

**EXISTING CONDITION NOTES**

STOP AND READ THE CONTRACTOR AND SUB CONTRACTOR SHALL NOT INITIATE ANY WORK UNTIL EXISTING FIELD CONDITIONS ARE PROPERLY VERIFIED. WHEN DEMOLITION IS REQUIRED, THESE VERIFICATIONS SHALL INCLUDE BUT NOT LIMITED TO: DIMENSIONS BOTH HORIZONTAL AND VERTICAL, ELECTRICAL SERVICE/PANELS LOCATION AND VOLTS/PHASE, LOCATION/QUANTITY OF ROOF MOUNTED HVAC EQUIPMENT, CONFIRM THAT INTERIOR HVAC HUNG UNITS HAVE PROPER SUPPORT CONNECTIONS FOR EXISTING STRUCTURE, FIRE SPRINKLER MAIN RUNS, TOILET ROOM DIMENSIONS, DOOR SWING FOR DOORS TO REMAINED ETC. IF NOT VERIFIED AND DISCOVERED AT A LATER TIME, THE CONTRACTOR SHALL REIMBURSE THE ARCHITECT FOR THE REDESIGN FEE. THIS DOES NOT INCLUDE HIDDEN WORK I.E. PITCH OF SANITARY LINES, ACTUAL CONDITIONS OF EXISTING HVAC EQUIPMENT, STRUCTURAL COLUMNS/BEARING WALLS OR CONDITIONS OF GREASE INTERCEPTORS AND ETC.

**SCOPE OF WORK**

PROVIDE 1 NEW 2400 CFM CHILLED WATER FAN COIL UNIT AND 2 NEW 1800 CFM CHILLED WATER FAN COIL UNIT PROVIDE NEW DUCTWORK AND NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEMS.

COORDINATE WITH GC FOR ANY ADDITIONAL REFRIGERATION WORK REQUIRED ALSO, COORDINATE WITH PLUMBING CONTRACTOR TO PROVIDE CONDENSATE LINE FOR MECHANICAL EQUIPMENT.

**MECHANICAL PLAN NOTES**

- A. PROVIDE 1 NEW 2400 CFM CHILLED WATER FAN COIL UNIT AND 2 NEW 1800 CFM CHILLED WATER FAN COIL UNIT. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AND RETURN AIR DUCT CONNECTIONS. INSTALL FIRE DAMPERS IN ANY FIRE WALLS AND BETWEEN FLOORS. TRANSITION TO DUCT SIZES SHOWN. PROVIDE DUCTWORK AND AIR DISTRIBUTION DEVICES AS INDICATED ON THE PLAN. REFER TO SCHEDULE FOR ADDITIONAL REQUIREMENTS.
- B. ALL DUCTS SHALL BE MINIMUM 26 GAUGE SHEET METAL WITH EXTERNAL DUCT WRAP INSULATION FOR CONCEALED DUCTS AND ALL EXPOSED DUCTS WITH INTERNAL INSULATION. ALL DUCTS TO BE MANUFACTURED AND INSTALLED ACCORDING TO ASHRAE AND SMACNA METAL DUCT CONSTRUCTION STANDARD, LATEST EDITION. ALL MATERIALS WILL CONFORM TO NFPA 90A.
- C. THERMOSTATS SHALL BE 7-DAY PROGRAMMABLE TYPE. MOUNT THERMOSTAT 48" A.F.F. IF EXISTING THERMOSTAT AND REMOTE SENSOR ARE NOT REUSABLE THEN PROVIDE NEW THERMOSTAT WITH LOCKABLE COVER. COORDINATE LOCATION OF THERMOSTAT. PROVIDE REMOTE SENSOR LOCATED 72" ABOVE FINISHED FLOOR NEAR LOCATION INDICATED. SEAL WALL OPENINGS WITH CAULK. COORDINATE LOCATION ON SITE WITH GENERAL CONTRACTOR AND EQUIPMENT.
- D. ALL INTERIOR AIR DUCTS WITH INSULATION SHALL HAVE A MINIMUM OF THICKNESS OF 1.5", R-6 INSULATION. OUTSIDE AIR DUCTS TO HAVE R-8 INSULATION ACCORDING TO 2018 IECC.
- E. ALL SEAMS, JOINTS, ETC WILL BE SEALED TO MAKE AIR DUCT AIRTIGHT. PRESSURE SENSITIVE MATERIALS AND OTHERS APPROVED BY LATEST SMACNA. SEALING MATERIALS WILL BE USED.
- F. ALL CONDENSATE DRAINS WILL BE COPPER FULL DIAMETER OF OUTLET AND WILL TERMINATE IN THE NEAREST DRAIN OR INDIRECT WASTE.
- G. ALL EQUIPMENT AND MATERIALS WILL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND ACCORDING TO THE BEST PRACTICE.
- H. TESTING AND BALANCING SHALL BE DONE IN ACCORDANCE WITH 2018 IECC, SECTION C408.2.2. BALANCING PROCEDURES SHALL BE IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (N.E.B.B.), THE ASSOCIATED AIR BALANCE COUNCIL (A.A.B.C) NATIONAL STANDARDS OR EQUIVALENT PROCEDURES.
- I. HANGER ATTACHMENTS TO THE STEEL STRUCTURE WILL BE RATED POWDER ACTUATED FASTENERS, "C" CLAMPS, WELDED STUDS, CLAMP HANGERS, JOIST CLAMPS OR OTHER METHODS RECOMMENDED BY SMACNA'S "METAL AND FLEXIBLE STANDARDS", CHAPTER 4. AND WILL HAVE A MINIMUM SAFETY MARGIN OF 4:1. SUSPENDED FROM TOP CHORD OF JOISTS, NOTHING FROM DECK OR CROSS BRACING.
- J. ALL HVAC CONTROLS AND CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.

**GENERAL NOTES**

- A. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET. PAY SPECIAL ATTENTION TO THE RESPONSIBILITY SCHEDULE. WORK DESIGNATED ON SCHEDULE SHALL BE CONSIDERED INCLUDED IN YOUR SCOPE OF WORK AND CONTRACT AMOUNT.
- B. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT SHOWN AS EXISTING MATCHES THE DESCRIPTIONS AND SPECIFICATIONS SHOWN ON DRAWINGS AND SCHEDULES. IF DIFFERENT NOTIFY ARCHITECT/ENGINEER BEFORE BIDDING, ORDERING, OR PROCEEDING WITH WORK.
- C. DRAWINGS/DETAILS ARE TO BE CONSIDERED DIAGRAMMATIC, NOT NECESSARILY SHOWING IN DETAIL OR TO SCALE ALL MINOR ITEMS, UNLESS SPECIFIC DIMENSIONS ARE SHOWN, THE STRUCTURAL, ARCHITECTURAL AND SITE CONDITIONS SHALL GOVERN EXACT LOCATIONS, CONTRACTOR SHALL FOLLOW DRAWINGS IN LAYING OUT WORK, AND CHECK/COORDINATE DRAWINGS OF ALL TRADES.
- D. COORDINATE WITH THE WORK OF OTHERS SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE DUCT RISES AND DRIPS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.
- E. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
- F. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.
- G. USE OF COMBUSTIBLE MATERIALS IS NOT ALLOWED IN THE RETURN AIR PLENUM. MATERIALS USED IN THE PLENUM SHALL HAVE FLAME SPREAD RATING NOT TO EXCEED 25, AND SMOKE DEVELOPED RATING NOT TO EXCEED 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. ALL EXPOSED WIRING IN THE PLENUM SHALL BE PLENUM RATED.
- H. VERIFY LOCATION OF PERMISSIBLE NEW STRUCTURAL ROOF PENETRATIONS AND ADAPT THE REQUIRED DUCTS ACCORDINGLY. THE OPENINGS MUST BE LOCATED USING A REBAR LOCATOR. TRYING TO LEAVE A TRANSVERSE BAR WITHIN 4" FROM THE OPENING. LOCATE OPENINGS AT MID-DISTANCE BETWEEN THE STEMS OF THE DOUBLE TEE AND LONGITUDINAL REINFORCEMENT SHALL NEVER BE CUT. CALL THE ARCHITECT'S OFFICE IN CASE OF UNEXPECTED DIFFICULTIES.
- I. ALL A/C ROUND EXPOSED DUCTS WILL BE SPIRAL GALVANIZED AND READY FOR PAINTING. ALL RECTANGULAR DUCTS OVER CEILINGS MAY BE SHEET METAL WITH EXTERNAL INSULATION AND ALL EXPOSED ROUND SHEET METAL DUCTS SHALL BE INTERNALLY INSULATED.
- J. G.C. SHALL CONTRACT LANDLORD-APPROVED ROOFING CONTRACTOR TO FLASH AND SEAL ALL ROOF PENETRATIONS TO MAINTAIN ROOFING WARRANTY.
- K. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- L. CONSTRUCTION 'AS BUILT' DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF ACCEPTANCE AND PROVIDE COPY TO LL.
- M. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.

