GROUPS OF PENETRATIONS ARE REQUIRED COORDINATE WITH STRUCTURAL ENGINEER FOR APPROPRIATE BRACING. SEE STRUCTURAL DRAWINGS FOR SHEAR WALL LOCATION.
30. PROVIDE ACCESSIBLE TRAP PRIMER ABOVE LAY-IN CEILING AS SHOWN. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH A SERVICE VALVE AT THE TRAP PRIMER INLET. PROVIDE 1/2" DISTRIBUTION PIPE(S) TO FLOOR DRAIN TRAP PRIMER CONNECTION(S) AS SHOWN. HORIZONTAL DISTRIBUTION PIPING SHALL HAVE CONTINUOUS SLOPE TO THE FLOOR DRAIN(S)
31. CONNECT TO EXISTING WALL HYDRANT AS SHOWN.
32. REPLACE STOCK WATER CLOSET HANDLE WITH UNIVERSAL CABLE-OPERATED HANDLE (FLUSHMATE AP300503 OR AP300504 - FIELD VERIFY COMPATIBILITY WITH FLUSHMATE SYSTEM IN WATER CLOSET).

PLUMBING GAS CONNECTIONS

TAG	DESCRIPTION	CONNECTION SIZE	EQUIVALENT LENGTH	INPUT
DWH-1	WATER HEATER (GAS TANKLESS)	3/4"	65'	199,000 Btu/h
DWH-2	WATER HEATER (GAS TANKLESS)	3/4"	65'	199,000 Btu/h
FB-1	GAS FRYER	3/4"	85'	90,000 Btu/h
GR-1	GAS GRIDDLE	3/4"	95'	110,000 Btu/h
MAU-1	DIRECT-FIRED MAKEUP AIR UNIT	1/2"	70'	225,000 Btu/h
RC-1	RICE COOKER	3/4"	90'	33,000 Btu/h
RN-1	6 BURNER RANGE	3/4"	95'	192,000 Btu/h
RTU-1	KITCHEN ROOFTOP UNIT	3/4"	55'	179,200 Btu/h
RTU-2	DINING ROOM ROOFTOP UNIT	3/4"	70'	200,000 Btu/h
GRAND TOTAL			MAX: 95	1,427,200 Btu/h

NOTES:
1. PRESSURE REQUIRED AFTER METER: 7" W.C.
2. DISTANCES ARE APPROXIMATE



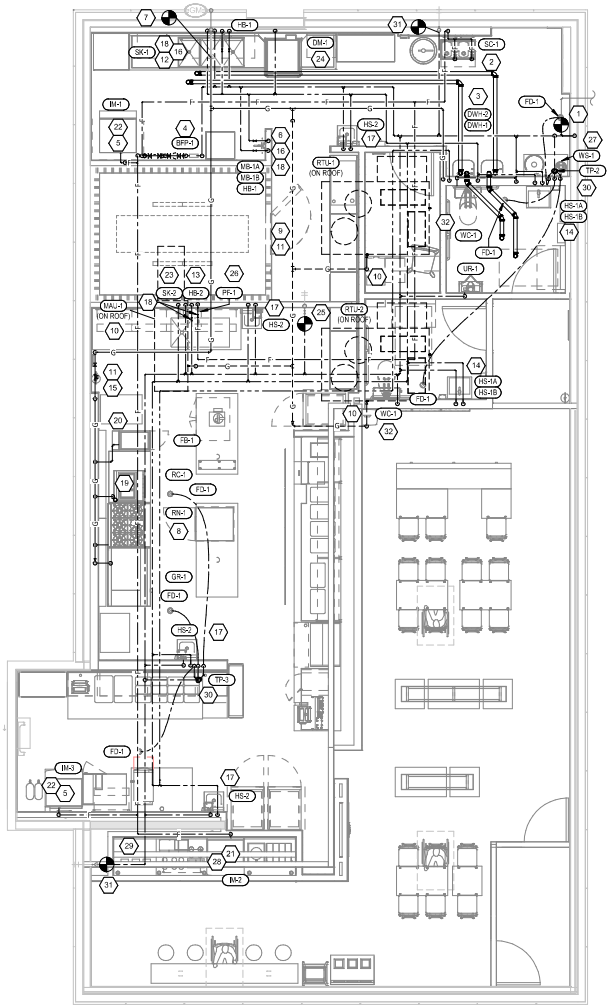
GAS DISTRIBUTION DIAGRAM

1 / P100 — NOT TO SCALE

PLUMBING FIXTURE SUPPLY CONNECTIONS

ROUGH-IN TYPE KEY	
ANGLE 3/8"	BRASS CRAFT KTR19 OR EQUAL (BRASS/CHROME 1/4 TURN ANGLED BALL STOP WITH 3/8" COMPRESSION CONNECTION)
ANGLE 1/2"	BRASS CRAFT R39X C OR EQUAL (BRASS/CHROME MULTI-TURN ANGLED STOP WITH 1/2" COMPRESSION CONNECTION)
ANGLE 3/4"	EVERFLOW 74342-NL W/ 3/4" SWEAT X MIP ADAPTER OR EQUAL (BRASS ANGLE STOP W/ 3/4" FIP INLET AND OUTLET)
DIRECT	PROVIDE COPPER PIPE IN CONNECTION SIZE SHOWN TO FIXTURE
HOSE 1/2"	ARROWHEAD BRASS WM50F OR EQUAL (BRASS/CHROME WASHING MACHINE VALVE W/ 3/4" MHT OUTLET)
MIP	PROVIDE PIPE WITH MIP THREAD STUBBED OUT OF WALL IN CONNECTION SIZE SHOWN AND LENGTH COMPATIBLE WITH FIXTURE AND WALL MATERIAL/FINISHES.

TAG	DESCRIPTION	CONNECTION SIZE CW	CONNECTION SIZE HW	ROUGH-IN TYPE	WSFU CW	WSFU HW	WSFU TOTAL	COUNT	TOTAL WSFU
BFP-1	RPZ BACKFLOW PREVENTER	1/2"		DIRECT	0	0	0	1	0
DM-1	DISH SANITIZING MACHINE (PUMPED OUTLET)	0"	1/2"	HOSE 1/2"	0	1.5	1.5	1	1.5
ET-1	EXPANSION TANK	3/4"		DIRECT	0		0	1	0
HB-1	CHEMICAL DISPENSER HOSE BIB	1/2"	1/2"	MIP	2.25	2.25	2.25	2	4.5
HB-2	VEGETABLE WASH HOSE BIB	1/2"		MIP	1		1	1	1
HS-1B	RESTROOM HAND SINK FAUCET	1/2"	1/2"	ANGLE 3/8"	1	1	2	2	4
HS-2	KITCHEN HAND SINK	1/2"	1/2"	ANGLE 3/8"	1.5	1.5	1.5	4	6
IM-1	ICE MAKER - BOH	1/2"		HOSE 1/2"	1		1	1	1
IM-2	ICE MAKER - SODA	1/2"		HOSE 1/2"	1		1	1	1
IM-3	ICE MAKER - SODA	1/2"		HOSE 1/2"	1		1	1	1
MB-1B	MOP SINK FAUCET	1/2"	1/2"	MIP	3	3	3	1	3
PF-1	SPEED FILL FAUCET	3/8"		MIP	2		2	1	2
RH-1	FREEZE PROOF ROOF HYDRANT	3/4"		DIRECT	1		1	1	1
SC-1	BAG-IN-BOX SODA RACK WITH CARBONATORS	1/2"		ANGLE 3/8"	1		1	1	1
SK-1	THREE COMPARTMENT SINK	1/2"	1/2"	ANGLE 1/2"	4	4	4	1	4
SK-2	PREP SINK	3/4"	3/4"	ANGLE 3/4"	4	4	4	1	4
TP-2	TRAP PRIMER (TWO FLOOR DRAINS)	1/2"		DIRECT	0		0	1	0
TP-3	TRAP PRIMER (THREE-FOUR FLOOR DRAINS)	1/2"		DIRECT	0		0	1	0
UR-1	URINAL	3/4"		MIP	20		20	1	20
WC-1	WATER CLOSET	1/2"		ANGLE 3/8"	2.5		2.5	2	5
WS-1	WATER SOFTENER	1"		DIRECT	0		0	1	0
GRAND TOTAL									60



PLUMBING SUPPLY PLAN

1 / P100 — 1/4" = 1'-0"

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PLUMBING PLAN
WATER & GAS

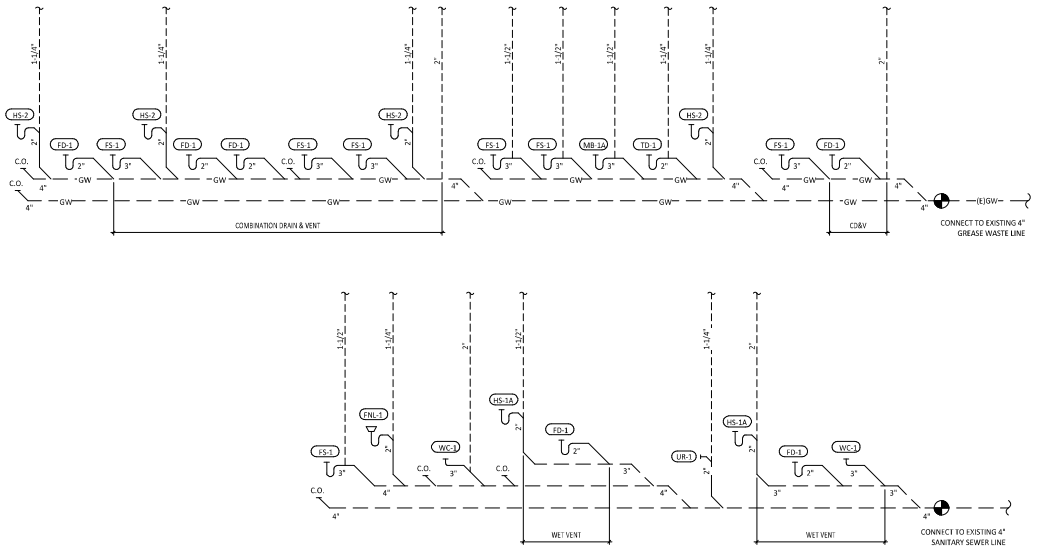
P100

PLUMBING WASTE AND VENT PLAN NOTES

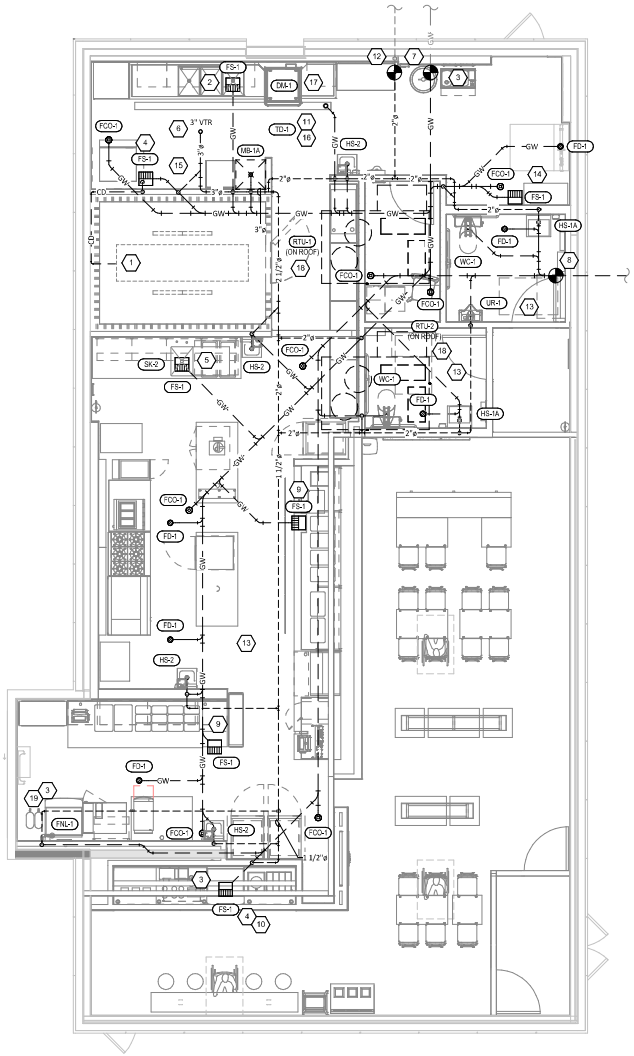
1. PROVIDE 3/4" CONDENSATE DRAIN FROM THE WALK-IN COOLER EVAPORATOR TO THE FLOOR SINK BELOW AS SHOWN. SLOPE CONDENSATE DRAIN A MINIMUM OF 1" PER FOOT. HOLD EXPOSED CONDENSATE DRAIN IN WALK-IN COOLER AS HIGH AS POSSIBLE. CONCEAL DRAIN PIPING WITHIN FRAMED WALLS AS SHOWN. DISCHARGE THROUGH AN AIR GAP. MAKE FINAL CONNECTION TO EVAPORATOR INSIDE WALK-IN COOLER USING A UNION. CONDENSATE DRAIN SHOULD PENETRATE WALL AT POINT OF DISCHARGE AT 8" AFF.
2. PROVIDE DRAIN CONNECTIONS TO THE THREE COMPARTMENT SINK PER DETAIL 2/P700.
3. COORDINATE ROUTING OF SODA BUNDLES WITH COCA-COLA TECHNICIAN FROM BAG-IN-BOX AREA TO EACH SODA FOUNTAIN. OTHER THAN WITHIN THE WALLS DOWN TO THE DRYER BOX THE SODA BUNDLE SHALL BE ROUTED OVERHEAD WITHOUT CONDUIT. COORDINATE SUPPORT AND ROUTING OF THE SODA LINE BUNDLES WITH COCA-COLA TECHNICIAN DURING ROUGH IN AND PROVIDE NECESSARY SUPPORTS. SEE ARCHITECTURAL DRAWINGS FOR SODA BUNDLE TERMINATION LOCATION AND PROVIDE TERMINATION PER DETAIL 12/P700.
4. PROVIDE PVC DRAIN PIPES FROM THE ICE MACHINE TO THE FLOOR SINK PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE A CODE-APPROVED AIR GAP AT THE DISCHARGE TO THE FLOOR SINK. SECURE ICE MAKER DRAIN PIPES TO THE BOTTOM OF THE ICE MAKER.
5. PROVIDE DRAIN LINES FROM THE FOOD PREP SINK TO THE FLOOR SINK. PROVIDE AN AIR GAP AT THE DISCHARGE TO THE FLOOR SINK.
6. PROVIDE A 3" VENT THROUGH THE ROOF PER DETAIL 3/P700.
7. CONNECT TO THE EXISTING 4" GREASE WASTE LINE LEADING TO EXISTING DEDICATED 1,500 GALLON GREASE INTERCEPTOR.
8. CONNECT TO THE EXISTING 4" SANITARY SEWER LINE.
9. PROVIDE 3/4" VALVED DRAIN FROM HOT FOOD TABLE TO THE FLOOR SINK. DRAIN THROUGH AN AIR GAP.
10. PROVIDE INSULATED COPPER DRAIN LINES FROM THE TEA TRAY DRAIN AND THE SODA MACHINE DRAIN TO THE FLOOR SINK. DRAIN THROUGH AN AIR GAP. HOLD TEA TRAY DRAIN AS HIGH AS POSSIBLE AND SECURE TO STRUCTURE BELOW THE UTENSIL COUNTER.
11. TRIM TRENCH DRAIN ENDS PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION SO THAT GRATE FITS WITHOUT GAPS. INSTALL TRENCH DRAIN WITH SLIGHT POSITIVE SLOPE TOWARD THE DRAIN CONNECTION TO AVOID STANDING WATER IN TRENCH DRAIN.
12. CONNECT TO EXISTING 2" VENT TO GREASE INTERCEPTOR.CONNECT TO EXISTING 2" VENT TO GREASE INTERCEPTOR.
13. DO NOT PROVIDE WALL CLEANOUTS ON TILE OR PUBLICLY-VISIBLE WALLS. IF A WALL CLEANOUT IS REQUIRED ON THESE SURFACE COORDINATE THE EXACT LOCATION WITH CHIPOTLE'S CONSTRUCTION MANAGER.
14. PROVIDE INDIRECT WASTE AND CONDENSATE DRAINS FROM FIXTURES OTHER THAN KITCHEN SINKS CONCEALED IN THE WALL AS SHOWN IN DETAIL 9/P700.
15. PROVIDE DRAIN FROM WATER FILTER BFP TO FLOOR SINK CONCEALED IN THE WALL AS SHOWN IN DETAIL 9/P700.
16. PROVIDE TRENCH DRAIN AS SHOWN IN DETAIL 15/P700.
17. INSTALL DRAIN HOSE FURNISHED WITH DISH MACHINE FROM DISH MACHINE OUTLET TO FLOOR SINK. HOLD DRAIN HOSE TIGHT TO WALL AND SECURE TO 3 COMP SINK DRAIN TO MAINTAIN AN AIR GAP AT THE FLOOR SINK.
18. PROVIDE CONDENSATE TRAP ON RTU PER DETAIL 13/P700.
19. SEE DETAIL 17/P700 FOR DRAINS FROM TEA TRAY, ICE MAKER, AND SODA MACHINE TO FUNNEL DRAIN.