**TEMPE, AZ BUILDING DEPARTMENT NOTES**

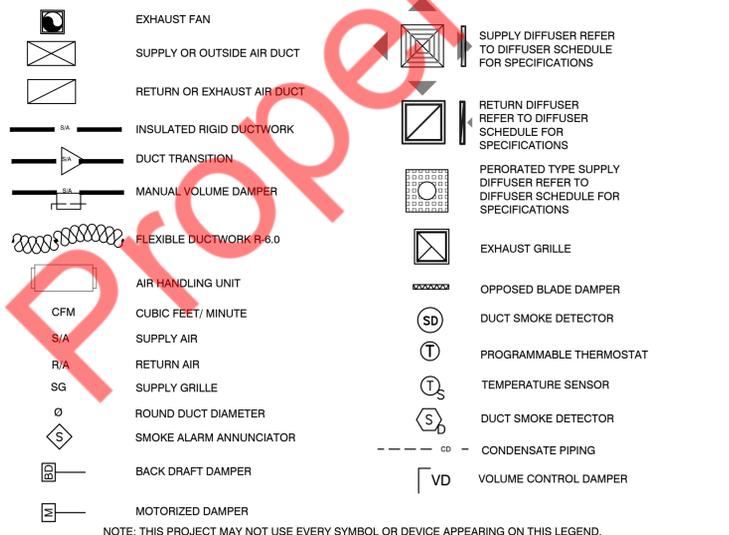
ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF 2018 IBC AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

- 1. THE LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS AND CONDUCTING SUCH TESTS WILL FILE DOCUMENTATION AND REPORTS OF TESTS THAT THE SYSTEM COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS.
- 2. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE 2018 IMC:
  - A. VENTILATION SYSTEM - 2018 IMC - 403.3.
- 3. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
  - A. STANDARDS OF HEATING - 2018 IMC - 309.1
  - B. DUCT CONSTRUCTION AND INSTALLATION- 2018 IMC - 603
  - C. AIR INTAKES, EXHAUSTS AND RELIEF - 2018 IMC - 401.5
  - D. AIR FILTERS - 2018 IMC - 605
  - E. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS - 2018 IMC - 606
- 4. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
- 5. A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE AS REQUIRED BY 2018 IMC 401.
- 6. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
- 7. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 163.
- 8. VENTILATION FOR ALL AREA SHALL COMPLY WITH 2018 INTERNATIONAL MECHANICAL CODE 401.
- 9. SMOKE DETECTOR SHALL MEET UL268A.
- 10. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
- 11. VENTILATION SYSTEMS SHALL BE BALANCED TO MAINTAIN THE MINIMUM VENTILATION AIRFLOW RATE AS SHOWN IN VENTILATION REQUIREMENT TABLE. THIS SYSTEM SHALL BE BALANCED BY APPROVED METHOD. CONTRACTOR TO SUBMIT THE AIR - BALANCE REPORT TO INSPECTOR OF RESPECTIVE BUILDING DEPARTMENT prior TO FINAL INSPECTION.

**THERMOSTATIC CONTROLS**

- A. C403.2.4.1 THERMOSTATIC CONTROLS THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE. WHERE HUMIDIFICATION OR DEHUMIDIFICATION OR BOTH IS PROVIDED, NOT FEWER THAN ONE HUMIDITY CONTROL DEVICE SHALL BE PROVIDED FOR EACH HUMIDITY CONTROL SYSTEM.
- B. C403.2.4.1.1 HEAT PUMP SUPPLEMENTARY HEAT HEAT PUMPS HAVING SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTARY HEAT OPERATION WHERE THE HEAT PUMP CAN PROVIDE THE HEATING LOAD.
- C. C403.2.4.1.2 DEADBAND WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CONFIGURED TO PROVIDE A TEMPERATURE RANGE OR DEADBAND OF NOT LESS THAN 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.
- D. C403.2.4.1.3 SETPOINT OVERLAP RESTRICTION WHERE A ZONE HAS A SEPARATE HEATING AND A SEPARATE COOLING THERMOSTATIC CONTROL LOCATED WITHIN THE ZONE, A LIMIT SWITCH, MECHANICAL STOP OR DIRECT DIGITAL CONTROL SYSTEM WITH SOFTWARE PROGRAMMING SHALL BE CONFIGURED TO PREVENT THE HEATING SETPOINT FROM EXCEEDING THE COOLING SETPOINT AND TO MAINTAIN A DEADBAND IN ACCORDANCE WITH SECTION C403.2.4.1.2.
- E. C403.2.4.2 OFF-HOUR CONTROLS EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY EITHER AN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROL SYSTEM.
- F. C403.2.4.2.1 THERMOSTATIC SETBACK THERMOSTATIC SETBACK CONTROLS SHALL BE CONFIGURED TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C).
- G. C403.2.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.
- H. C403.2.4.2.3 AUTOMATIC AND OPTIMUM START (MANDATORY) AUTOMATIC START CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM. THE CONTROLS SHALL BE CONFIGURED TO AUTOMATICALLY ADJUST THE DAILY START TIME OF THE HVAC SYSTEM IN ORDER TO BRING EACH SPACE TO THE DESIRED OCCUPIED TEMPERATURE IMMEDIATELY PRIOR TO SCHEDULED OCCUPANCY.

**MECHANICAL SYMBOLS**



**FAN COIL UNIT SCHEDULE**

UNIT TAG	FCU-1 (N)	FCU-2 (N)	FCU-3 (N)
	FAN COIL UNIT	FAN COIL UNIT	FAN COIL UNIT
AREA SERVED	SEE PLAN	SEE PLAN	SEE PLAN
SUPPLY AIR (CFM)	2400	1800	1800
OUTSIDE AIR (CFM)	460	460	80
STATIC PRESS. (E.S.P.)	1.0	1.0	1.0
VOLTS/PH/Hz	480/3/60 & V.I.F.	480/3/60 & V.I.F.	480/3/60 & V.I.F.
TOT. COOLING CAP. (MBH)	72	60.68	60.68
COOLING WATER FLOW RATE	8.26 GPM	8.09 GPM	8.09 GPM
MANUFACTURER	TRANE MITSUBISHI	TRANE MITSUBISHI	TRANE MITSUBISHI
MODEL NO.	BCH072GA00A1BF7A	BCH054GA00A1BF4A	BCH054GA00A1BF4A
WEIGHT, LBS	290	213	213
MIN. CKT. AMPACITY	6.88	3.13	3.13
MOCP	15	15	15

- NOTES:
- HORIZONTAL SUSPENDED UNIT WITH FRONT SUPPLY AND REAR RETURN CONNECTIONS.
  - 2" FLAT FILTER RACK WITH 2" MERV 8 FILTER.
  - REFER TO PLAN FOR COIL AND CONDENSATE CONNECTION SIDE.
  - SS AUXILIARY DRAIN PAN.
  - DIRECT DRIVE PLENUM FAN.
  - SUPPLY AIR CFM BASED ON HIGH SPEED.
  - PROVIDE MOUNTING BRACKET AND ALL ASSOCIATED ACCESSORIES.
  - ALL PIPING TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.
  - INDOOR UNIT AND PIPING VALVE FITTING ACCESS PANEL FIELD PROVIDED.
  - ALL AC UNIT TO BE INSTALLED WITH VIBRATION ISOLATION TO MINIMIZE SOUND AND VIBRATION INTO THE SPACE.

**OCCUPANCY CALCULATION**

DINING AREA	1155 SQ. FT.	AS PER ARCH OCCUPANCY	93 PEOPLE
KITCHEN AREA	470 SQ. FT.	AS PER ARCH OCCUPANCY	3 PEOPLE
			96 PEOPLE

REFER TO THE OCCUPANT LOAD CALCULATIONS ON SHEET CS-1 FOR ARCHITECTURAL OCCUPANCY CALCULATION.

**VENTILATION REQUIREMENTS PER INTERNATIONAL MECHANICAL CODE 2018, TABLE 403.3.1.1**

DINING AREA	1155 SQ.FT. X 0.18 CFM/SQ. FT.	=	208 CFM
	93 PEOPLE X 7.5 CFM/PEOPLE.	=	698 CFM
KITCHEN AREA	470 SQ.FT. X 0.32 CFM/SQ. FT.	=	57 CFM
	3 PEOPLE X 7.5 CFM/PEOPLE.	=	23 CFM
HALLWAY	150 SQ.FT. X 0.06 CFM/SQ. FT.	=	9 CFM

BREATHING ZONE OUTDOOR AIRFLOW (Vbz)	995 CFM
ZONE AIR DISTRIBUTION EFFECTIVENESS (Ez)	0.8
ZONE OUTDOOR AIRFLOW (Voz=Vbz/Ez)	995/0.8=1244 CFM

EXHAUST AIR		
UNISEX RESTROOM-1	70 CFM PER FIXTURE	70 CFM
UNISEX RESTROOM-2	70 CFM PER FIXTURE	70 CFM
KITCHEN AREA	470 SQ.FT. X 0.7 CFM/SQ. FT.	= 330 CFM
EXHAUST AIR REQUIRED		470 CFM

AIR BALANCE		
O/A PROVIDED THROUGH FCU-1(N)		500 CFM
O/A PROVIDED THROUGH FCU-2(N)		450 CFM
O/A PROVIDED THROUGH FCU-3(N)		100 CFM
O/A PROVIDED THROUGH MAU-1(N)		2025 CFM
EXHAUST VIA AUTOMATIC BALANCING DAMPERS		-544 CFM
KEF-1(N)		-2531 CFM
BUILDING PRESSURE		+0 CFM

**MAKEUP AIR UNIT SCHEDULE**

TAG	MAU-1(N)
MANUFACTURER	CAPTIVEAIRE
MODEL	EA-A2-20D
STATUS	NEW
MOUNTING	ROOF
SUPPLY AIR (CFM)	2025
E.S.P.	3.5 IN. WC.
HP	5.0
VOLTAGE	460/3/60
MCA (A)	8.5
MOCP (A)	15
WEIGHT (lbs)	500

NOTES FOR MAU-1(N)  
1. REFER HOOD DATA SHEETS.  
2. MAU-1(N) SHALL BE INTERLOCK WITH KEF-1(N)

**EXHAUST FAN SCHEDULE**

DESIGNATION	KEF-1(N)
STATUS	NEW
QUANTITY	1
MANUFACTURER	CAPTIVEAIRE
MODEL	EA-USB118DD-RM
CFM & ESP	2531 @ 2.50" IN. WC ESP
HP	3.0
FLA(AMPS)	4.3
ACCESSORIES	-
WEIGHT (LBS)	423
VOLT/PH/Hz	460/3/60

NOTES:  
1. KEF-1(N) INTERLOCK WITH HOOD.