PLUMBING FIXTURE WASTE CONNECTIONS

TAG	DESCRIPTION	CONNECTION SIZE - WASTE	DFU	COUNT	TOTAL DFU
DM-1	DISH SANITIZING MACHINE (PUMPED OUTLET)	5/8"	0	1	0
FCO-1	FLOOR CLEANOUT (4")	4"	0	8	0
FD-1	FLOOR DRAIN	2"	2	6	12
FNL-1	FUNNEL DRAIN	2"	4	1	4
FS-1	FLOOR SINK	3"	6	7	42
HS-1A	RESTROOM HAND SINK	2"	1	2	2
HS-2	KITCHEN HAND SINK	2"	1	4	4
MB-1A	MOP BASIN	3"	3	1	3
SK-1	THREE COMPARTMENT SINK	2"	0	1	0
SK-2	PREP SINK	2"	0	1	0
TD-1	TRENCH DRAIN	2"	2	1	2
UR-1	URINAL	2"	5	1	5
WC-1	WATER CLOSET	3"	6	2	12
GRAND TOTAL					86



2/P110 **SANITARY WASTE & VENT DIAGRAM**
NOT TO SCALE



1/P110 **SANITARY WASTE & VENT PLAN**
1/4" = 1'-0"

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PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS	COUNT	CONNECTION SIZE			WATER SUPPLY FIXTURE UNITS			DRAINAGE
				MANUFACTURER	MODEL			CW	HW	WASTE	CW	HW	TOTAL	FIXTURE UNITS
BFP-1	RPZ BACKFLOW PREVENTER	GC	GC	CONBRACO	4ALF-203-TZF	LEAD FREE REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER WITH AUTOMATIC DIFFERENTIAL RELIEF VALVE	1	1/2"			0	0	0	
DM-1	DISH SANITIZING MACHINE (PUMPED OUTLET)	KES	GC	SEE ARCH	--	CHEMICAL SANITIZING DISH MACHINE WITH INTEGRAL ELECTRIC BOOSTER HEATER AND PUMPED OUTLET	1	0"	1/2"	5/8"	0	1.5	1.5	0
ET-1	EXPANSION TANK	GC	GC	AMTROL	ST-5	2 GALLON CAPACITY	1	3/4"			0		0	
FB-1	GAS FRYER	KES	GC	SEE ARCH	--		1							
FCO-1	FLOOR CLEANOUT (4")	GC	GC	SIOUX CHIEF	852-4PNR	ON-GRADE ADJUSTABLE CLEANOUT WITH INTERNAL THREADED CLEANOUT PLUG AND ROUND NICKEL-BRONZE RING AND COVER (OR APPROVED EQUAL WITH INTERNAL THREADED CLEANOUT PLUG)	8			4"				0
FD-1	FLOOR DRAIN	GC	GC	SIOUX CHIEF	842-2-PNR	ADJUSTABLE FLOOR DRAIN WITH PVC BODY, ROUND POLISHED METAL RING AND STRAINER, AND TRAP PRIMER PORT	6	1/2"		2"				2
FNL-1	FUNNEL DRAIN	GC	GC	JAY R. SMITH	3823T	FUNNEL DRAIN WITH CAST BRONZE BODY AND THREADED OUTLET	1			2"				4
FS-1	FLOOR SINK	GC	GC	SIOUX CHIEF	861-3PU2	HEAVY DUTY PVC FLOOR SINK WITH ALUMINUM DOME BOTTOM STRAINER AND OPEN HALF PVC GRATE	7			3"				6
GR-1	GAS GRIDDLE	KES	GC	SEE ARCH	--		1							
HB-1	CHEMICAL DISPENSER HOSE BIB	KES	GC	SEE ARCH	--	COMMERCIAL QUALITY HOT & COLD MIXING WALL HYDRANT. SUPPLY ARMS SHALL HAVE INTEGRAL SHUT-OFF STOP AND CHECK VALVE. FAUCET HAS FEMALE NPT INLETS.	2	1/2"	1/2"		2.25	2.25	2.25	
HB-2	VEGETABLE WASH HOSE BIB	KES	GC	SEE ARCH	--	SILL FAUCET WITH NPT FEMALE INLET	1	1/2"			1		1	
HS-1A	RESTROOM HAND SINK	GC	GC	AMERICAN STANDARD	9024.001EC	ADA ACCESSIBLE, WALL-MOUNTED, PORCELAIN LAVATORY. PROVIDE ZURN Z1231 (Z1231-O FOR BACK-TO-BACK APPLICATIONS) CONCEALED ARM CARRIER IN WALL. APPROVED ALTERNATE: KOHLER K-2084	2			2"				1
HS-1B	RESTROOM HAND SINK FAUCET	KES	GC	SEE ARCH	--	PLUG-IN AUTOMATIC FAUCET WITH 0.5 GPM AERATOR AND THERMOSTATIC MIXING VALVE. ADJUST FAUCET CONTROLS FOR 10 SECOND SHUTOFF DELAY AND 30 SECOND TIME-OUT DELAY.	2	1/2"	1/2"		1	1	2	
HS-2	KITCHEN HAND SINK	KES	GC	SEE ARCH	--	STAINLESS STEEL SINK WITH WALL MOUNTING BRACKET AND BACKSPLASH MOUNTED FAUCET WITH SWIVEL GOOSENECK	4	1/2"	1/2"	2"	1.5	1.5	1.5	1
IM-1	ICE MAKER - BOH	KES	KES	SEE ARCH	--	BACK OF HOUSE ICE MAKER WITH BIN (STANDARD CAPACITY REMOTE AIR COOLED)	1	1/2"			1		1	
IM-2	ICE MAKER - SODA	KES	KES	SEE ARCH	--	SODA MACHINE-MOUNTED ICE MACHINE (INTEGRAL AIR COOLED)	1	1/2"			1		1	
IM-3	ICE MAKER - SODA	KES	KES	SEE ARCH	--	SODA MACHINE-MOUNTED ICE MACHINE (REMOTE AIR COOLED)	1	1/2"			1		1	
MB-1A	MOP BASIN	GC	GC	FIAT	MSB2424	PROVIDE 24"x24"x10" MOLDED-STONE MOP BASIN. INSTALL MOP BASIN IN A BED OF GROUT SO THERE ARE NO VOIDS BETWEEN THE MOP BASIN AND THE SLAB.	1			3"				3
MB-1B	MOP SINK FAUCET	KES	GC	SEE ARCH	--	SERVICE SINK FAUCET WITH BUILT IN STOPS, LEVER HANDLES, WALL BRACE, AND NPT FEMALE INLETS	1	1/2"	1/2"		3	3	3	
PF-1	SPEED FILL FAUCET	KES	GC	SEE ARCH	--	WALL-MOUNTED POT FILLER W/ SELF-CLOSING FILLER VALVE AND NPT FEMALE INLET	1	3/8"			2		2	
RC-1	RICE COOKER	KES	GC	SEE ARCH	--		1							
RH-1	FREEZE PROOF ROOF HYDRANT	GC	GC	HOEPTNER	2131R	AUTOMATIC DRAINING, FREEZELESS ROOF HYDRANT WITH ANTI-SIPHON VACUUM BREAKER HOEPTNER PRODUCTS (408) 847-7615	1	3/4"			1		1	
RN-1	6 BURNER RANGE	KES	GC	SEE ARCH	--		1							
SC-1	BAG-IN-BOX SODA RACK WITH CARBONATORS	SPS	SPS	SEE ARCH	--	SODA CARBONATOR(S) SHALL HAVE AN INTEGRAL ASSE 1022-RATED CARBONATED BEVERAGE BACKFLOW PREVENTION DEVICE.	1	1/2"			1		1	
SK-1	THREE COMPARTMENT SINK	KES	GC	SEE ARCH	--	THREE-COMPARTMENT WARE-WASHING SINK FURNISHED WITH (1) PRE-RINSE UNIT WITH ADD-ON FAUCET	1	1/2"	1/2"	2"	4	4	4	0
SK-2	PREP SINK	KES	GC	SEE ARCH	--	STAINLESS STEEL PREP TABLE WITH INTEGRAL PREP SINK. FURNISHED WITH "BIG FLO" FAUCET	1	3/4"	3/4"	2"	4	4	4	0
TD-1	TRENCH DRAIN	GC	GC	ZURN	Z886 8601 8602	6' X 160" HDPE TRENCH DRAIN (SLOPED FROM 3.50" TO 4.70") WITH (2) CLOSED END CAPS, (1) 4" NO-HUB BOTTOM OUTLET, AND CLASS A HEEL-PROOF POLYETHYLENE GRATES. SEE DETAIL ON SHEET P700 FOR REDUCTION TO 2" DRAIN CONNECTION.	1			2"				2
TP-2	TRAP PRIMER (TWO FLOOR DRAINS)	GC	GC	PRECISION PLUMBING PRODUCTS	P2-500 W/ DU-U	TRAP PRIMER WITH INTEGRAL VACUUM BREAKER AND DISTRIBUTION UNIT. CAP UNUSED DISTRIBUTION UNIT OUTLETS.	1	1/2"			0		0	
TP-3	TRAP PRIMER (THREE FOUR FLOOR DRAINS)	GC	GC	PRECISION PLUMBING PRODUCTS	P1-500 W/ DU-U	TRAP PRIMER WITH INTEGRAL VACUUM BREAKER AND DISTRIBUTION UNIT. CAP UNUSED DISTRIBUTION UNIT OUTLETS.	1	1/2"			0		0	
UR-1	URINAL	GC	GC	KOHLER	K-4991-ET	ADA-ACCESSIBLE, WALL-MOUNTED, VITREOUS CHINA, WASHOUT URINAL WITH SLOAN ECOS 8186-0.25 0.25 GPF BATTERY-POWERED AUTOMATIC FLUSH VALVE. INSTALL WITH RIM AT 17" AFF.	1	3/4"		2"	20		20	5
WC-1	WATER CLOSET	GC	GC	KOHLER	K-3519 W/ SEAT K-4666-C	WHITE HIGHLINE 1.0 GPF, 17-1/8" HIGH, ADA ACCESSIBLE, PRESSURE ASSIST WATER CLOSET WITH OPEN-FRONT SEAT. INSTALL TRIP LEVER ON THE TANK TO THE OPEN SIDE OF THE STALL (ADD -RA TO THE MODEL #FOR RIGHT HAND TRIP LEVER).	2	1/2"		3"	2.5		2.5	6
WS-1	WATER SOFTENER	KES	GC	CUNO	CFSM1254E	POINT OF ENTRY HIGH CAPACITY WATER TREATMENT SYSTEM. PROVIDE STARTUP PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.	1	1"			0		0	

WATER HEATER SCHEDULE

TAG	DESCRIPTION	NATURAL GAS		ELECTRICAL		FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
		INPUT	CONNECTION SIZE	FLA	V/P/H			MANUFACTURER	MODEL	
DWH-1	WATER HEATER (GAS TANKLESS)	199,000 Btu/h	3/4"		120/1/60	GC	GC	NAVIEN	NPE-240A2	RATED FLOW RATE: 5.6 GPM @ 67°F RISE THERMAL EFFICIENCY: 96% PROVIDE WITH LEAD FREE "PLUMB EASY VALVE SET". GC SHALL PURCHASE WATER HEATER DIRECTLY THROUGH A NAVIEN AUTHORIZED DISTRIBUTOR (1-800-519-8794 OR WWW.NAVIEN.COM TO LOCATE AUTHORIZED DISTRIBUTOR).
DWH-2	WATER HEATER (GAS TANKLESS)	199,000 Btu/h	3/4"		120/1/60	GC	GC	NAVIEN	NPE-240A2	RATED FLOW RATE: 5.6 GPM @ 67°F RISE THERMAL EFFICIENCY: 96% PROVIDE WITH LEAD FREE "PLUMB EASY VALVE SET". GC SHALL PURCHASE WATER HEATER DIRECTLY THROUGH A NAVIEN AUTHORIZED DISTRIBUTOR (1-800-519-8794 OR WWW.NAVIEN.COM TO LOCATE AUTHORIZED DISTRIBUTOR).

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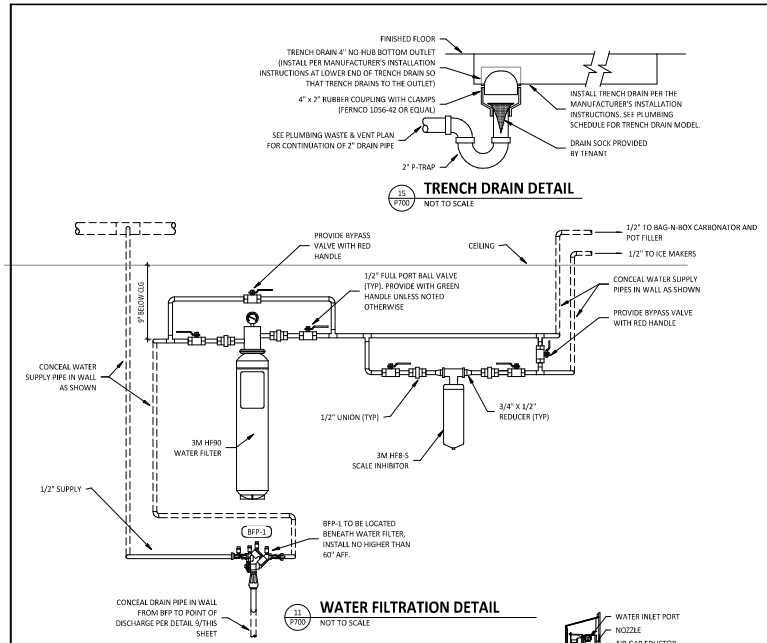
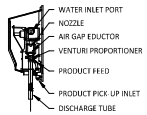
Contents: PLUMBING SCHEDULES

P600



11 P700 **WATER FILTRATION DETAIL**
NOT TO SCALE



10 P700 **CHEMICAL DISPENSER DETAIL**
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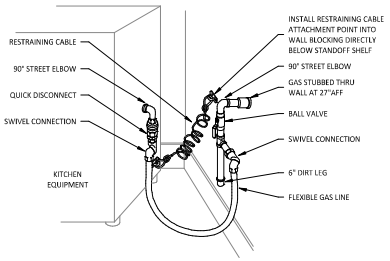
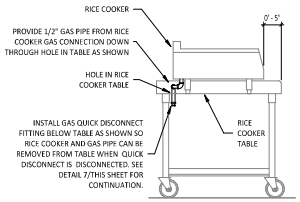


ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT ACTUAL CONDITIONS. MAKE FINAL CONNECTION TO EQUIPMENT AS RECOMMENDED BY MANUFACTURER. PROVIDE WELDED FITTINGS/JOINTS IN ANY CONCEALED, UNSLEEVED LOCATION.

7 P700 **KITCHEN GAS EQUIPMENT DETAIL**
NOT TO SCALE



6 P700 **RICE COOKER GAS CONNECTION DETAIL**
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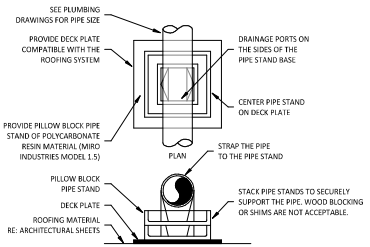
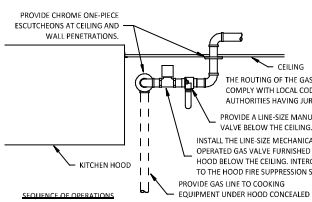


PROVIDE PIPE STANDS AS SHOWN FOR STEEL PIPE FROM 1/2" TO 1-1/2" DIAMETER. SUPPORT SPACING FOR PIPE SIZE: 1/2"–6'; 3/4"-1"–8'; 1 1/4" AND LARGER–10'; PROVIDE DECK PLATES ON ROOFING AND SET PIPE STAND FREE ON DECK PLATES. STACK PIPE STAND WHERE REQUIRED TO ELEVATE PIPING. INSTALL GAS PIPE TO ALLOW FOR EXPANSION AND CONTRACTION.

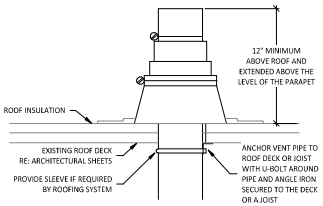
5 P700 **ROOFTOP PIPING SUPPORT**
NOT TO SCALE



SEQUENCE OF OPERATIONS
NORMAL MODE:
- DURING NORMAL OPERATION THE GAS SHUT-OFF VALVE SHALL BE OPEN.

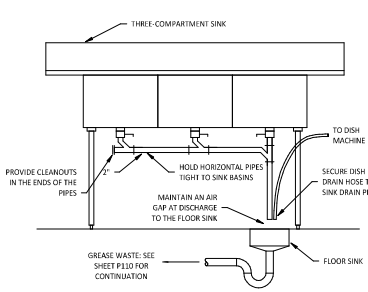
EMERGENCY MODE:
- UPON ACTUATION OF THE HOOD FIRE SUPPRESSION SYSTEM THE GAS SHUT-OFF VALVE SHALL CLOSE.

4 P700 **KITCHEN GAS SHUTOFF DETAIL**
NOT TO SCALE



REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR MINIMUM TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, AND ONE FOOT FROM ANY VERTICAL SURFACE. PROVIDE 1" FIBERGLASS INSULATION WITH ALL-SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN SIX FEET OF VENT THRU ROOF LOCATION. FLASHING AND COUNTER FLASHING ARE TO BE COMPATIBLE WITH THE ROOFING SYSTEM.

3 P700 **VENT THROUGH ROOF**
NOT TO SCALE



2 P700 **WARE-WASHING SINK DETAIL**
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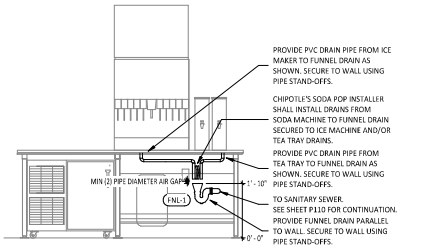

17 P700 **PUW FUNNEL DRAIN DETAIL**
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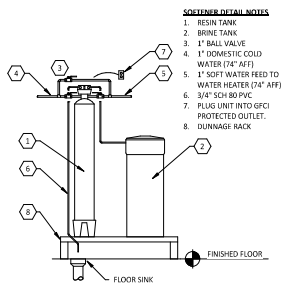

16 P700 **WATER SOFTENER DETAIL**
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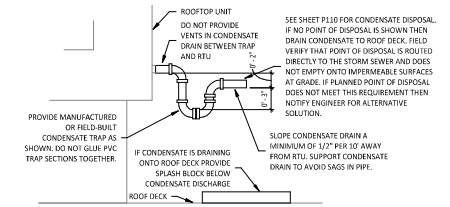
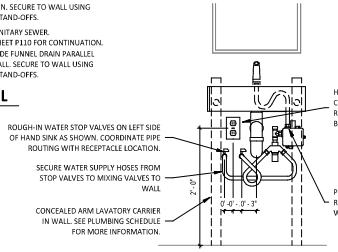
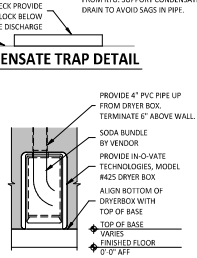


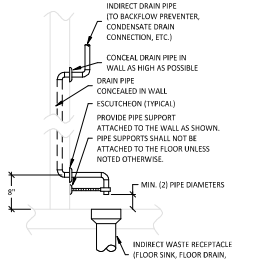
13 P700 **RTU CONDENSATE TRAP DETAIL**
NOT TO SCALE



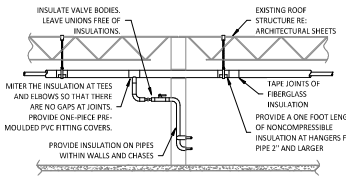
14 P700 **RESTROOM HAND SINK DETAIL**
NOT TO SCALE



12 P700 **SODA TERMINATION DETAIL**
NOT TO SCALE

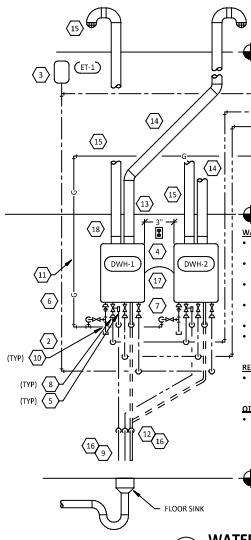


9 P700 **INDIRECT WASTE PIPING DETAIL**
NOT TO SCALE



PROVIDE INSULATION ON INTERIOR COLD AND HOT WATER PIPING, CONDENSATE DRAIN PIPE, AND STORM PIPE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION REGARDING INSULATION. INSTALL ITEMS PER SPECIFICATIONS AND MANUFACTURER'S INSTRUCTIONS. MAINTAIN VAPOR BARRIER ON COLD WATER AND CONDENSATE PIPING BY MEANS OF SEALANT AND TAPE. FLAME SPREAD AND SMOKE-DEVELOPED INDEXES SHALL NOT EXCEED 25/50. SEAL EXPOSED ENDS OF FIBERGLASS INSULATION WITH ADHESIVE MASTIC. UNLESS NOTED OTHERWISE PROVIDE PREFORMED GLASS FIBER PIPE INSULATION WITH PRE-MOLDED PVC JACKETS, SLEEVES, AND FITTING COVERS ON EXPOSED WATER PIPE SO THAT EXPOSED WATER PIPE IS COVERED ENTIRELY WITH PVC INSULATION COVERS.

8 P700 **PIPE INSULATION DETAIL**
NOT TO SCALE



WATER HEATER DIP SWITCH SETTINGS
- **RECIRCULATION MODE**: INTERNAL W/ INTELLIGENT PREHEATING
- **DISPLAY TEMPERATURE** UNIT: FAHRENHEIT
- **WELL PUMP:** DO NOT USE WELL PUMP
- **DHW STORAGE TANK:** DO NOT USE STORAGE TANK
- **LIME ALARM**: 6 MONTH ALERT
- **HIGH ALTITUDE**: BASED ON PROJECT ALTITUDE

RECIRCULATION VALVE SETTING
- SET INTERNAL RECIRCULATION VALVE TO "EXT".

OTHER SETTINGS
- CONNECT WATER HEATERS TOGETHER AS A CASCADE SYSTEM. SET DWH-1 AS MASTER AND DWH-2 AS SLAVE.

WATER HEATER DETAIL NOTES
1. PROVIDE TWO 90° ELBOWS AND A SCREEN FOR THE FLUE TERMINATION THROUGH THE ROOF PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. ROUGH-IN COLD, HOT, AND RECIRC PIPES AT 64" AND GAS PIPE AT 61" BELOW THE FINISHED CEILING.
3. PROVIDE EXPANSION TANK ET-1 AS SHOWN. SUPPORT TANK FROM WALL OR STRUCTURE ABOVE.
4. PROVIDE WATER HEATER RECEPTACLE WITHIN 12" OF THE FINISHED CEILING. FASTEN CORD TIGHT TO THE WALL.
5. PROVIDE PRESSURE RELIEF VALVE. PIPE PRESSURE RELIEF VALVE TO POINT OF DISCHARGE.
6. CONCEAL WATER PIPING WITHIN THE WALL AS SHOWN. INSULATE CONCEALED WATER PIPING. DO NOT PROVIDE INSULATION ON EXPOSED WATER PIPING AT WATER HEATER.
7. INTALL "PLUMB EASY VALVE SET" EXPOSED AT THE COLD AND HOT WATER CONNECTIONS TO THE WATER HEATER AS SHOWN.
8. IF THE PIPE SIZES AS SHOWN ON THE PLUMBING PLANS IS LARGER THAN THE WATER HEATER CONNECTIONS SIZES, PROVIDE REDUCERS WITHIN 6" OF THE WATER HEATER.
9. PIPE PRESSURE RELIEF VALVE DISCHARGE AND FLUE CONDENSATE DRAIN TO THE POINT OF DISCHARGE. DRAIN THROUGH AN AIR GAP.
10. PROVIDE AN EXPOSED DRIP LEG AND LINE SIZE GAS VALVE ON THE GAS SERVICE TO THE WATER HEATER.
11. CONCEAL GAS PIPING IN THE WALL AS SHOWN.
12. PROVIDE 1/2" PVC PIPE FROM THE FLUE CONDENSATE CONNECTION TO THE POINT OF DISCHARGE. DRAIN THROUGH AN AIR GAP.
13. INSTALL THE TANKLESS WATER HEATER WITH THE TOP OF THE WATER HEATER BETWEEN 9" & 12" OF THE FINISHED CEILING.
14. PROVIDE A 2"Ø PVC PIPE FROM THE TANKLESS WATER HEATER TO THE POINT OF DISCHARGE. SLOPE HORIZONTAL SECTION OF THE FLUE 1/4" PER FOOT TOWARDS THE WATER HEATER.
15. PROVIDE A SCREENED AIR INTAKE WITH TWO 90° ELBOWS ABOVE THE ROOF PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
16. CONCEAL DRAIN LINES IN WALL PER DETAIL 9/THIS SHEET.
17. PROVIDE COMMUNICATION CABLE CONCEALED IN WALL BETWEEN WATER HEATERS.
18. IF WATER HEATERS ARE INSTALLED WITH A COMMON VENT SYSTEM THEN PROVIDE THE NAVIEN COMMON VENT COLLAR KIT WITH BACK-DRAFT DAMPER PER THE MANUFACTURER'S INSTALLATION MANUAL.

WATER HEATER GENERAL NOTES
A. CLEAN INLET STRAINERS AFTER CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO TURNOVER OF THE BUILDING TO THE TENANT.
B. INSTALL PIPING WITH AS FEW ELBOWS AS POSSIBLE.
C. MAINTAIN REQUIRED CLEARANCE TO COMBUSTIBLE MATERIALS.
D. ADJUST WATER HEATER TO A SETPOINT OF 120° F.

1 P700 **WATER HEATER DETAIL**
NOT TO SCALE

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Project No.: 2402021

Contents:

PLUMBING DETAILS

P700

SECTION 16011 TEMPORARY & PERMANENT ELECTRICAL SERVICE
PART 1 GENERAL
1.1 DEFINITIONS
A. GFCI: Ground fault current interrupter.
B. RMS: Root Mean Square
C. SPDT: Single Pole, Double Throw
1.2 USE CHARGES
A. General: Cost or use charges for temporary facilities are not chargeable to Tenant, Architect, or Engineer and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:
1. Tenant's construction forces.
2. Occupants of Project.
3. Architect.
4. Engineer.
5. Testing agencies.
6. Personnel of authorities having jurisdiction.
B. Permanent Service: Coordinate with building Tenant and utility company to establish permanent service upon completion of the project. Contractor shall pay for all permits, aid-to-construction charges, and related fees associated with the new service.
1.3 NOTIFICATION
A. Coordinate with Tenant to provide 72 hour written notification to other tenants of any power interruptions. Notification shall state the estimated time and duration of the electrical outage.
1.4 QUALITY ASSURANCE
A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.
1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
2. Electric Service: Comply with NECA, NEMA and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
3. Comply with OSHA standards and regulations.
PART 2 PRODUCTS
2.1 MATERIALS
A. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.
B. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.
C. Main panelboard with disconnect.
D. Temporary lighting.
E. 120 volt receptacles with overcurrent protection.
F. Enclosures, NEMA AB 1 and NEMA KS 1 to meet environmental conditions of installed location.
1. Outdoor Locations: NEMA 250, Type 3R.
PART 3 EXECUTION
3.1 INSTALLATION
A. Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, and overload-protected disconnecting means.
1. Install power distribution wiring overhead and rise vertically where least exposed to damage.
B. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment.
1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
2. Provide metal conduit, tubing, or metallic cable for wiring exposed to possible damage. Provide rigid steel conduits for wiring exposed on grades, floors, decks, or other traffic areas.
3. Provide metal conduit enclosures or boxes for wiring devices.
4. Provide 4-gang outlets, spaced so 1 DO-foot (30-m) extension cord can reach each area for power hand tools and task lighting. Provide a separate 125-V ac, 20-A circuit for each outlet.
C. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.
1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
2. Provide one 100-W incandescent lamp (or equivalent) every 50 feet (15 m) in traffic areas.
3. Install exterior-yard site lighting that will provide adequate illumination for construction operations, parking and traffic conditions, and signage visibility when the Work is being performed.
END OF SECTION 16011

SECTION 16060 - GROUNDING AND BONDING
PART 1 - GENERAL
1.1 SUMMARY
A. This Section includes grounding of electrical systems and equipment. Grounding requirements specified in this Section may be supplemented by special requirements of systems described in other Sections.
1.2 QUALITY ASSURANCE
A. Testing Agency Qualifications: Testing agency as defined by OSHA in 29 CFR 1910.7 or a member company of the International Electrical Testing Association and that is acceptable to authorities having jurisdiction.
1. Testing Agency's Field Supervisor: Person currently certified by the International Electrical Testing Association to supervise on-site testing specified in Part 3.
B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
1. Comply with UL 467.
PART 2 - PRODUCTS
2.1 GROUNDING CONDUCTORS
A. For insulated conductors, comply with Division 16 Section "Wiring Methods."
B. Material: Copper.
C. Equipment Grounding Conductors: Insulated with green-colored insulation.
D. Grounding Electrode Conductors: Stranded cable.
E. Bare Copper Conductors: Comply with the following:
1. Solid Conductors: ASTM B 3.
2. Assembly of Stranded Conductors: ASTM B 8.
2.2 CONNECTOR PRODUCTS
A. Comply with IEEE 837 and UL 467; listed for use for specific types, sizes, and combinations of conductors and connected items.
PART 3 - EXECUTION
3.1 APPLICATION
A. Use only copper conductors.
B. In raceways, use insulated equipment grounding conductors.
C. Equipment Grounding Conductor Terminations: Use bolted pressure clamps.
D. Grounding Bus: Install in electrical and telephone equipment rooms, in rooms housing service equipment, and elsewhere as indicated.
1. Use insulated spacer; space 1 inch from wall and support from wall 6 inches above finished floor, unless otherwise indicated.
2. At doors, route the bus up to the top of the door frame, across the top of the doorway, and down to the specified height above the floor.
3.2 EQUIPMENT GROUNDING CONDUCTORS
A. Comply with NFPA 70, Article 250, for types, sizes, and quantities of equipment grounding conductors, unless specific types, larger sizes, or more conductors than required by NFPA 70 are indicated.
3.3 INSTALLATION
A. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
3.4 CONNECTIONS
A. General: Make connections so galvanic action or electrolysis possibility is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.
B. Equipment Grounding Conductor Terminations: For No. 8 AWG and larger, use pressure-type grounding lugs. No. 10 AWG and smaller grounding conductors may be terminated with winged pressure-type connectors.
C. Tighten screws and bolts for grounding and bonding connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A.
D. Compression-Type Connections: Use hydraulic compression tools to provide correct circumferential pressure for compression connectors. Use tools and dies recommended by connector manufacturer. Provide embossing die code or other standard method to make a visible indication that a connector has been adequately compressed on grounding conductor.
END OF SECTION 16060