**VAV TERMINAL SCHEDULE**

SYMBOL	MANUFACTURER	MODEL	INLET SIZE (IN)	PRIMARY CFM	MIN PRIM CFM	CONTROL TYPE
VAV-1(N)		SDV	10	1050	1050	CONSTANT VOLUME

- NOTES:
- MODEL NO SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NO ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATION TO DETERMINE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED.
  - INSTALL FLEXIBLE DUCT CONNECTOR AT INLET CONNECTION.
  - PROVIDE INTEGRAL DISCONNECT SWITCH.
  - PROVIDE CONTROL POWER (CP) TRANSFORMER. COORDINATE PRIMARY POWER WITH ELECTRICAL DRAWINGS.
  - PROVIDE FACTORY INSTALLED PRESSURE INDEPENDENT, DDC CONTROL PACKAGE.
  - PROVIDE FACTORY FURNISHED, FIELD INSTALLED TEMPERATURE SENSOR AT VAV BOX INLET AND INTEGRAL CONTROLS FOR AUTOMATIC CHANGEOVER.
  - PROVIDE BOX WITH LEFT OR RIGHT HAND CONFIGURATION AS SHOWN ON DRAWING.
  - INLET SIZE SHOWN IS THE MINIMUM ALLOWABLE INLET SIZE.

**ELECTRIC DUCT HEATER**

SYMBOL	MODEL	USE	HEATER TYPE	DIMENSIONS WxH (INCH)	HEATING KW	ELECTRICAL DATA	
						AMPS	VOLTAGE
EDH-1(N)	IDHE	SUPPLY	SLIP IN	20X16	10.0	12.55	480/3/60
EDH-2(N)	IDHE	SUPPLY	SLIP IN	20X14	10.0	12.55	480/3/60
EDH-3(N)	IDHE	SUPPLY	SLIP IN	20X14	7.0	8.79	480/3/60
EDH-4(N)	IDHE	SUPPLY	SLIP IN	18X16	15.0	18.83	480/3/60

- NOTES:
- INSTALL ELECTRIC DUCT HEATER AS PER MANUFACTURER'S RECOMMENDATION.
  - PROVIDE T-STAT AND WIRE TO DUCT HEATER.
  - PROVIDE DISCONNECT SWITCH, VAPOR BARRIER, DUST TIGHT BOX AND FAN INTERLOCK SWITCH.
  - PROVIDE DUCT HEATER WITH SCR CONTROL.

**DIFFUSER SCHEDULE**

MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS
DESIGNATION	A	B	C	D	R	R1	E
USE	SUPPLY	SUPPLY	SUPPLY	SUPPLY	RETURN	RETURN	EXHAUST
MODEL	TDC-AA	PAS	300FS	TDC-AA	56FL	56FL	56FL
MOUNTING	CEILING	CEILING	DUCT	CEILING	CEILING	WALL	CEILING
LOCATION	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN
FACE SIZE	24" X 24"	24" X 24"	AS SHOWN	12"X12"	24"X24"	AS SHOWN	AS SHOWN
NECK SIZE	REFER TO TABLE A	REFER TABLE-A	-	REFER TABLE-A	REFER TABLE-A	-	-
FRAME TYPE	LAY IN	LAY IN	FLANGED	FLANGED	LAY IN	FLANGED	FLANGED
ACCESSORIES	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER

- NOTES:
- MAX. NC LEVEL 30 OR LESS.
  - PROVIDE SQUARE TO ROUND NECK ADAPTOR.
  - CONFIRM WITH ARCHITECT/OWNER FOR PAINT AND FINISH.
  - PROVIDE 4 WAY AIR THROW PATTERN UNLESS NOTES OR INDICATED.

**TABLE -A**

FOR ROUND NECK		FOR SQUARE NECK	
NECK SIZE	CFM RANGE	NECK SIZE	CFM RANGE
Ø6"	0-100	6"X6"	0-115
Ø8"	101-200	8"X8"	116-220
Ø10"	201-400	10"X10"	221-350
Ø12"	401-600	12"X12"	351-520
		14"X14"	521-730
		16"X16"	731-840
		18"X18"	840-1035
		20"X20"	1036-1285
		22"X22"	1286-1570

**NY ENGINEERS**

THIS DOCUMENT IS THE PROPERTY OF NY ENGINEERS AND SHALL NOT BE REPRODUCED WITHOUT THE WRITTEN CONSENT OF NY ENGINEERS.

PROJECT

**PEPPER LUNCH**

**REVISIONS DATES:**

- 08/26/24 PROJ COORD.
- 09/30/24 BD COMMENTS
- 09/30/24 LL COMMENTS

ISSUE DATE: 08.14.24  
PROJECT #: -  
DRAWN BY: NYE  
CHECKED BY: NYE

**MECHANICAL NOTES & SCHEDULES**

M-1

**GENERAL NOTES**

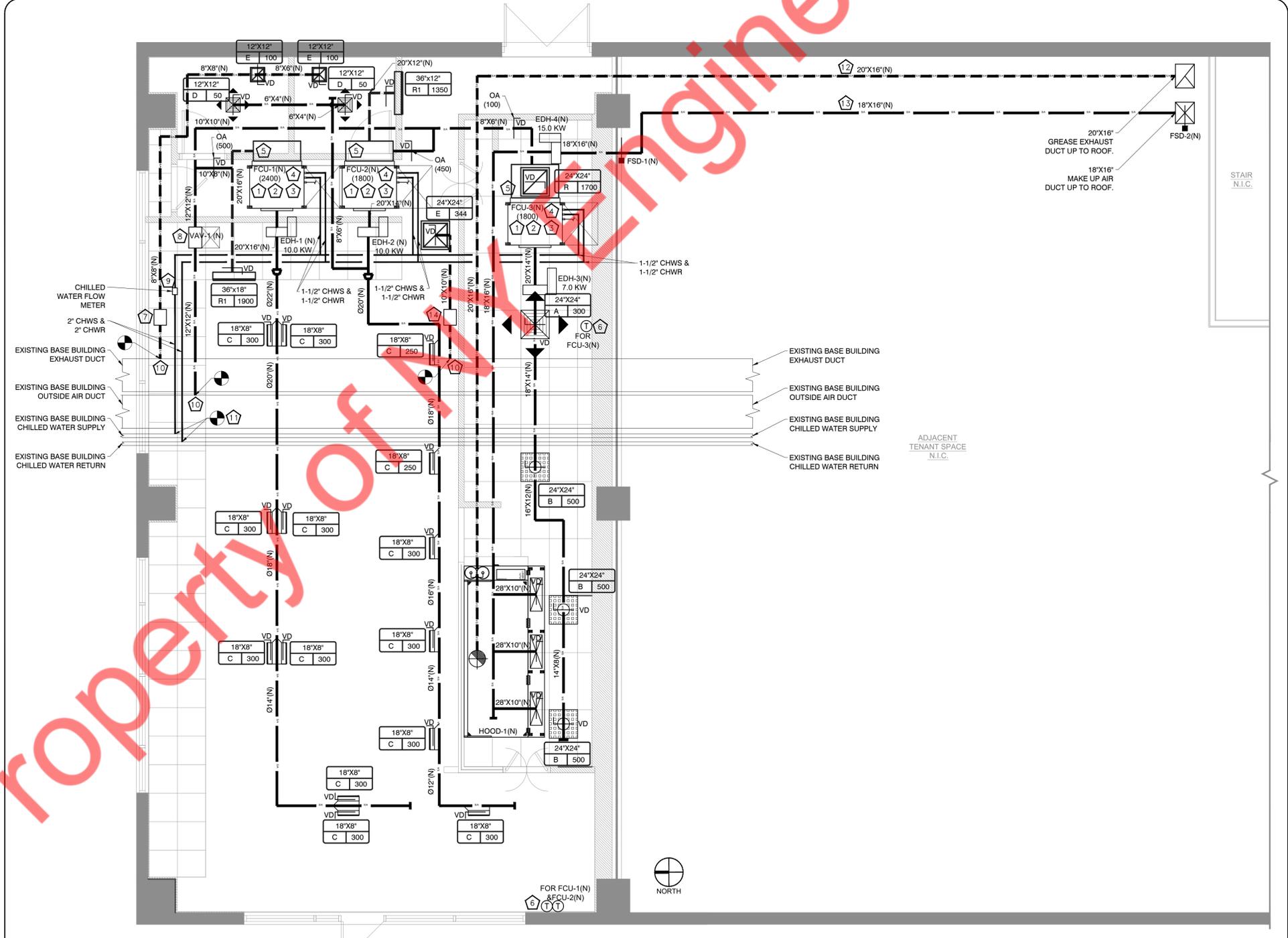
- A. CONTRACTOR SHALL BALANCE EACH DEVICE WITH THE CFM SHOWN ON PLAN.
- B. NEW DUCTWORK SHOWN ON PLAN ARE SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR PIPING AND DUCTWORK ROUTING, OFFSET AND RUN PIPING, DUCTWORK INSIDE THE STRUCTURE IF REQUIRED, PROVIDE ANY EXTRA PIPING, DUCTWORK, FITTINGS, INSULATIONS AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATION.
- C. COORDINATE LOCATIONS AND SIZES OF INTAKE & EXHAUST OPENINGS WITH OWNER AND RESPECTIVE ENGINEER.
- D. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING ETC.
- E. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.
- F. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
- G. CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON ACTUAL EQUIPMENT SELECTED.
- H. COORDINATE WITH ALL TRADES FOR MATERIALS IN RATED AND PLENUM SPACES.
- I. ALL SOURCE OF MECHANICAL INTAKE SHALL MAINTAIN 10 LINEAR FEET SEPARATION BETWEEN ANY SOURCE OF EXHAUST. CONTRACTOR IS RESPONSIBLE TO ADJUST DUCT LENGTH AS NEEDED.
- J. MOUNT DUCTWORK AS HIGH AS POSSIBLE.
- K. TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO G.C AND OWNER.
- L. NEW DUCTWORK IN CONCEALED AREAS MAY BE RECTANGULAR WITH EQUIVALENT CROSS SECTIONAL FLOW AREA.
- M. PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR FIRE RATINGS OF THE WALLS.
- N. ARCHITECTURAL LAYOUT AND DIMENSIONS FOR EQUIPMENT TO TAKE PRECEDENCE OVER MEP.
- O. LIMIT FLEXIBLE DUCT LENGTH TO 5 LINEAR FEET. MAKE SURE DUCT IS FULLY STRETCHED OUT WITH NO KINKS & SHARP BENDS.
- P. PROVIDE CORD OPERATED DAMPER IN INACCESSIBLE CEILING.
- Q. PROVIDE INTERNAL INSULATION FOR ALL EXPOSED DUCTWORK AND EXTERNAL FOR ALL DUCTWORK IN CONCEALED AREAS.