SECTION 16100 - WIRING METHODS
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Summary: Building wire and cable and associated splices, connectors, and terminations for wiring systems rated 600 V and less, and twisted-pair cable; and raceways and boxes.
PART 2 - PRODUCTS
2.1 WIRES AND CABLES
A. Connectors and Splices: Wiring connectors of size, ampacity rating, material, and type and class for application and for service indicated.
2.2 RACEWAYS
A. Wireways: Screwed cover type, with manufacturers standard finish.
B. Outlet and Device Boxes: Sheet metal boxes, except use cast-metal boxes at exterior, interior exposed, and interior damp locations.
C. Pull and Junction Boxes: Sheet metal boxes, except use nonmetallic boxes with gasketed covers at exterior and interior damp locations.
2.3 ENCLOSURES
A. Hinged-Cover Enclosures: NEMA 250, steel enclosure with continuous hinge cover and flush latch. Finish inside and out with manufacturer's standard enamel.
B. Cabinets: NEMA 250, Type 1, unless otherwise indicated.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Install wires and cables according to the NECA's "Standard of Installation.
B. Wiring at Outlets: Install with at least 12 inches of slack conductor at each outlet.
C. Conceal wiring, unless otherwise indicated, within finished walls, ceilings, and floors.
D. Boxes and Enclosures: In damp or wet locations use NEMA 250, Type 4, stainless steel.
E. Use raceway fittings compatible with raceway and suitable for use and location. For intermediate metal conduit, use threaded rigid steel conduit fittings, unless otherwise indicated.
F. Raceways Embedded in Slabs: Install in middle third of the slab thickness where practical, and leave at least 1 -inch concrete cover.
G. Install exposed raceways parallel to or at right angles to nearby surfaces or structural members, and follow the surface contours as much as practical.
H. Join raceways with fittings designed and approved for the purpose and make joints tight. Use bonding bushings or wedges at connections subject to vibration. Use bonding jumpers where joints cannot be made tight. Use insulating bushings to protect conductors.
I. Install pull wires in empty raceways. Use No. 14 AWG zinc-coated steel or monofilament plastic line having not less than 200-lb tensile strength. Leave not less than 18 inches of slack at each end of the pull wire.
J. Install raceway sealing fittings where required by the NEC and at wiring entrances to refrigerated spaces. Locate at suitable, approved, accessible locations and fill them with UL 4lsted sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces.
K. Stub-up Connections for Equipment: Extend conductors to equipment with rigid metal conduit; flexible metal conduit may be used 3 inches above the floor.
L. Install a separate green ground conductor in surface metal raceway from the junction box supplying the raceway to receptacle and fixture ground terminals.
3.2 IDENTIFICATION MATERIALS AND DEVICES
A. Install underground wires for most convenient viewing without interference with operation and maintenance of equipment.
B. Coordinate names, abbreviations, colors, and other designations used for electrical identification with corresponding designations indicated in the Contract Documents or required by codes and standards. Use consistent designations throughout Project.
C. Identify raceways and cables with color banding as follows:
1. Bands: Pretensioned, snap-around, colored plastic sleeves or colored encircling conduit, and place adjacent bands of two-color markings in contact, side by side.
2. Band Locations: At changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25 -foot maximum intervals in congested areas.
3. Colors: As follows:
a. Telecommunication System: Green and yellow.
D. Color-code System secondary service, feeder, and branch-circuit conductors throughout the secondary electrical system as follows:

		120/208V	277/480V
1.	Phase A:	Black	Brown
2.	Phase B:	Red	Orange
3.	Phase C:	Blue	Yellow
4.	Neutral:	White	Gray
5.	Ground:	Green	Green

END OF SECTION 16100

SECTION 16140 - WIRING DEVICES
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Submittals: None.
B. Comply with NEMA WD 1.
C. Comply with NFPA 70.
PART 2 - PRODUCTS
2.1 DEVICES
A. General: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
B. Color: Per Material Schedule on sheet E010.
C. Receptacles: Heavy- Duty grade, NEMA WD6, Configuration 5-20R unless otherwise indicated.
D. Ground-Fault Circuit Interrupter Receptacles: Integral duplex receptacle; for installation in box without an adapter. Feed-through type, with a 2-3/4 -inch- deep outlet
E. Isolated-Ground Receptacles: Equipment grounding contacts connected only to the green grounding screw terminal of the device with inherent electrical isolation from mounting strap.
F. Snap Switches: Heavy-duty, quiet type.
G. Wall Plate: Per Material Schedule on sheet E010.
H. Floor Service Fittings: Modular, above-floor, dual-service units suitable for wiring method used.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Install devices and assemblies plumb and secure.
B. Mount devices flush with long dimension vertical unless otherwise indicated.
C. Protect devices and assemblies during painting.
D. Install wall plates when painting is complete and paint is cured.
END OF SECTION 16140

SECTION 16442 - PANELBOARDS
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Submittals: None.
B. Comply with NFPA 70.
C. Comply with NEMA PB 1.
PART 2 - PRODUCTS
2.1 PANELBOARDS AND LOAD CENTERS
A. Manufacturers: Subject to compliance with requirement, provide products by one of the following:
1. Panelboards, Overcurrent Protective Devices, Controllers, Contactors, and Accessories:
a. Square D Co.
b. Eaton Corp.; Cutler-Hammer Products.
c. General Electric Co.; Electrical Distribution & Control Div.
d. Siemens Energy & Automation.
B. Recessed, NEMA PB 1, Type 1.
1. Load Center Capacity: as shown on drawings.
2. Front: Secured to box with concealed trim clamps.
3. Doors: With concealed hinges, flush catches, and tumbler locks, all keyed alike.
4. Bus: Hard drawn copper of 98 percent conductivity.
C. Molded-Case Circuit Breakers: NEMA AB 1, plug-in type, Single-handle for multipole circuit breakers. Appropriate for application, including Type SWD for repetitive switching lighting loads and Type HACR for heating, air-conditioning, and refrigerating equipment.
D. Contactors: NEMA ICS 2, Class A combination contactors.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Install panelboards and accessory items according to NEMA PB 1.1. Provide typed, permanently-mounted English and Spanish circuit directories showing the panel schedules as installed in each panelboard.
B. Mounting Heights: Top of trim 74 inches above finished floor, unless otherwise indicated.
C. Future Circuit Provisions at Flush Panel boards: Stub four empty 3/4-inch conduits from panelboard into accessible or designated ceiling space.
D. Wiring in Panelboard Gutters: Arrange conductors into groups, bundle and wrap with wire ties according to NEC guidelines.
E. Tighten electrical connectors and terminals, including grounding connections, according to manufacturer's published torque-tightening values. Where manufacturer's torque values are not indicated, use those specified in UL 486A.
F. Perform visual and mechanical inspections and electrical tests stated in NETA ATS.
END OF SECTION 16442

SECTION 16500 - LIGHTING
PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. Submittals: None.
B. Fixtures, Emergency Lighting Units, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
C. Coordinate ceiling-mounted luminaires with ceiling construction, mechanical work, and security and fire-prevention features mounted in ceiling space and on ceiling.
PART 2 - PRODUCTS
2.1 FIXTURES AND FIXTURE COMPONENTS, GENERAL
A. Metal Parts: Free from burrs, sharp corners, and edges. Steel, unless otherwise indicated. Form and support to prevent warping and sagging.
B. Doors, Frames, and Other Internal Access: Smooth operating, free from light leakage under operating conditions, and arranged to permit re-lamping without use of tools. Arrange doors, frames, lenses, diffusers, and other pieces to prevent accidental falling during re-lamping and when secured in operating position.
C. Lenses, Diffusers, Covers, and Globes: 100 percent virgin acrylic plastic or annealed crystal glass, unless otherwise indicated.
PART 3 - EXECUTION
3.1 INSTALLATION
A. Set units level, plumb, and square with ceiling and walls, and secure.
B. Support for Recessed and Semirecessed Grid-Type Fluorescent Fixtures: Install ceiling support system rods or wires at a minimum of 4 rods or wires for each fixture, located not more than 6 inches from fixture corners.
C. Support for Suspended Fixtures: Support according to manufacturers' recommendations.
D. Lamping: Where specific lamp designations are not indicated, lamp units according to manufacturer's written instructions.
END OF SECTION 16500

ELECTRICAL MATERIAL SCHEDULE

	APPLICATION	ALLOWABLE MATERIAL
CONDUCTORS		
	#8 AWG AND LARGER	STRANDED CU, TYPE THHN/THWN OR XHHW
	#10 AWG AND SMALLER	SOLID CU, TYPE THHN/THWN OR XHHW
	FIELD-MADE CORD (EXPOSED INDOOR LOCATIONS)	TYPE SO OR SJO SERVICE CORD WITH CU CONDUCTORS
CONDUITS		
	CONNECTION TO VIBRATING EQUIPMENT (EXPOSED INDOOR DRY LOCATIONS)	FLEXIBLE METAL CONDUIT
	CONNECTION TO VIBRATING EQUIPMENT (EXPOSED WET OR DAMP LOCATIONS)	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
	INDOOR, CONCEALED ABOVE GRADE	ELECTRICAL METALLIC TUBING, FLEXIBLE METAL CONDUIT, OR METAL CLAD CABLE
	INDOOR, EXPOSED	ELECTRICAL METALLIC TUBING U.N.O.
	INDOOR, WITHIN 1-1/2" OF ROOF DECK	INTERMEDIATE METAL CONDUIT
	LOW OR LINE VOLTAGE, BELOW GRADE	RIGID NONMETALLIC CONDUIT (SCHEDULE 40 PVC)
	LOW VOLTAGE, INDOOR, ABOVE GRADE	ELECTRICAL METALLIC TUBING
	OUTDOOR, ABOVE GRADE, EXPOSED OR CONCEALED	INTERMEDIATE METAL CONDUIT
WIRING DEVICES		
	IG OR IG/GFI RECEPTACLES	GRAY DEVICE WITH STAINLESS STEEL COVER PLATE
	IN KITCHEN, OFFICE, OR NON-PUBLIC SPACES	GRAY DEVICE WITH STAINLESS STEEL COVER PLATE
	IN RESTROOMS	WHITE DEVICE WITH WHITE COVER PLATE
	ON DRYWALL IN DINING ROOM	WHITE DEVICE WITH WHITE COVER PLATE
	ON HOT ROLLED STEEL, RICHLITE, OR OTHER BLACK FINISHES	BLACK DEVICE WITH BLACK COVER PLATE

ELECTRICAL SYMBOLS

- CONDUIT CONCEALED ABOVE THE CEILING, IN A WALL, OR IN A RACEWAY
- CONDUIT CONCEALED BELOW THE SLAB
- HOME-RUN TO PANELBOARD AND CIRCUIT NUMBER SHOWN (—A-6—)
- PLAN NOTE: SEE PLAN NOTES LISTED ON THE SAME SHEET FOR NOTE MEANING (#)
- DISCONNECT SWITCH: X = SWITCH RATING, Y = FUSE SIZE (INF = NON-FUSED), Z = NUMBER OF POLES (X/Y/Z)
- JUNCTION BOX
- ELECTRIC PANELBOARD
- GENERAL PURPOSE 1-POLE SWITCH
- MANUAL STARTER WITH PILOT LIGHT (M)
- NEMA 5-20R 1-PLEX RECEPTACLE
- NEMA 5-20R DUPLEX RECEPTACLE
- NEMA 5-20R DUPLEX GFCI RECEPTACLE
- NEMA 5-20R DOUBLE-DUPLEX RECEPTACLES
- NEMA 5-20R DUPLEX COMBINATION ISOLATED GROUND/GFI RECEPTACLE PASS & SEYMOUR MODEL#2095IGTRGRY (GRAY) (IG/GFI)
- OTHER RECEPTACLE - SEE PLAN FOR RATING AND TYPE
- JUNCTION BOX FOR RJ-45 DATA OUTLETS. PROVIDE 1" CONDUIT WITH PULL STRING FROM J-BOX TO ABOVE OFFICE CEILING. TERMINATE CONDUIT WITH CONDUIT BUSHING.
- DOUBLE GANG JUNCTION BOX FOR RJ-45 DATA OUTLETS. PROVIDE 1" CONDUIT WITH PULL STRING FROM J-BOX TO ABOVE OFFICE CEILING. TERMINATE CONDUIT WITH CONDUIT BUSHING.
- JUNCTION BOX FOR RJ-11 TELEPHONE OUTLETS. PROVIDE 1" CONDUIT WITH PULL STRING FROM J-BOX TO ABOVE OFFICE CEILING. TERMINATE CONDUIT WITH CONDUIT BUSHING.
- SECURITY SYSTEM KEYPAD: SEE ELECTRICAL POWER PLAN FOR MORE INFORMATION. (KP)
- SECURITY SYSTEM DOOR CONTACT: SEE ELECTRICAL POWER PLAN FOR MORE INFORMATION. (DC)

ELECTRICAL GENERAL NOTES

A GENERAL NOTES APPLY TO ELECTRICAL SHEETS.
B ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE ELECTRICAL CODE AND IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION. SEE ARCHITECTURAL SHEETS FOR THE PREVAILING CODES.
C WIRING SHALL BE (2)#12, #12 G IN 3/4" C UNLESS NOTED OTHERWISE.
D INDIVIDUAL CONDUIT HOME RUNS SHOWN SHALL NOT BE CONSOLIDATED.
E CIRCUIT EMERGENCY LIGHTS, ILLUMINATED EXIT SIGNS, AND NIGHT LIGHTS AHEAD OF LOCAL SWITCHING.
F INSTALL WALL SWITCHES AT 48" AFF TO CENTER OF SWITCH AND RECEPTACLES AT 18" AFF TO CENTER OF RECEPTACLE UNLESS NOTED OTHERWISE.
G INSTALL CONDUIT CONCEALED ABOVE THE CEILING, IN WALLS, OR IN RACEWAYS.
H PROVIDE 1" CONDUIT WITH PULL STRING FROM EACH J-BOX FOR TELEPHONE OR DATA JACKS TO ABOVE OFFICE CEILING. SEE MATERIAL SCHEDULE FOR ALLOWABLE CONDUIT MATERIALS. PROVIDE CONDUITS WITH MINIMAL ELBOWS AND TERMINATE CONDUITS ABOVE OFFICE CEILING WITH CONDUIT BUSHING.
I THE TERM "FURNISH" MEANS SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS. THE TERM "INSTALL" DESCRIBES THE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.
J DIMENSIONS SHOWN IN ELECTRICAL ELEVATIONS ARE FROM THE WALL FRAMING UNLESS NOTED OTHERWISE.
K INSTALL LABELING CALLED FOR IN THE ELECTRICAL DRAWINGS USING ENGRAVED PHENOLIC PLATES ON WALL IMMEDIATELY ABOVE RECEPTACLES.
L IF THERE ARE RATED ASSEMBLIES WITHIN CHIPOTLE'S SPACE COORDINATE ANY REQUIRED CONDUIT RUNS WITH SECURITY VENDOR.

ELECTRICAL ABBREVIATIONS

(E)	EXISTING
ABV	ABOVE
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BOH	BACK OF HOUSE
CLG	CEILING
CTE	CONNECT TO EXISTING
DN	DOWN
EXT'G	EXISTING
FLR	FLOOR
FOH	FRONT OF HOUSE
GFCI	GROUND FAULT CURRENT INTERRUPTER
GYP	GYPSUM BOARD
IG	ISOLATED GROUND
NF	NON-FUSED
NL	NIGHT LIGHT
NTS	NOT TO SCALE
O/H	OVERHEAD
TYP	TYPICAL
U/G	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
W/	WITH
WIC	WALK-IN COOLER
WP	WEATHERPROOF
CO2AS	TENANT'S CO2 ALARM SUPPLIER
GC	GENERAL CONTRACTOR
HES	TENANT'S HVAC EQUIPMENT SUPPLIER
HS	TENANT'S HOOD SUPPLIER
KES	TENANT'S KITCHEN EQUIPMENT SUPPLIER
LL	LANDLORD
MSS	TENANT'S MUSIC SYSTEMS SUPPLIER
SPS	TENANT'S SODA POP SUPPLIER
TAB	TENANT'S TEST AND BALANCE VENDOR
TCC	TENANT'S CABLING CONTRACTOR
TDC	TENANT'S DUCT CLEANER
TEMS	TENANT'S ENERGY MANAGEMENT SYSTEM SUPPLIER
TLS	TENANT'S LIGHT/LAMP SUPPLIER
TMB	TENANT'S MENU BOARD SUPPLIER
TMS	TENANT'S MILLWORK SUPPLIER
TP	TENANT'S PHONE SUPPLIER
TPS	TENANT'S PANELBOARD SUPPLIER
TRS	TENANT'S RAILING SUPPLIER
TSV	TENANT'S SIGN VENDOR
TUV	TENANT'S UV SNAITIZER SUPPLIER
WCS	TENANT'S WALK-IN COOLER SUPPLIER
WHS	TENANT'S WATER HEATER SUPPLIER

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ELECTRICAL SPECIFICATIONS

E010

LIGHTING CONTROL PANEL SCHEDULE: LCP

RELAY	PANEL	CIRCUIT	AREA SERVED	CONTROL	TIME ON	TIME OFF	DIMMER CONTROL	NOTES
R1	A	32	KITCHEN A	TIMECLOCK	7:00:00 AM	12:00:00 AM	N/A	SINGLE POLE (NC)
R2	A	32	KITCHEN B	TIMECLOCK	7:00:00 AM	12:00:00 AM	N/A	SINGLE POLE (NC)
R3			SPARE					SINGLE POLE (NC)
R4	A	30	DINING ROOM A	TIMECLOCK	10:00:00 AM	12:00:00 AM	N/A	SINGLE POLE (NC)
R5	A	30	DINING ROOM B	TIMECLOCK	10:00:00 AM	12:00:00 AM	N/A	SINGLE POLE (NC)
R6			SPARE				N/A	SINGLE POLE (NC)
R7	A	28	RESTROOM EXHAUST FAN	TIMECLOCK	7:00:00 AM	12:00:00 AM	N/A	SINGLE POLE (NC)
R8	A	42	EXT. LIGHTING/SIGNAGE	TIMECLOCK	SUNSET - 1 HR	12:00:00 AM	N/A	SINGLE POLE (NC)

LIGHTING CONTROL PANEL SCHEDULE NOTES

A. DUPLICATE PANEL SCHEDULE AND PERMENANTLY INSTALL WITHIN THE LIGHTING CONTROL PANEL.

LIGHTING CONTROL COMPONENTS SCHEDULE

	DESCRIPTION	QUANTITY	FURNISHED BY	INSTALLED BY	MANUFACTURER	MODEL	REMARKS
LCP	nLIGHT LIGHTING CONTROL PANEL	1	TLS	GC	ACUITY	ARP INTENCO8 NLT 8FCR MVOLT HLK FM DTC CPTLE1	8 RELAY PANEL FOR DIMMING CONTROL WITH FLUSH MOUNT ENCLOSURE, AND DIGITAL TIME CLOCK
$C	WALL-MOUNTED OVERRIDE SWITCH	1	TLS	GC	ACUITY	nPODMA 4P WH	SEE LIGHTING CONTROL DIAGRAM FOR SWITCH CONFIGURATION
$D	WALL-MOUNTED DIMMER SWITCH	2	TLS	GC	COOPER	SAL06P-W	SLIDE DIMMER COMPATIBLE WITH UP TO 300W LED LIGHTING. SET AT 50%. IF DINING ROOM LIGHTS FLICKER AT THIS DIMMER SETTING THEN GC SHALL PROVIDE LUTRON DVCL-253P DIMMER AS REPLACEMENT.
$OC	WALL-MOUNTED LINE VOLTAGE OCCUPANCY SENSOR	3	TLS	GC	HUBBELL	LHMTS 1-N-WH	WHITE DUAL TECHNOLOGY SINGLE RELAY WITH 1 BUTTON AND NEUTRAL WIRING

LIGHTING FIXTURE SCHEDULE

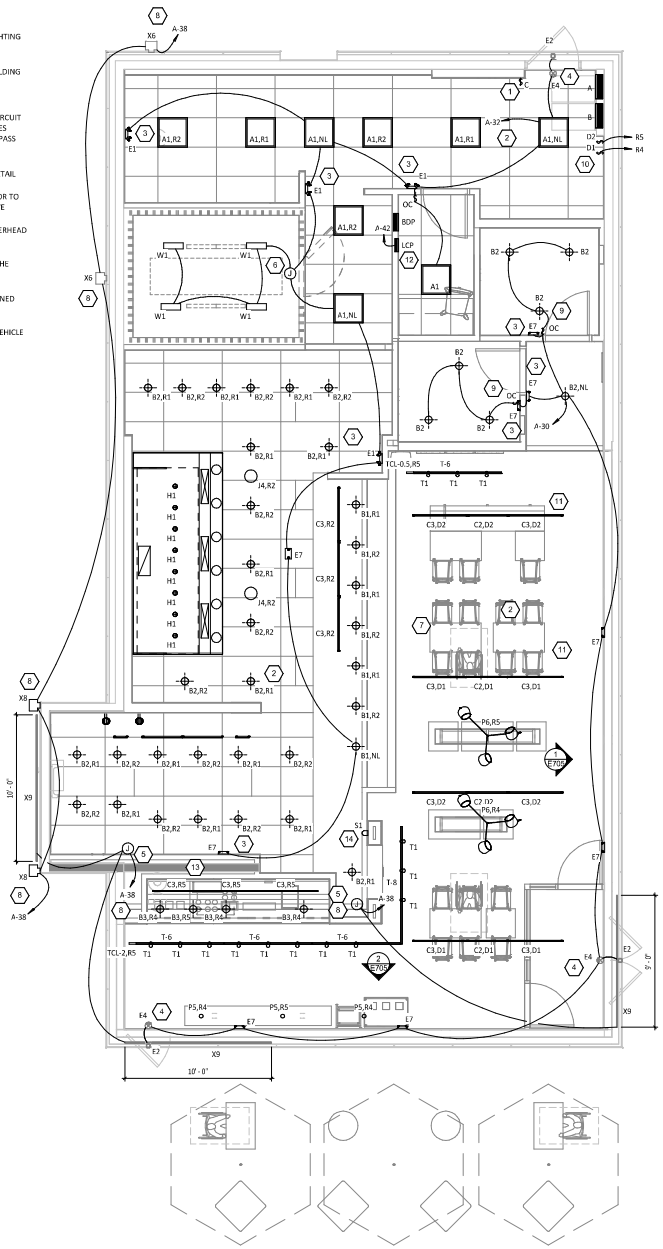
TAG	COUNT	DESCRIPTION	MOUNTING	VOLTAGE	WATTS	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN			REMARKS
								MANUFACTURER	MODEL	LAMP	
A1	9	2x2 LED LENSED TROFFER	LAY-IN	120 V	30 W	TLS	GC	NORA LIGHTING	NPDBL-E22/334 W	INTEGRAL 3000K LED	COMPATIBLE WITH 0-10V DIMMING, FACTORY LOCKED TO 3000K
B1	7	RECESSED 6IN CAN LIGHT	CEILING	120 V	17 W	TLS	GC	NORA LIGHTING	NHIC-6G24ATFL W/ NTM-57W/M1 TRIM	(1) 17W ECOSTORY ECO-PAR38C-17-GU24-27 K-25D LED (25°-2700K) W/ GU 24 BASE	
B2	33	RECESSED 6IN CAN LIGHT W/ LED TRIM	CEILING	120 V	17 W	TLS	GC	NORA LIGHTING	NHIC-6G24ATFL WITH NLCBC-65130WW LED TRIM	INTEGRAL 3000K LED	LED TRIM FURNISHED WITH GU24 SOCKET ADAPTER
B3	4	RECESSED 6IN CAN LIGHT W/ BLACK LED TRIM	CEILING	120 V	12 W	TLS	GC	NORA LIGHTING	NHIC-6G24ATFL WITH NLCBC2-65127BB LED TRIM	INTEGRAL 3000K LED	BLACK LED TRIM FURNISHED WITH GU24 SOCKET ADAPTER
C0	2	LOW PROFILE LED - 1 FT	SURFACE	120 V	5 W	TLS	GC	HERA LIGHTING	EL/LED/12/WW	INTEGRAL 3000K LED	FURNISHED WITH COVERS, CONNECTORS, AND ONE HARDWIRE BOX OR CORD/PLUG PER SECTION
C2	6	LOW PROFILE LED - 3 FT	SURFACE	120 V	12 W	TLS	GC	HERA LIGHTING	EL/LED/34/WW	INTEGRAL 3000K LED	FURNISHED WITH COVERS, CONNECTORS, AND ONE HARDWIRE BOX OR CORD/PLUG PER SECTION
C3	14	LOW PROFILE LED - 4 FT	SURFACE	120 V	15 W	TLS	GC	HERA LIGHTING	EL/LED/46/WW	INTEGRAL 3000K LED	FURNISHED WITH COVERS, CONNECTORS, AND ONE HARDWIRE BOX OR CORD/PLUG PER SECTION
E1	4	EMERGENCY LIGHT - DUAL HEAD	VARIOUS	120 V	2 W	TLS	GC	EXITRONIX	LED-90	INTEGRAL LED	90 MINUTE BATTERY BACKUP
E2	3	EXTERIOR REMOTE EMERGENCY LIGHT	VARIOUS	4 V	1 W	EXT'G	EXT'G	EXITRONIX	MLED1-B-WP	INTEGRAL LED	LOW VOLTAGE REMOTE EMERGENCY LIGHT POWERED BY REMOTE-CAPABLE EXIT SIGN WITH MOUNTING PLATE
E4	3	WHITE EXIT SIGN WITH EMERGENCY LIGHT -STANDARD RED LETTERS	VARIOUS	120 V	2 W	EXT'G	EXT'G	EXITRONIX	CLED-U-WH	INTEGRAL LED	90 MINUTE BATTERY BACKUP WITH INTEGRAL EMERGENCY LIGHT, REMOTE HEAD CAPABLE
E7	9	EMERGENCY LIGHT	VARIOUS	120 V	2 W	TLS	GC	EXITRONIX	EV2	INTEGRAL LED	90 MINUTE BATTERY BACKUP
H1	8	VAPOR PROOF HOOD LIGHT	SURFACE	120 V	15 W	HS/TLS	HS	FURNISHED W/ HOOD	FURNISHED W/ HOOD	(1) TCP L16A19N1527K	INSTALL LAMP FURNISHED SEPARATELY BY LIGHTING SUPPLIER
J4	2	DECORATIVE PENDANT	PENDANT	120 V	9 W	TLS	GC	BARNLIGHT	BLE-C-BRN-100-ASH-SB K-100-NA-GU24	GREEN CREATIVE 9A19DIM/927/GU24/R	WITH BLACK LAMPSHADE, BLACK CORD, AND OAK LAMPHOLDER
P5	3	PENDANT	PENDANT	120 V	5 W	TLS	GC	HI-LITE MFG	H-LC-91/CB12-91/20W LBL	TCP FG25D4027CCQ	ADJUST CORD LENGTH FOR MOUNTING HEIGHT CALLED FOR IN ARCHITECTURAL DRAWINGS
P6	2	DECORATIVE DINING ROOM PENDANT	PENDANT	120 V	30 W	TLS	GC	BARNLIGHT	BLE-C-JST-133-35630-3	INTEGRAL LED	HARDWIRED SET OF (3) HEADS WITH UNIVERSAL CANOPY AND STANDARD BLACK CABLES
S1	1	DRIVE-UP PICK-UP WINDOW CHIME/STROBE	WALL	16 V	0 W	TLS	GC	FEDERAL SIGNAL	SLM500B W/ SLMBW-012-024	INTEGRAL	SET SWITCH A TO "CHIME 1 SINGLE" (J1011) AND SWITCH B TO "CHIME 2 SINGLE" (00111)
T1	14	TRACK HEAD	TRACK	120 V	10 W	TLS	GC	JUNO	R609L 30K 90CRI PDIM WFL BL	INTEGRAL LED	BLACK CYLINDER TRACK HEAD W/ UNIVERSAL 120V TRAC ADAPTER AND WIDE FLOOD BEAM
T-6	4	TRACK (6 FT)	SURFACE	120 V	0 W	TLS	GC	JUNO	T 6FT BL	N/A	SINGLE CIRCUIT, BLACK FINISH. FURNISH WITH CONNECTORS TO ACHIEVE ARRANGEMENT SHOWN ON PLANS. TRIM AS REQUIRED FOR LENGTHS SHOWN.
T-8	1	TRACK (8 FT)	SURFACE	120 V	0 W	TLS	GC	JUNO	T 8FT BL	N/A	SINGLE CIRCUIT, BLACK FINISH. FURNISH WITH CONNECTORS TO ACHIEVE ARRANGEMENT SHOWN ON PLANS. TRIM AS REQUIRED FOR LENGTHS SHOWN.
TCL-0.5	1	TRACK CURRENT LIMITER (60W)	SURFACE	120 V	0 W	TLS	GC	JUNO	TCLFM11 BL W/ TCLCB 0.5A BLCK	N/A	BLACK CURRENT LIMITING END FEED WITH CIRCUIT BREAKER
TCL-2	1	TRACK CURRENT LIMITER (240W)	SURFACE	120 V	0 W	TLS	GC	JUNO	TCLFM11 BL W/ TCLCB 2A BLCK	N/A	BLACK CURRENT LIMITING END FEED WITH CIRCUIT BREAKER
W1	4	WIC LED LIGHT	SURFACE	120 V	29 W	WCS	GC	FURNISHED W/ WIC	FURNISHED W/ WIC	INTEGRAL LED	WET-RATED COOLER FIXTURE
X6	2	EXTERIOR FLOOD LIGHT	SURFACE AT 11'-6"	120 V	18 W	EXT'G	EXT'G	RAB LIGHTING	WPLED18NW	INTEGRAL LED	PROVIDE WHITE WALL PACK WITH WALL-MOUNT KIT.
X8	2	EXTERIOR FLOOD LIGHT	SURFACE AT 9'-6"	120 V	18 W	EXT'G	EXT'G	RAB LIGHTING	WPLED10N	INTEGRAL LED	PROVIDE BLACK WALL PACK WITH WALL-MOUNT KIT.
X9	3	EXTERIOR LED CHANNEL LIGHT	SURFACE	120 V		EXT'G	EXT'G	PARADIGM LED	AMC-2410-S W/ OPAL LENS AND END CAPS	FLEXSR-45-30-67-24	FURNISHED W/ REMOTE-MOUNTED NEMA 3R LED DRIVER. SEE PLAN FOR LENGTHS.

LIGHTING FIXTURE SCHEDULE NOTES

A. SEE THE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LIGHT LOCATIONS.
B. SEE THE ARCHITECTURAL LIGHTING DETAILS FOR FIXTURE CONSTRUCTION DETAILS.