**KEYED NOTES**

- 1. CHILLED WATER FAN COIL UNIT SUSPENDED FROM STRUCTURE. COORDINATE EXACT LOCATION WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION. CONNECT SUPPLY AND RETURN DUCT TO FULL SIZE OF FAN COIL UNIT SUPPLY AND RETURN CONNECTION WITH FLEXIBLE CONNECTION AT UNIT.
- 2. PROVIDE SECONDARY DRAIN PAN UNDER FAN COIL UNIT WITH WATER LEAKAGE SENSOR AND ALARM TO SHUT DOWN THE UNIT.
- 3. CONNECT 1" CONDENSATE DRAIN LINES FROM FAN COIL UNITS TO THE NEAREST PLUMBING DRAIN IN AN APPROVED MANNER. INSTALL CONDENSATE DRAIN WITH 1% SLOPE TOWARD SINK. CONDENSATE DRAIN LINE SHALL BE OF COPPER PIPE. COPPER PIPE SHALL BE INSULATED AS PER REQUIRED AS PER LOCAL CODE.
- 4. PROVIDE ISOLATION VALVE AT INLET AND OUTLET OF FCU AND MANUFACTURER RECOMMENDED VALVE FITTING. COORDINATE WITH ELECTRICAL CONTRACTOR FOR ANY POWER REQUIREMENT AS/IF REQUIRED.
- 5. PROVIDE TEMPERATURE SENSORS IN RETURN AIR DUCT AND WIRE BACK TO T-STAT.
- 6. NEW FULLY DIGITAL 7-DAY PROGRAMMABLE TYPE THERMOSTAT WITH REMOTE SENSING CAPABILITIES, AUTO CHANGE-OVER AND AUTO SET BACK. MOUNT THERMOSTAT AT 4 FT. ABOVE FINISHED FLOOR. THERMOSTAT SERVING THE SAME TEMPERATURE ZONE SHALL BE INTERLOCKED TO PREVENT SIMULTANEOUS HEATING AND COOLING. COORDINATE LOCATION WITH THE OWNER/ARCHITECT.
- 7. PROVIDE AND INSTALL AUTOMATIC BALANCING DAMPER. BASIS OF DESIGN GREENHECK, MODEL ABD. BALANCE EXHAUST CFM TO 200 CFM.
- 8. INSTALL VAV BOX AS PER MANUFACTURER RECOMMENDATION. COORDINATE WITH ELECTRICAL CONTRACTOR FOR ELECTRICAL POWER REQUIREMENT. CONTRACTOR TO TIE IN VAV SYSTEM TO BMS SYSTEM FOR ENERGY USE MONITORING AND BILLING. COORDINATE WITH BASE BUILDING FOR BMS LOCATION AND FINAL REQUIREMENT.
- 9. PROVIDE CHILLED WATER FLOW METER FOR MONITORING ENERGY USAGE AND BILLING. TIE IN WITH BMS SYSTEM FOR CALCULATE TOTAL TONNAGE, KWHR PER MONTH.
- 10. CONTRACTOR TO CONNECT DUCTWORK TO EXISTING BASE BUILDING DUCTWORK. CONTRACTOR TO COORDINATE FINAL LOCATION OF CONNECTION POINT WITH BASE BUILDING ENGINEER
- 11. CONTRACTOR TO CONNECT CHILLED WATER SUPPLY AND RETURN LINE TO EXISTING BASE BUILDING CHILLED WATER LINE AND PROVIDE ISOLATION VALVE. COORDINATE WITH BASE BUILDING ENGINEER TO FINAL LOCATION OF CONNECTION POINT.
- 12. 20"X16" GREASE EXHAUST DUCT ROUTED THROUGH ADJACENT TENANT SPACE. COORDINATE WITH BASE BUILDING ENGINEER FOR DUCT ROUTING, AND PROVIDE 2 HOUR SHAFT ENCLOSURE AROUND THE DUCTWORK.
- 13. 18"X16" MAKE UP AIR DUCT ROUTED THROUGH ADJACENT TENANT SPACE. COORDINATE WITH BASE BUILDING ENGINEER FOR DUCT ROUTING.
- 14. PROVIDE AND INSTALL AUTOMATIC BALANCING DAMPER. BASIS OF DESIGN GREENHECK, MODEL ABD. BALANCE EXHAUST CFM TO 344 CFM.

**KITCHEN EXHAUST NOTES**

- A. PROVIDE CLEAN OUT AT ALL ELBOWS AND BOTTOM OF RISER AND EVERY 15 FEET HORIZONTAL KITCHEN EXHAUST DUCT.
- B. COMMERCIAL KITCHEN GREASE DUCTS SHALL BE DESIGNED FOR THE TYPE-1 OF COOKING APPLIANCE AND HOOD SERVED.
- C. IF NOT PROVIDED FACTORY FABRICATED THEN KITCHEN EXHAUST DUCT SHALL BE CONSTRUCTED OF 0.1046-INCH NO.16 GAUGE STEEL OR 0.0450-INCH NO. 18 STAINLESS STEEL.
- D. JOINTS, SEAMS AND PENETRATIONS OF GREASE DUCTS SHALL BE MADE WITH A CONTINUOUS LIQUID TIGHT WELD OR BRAZE MADE IN THE EXTERNAL SURFACE IF THE DUCT SYSTEMS.
- E. DUCT TO EXHAUST FAN CONNECTIONS SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET OF THE FAN FOR SIDE-INLET UTILITY FANS APPROVED FLEXIBLE CONNECTIONS MAY BE PROVIDED.
- F. A VIBRATION ISOLATION CONNECTOR FOR CONNECTING A DUCT TO A FAN SHALL CONSIST OF NON-COMBUSTIBLE PACKING IN A METAL SLEEVE JOINT OF APPROVED DESIGN OR SHALL BE A COATED-FABRIC FLEXIBLE DUCT CONNECTOR LISTED AND LABELED FOR THE APPLICATION. VIBRATION ISOLATION CONNECTORS SHALL BE INSTALLED ONLY AT THE CONNECTION OF A DUCT TO A FAN INLET OR OUTLET.
- G. GREASE DUCT BRACING AND SUPPORTS SHALL BE OF NON-COMBUSTIBLE MATERIAL SECURELY ATTACHED TO THE STRUCTURE AND DESIGNED TO CARRY GRAVITY AND SEISMIC LOADS WITHIN THE STREET LIMITATIONS. BOLTS, SCREWS, RIVETS AND OTHER MECHANICAL FASTENERS SHALL NOT PENETRATE DUCT WALLS.
- H. THE CLEANOUTS FOR HORIZONTAL GREASE DUCT SHALL BE LOCATED ON THE SIDE OF THE DUCT WITH THE OPENING NOT LESS THAN 1.5" ABOVE THE BOTTOM OF THE DUCT AND NOT LESS THAN 1" BELOW THE TOP OF THE DUCT.
- I. GREASE DUCT SHALL BE PERMITTED TO BE ENCLOSED IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE REQUIREMENT FOR SHAFT CONSTRUCTION. SUCH GREASE DUCT SYSTEM AND EXHAUST EQUIPMENT SHALL HAVE A CLEARANCE TO COMBUSTIBLE CONSTRUCTION NOT LESS THAN 18 INCHES AND SHALL HAVE A CLEARANCE TO NONCOMBUSTIBLE CONSTRUCTION AND GYPSUM WALLBOARD ATTACHED TO NONCOMBUSTIBLE STRUCTURES OF NOT LESS THAN 6 INCHES.
- J. PROVIDE 2 LAYERS OF 1.5" FIRE WRAP AROUND KITCHEN EXHAUST GREASE DUCTS.
- K. PROVIDE MANUAL PULL STATION IN EGRESS PATH IN CASE OF EMERGENCY FOR SHUTTING OFF HOOD AND FANS.