ELECTRICAL LIGHTING PLAN NOTES

1. INSTALL WALL-MOUNTED LIGHTING OVERRIDE SWITCH AND CONNECT TO LCP AS SHOWN IN DETAIL 6/E710
2. FOR UNCIRCUITED LIGHT FIXTURES, CONNECT TO RELAY CIRCUIT INDICATED NEXT TO THE FIXTURE TAG THROUGH THE LIGHTING CONTROL PANEL (LCP) UNLESS NOTED OTHERWISE.
3. WALL MOUNT THE EMERGENCY LIGHT FIXTURE AT 6" BELOW THE CEILING UNLESS NOTED OTHERWISE
4. VERIFY MOUNTING HEIGHT OF EXIT SIGN PRIOR TO ROUGH IN. EXIT SIGN MUST BE VISIBLE FROM AREA SERVED AFTER BUILDING SYSTEMS HAVE BEEN INSTALLED. SEE ARCHITECTURAL ELEVATIONS FOR FURTHER INFORMATION.
5. RELOCATE LED DRIVERS FURNISHED WITH THE X9 LED STRIP LIGHTS ON WALL 6" ABOVE THE CEILING IN AN ACCESSIBLE LOCATION. PROVIDE LOW VOLTAGE WIRING FROM LED DRIVER TO THE X9 LIGHT FIXTURES AS SHOWN.
6. INSTALL LIGHT FIXTURES FURNISHED WITH THE WALK-IN COOLER. PROVIDE UNSWITCHED CONDUCTOR FROM LIGHTING CIRCUIT TO WALK-IN COOLER LIGHTING J-BOX AND FROM J-BOX TO LIGHT FIXTURES AS SHOWN. CONDUIT BETWEEN LIGHT FIXTURES SHALL BE ROUTED ON THE INTERIOR OF THE WALK-IN COOLER. SEAL INTERIOR AND EXTERIOR OF CONDUITS WHERE THEY PASS THROUGH THE WALK-IN COOLER ENVELOPE PER THE NEC.
7. PROVIDE UNISTRUT AS SHOWN ON THE ARCHITECTURAL RCP PER THE ARCHITECTURAL UNISTRUT DETAIL. TYPICAL.
8. CONNECT EXTERIOR LIGHTING CIRCUIT TO CIRCUIT SHOWN THROUGH THE EXTERIOR LIGHTING CONTACTOR PANEL PER DETAIL 6/E710.
9. INSTALL WALL-MOUNTED OCCUPANCY SENSOR FURNISHED BY LIGHTING SUPPLIER AT 42" AFF. ADJUST OCCUPANCY SENSOR TO PROVIDE AUTOMATIC ON/AUTOMATIC OFF OPERATION WITH A FIXED TIMER OF 30 MINUTES AND WITH BOTH THE PASSIVE INFRARED AND ULTRASONIC SENSORS ENABLED.
10. INSTALL WALL-MOUNTED DIMMERS ABOVE PANELBOARDS 6" ABOVE LAY-IN CEILING FOR CONTROL OF DINING ROOM OVERHEAD STRIP LED AND PENDANT LIGHTS. CONNECT DIMMERS TO RELAYS SHOWN THROUGH THE LIGHTING CONTROL PANEL. SET DIMMERS AT 50%.
11. CONNECT DINING ROOM (RELAY CIRCUITS R1 AND R3) OVERHEAD STRIP LED LIGHTS TO THE RELAY INDICATED THROUGH THE CORRESPONDING WALL-MOUNTED DIMMER INSTALLED ABOVE THE PANELBOARDS.
12. INSTALL LIGHTING CONTROL SYSTEM PER DETAIL 6/E710.
13. PENETRATIONS THROUGH SHEAR WALL SHALL BE LIMITED TO 10" DIAMETER (OR A GROUP OF PENETRATIONS ALL CONTAINED WITHIN 10" DIAMETER). IF LARGER PENETRATIONS OR GROUPS OF PENETRATIONS ARE REQUIRED COORDINATE WITH STRUCTURAL ENGINEER FOR APPROPRIATE BRACING. SEE STRUCTURAL DRAWINGS FOR SHEAR WALL LOCATION.
14. INSTALL CHIME/STROBE FURNISHED WITH VEHICLE DETECTION SYSTEM ON WALL 12" BELOW CEILING AND CONNECT TO VEHICLE DETECTOR SYSTEM PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.



1/E100 **LIGHTING FLOOR PLAN**
1/4" = 1'-0"

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Contents: ELECTRICAL LIGHTING PLAN

E100

ELECTRICAL POWER PLAN NOTES

1 SHOW ROOM WINDOW RECEPTACLE. COORDINATE EXACT RECEPTACLE MOUNTING HEIGHT IN THE FIELD. LOCATION SHALL BE IN THE DRYWALL IMMEDIATELY ABOVE THE MAIN STORE-FRONT WINDOW AND AS SHOWN IN THE DINING ROOM ELECTRICAL ELEVATIONS ON SHEET E700.

2 ICE MACHINE ELECTRICAL TIE-IN. COORDINATE EXACT LOCATION WITH EQUIPMENT INSTALLER PRIOR TO ROUGH-IN. PROVIDE L6-15P FLANGED INLET WIRED TO THE REMOTE CONDENSER. PROVIDE 48" CORDS, ONE WITH 6-15P END AND ONE WITH L6-15R END, FROM ICE MAKER TO RECEPTACLE AND FLANGED INLET.

3 CONNECT RECEPTACLES SERVING EQUIPMENT BELOW THE KITCHEN HOOD TO THE CIRCUITS SHOWN THROUGH THE CONTACTOR INTEGRAL TO THE HOOD CONTROL PANEL. INTEGRAL CONTACTOR SHALL BE INTERLOCKED TO HOOD FIRE PROTECTION SYSTEM SO THAT RECEPTACLES ARE DE-ENERGIZED UPON ACTIVATION OF HOOD FIRE PROTECTION SYSTEM.

4 JUNCTION BOX FOR EXTERIOR SIGN LIGHTING. COORDINATE EXACT LOCATION WITH CHIPOTLE'S CONSTRUCTION MANAGER AND THE SIGN INSTALLER PRIOR TO ROUGH-IN. CONNECT TO CIRCUIT SHOWN THROUGH THE EXTERIOR LIGHTING CONTACTOR PANEL AS SHOWN IN DETAIL 6/E710.

5 PROVIDE A SINGLE GANG VERTICAL JUNCTION BOX FOR THE KITCHEN EXHAUST SUPPRESSION SYSTEM PULL STATION. PROVIDE A 1/2" CONDUIT FROM THE J-BOX TO 6" ABOVE THE CEILING AND TERMINATE WITH A CONDUIT BUSHING. COORDINATE EXACT LOCATION WITH THE KITCHEN EXHAUST SUPPRESSION SYSTEM INSTALLER AND THE FIRE MARSHALL PRIOR TO ROUGH-IN.

6 HOOD CONTROL PANEL AND KITCHEN EXHAUST SUPPRESSION SYSTEM CABINET SHALL BE LOCATED WITHIN THE INTEGRAL HOOD UTILITY CABINET. PROVIDE FINAL ELECTRICAL CONNECTIONS PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM.

7 EXISITNG DUPLEX GFCI RECEPTACLE WITH WEATHERPROOF WHILE IN USE OUTLET COVER FOR IRRIGATION CONTROLLER.

8 PROVIDE AN EMPTY SINGLE GANG J-BOX FOR VOLUME CONTROLS. INSTALL 16/2 SPEAKER WIRE FURNISHED BY MSS FROM THE J-BOX TO THE AMPLIFIER IN THE OFFICE WITH 3 FEET OF SLACK AT EACH END.

9 COORDINATE DATA/POWER RECEPTACLE MOUNTING REQUIREMENTS WITH THE CASE WORK INSTALLER PRIOR TO ROUGH-IN.

10 PROVIDE ROUGH-IN FOR LAUNCHPORT AS NOTED. LAUNCHPORT WILL BE FURNISHED AND INSTALLED BY CHIPOTLE WITH THE WALLSTATION AT 62" AFF. PROVIDE A 4" X 2 1/8" DEEP OCTAGON J-BOX WITH 1 1/2" EXTENSION RING AT 62" AFF FOR THE WALLSTATION INSTALLATION WITH A 1" CONDUIT WITH PULL STRING FROM THE J-BOX TO ABOVE THE OFFICE CEILING.

11 PROVIDE (2) EMPTY 2" CONDUIT WITH PULL STRING FROM THE BASE BUILDING'S TELEPHONE AND DATA SERVICE ENTRANCE LOCATION TO THE SPACE ABOVE THE OFFICE CEILING. TERMINATE WITH CONDUIT BUSHING.

12 PROVIDE A SUITABLE LENGTH OF LIQUID-TIGHT CONDUIT TO THE EXHAUST FAN EF-1 TO ALLOW THE EXHAUST FAN TO HINGE COMPLETELY OPEN WHEN THE VIROGUARD SYSTEM IS INSTALLED.

13 AFTER THE FAX LINE, POS, AND OFFICE EQUIPMENT IS INSTALLED PROVIDE CHILDPROOF RECEPTACLE COVERS ON UNUSED IG RECEPTACLES AT THE FAX LINE, POS, AND OFFICE.

14 PROVIDE ONE PHASE, ONE NEUTRAL, AND ONE GROUND CONDUCTOR FROM THE ICE MAKER TO THE REMOTE CONDENSING UNIT.

15 UNIT SHALL HAVE AN INTEGRAL NON-FUSED DISCONNECT SWITCH.

16 PROVIDE 3" CONDUIT (EMT, IMC, OR RMC) THROUGH ROOF. TERMINATE WITH WEATHERHEAD EVEN WITH TOP OF PARAPET FOR FUTURE CELL BOOSTER. SECURE CONDUIT TO STRUCTURE TO SUPPORT FUTURE ANTENNA INSTALLATION. PROVIDE 1/4" X 2" X 10" 16-HOLE GROUNDING BUSBAR (BURNDY BBB14210A OR EQUAL) MOUNTED TO CONDUIT ABOVE ROOF FOR FUTURE CONNECTION OF LIGHTNING ARRESTORS. PROVIDE #2 CU GROUND FROM BUSBAR TO MAIN ELECTRODE GROUNDING CONDUCTOR.

17 INSTALL THE BYPASS DISTRIBUTION PANEL (BDP) FURNISHED BY THE TENANT. INSTALL PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND DETAIL 3/E710.

18 ROUGH-INS TO SERVE LINE AND POS EQUIPMENT ARE UNDERGROUND. COORDINATE ROUGH-IN REQUIREMENTS AND LOCATIONS WITH EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN.

19 ROOFTOP UNIT SHALL HAVE AN INTEGRAL UNIT-MOUNTED GFCI RECEPTACLE. PROVIDE CONNECTION TO CIRCUIT SHOWN.

20 ICE MAKER RECEPTACLES SHALL BE CONCEALED BEHIND THE ICE MAKER. COORDINATE LOCATION WITH ACTUAL WIDTH OF ICE MAKER.

21 PROVIDE VERTICAL METAL DIE CAST WEATHERPROOF WHILE IN USE OUTLET COVER ON RECEPTACLES AT COOK LINE. COVER SHALL BE INTERMATIC WP1010MXD FOR SINGLE GANG BOXES AND WP1030MXD FOR DOUBLE GANG BOXES. NO SUBSTITUTIONS SHALL BE ACCEPTED.

22 LABEL BATTERY-PROTECTED RECEPTACLES "BATTERY-PROTECTED: DISCONNECT AT PANEL BDP".

23 LABEL MAIN DISCONNECT SWITCH AND PANEL A "WARNING: BATTERY-PROTECTED RECEPTACLES IN USE. DISCONNECT AT PANEL BDP."

24 PROVIDE A NEMA 5-20P FLANGED INLET (LEVITON MODEL #15378-C) AND A SINGLE NEMA 5-20R RECEPTACLE IN OFFICE FOR CONNECTION TO A CENTRAL UPS SYSTEM. CONNECT THE FLANGED INLET AND THE SINGLE RECEPTACLE TO THE TERMINAL BLOCK IN THE BDP PER THE MANUFACTURER'S INSTRUCTIONS. PROVIDE FINAL CONNECTION FROM FLANGED INLET TO THE OUTPUT OF THE UPS USING A 2'-LONG 20A EXTENSION CORD. PLUG THE UPS INTO THE SINGLE RECEPTACLE.

25 CONNECT RESTROOM EXHAUST FAN TO CIRCUIT SHOWN THROUGH THE LIGHTING CONTROL PANEL (LCP).

26 INSTALL 16/2 SPEAKER WIRE FURNISHED BY MSS. INSTALL SPEAKER WIRE BETWEEN SPEAKERS IN THE DINING ROOM AS SHOWN TO THE VOLUME CONTROL IN THE KITCHEN WITH 3 FEET OF SLACK AT EACH END. SEE ARCHITECTURAL PLANS FOR SPEAKER LOCATIONS. ADJUST EACH SPEAKER 70V TAP SETTING TO BE 15 WATTS.

ELECTRICAL POWER PLAN NOTES

27 PROVIDE POWER CONNECTIONS TO ISLAND PREP TABLE PER DETAIL 2/E710. PROVIDE GFCI DUPLEX RECEPTACLES IN TWO J-BOXES INTEGRAL TO PREP TABLE FOR HOT HOLDING CABINET AND GENERAL RECEPTACLE.

28 PROVIDE GFCI RECEPTACLE AND J-BOX AND INSTALL CO2 ALARM FURNISHED BY CO2AS AS SHOWN IN DETAIL 4/E710.

29 PROVIDE J-BOX AND INSTALL CO2 ALARM REMOTE DISPLAY UNIT FURNISHED BY CO2AS AS SHOWN IN DETAIL 4/E710.

30 INSTALL WALK-IN-COOLER EXTERNAL READOUT THERMOMETER REMOTE PROBE ON WALL OPPOSITE FROM DOOR AS SHOWN. ROUTE TEMPERATURE PROBE WIRE ABOVE WALK-IN COOLER CEILING PANELS, SEAL PENETRATIONS THROUGH THE CEILING PANELS, AND SECURE VERTICAL PROBE WIRE TIGHT TO WALLS. NO EXCESS PROBE WIRE SHALL BE WITHIN THE WALK-IN COOLER.

31 PROVIDE RECEPTACLE FOR RESTROOM HAND SINK FAUCET AS SHOWN IN DETAIL 14/P700.

32 PROVIDE 4" SQUARE J-BOX ON EXTERIOR WALL FOR MOUNTING OF EXTERIOR CAMERA. SEE ARCHITECTURAL ELEVATION FOR EXACT HEIGHT AND LOCATION. PROVIDE 3/4" CONDUIT WITH PULLSTRING FROM J-BOX TO ABOVE LAY-IN CEILING AREA IN KITCHEN. J-BOX SHALL NOT BE SURFACE MOUNTED. BASE OF CAMERA SHALL BE MOUNTED FLUSH TO EXTERIOR WALL FINISH.

33 PROVIDE 1" CONDUITS FROM LOW-VOLTAGE J-BOXES AT POS COUNTER CONCEALED WITHIN THE SERVE LINE WIRING CHASE TO THE WALL, THEN CONCEALED WITHIN THE WALL AND ABOVE THE CEILING TO ABOVE THE OFFICE CEILING.

34 PROVIDE A RECESSED J-BOX AT 56" AFF FOR THE INSTALLATION OF THE SECURITY SYSTEM KEYPAD WITH A 1/2" CONDUIT TO ABOVE THE LAY-IN CEILING. TERMINATE CONDUIT WITH A CONDUIT BUSHING.

35 INSTALL VEHICLE DETECTOR SYSTEM FURNISHED BY TLS SURFACE-MOUNTED ON WALL IN ACCESSIBLE LOCATION ABOVE CEILING AND CONNECT TO STROBE/CHIME AND DETECTOR LOOP PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. MAKE FINAL ADJUSTMENTS TO LOOP SENSITIVITY PER THE MANUFACTURER'S INSTRUCTIONS. ONCE ALL COMPONENTS ARE INSTALLED AND OPERATIONAL THE CHIME/STROBE LIGHT SHOULD STAY ILLUMINATED AND THERE SHOULD BE A SINGLE CHIME WHEN A VEHICLE DRIVES OVER OR STOPS ON LOOP.

36 SEAL INTERIOR AND EXTERIOR OF CONDUITS THAT PASS THROUGH THE WALK-IN COOLER ENVELOPE PER THE NEC.

37 PROVIDE ISLAND PREP TABLE FOOD WARMER RECEPTACLE WITH GROUND PIN TOWARDS THE BOTTOM OF THE RECEPTACLE.

38 INSTALL TRANSFORMER FURNISHED BY TUV WITH THE REME HALO AIR PURIFIER IN THE JUNCTION BOX ON THE EXTERIOR OF THE RTU PER DETAIL 6/M700. CONNECT LINE SIDE OF THE TRANSFORMER TO THE RTU SERVICE RECEPTACLE CIRCUIT SO THAT REME HALO RUNS CONTINUOUSLY. CONNECT THE LOW VOLTAGE SIDE OF THE TRANSFORMER TO THE REME HALO USING THE INCLUDED BARREL PLUG.

39 PROVIDE (2) 10"X10"X4" JUNCTION BOXES (J-BOX #1/J-BOX #2) ON THE WALL ABOVE PANELBOARDS 6" BELOW THE LAY-IN CEILING AND MOUNTED ADJACENT TO EACH. PROVIDE CONDUITS AND WIRING SHOWN IN DETAIL 8/E710. TEMS SHALL PROVIDE GRIDPOINT 3 PHASE METER AND TRANSFORMER WITHIN J-BOX #1 AND GRIDPOINT IOM/HUB WITHIN J-BOX #2. SEE GRIDPOINT INSTALLATION SHEET FOR DETAILS.

40 PROVIDE HORIZONTAL SINGLE-GANG J-BOX BELOW FUTURE GRIDPOINT CONTROLLER LOCATION. PROVIDE CONDUITS AND WIRING AS SHOWN IN DETAIL 8/E710.

41 INSTALL WIRED DOOR BUZZER AT 96" AFF. SEE ARCHITECTURAL DOOR EQUIPMENT FOR EQUIPMENT INFORMATION. CONNECT TO CIRCUIT SHOWN THROUGH THE TRANSFORMER FURNISHED WITH THE DOOR BUZZER. PROVIDE WIRING TO A BUTTON ADJACENT TO THE SERVICE DOOR AND CONNECT PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

42 CONNECT BATHROOM SANITIZER TO CIRCUIT SHOWN SO THAT IT IS ENERGIZED AT ALL TIMES.

43 PROVIDE POWER AND LOW VOLTAGE CONNECTIONS TO DISH SANITIZING MACHINE PER DETAIL 7/E710. CONNECT THE DETERGENT DISPENSER TO THE DISH MACHINE USING THE INCLUDED WIRING HARNESS PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

44 PROVIDE RECEPTACLE FOR 2-DOOR AND 1-DOOR REFRIGERATORS WITH GROUND PINS TOWARDS THE BOTTOM OF THE RECEPTACLE.

45 PROVIDE CORD AND NEMA 5-20P PLUG FROM UTENSIL COUNTER ICE MAKER, THROUGH UTENSIL COUNTER, TO ICE MAKER RECEPTACLE.

46 LABEL UTENSIL COUNTER RECEPTACLES "TRACTOR BEVERAGE", "ICE MAKER/IMSB", AND "SODA FOUNTAIN".

47 LABEL RECEPTACLE "UV INSECT TRAP".

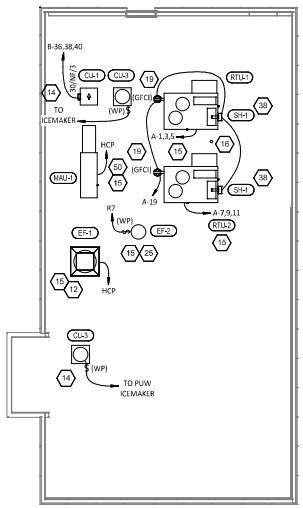
48 PROVIDE POWER CONNECTIONS TO ISLAND PREP TABLE PER DETAIL 2/E710. PROVIDE GFCI DUPLEX RECEPTACLE IN THE J-BOX INTEGRAL TO PREP TABLE FOR UNDERCOUNTER REFRIGERATOR. PROVIDE FINAL CONNECTION TO CARVING STATION HEATER.

49 IF NEUTRAL CONDUCTOR IS NOT NEEDED FOR SERVE LINE HOT FOOD SERVER TERMINATE NEUTRAL IN JUNCTION BOX.

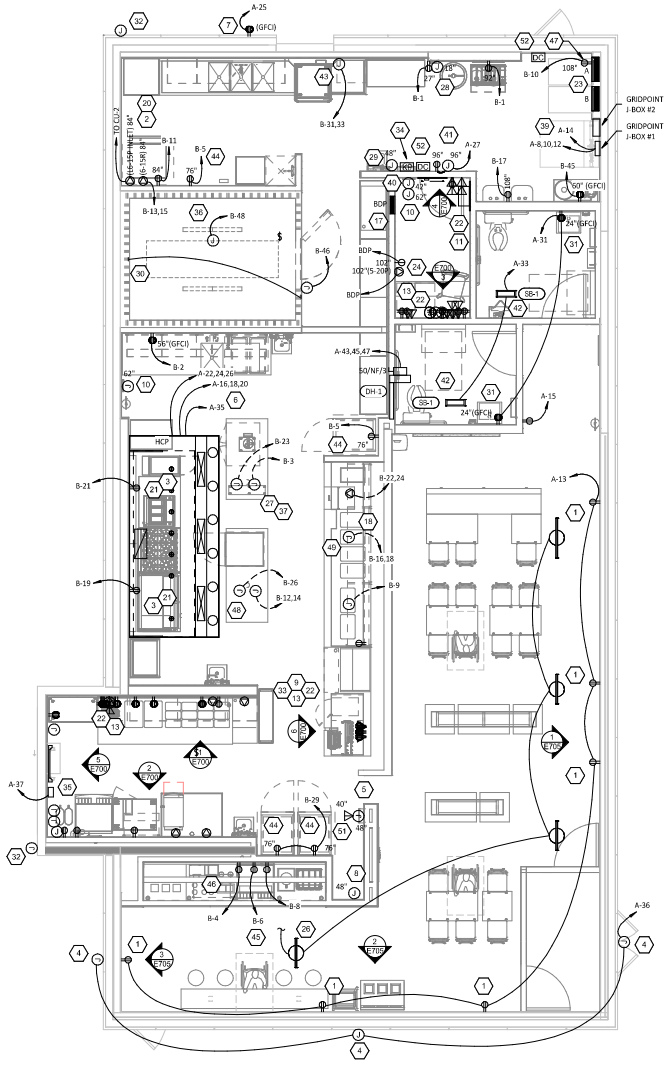
50 PROVIDE A TWO-CONDUCTOR LOW VOLTAGE WIRE IN 3/4" C. AND (4) #12, #12 N., #12 G. IN 1" C. FROM MAU-1 TO THE HOOD CONTROL PANEL PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

51 PROVIDE HORIZONTAL SINGLE-GANG J-BOX FOR DATA JACK AS SHOWN FOR KRONOS TIME CLOCK.

52 PROVIDE A RECESSED SINGLE-GANG J-BOX ABOVE DOOR AND 3" IN FROM LATCH SIDE OF DOOR FOR THE INSTALLATION OF THE SECURITY SYSTEM DOOR CONTACT WITH A 1/2" CONDUIT TO ABOVE THE LAY-IN CEILING. TERMINATE CONDUIT WITH A CONDUIT BUSHING.



1 E110 **POWER ROOF PLAN**
1/8" = 1'-0"



1 E110 **POWER FLOOR PLAN**
1/4" = 1'-0"

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Contents: ELECTRICAL POWER PLAN

E110

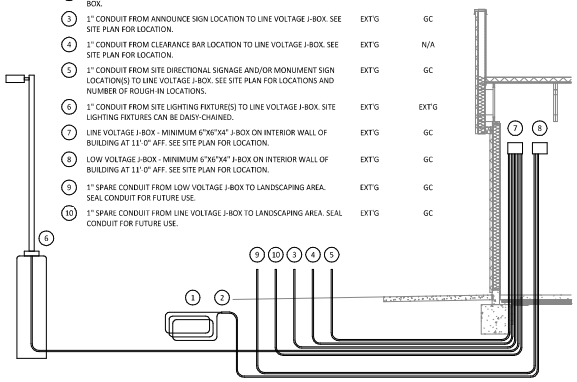
ELECTRICAL POWER PLAN NOTES

1. INSTALL VEHICLE DETECTION LOOP FURNISHED BY TLS PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. ALIGN DETECTOR LOOP TO BE CENTERED ON THE PICK-UP WINDOW.
2. CONNECT ANNOUNCE SIGN TO CIRCUIT SHOWN THROUGH THE EXTERIOR LIGHTING CONTACTOR PANEL AS SHOWN IN DETAIL 6/E710. SEE DETAIL 2/THIS SHEET FOR SITE CONDUITS.
3. PROVIDE EMPTY CONDUIT WITH PULL STRING TO CLEARANCE BAR. SEE DETAIL 2/THIS SHEET FOR SITE CONDUITS.
4. EXISTING 1" SPARE LOW VOLTAGE CONDUIT. SEE DETAIL 2/THIS SHEET FOR MORE INFORMATION.
5. EXISTING 1" SPARE LINE VOLTAGE CONDUIT. SEE DETAIL 2/THIS SHEET FOR MORE INFORMATION.
6. EXISTING INTERIOR J-BOXES AT 11'-0" AFF FOR LINE VOLTAGE AND LOW VOLTAGE SITE WIRING. SEE DETAIL 2/THIS SHEET FOR MORE INFORMATION.
7. CONNECT SITE LIGHTING TO CIRCUIT SHOWN THROUGH THE EXTERIOR LIGHTING CONTACTOR PANEL AS SHOWN IN DETAIL 6/E710. FIELD VERIFY SITE LIGHTING VOLTAGE AND CIRCUITING REQUIREMENTS PRIOR TO FINAL CONNECTION.

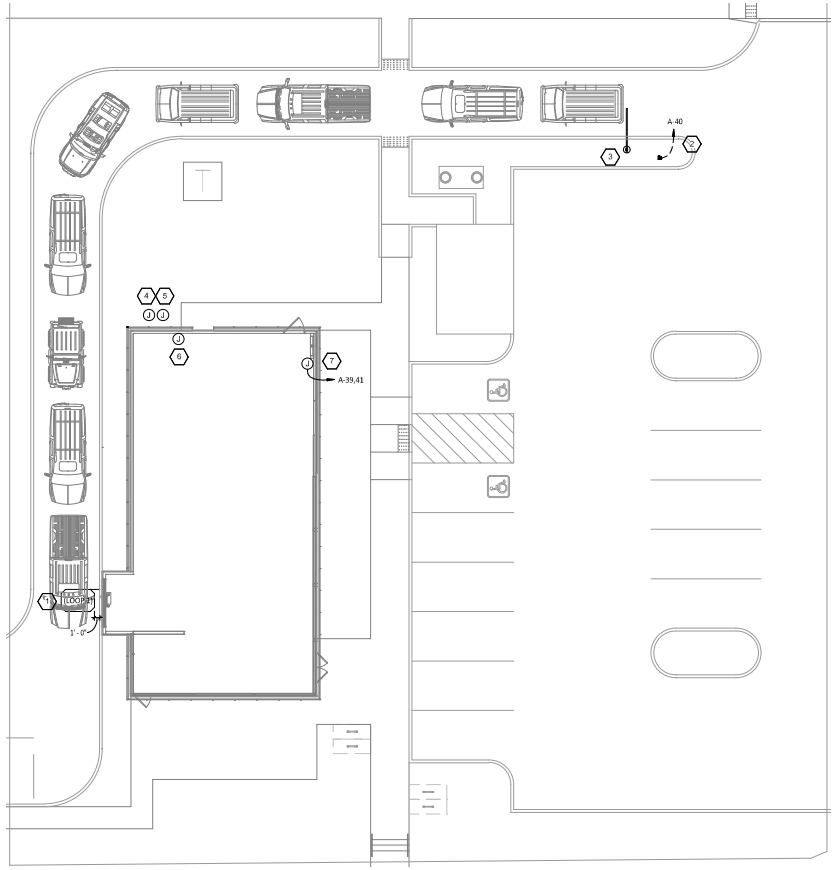
GENERAL NOTES

A. WORK AND MATERIALS SHALL BE COMPLIANT WITH THE NEC AND REQUIREMENTS OF THE AHJ.
B. CONDUCTORS AND CONNECTIONS BELOW GRADE, EVEN WHERE WITHIN CONDUITS OR ENCLOSURES, SHALL BE SUITABLE FOR WET LOCATIONS.
C. PROVIDE PULL STRING IN EMPTY CONDUITS.
D. SEAL ENDS OF CONDUITS STUBBED UP ABOVE GRADE TO PROTECT FROM THE ELEMENTS.

TAG	DESCRIPTION	RESPONSIBILITY: DEVICE OR CONDUIT	RESPONSIBILITY: CONNECTION OR CONDUCTORS
1	VEHICLE DETECTOR LOOP - 6'x4' WITH 4 TURNS (EMX PR-46-XX). VERIFY LENGTH OF LEAD-IN WIRE PRIOR TO ORDERING TO ALLOW WIRE TO REACH VEHICLE DETECTOR WITHOUT SPLICING. SEE SITE PLAN FOR LOCATION(S).	GC	GC
2	1" CONDUIT FROM VEHICLE DETECTOR LOOP LOCATION TO LOW VOLTAGE J-BOX.	EXT'G	GC
3	1" CONDUIT FROM ANNOUNCE SIGN LOCATION TO LINE VOLTAGE J-BOX. SEE SITE PLAN FOR LOCATION.	EXT'G	GC
4	1" CONDUIT FROM CLEARANCE BAR LOCATION TO LINE VOLTAGE J-BOX. SEE SITE PLAN FOR LOCATION.	EXT'G	N/A
5	1" CONDUIT FROM SITE DIRECTIONAL SIGNAGE AND/OR MONUMENT SIGN LOCATION(S) TO LINE VOLTAGE J-BOX. SEE SITE PLAN FOR LOCATIONS AND NUMBER OF ROUGH-IN LOCATIONS.	EXT'G	GC
6	1" CONDUIT FROM SITE LIGHTING FIXTURE(S) TO LINE VOLTAGE J-BOX. SITE LIGHTING FIXTURES CAN BE DAISY-CHAINED.	EXT'G	EXT'G
7	LINE VOLTAGE J-BOX - MINIMUM 6"X6"X4" J-BOX ON INTERIOR WALL OF BUILDING AT 11'-0" AFF. SEE SITE PLAN FOR LOCATION.	EXT'G	GC
8	LOW VOLTAGE J-BOX - MINIMUM 6"X6"X4" J-BOX ON INTERIOR WALL OF BUILDING AT 11'-0" AFF. SEE SITE PLAN FOR LOCATION.	EXT'G	GC
9	1" SPARE CONDUIT FROM LOW VOLTAGE J-BOX TO LANDSCAPING AREA. SEAL CONDUIT FOR FUTURE USE.	EXT'G	GC
10	1" SPARE CONDUIT FROM LINE VOLTAGE J-BOX TO LANDSCAPING AREA. SEAL CONDUIT FOR FUTURE USE.	EXT'G	GC



2/E115 **SITE CONDUIT DETAIL**
NOT TO SCALE



1/E115 **POWER SITE PLAN**
3/32" = 1'-0"

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Contents:
ELECTRICAL SITE POWER PLAN

E115

Panel Name: BDP **Volts:** 120
Phases: 1 **Mains:** LUGS
Mounting: Recessed **Wires:** 2 **Amperage:** 20 A
Enclosure: Type 1

CKT	Circuit Description	Trip	Poles	Load
1	POS	15 A	1	0.2 kVA
2	DML - POS	15 A	1	0.2 kVA
3	DML - ORDERING SYSTEM	15 A	1	0.7 kVA
4	OFFICE - SECURITY SYSTEM	15 A	1	0.2 kVA
5	OFFICE - COMPUTER	15 A	1	0.4 kVA
6	OFFICE - DVR/ISP	15 A	1	0.5 kVA
			Total Load:	2 kVA
			Total Amps:	18 A

VOLTS: 208/120V Wye **PANEL:** A
PHASES: 3 **MAINS:** MCB
WIRES: 4 **AMPERAGE:** 400 A
MOUNTING: Recessed **MCB RATING:** 400 A
ENCLOSURE: Type 1