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PEPPER LUNCH

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08/30/24	PROJ. COORD.
09/30/24	BD COMMENTS
09/30/24	LL COMMENTS

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**HVAC FLOOR & ROOF PLAN**

M-2

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HVAC  
 ROOF PLAN

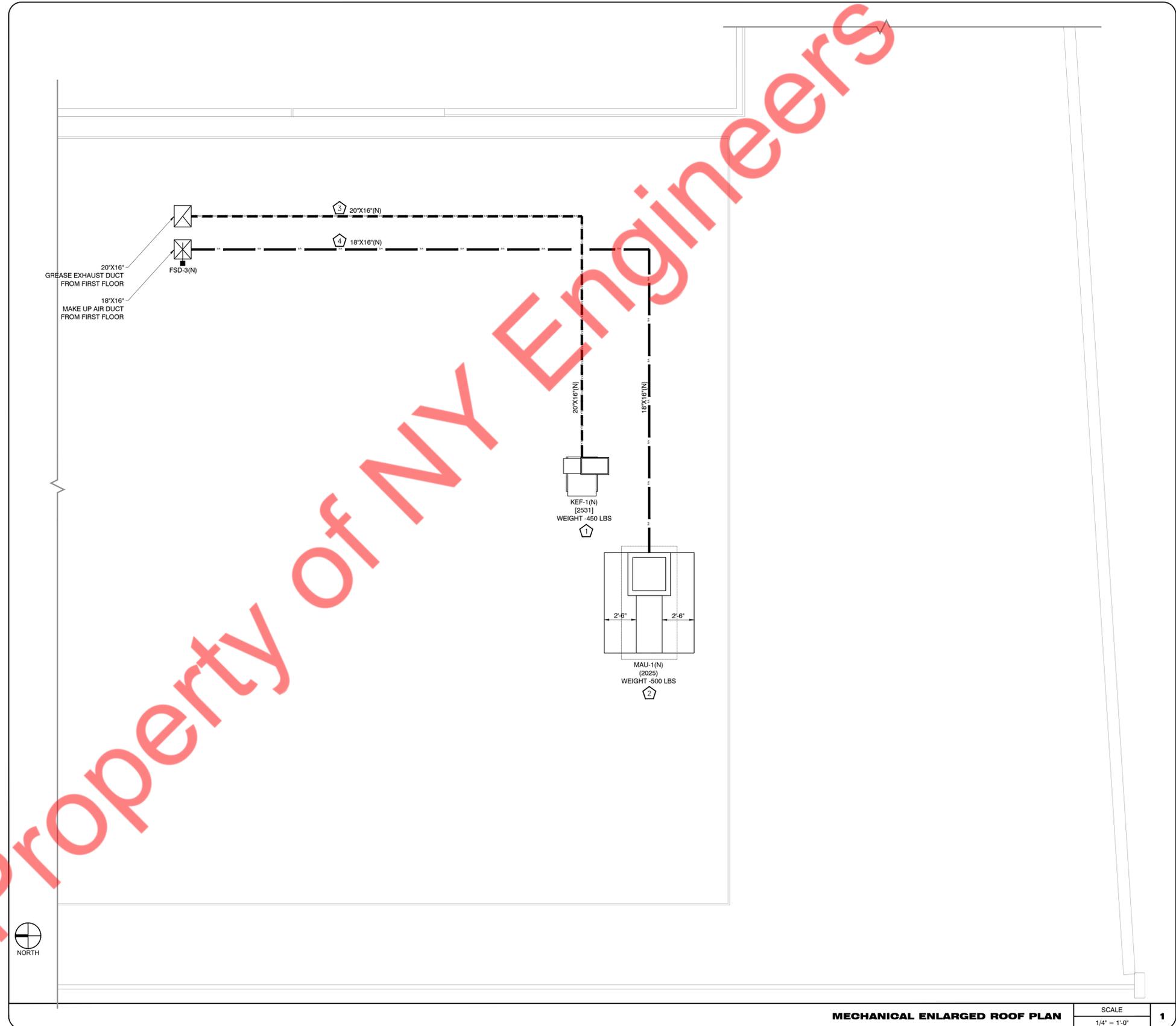
M-3

GENERAL NOTES

- A. COORDINATE LOCATIONS AND SIZES OF ROOF OPENINGS WITH OWNER AND STRUCTURAL ENGINEERS.
- B. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING ETC.
- C. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
- D. ALL SOURCE OF MECHANICAL INTAKE SHALL MAINTAIN 10 LINEAR FEET SEPARATION BETWEEN ANY SOURCE OF EXHAUST. CONTRACTOR IS RESPONSIBLE TO ADJUST DUCT LENGTH AS NEEDED.
- E. TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO GENERAL CONTRACTOR AND OWNER.
- F. ALL EQUIPMENT WEIGHTS ARE INCLUDING ROOF CURBS AND/OR ADAPTERS.

KEYED NOTES

- 1. CONTRACTOR TO INSTALL KITCHEN EXHAUST FAN ON ROOF WITH REQUIRED ACCESSORIES AND AS PER MANUFACTURER RECOMMENDATION. COORDINATE WITH BASE BUILDING ENGINEER FOR FINAL LOCATION. PROVIDE EXTENDED VERTICAL DUCTWORK ON EXHAUST OUTLET TO MAINTAIN MINIMUM 3 FEET VERTICAL DISTANCE FORM HIGHEST OUTSIDE AIR INTAKE WITH 10 FEET.
- 2. CONTRACTOR TO INSTALL MAKEUP AIR UNIT ON ROOF WITH REQUIRED ACCESSORIES AND AS PER MANUFACTURER RECOMMENDATION. COORDINATE WITH BASE BUILDING ENGINEER FOR FINAL LOCATION.
- 3. 20"X16" GREASE EXHAUST DUCT ON ROOF. COORDINATE WITH BASE BUILDING ENGINEER FOR DUCT ROUTING. AND PROVIDE 2 HOUR SHAFT ENCLOSURE AROUND THE DUCTWORK.
- 4. 18"X16" MAKE UP AIR DUCT ON ROOF. COORDINATE WITH BASE BUILDING ENGINEER FOR DUCT ROUTING.



MECHANICAL ENLARGED ROOF PLAN

SCALE  
 1/4" = 1'-0"