CKT #	DESCRIPTION	C/B [A]	# PLS	NOTES	LOAD [A]	LOAD TYPE	LOAD [kVA] A	LOAD [kVA] B	LOAD [kVA] C	LOAD TYPE	LOAD [A]	NOTES	# PLS	C/B [A]	DESCRIPTION	CKT #
1							1.0	0.0								2
3	AIR CONDITIONER F - KITCHEN (RTU-1) (3-#6, #10 G. in 3/4" C.)	50	3	HACR	42.0	C		5.0	0.0	-	0.0		3	60	EVSS (4-#6, #10 G. IN 1" C.)	4
5									5.0	0.0						6
7							6.1	0.0								8
9	AIR CONDITIONER - DINING ROOM (RTU-2) (3-#6, #10 G. in 1" C.)	60	3	HACR	51.0	C		6.1	0.0	G	0.0		3	20	SHELDON'S 3 PHASE METER (4-#12, #12 G. IN 3/4" C.)	10
11									6.1	0.0						12
13	RECEPTACLES - STORE FRONT Receptáculos - Frente del restaurante	20	1		9.0	G	1.1	0.2		G	1.5		1	20	GROUND TRANSFORMER	14
15	RECEPTACLES - DINING Receptáculos - Comedor	20	1		1.5	G		0.2	1.0							16
17	PANEL BDP	20	1		18.0	G			2.2	1.0	E	8.3	3	30	HOOD EXHAUST FAN (EF-3) (3-#12, #12 G. IN 3/4" C)	18
19	RECEPTACLES - ROOFTOP Receptáculos - Techo	20	1		5.3	G, E	0.4	3.0								20
21	RECEPTACLES - POS GENERAL Receptáculos - Cajero general	20	1		6.0	G			0.7	0.4						22
23	SECURITY/AUDIO Seguridad y audio	20	1		5.0	G				0.4	0.4	E	3.1	3	15	HOOD MAKEUP AIR FAN (MAU-1) (3-#12, #12 G. IN 3/4" C)	24
25	IRRIGATION CONTROLLER	20	1		0.3	F	0.0	0.4								26
27	RECEPTACLES - OFFICE Receptáculos - Oficina	20	1	GFCI	9.0	G			1.1	0.5		E	4.4	1	15	RESTROOM FAN (EF-2)	28
29	RECEPTACLES - DML Receptáculos - Fax	20	1	GFCI	6.0	G				0.7	0.6	A	5.3	1	20	LIGHTING - DINING ROOM Iluminación - Comedor	30
31	RECEPTACLES - RESTROOMS Receptáculos - Baños	20	1		5.0	G	0.4	3.1				A	8.8	1	20	LIGHTING - KITCHEN Iluminación - Cocina	32
33	BATHROOM SANITIZER Sanitizante de baño	20	1		0.2	E			0.0	0.0		--	--	1	20	SPARE	34
35	HID 1 (CONTROL AND LIGHTS) (control y luces)	15	1		1.5	E					0.2	0.5	B	4.5	1	36
37	VEHICLE DETECTOR	20	1		0.3	G	0.0	0.3				B	7.0	1	20	SIGN LIGHTING Iluminación para letreros	38
39	SITE LIGHTING (7-#10, #10 G. IN 3/4" C)	20	2		12.5	G			1.3	0.1		B	8.8	1	20	LIGHTING - EXTERIOR Iluminación - Exterior	40
41											1.3	0.0	A, B	6.0	1	20	LIGHTING CONTROL PANEL	42
43							4.7	0.3				G	1.5	1	20	PICK-UP WINDOW	44
45	DINING ROOM DUCT HEATER (DH-1) (4-#8, #10 G. in 1" C.)	50	3		38.9	D			4.7	2.1		D	20.2	2	25	PUW AIR CURTAIN (2-#10, #10 G. IN 3/4" C.)	46
47											4.7	2.1					48
49	SPARE	20	1		--	--	0.0	0.0				--	--	1	20	SPARE	50
51	SPARE	20	1		--	--			0.0	0.0		--	--	1	20	SPARE	52
53	SPARE	20	1		--	--					0.0	0.0	--	--	1	20	SPARE	54
							20.3	--				--	--	1	--		
	FEED THRU (PANEL B) (4-500 KCMIL, #1/0 G. IN 4" C.)	0	3	LUGS	158.6	Spare		17.1	--			--	--	1	--		
									19.7	--	--	--	--	1	--		
					PHASE TOTAL [kVA]:		41.1 kVA	40.3 kVA	44.9 kVA							
					PHASE TOTAL [AMPS]:		343 A	336 A	375 A							

TYPE	DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR		ESTIMATED DEMAND
A	INTERIOR LIGHTING	2 kVA	125.00%		2 kVA
B	EXTERIOR LIGHTING	3 kVA	125.00%		4 kVA
C	COMFORT COOLING	34 kVA	100.00%	+ 25% LARGEST MOTOR	34 kVA
D	COMFORT HEATING	18 kVA	100.00%		18 kVA
E	MISC. MOTOR	5 kVA	100.00%		5 kVA
F	KITCHEN EQUIPMENT	57 kVA	65.00%		37 kVA
G	RECEPTACLES	7 kVA	100.00%		7 kVA

PANEL TOTALS
TOTAL CONNECTED kVA: 126 kVA
TOTAL CONNECTED AMPS: 351 A
TOTAL ESTIMATED kVA: 107.6 kVA
TOTAL ESTIMATED AMPS: 299 A

VOLTS: 208/120V Wye **PANEL:** B
PHASES: 3 **MAINS:** LUGS
WIRES: 4 **AMPERAGE:** 400 A
MOUNTING: Recessed **MCB RATING:** 0 A
ENCLOSURE: Type 1

CKT #	DESCRIPTION	C/B [A]	# PLS	NOTES	LOAD [A]	LOAD TYPE	LOAD [kVA] A	LOAD [kVA] B	LOAD [kVA] C	LOAD TYPE	LOAD [A]	NOTES	# PLS	C/B [A]	DESCRIPTION	CKT #
1	CARBONATOR/CO2 ALARM Sistema de carbonatación y alarma de CO2	20	1	GFCI	10.8	F	1.3	1.4		F	11.3		1	20	FOOD PREP TABLE Mesa para la preparación de alimentos	2
3	FOOD PREP TABLE (BLANC) Mesa para la preparación de alimentos (blq)	20	1		11.3	F		1.4	1.1	F	9.3	GFCI	1	20	SODA SYSTEM DISPENSER Dispensador para el sistema de refrescos	4
5	REACH-IN REFRIGERATOR Cuarto frigorífico	20	1	GFCI	10.0	F			1.2	1.4	F	12.0	GFCI	1	ICE MAKER - LIFTGATE COUNTER Máquina para hacer hielo	6
7	READY-TO-DRINK REFRIGERATOR	20	1	GFCI	8.8	F	1.1	1.0		F	8.5	GFCI	1	20	BUBBLER	8
9	COLD TOP (SERVE LINE) Tolva fría (línea de servicio)	20	1		12.0	F		1.4	0.2	F	1.5	GFCI	1	20	UV INSECT LIGHT TRAP	10
11	ICE MAKER SANITIZER Desinfectante de la máquina para hacer hielo	20	1	GFCI	1.5	F			0.2	1.0						12
13	ICE MAKER Máquina para hacer hielo	20	2	GFCI	10.0	F	1.0	1.0		F	32.0		2	20	CARVING STATION Estación para cortar carnes	14
15								1.0	2.1							16
17	GAS WATER HEATER Calentador de agua a gas	20	1	GFCI	5.0	F			0.6	2.1	F	20.0	3	30	HOT FOOD SERVER (SERVE LINE) (2-#10, #10 N, #10 G. in 3/4" C.) Servidor de alimentos	18
19	GAS GRIDDLE Plancha de gas	20	1	GFCI	0.6	F	0.1	0.0		--	--		1	20	SPARE	20
21	GAS FRYER/RICE COOKER Freidora de gas / Olla arrocera	20	1	GFCI	0.5	F		0.1	1.4							22
23	FOOD WARMER (RICE TABLE) Calentador de alimentos (mesa para el arroz)	15	1		1.3	F			0.2	1.4	F	13.0	GFCI	2	20	TORTILLA PRESS (SERVE LINE) (2-#10, #10 N, #10 G. in 3/4" C.) Calentador de tortillas	24
25	TORTILLA PRESS (DML) (3-#10, #10 G. IN 3/4" C.) Calentador de tortillas (línea del fax)	20	2	GFCI	13.0	F	1.4	0.3		F	7.6		1	20	REFRIGERATOR (COOK LINE) Refrigerador (línea para cocinar)	26
27								1.4	2.1							28
29	UPRIGHT REFRIGERATOR Refrigerador vertical	20	1	GFCI	10.0	F			1.2	2.1	F	20.0	3	30	HOT FOOD SERVER (DML) (3-#10, #10 N, #10 G. in 3/4" C.) Servidor de alimentos calientes (línea de fax)	30
31	DISH MACHINE (3-#10, #10 G. IN 3/4" C.) Lavaplatos	30	2		25.0	F	3.6	1.4		F	31.7	GFCI	1	30	FOOD WARMER (DML) Calentador de alimentos (línea de fax)	32
33								2.6	1.2	F	30.0	GFCI	1	20	COLD TOP (DML) Tolva fría (línea de fax)	34
35	QUESADILLA MAKER (2-#10, #10 G. IN 3/4" C.)	30	2	GFCI	28.0	F			2.9	0.9						36
37							2.0	0.9		F	7.2		3	15	CU-1 (3-#10, #10 G. IN 3/4" C.)	38
39	UNDERCOUNTER COOLER (PUW)	20	1	GFCI	1.5	F		0.2	0.9							40
41	QUESADILLA MAKER (2-#10, #10 G. IN 3/4" C.)	30	2	GFCI	28.0	F			2.9	1.3	F	32.5	GFCI	1	20	ICE MAKER (PUW) Máquina para hacer hielo	42
43							2.9	1.3		F	9.2	GFCI	1	20	SODA SYSTEM DISPENSER (PUW)	44
45	WATER SOFTENER	20	1		1.3	F		0.2	0.0	F	0.2		1	20	WIC - DOOR SECTION	46
47	SPARE	20	1		--	--			0.0	0.2	F	1.5		1	20	WIC - EVAPORATOR	48
49	SPARE	20	1		--	--	0.0	0.0		--	--		1	20	SPARE	50
51	SPARE	20	1		--	--		0.0	0.0	--	--		1	20	SPARE	52
53	SPARE	20	1		--	--			0.0	0.0	--	--	1	20	SPARE	54
					PHASE TOTAL [kVA]:		20.3 kVA	17.1 kVA	19.7 kVA							
					PHASE TOTAL [AMPS]:		173 A	143 A	168 A							

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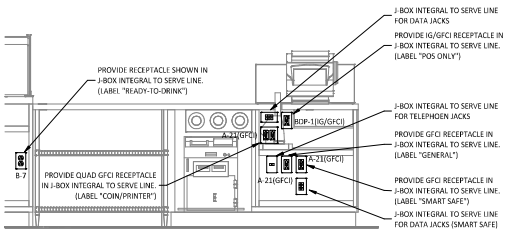
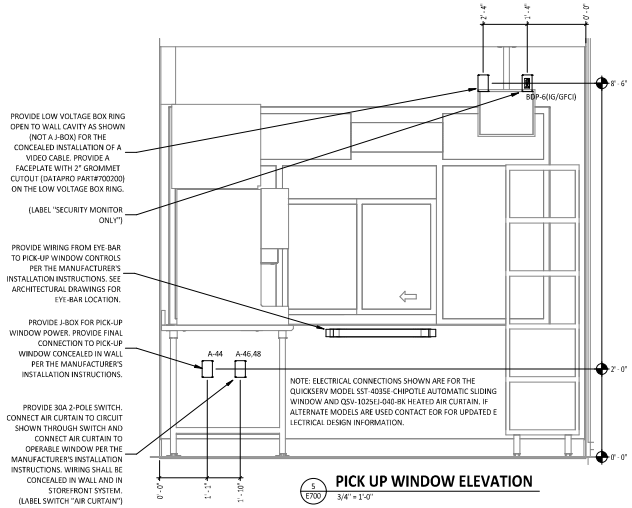
Contents:

ELECTRICAL SCHEDULES

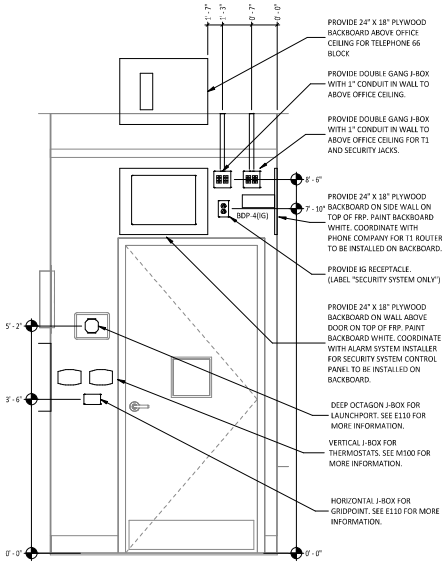
E600



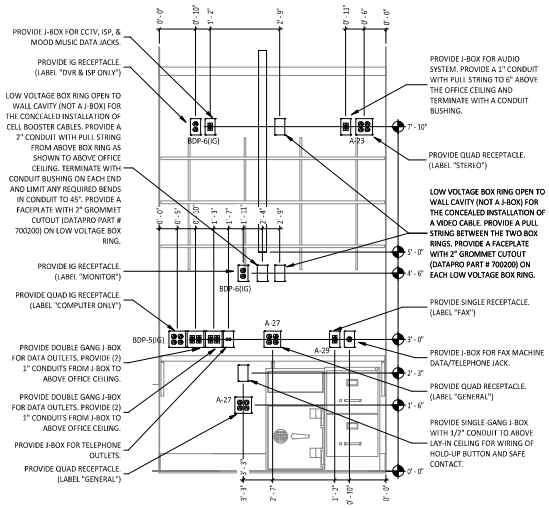
6 E700 **POS COUNTER ELECTRICAL ELEVATION**
3/4" = 1'-0"



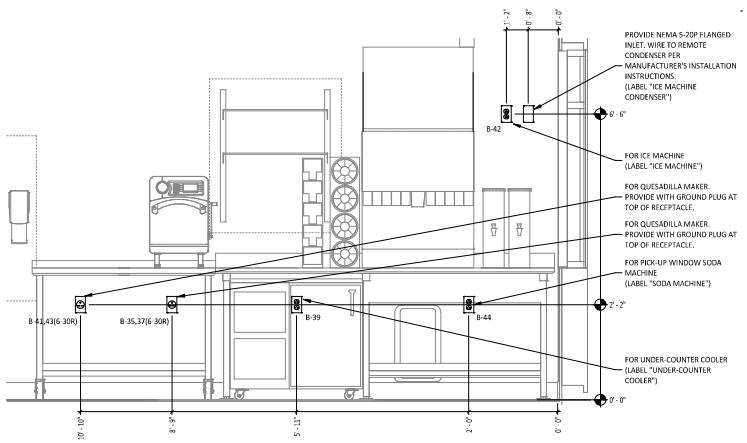
5 E700 **PICK UP WINDOW ELEVATION**
3/4" = 1'-0"



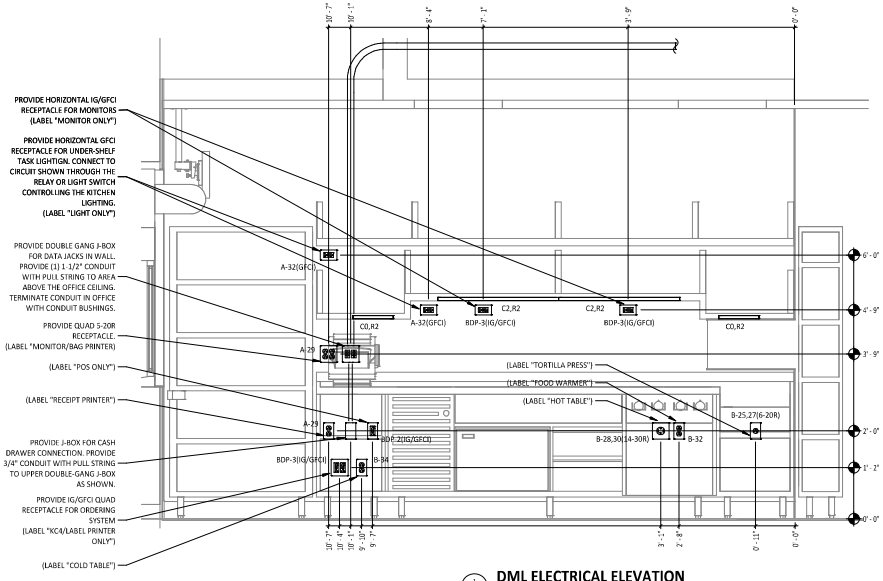
4 E700 **OFFICE DOOR ELECTRICAL ELEVATION**
3/4" = 1'-0"



3 E700 **OFFICE DESK ELECTRICAL ELEVATION**
3/4" = 1'-0"



2 E700 **PUW COLD SIDE ELECTRICAL ELEVATION**
3/4" = 1'-0"



1 E700 **DML ELECTRICAL ELEVATION**
3/4" = 1'-0"

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Contents:
ELECTRICAL INTERIOR ELEVATIONS

E700