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09/30/24	LL COMMENTS

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MECHANICAL DETAILS

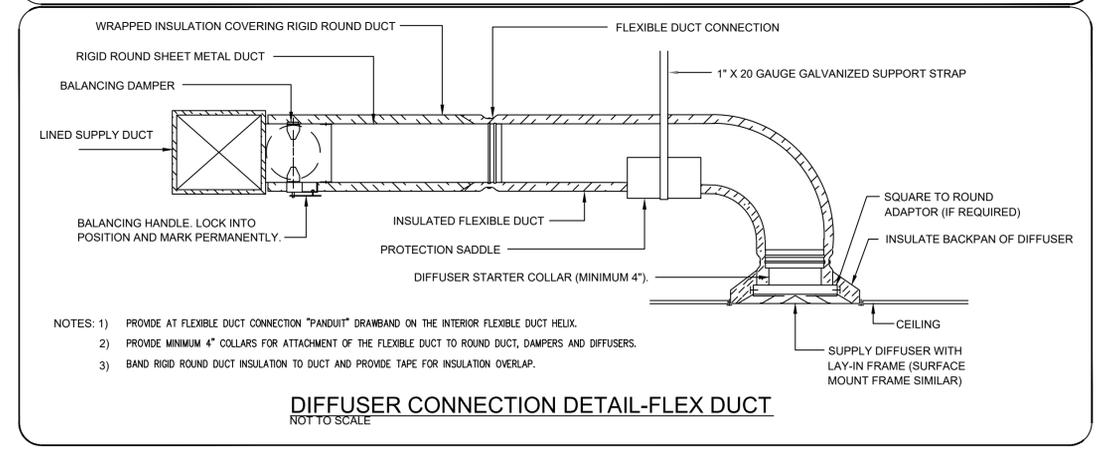
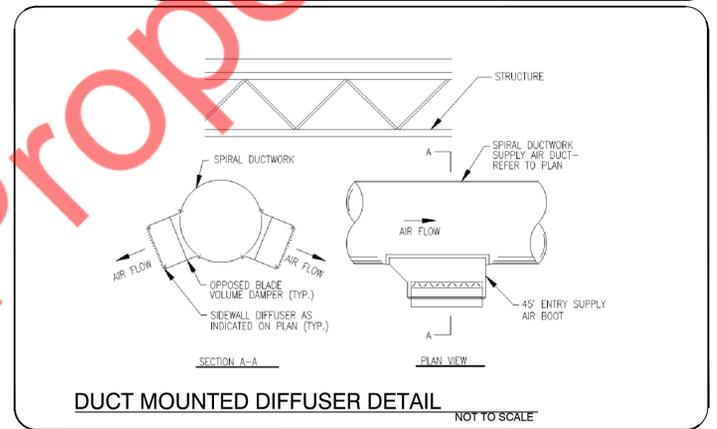
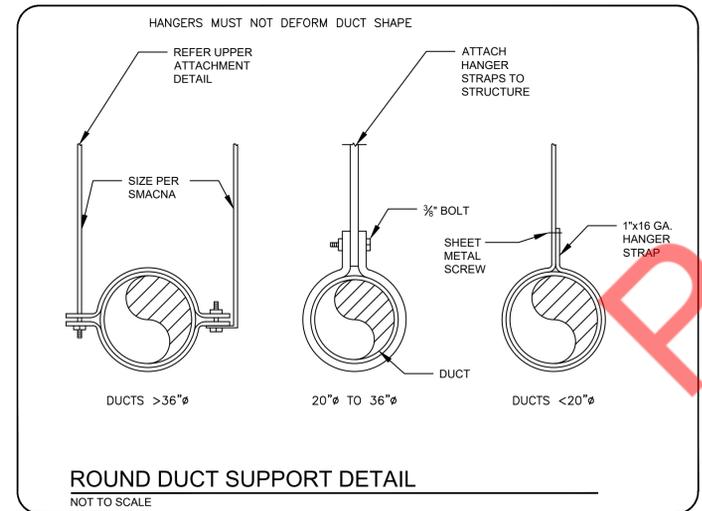
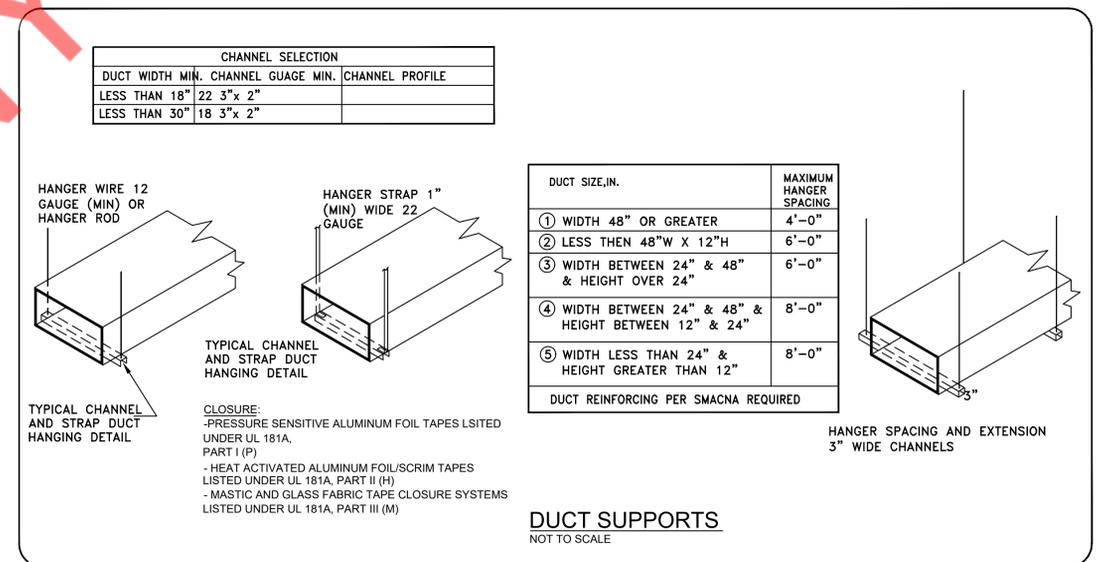
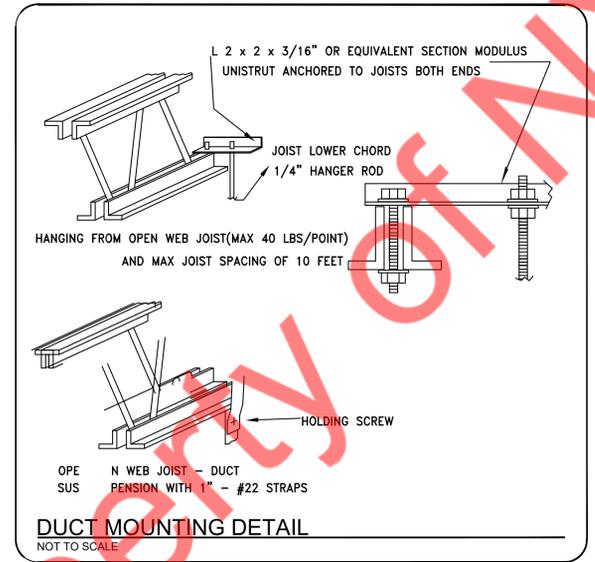
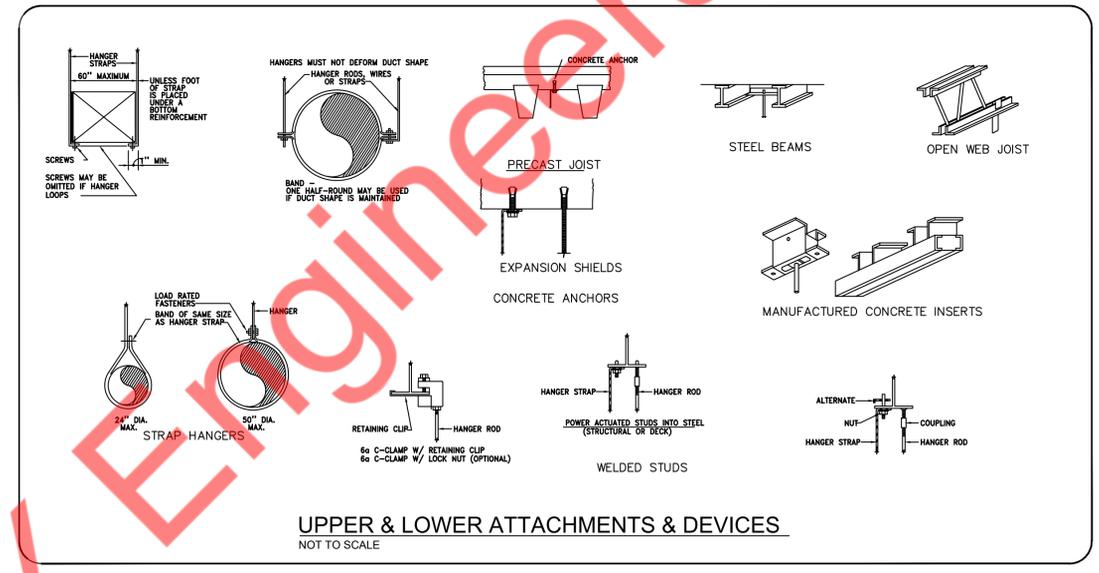
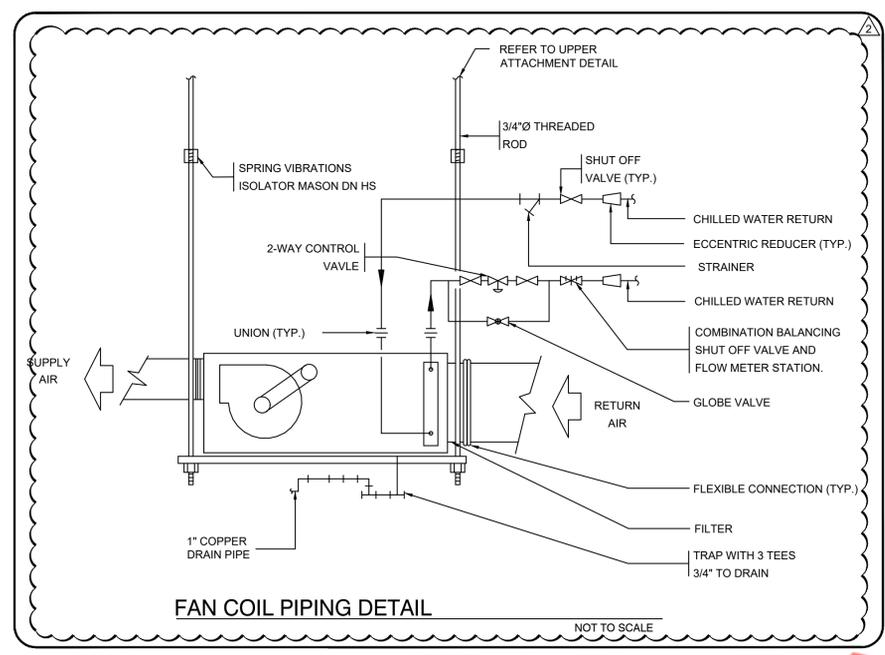
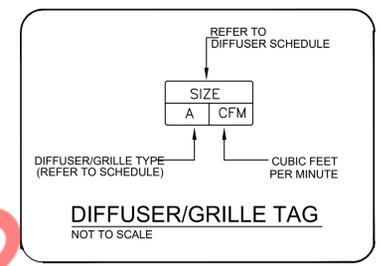




FIG. 10.3.200 SUPPLY FAN  
 1. COMPRESSOR SERVICE UNIT WITH 1/2" MINIMUM DIRECT DRIVE FAN IN SIZE #1 HOUSING.  
 2. 1/2" MINIMUM HOUSING CLEARANCE TO ALL SURFACES.  
 3. 1/2" MINIMUM HOUSING CLEARANCE TO ALL SURFACES.  
 4. 1/2" MINIMUM HOUSING CLEARANCE TO ALL SURFACES.  
 5. 1/2" MINIMUM HOUSING CLEARANCE TO ALL SURFACES.  
 6. 1/2" MINIMUM HOUSING CLEARANCE TO ALL SURFACES.  
 7. 1/2" MINIMUM HOUSING CLEARANCE TO ALL SURFACES.  
 8. 1/2" MINIMUM HOUSING CLEARANCE TO ALL SURFACES.  
 9. 1/2" MINIMUM HOUSING CLEARANCE TO ALL SURFACES.  
 10. 1/2" MINIMUM HOUSING CLEARANCE TO ALL SURFACES.

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**ELECTRICAL PACKAGE - 0971999**

NO.	PACKAGE #	LOCATION	LOCATION	QUANTITY	OPTION	FANS CONTROLLED
1	SC011100A	UTILITY CABINET RISER	UTILITY CABINET RISER	1 UNIT	SMART CONTROL THERMOSTATIC CONTROL W/ SMART WIRELESS W/ WIRELESS	CONTROL 1 1.000 AMB 1.1.3 CONTROL 2 1.000 AMB 1.1.3 CONTROL 3 1.000 AMB 1.1.3

**TANK PROTECTION ELECTRICAL DETAIL**  
 FS-1-MASTER

NO.	DESCRIPTION	WIRE SIZE	WIRE TYPE	WIRE COLOR	WIRE MARKING	TERMINAL	TERMINAL MARKING
1	SMART WIRE	18 AWG	PL	RED	18-01	1	1
2	SMART WIRE	18 AWG	PL	BLACK	18-02	2	2
3	SMART WIRE	18 AWG	PL	WHITE	18-03	3	3
4	SMART WIRE	18 AWG	PL	BLUE	18-04	4	4
5	SMART WIRE	18 AWG	PL	GREEN	18-05	5	5
6	SMART WIRE	18 AWG	PL	BROWN	18-06	6	6
7	SMART WIRE	18 AWG	PL	PINK	18-07	7	7
8	SMART WIRE	18 AWG	PL	GRAY	18-08	8	8
9	SMART WIRE	18 AWG	PL	YELLOW	18-09	9	9
10	SMART WIRE	18 AWG	PL	VIOLET	18-10	10	10
11	SMART WIRE	18 AWG	PL	SLATE	18-11	11	11
12	SMART WIRE	18 AWG	PL	MAGENTA	18-12	12	12
13	SMART WIRE	18 AWG	PL	TEAL	18-13	13	13
14	SMART WIRE	18 AWG	PL	CYAN	18-14	14	14
15	SMART WIRE	18 AWG	PL	NAVY	18-15	15	15
16	SMART WIRE	18 AWG	PL	SLATE	18-16	16	16
17	SMART WIRE	18 AWG	PL	MAGENTA	18-17	17	17
18	SMART WIRE	18 AWG	PL	TEAL	18-18	18	18
19	SMART WIRE	18 AWG	PL	CYAN	18-19	19	19
20	SMART WIRE	18 AWG	PL	NAVY	18-20	20	20

**TANK PROTECTION LOW-VOLTAGE DETAIL**  
 FS-1-MASTER

NO.	DESCRIPTION	WIRE SIZE	WIRE TYPE	WIRE COLOR	WIRE MARKING	TERMINAL	TERMINAL MARKING
1	SMART WIRE	18 AWG	PL	RED	18-01	1	1
2	SMART WIRE	18 AWG	PL	BLACK	18-02	2	2
3	SMART WIRE	18 AWG	PL	WHITE	18-03	3	3
4	SMART WIRE	18 AWG	PL	BLUE	18-04	4	4
5	SMART WIRE	18 AWG	PL	GREEN	18-05	5	5
6	SMART WIRE	18 AWG	PL	BROWN	18-06	6	6
7	SMART WIRE	18 AWG	PL	PINK	18-07	7	7
8	SMART WIRE	18 AWG	PL	GRAY	18-08	8	8
9	SMART WIRE	18 AWG	PL	YELLOW	18-09	9	9
10	SMART WIRE	18 AWG	PL	VIOLET	18-10	10	10
11	SMART WIRE	18 AWG	PL	SLATE	18-11	11	11
12	SMART WIRE	18 AWG	PL	MAGENTA	18-12	12	12
13	SMART WIRE	18 AWG	PL	TEAL	18-13	13	13
14	SMART WIRE	18 AWG	PL	CYAN	18-14	14	14
15	SMART WIRE	18 AWG	PL	NAVY	18-15	15	15
16	SMART WIRE	18 AWG	PL	SLATE	18-16	16	16
17	SMART WIRE	18 AWG	PL	MAGENTA	18-17	17	17
18	SMART WIRE	18 AWG	PL	TEAL	18-18	18	18
19	SMART WIRE	18 AWG	PL	CYAN	18-19	19	19
20	SMART WIRE	18 AWG	PL	NAVY	18-20	20	20

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**TANK PROTECTION LOW-VOLTAGE FIGURES**  
 FS-1-MASTER

**MECHANICAL AND CONTROL POINTS LIST**

NO.	DESCRIPTION	WIRE SIZE	WIRE TYPE	WIRE COLOR	WIRE MARKING	TERMINAL	TERMINAL MARKING
1	SMART WIRE	18 AWG	PL	RED	18-01	1	1
2	SMART WIRE	18 AWG	PL	BLACK	18-02	2	2
3	SMART WIRE	18 AWG	PL	WHITE	18-03	3	3
4	SMART WIRE	18 AWG	PL	BLUE	18-04	4	4
5	SMART WIRE	18 AWG	PL	GREEN	18-05	5	5
6	SMART WIRE	18 AWG	PL	BROWN	18-06	6	6
7	SMART WIRE	18 AWG	PL	PINK	18-07	7	7
8	SMART WIRE	18 AWG	PL	GRAY	18-08	8	8
9	SMART WIRE	18 AWG	PL	YELLOW	18-09	9	9
10	SMART WIRE	18 AWG	PL	VIOLET	18-10	10	10
11	SMART WIRE	18 AWG	PL	SLATE	18-11	11	11
12	SMART WIRE	18 AWG	PL	MAGENTA	18-12	12	12
13	SMART WIRE	18 AWG	PL	TEAL	18-13	13	13
14	SMART WIRE	18 AWG	PL	CYAN	18-14	14	14
15	SMART WIRE	18 AWG	PL	NAVY	18-15	15	15
16	SMART WIRE	18 AWG	PL	SLATE	18-16	16	16
17	SMART WIRE	18 AWG	PL	MAGENTA	18-17	17	17
18	SMART WIRE	18 AWG	PL	TEAL	18-18	18	18
19	SMART WIRE	18 AWG	PL	CYAN	18-19	19	19
20	SMART WIRE	18 AWG	PL	NAVY	18-20	20	20

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**SC- Specification:**

The Electrical Package, typically MA, is designed to thermostatically activate the exhaust fan for an exhaust hood whenever elevated temperatures are sensed in the exhaust system. This option will meet the requirements of 2012 IMC 507.2.1.1 & 2015 IMC 507.1.1 by providing a thermostat(s) mounted in the duct or hood riser to sense increased exhaust temperatures.

Controls shall be listed by ETL (UL 508A). The control enclosure shall be NEMA 1 rated and listed for installation inside of the exhaust hood utility cabinet. The control enclosure may be constructed of stainless steel or painted steel.

Temperature probe(s) located in the duct riser shall be constructed of Stainless Steel. A room temperature sensor is also provided for field installation in the kitchen space in order to start the fan(s) based on the temperature differential between the room and the exhaust air in the duct, rather than fixed set-points. The system is factory pre-set to activate the fans at 10 deg F° above the room temperature.

Once the duct temperature reaches the activation point, the exhaust fans will be activated. The controls also provide hysteresis to prevent cycling of the fans after the cooking appliances have been turned off and the heat in the exhaust system is reduced. The hysteresis is factory set 2 degrees and will keep the exhaust running until the temperature falls 2 degrees below the activation set point. A hysteresis timer also exists to keep the fans running for at least 30 min after being activated by the temperature rise.

The activation and hysteresis settings may be field adjusted on the board LCD interface located inside the control enclosure to meet application needs. The panel is factory configured to shut down supply fans, turn on the exhaust fans and turn off the hood lights in a fire condition.

**HOOD CONTROL PACKAGE INTERFACE AND LCD SCREEN**

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HOOD DATA  
 (2 OF 2)

M-6

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## System Checksums By Trial

FCU-1(N) & FCU-2(N)

Fan Coil

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES			
Peaked at Time:		Mo/Hr: 8 / 14		Mo/Hr: Sum of		Mo/Hr: Heating Design									
Outside Air:		OADB/WB/HR: 105 / 70 / 53		OADB: Peaks		OADB: 39									
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total (%)	Space Sens	Tot Sens	Percent Of Total (%)	SADB	Cooling	Heating	
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)				
<b>Envelope Loads</b>															
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Ra Plenum	55.0	90.0	
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	76.1	71.4	
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Ret/OA	86.0	60.6	
Glass Solar	8,680	0	8,680	8	18,790	30	0	0.00	0	0	0.00	Fn MtrTD	0.0	0.0	
Glass/Door Cond	11,190	0	11,190	10	10,698	17	-13,074	14.23	-13,074	-13,074	14.23	Fn BidTD	0.0	0.0	
Wall Cond	1,704	3,084	4,788	4	2,363	4	-1,044	3.40	-1,044	-3,120	3.40	Fn Frict	0.0	0.0	
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00				
Floor	0	0	0	0	0	0	-2,783	3.03	-2,783	-2,783	3.03				
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0				
Infiltration	4,084	0	4,084	4	4,284	7	-5,125	5.58	-5,125	-5,125	5.58				
<b>Sub Total ==&gt;</b>	<b>25,658</b>	<b>3,084</b>	<b>28,742</b>	<b>27</b>	<b>36,135</b>	<b>58</b>	<b>-22,026</b>	<b>26.23</b>	<b>-22,026</b>	<b>-24,101</b>	<b>26.23</b>				
<b>Internal Loads</b>															
Lights	4,857	1,214	6,072	6	4,656	7	0	0.00	0	0	0.00				
People	40,944	0	40,944	38	15,391	25	0	0.00	0	0	0.00				
Misc	6,068	0	6,068	6	5,814	9	0	0.00	0	0	0.00				
<b>Sub Total ==&gt;</b>	<b>51,870</b>	<b>1,214</b>	<b>53,084</b>	<b>50</b>	<b>25,861</b>	<b>41</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0.00</b>				
<b>Ceiling Load</b>															
Ventilation Load	498	-498	0	0	591	1	-249	0.00	-249	0	0.00				
Adj Air Trans Heat	0	0	26,169	25	0	0	0	37.43	0	-34,382	37.43				
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0	0	0	0				
Ov/Undr Sizing	0	0	0	0	0	0	-34,056	37.07	-34,056	-34,056	37.07				
Exhaust Heat	0	-1,342	-1,342	-1	0	0	0	0.00	0	671	-0.73				
Sup. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00				
Ret. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00				
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00				
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00				
<b>Grand Total ==&gt;</b>	<b>78,026</b>	<b>2,458</b>	<b>106,653</b>	<b>100.00</b>	<b>62,587</b>	<b>100.00</b>	<b>-56,331</b>	<b>100.00</b>	<b>-56,331</b>	<b>-91,868</b>	<b>100.00</b>				

AIRFLOWS		
	Cooling	Heating
Diffuser	2,828	2,828
Terminal	2,828	2,828
Main Fan	2,828	2,828
Sec Fan	0	0
Nom Vent	950	950
AHU Vent	950	950
Infil	142	142
MinStop/Rh	0	0
Return	2,969	2,969
Exhaust	1,092	1,092
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	33.6	33.6
cfm/ft²	2.00	2.00
cfm/ton	318.14	
ft²/ton	159.32	
Btu/hr-ft²	75.32	-64.88
No. People	92	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	8.9	106.7	91.7	2,828	86.0	64.5	57.2	55.0	51.7	52.1
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>8.9</b>	<b>106.7</b>								

AREAS			
	Gross Total	Glass	
		ft²	(%)
Floor	1,416		
Part	0		
Int Door	0		
ExFlr	117		
Roof	0	0	0
Wall	2,000	641	32
Ext Door	75	75	100

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent Lvg	
			MBh	°F °F
Main Htg	-91.9	2,828	60.6	90.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
<b>Total</b>	<b>-91.9</b>			

Project Name:  
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NY ENGINEERS

PEPPER LUNCH

REVISIONS DATES:  
 08/26/24 PROJ COORD.  
 08/30/24 PROJ COORD.  
 09/30/24 BD COMMENTS  
 09/30/24 LL COMMENTS

ISSUE DATE: 08.14.24  
 PROJECT #: -  
 DRAWN BY: NYE  
 CHECKED BY: NYE

HEAT LOAD CALCULATION (1 OF 2)

M-7

## System Checksums By Trial

FCU-3(N)

Fan Coil

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES							
Peaked at Time:		Mo/Hr: 8 / 14		Mo/Hr: Sum of		Mo/Hr: Heating Design													
Outside Air:		OADB/WB/HR: 105 / 70 / 53		OADB: Peaks		OADB: 39													
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total (%)	Space Sens	Tot Sens	Percent Of Total (%)	SADB	Cooling	Heating					
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)								
<b>Envelope Loads</b>				<b>Envelope Loads</b>				<b>Envelope Loads</b>											
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Ra Plenum	55.0	90.0					
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	75.2	72.0					
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Ret/OA	77.1	69.9					
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn MtrTD	0.0	0.0					
Glass/Door Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BidTD	0.0	0.0					
Wall Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.0	0.0					
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	<b>AIRFLOWS</b>							
Floor	0	0	0	0	0	0	0	0.00	0	0	0.00								
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0								
Infiltration	1,889	0	1,889	5	1,788	5	-1,705	4.87	-1,705	4.87									
Sub Total ==>	1,889	0	1,889	5	1,788	5	-1,705	4.87	-1,705	4.87									
<b>Internal Loads</b>				<b>Internal Loads</b>				<b>Internal Loads</b>											
Lights	1,620	405	2,025	5	1,620	5	0	0.00	0	0	0.00								
People	1,403	0	1,403	4	701	2	0	0.00	0	0	0.00								
Misc	30,717	0	30,717	77	30,717	88	0	0.00	0	0	0.00								
Sub Total ==>	33,740	405	34,145	85	33,039	95	0	0.00	0	0	0.00								
Ceiling Load	31	-31	0	0	31	0	0	0.00	0	0	0.00								
Ventilation Load	0	0	4,010	10	0	0	0	10.34	-3,619	10.34									
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0									
Dehumid. Ov Sizing	0	0	0	0	0	0	-29,667	84.79	-29,667	84.79									
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0.00									
Exhaust Heat	0	-34	-34	0	0	0	0	0.00	0	0.00									
Sup. Fan Heat	0	0	0	0	0	0	0	0.00	0	0.00									
Ret. Fan Heat	0	0	0	0	0	0	0	0.00	0	0.00									
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0.00									
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0.00									
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0.00									
<b>Grand Total ==&gt;</b>	<b>35,660</b>	<b>340</b>	<b>40,010</b>	<b>100.00</b>	<b>34,857</b>	<b>100.00</b>	<b>-31,372</b>	<b>100.00</b>	<b>-34,991</b>	<b>100.00</b>									

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR		Leave DB/WB/HR			Gross Total	Glass	Capacity	Coil Airflow	Ent	Lvg			
ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb	ft²	(%)	MBh	cfm	°F	°F		
Main Clg	3.3	40.0	38.4	1,575	77.1	58.5	44.0	55.0	49.0	42.4	Floor	471					
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0					
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0					
											ExFlr	0					
<b>Total</b>	<b>3.3</b>	<b>40.0</b>									Roof	0					
											Wall	0					
											Ext Door	0					
											<b>Total</b>	<b>-35.0</b>					

Project Name:  
Dataset Name:

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PEPPER LUNCH

REVISIONS DATES:	
08/26/24 PROJ COORD.	
08/30/24 PROJ COORD.	
09/30/24 BD COMMENTS	
09/30/24 LL COMMENTS	

ISSUE DATE: 08.14.24  
PROJECT #: -  
DRAWN BY: NYE  
CHECKED BY: NYE

HEAT LOAD  
CALCULATION  
(2 OF 2)

M-8

NY ENGINEERS

**SCOPE OF WORK**

1. REUSE THE EXISTING (1) 200A, 277/280V, 3-PHASE, 4-WIRE ELECTRICAL SERVICE FOR PROJECT SPACE FROM THE EXISTING SES3 BOX IN SERVICE ROOM.
2. REUSE EXISTING (1) 200A, 277/280V, 3-PHASE, 4-WIRE ELECTRICAL DISCONNECT SWITCH IN SES3 BOX FOR THE PROJECT SPACE.
3. PROVIDE NEW (1) 200A, 277/280V, 3-PHASE, 4-WIRE ELECTRICAL METER IN EXISTING METER SOCKET IN SES3 BOX FOR THE PROJECT SPACE IF IT IS NOT AVAILABLE METER SOCKET.
4. PROVIDE NEW (1) 200A(M.C.B.), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A". (1) PROVIDE NEW 45 KVA, 3-PHASE PRIMARY 277/480V AND SECONDARY 120/208V CEILING HUNG TRANSFORMER.
5. PROVIDE NEW (1) 100A(M.C.B.), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B".
6. ALL NECESSARY EQUIPMENT, WIRING AND LIGHTING FOR THE PROPOSED SPACE INCLUDING WIRING FOR VENTILATION EQUIPMENT. COORDINATE WITH GC FOR LOW VOLTAGE WIRING.

**ELECTRICAL PLAN NOTES**

1. ELECTRICAL CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THIS SET.
2. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT SHOWN AS EXISTING MATCHES THE DESCRIPTIONS AND SPECIFICATIONS SHOWN ON DRAWINGS AND SCHEDULES. IF DIFFERENT, NOTIFY ARCHITECT/ENGINEER BEFORE BIDDING, ORDERING, OR PROCEEDING WITH WORK.
3. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL NEW ELECTRICAL WORK INDICATED. CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWINGS AND APPLICABLE SPECIFICATIONS. IF A PROBLEM IS ENCOUNTERED IN COMPLYING WITH THIS REQUIREMENT, CONTRACTOR SHALL NOTIFY THE OWNER OR HIS REPRESENTATIVE AS SOON AS POSSIBLE AFTER DISCOVERY OF THE PROBLEM AND SHALL NOT PROCEED WITH THAT PORTION OF THE WORK UNTIL OWNER HAS DIRECTED CORRECTIVE ACTION TO BE TAKEN.
4. ELECTRICAL CONTRACTOR SHALL VISIT JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATIONS INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. EXISTING CONDITIONS OF ELECTRICAL EQUIPMENT, LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO SUBMITTING HIS BID.
5. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) 2017 AND ORDINANCES OF THE AUTHORITY HAVING JURISDICTION.
6. DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION FOR ALL EQUIPMENT. CONFIRM WITH OWNER'S REPRESENTATIVE.
7. ALL ELECTRICAL NOT BEING REUSED MUST BE REMOVED IN ITS ENTIRETY.
8. ALL CONDUIT IN OR UNDERGROUND OR IN CONCRETE MUST BE RIGID GALVANIZED STEEL.
9. CIRCUIT BREAKERS AND PANELS TO BE BOLT ON TYPE
10. ALL EQUIPMENT SHALL BE APPROVED BY UL OR OTHER NATIONALLY RECOGNIZED TESTING COMPANY.
11. ALL RECEPTACLES SHALL BE GROUNDED AS REQUIRED BY NEC 250.146
12. SUBMIT SERVICE ENTRANCE EQUIPMENT FOR SEPARATE APPROVAL.
13. ALL LOW VOLTAGE MUST BE IN CONDUIT TO ABOVE THE DROP CEILING. BRIDAL RINGS OR "J" HOOKS REQUIRED.
14. SEPARATE PERMITS ARE REQUIRED FOR ALL LOW VOLTAGE SUCH AS TELEPHONE, DATA, THERMOSTAT, MUSIC, ALARMS ETC.
15. SEPARATE PERMIT REQUIRED FOR SIGNAGE.
16. PRIOR TO ANY CONSTRUCTION WORK BEGINNING AN ON-SITE MEETING WITH GENERAL CONTRACTORS IS REQUIRED.
17. ELECTRICIAN MUST BE ON SITE FOR ALL INSPECTIONS.
18. MINIMUM WIRE SIZE SHALL BE #12 A.W.G. EXCLUDING CONTROL WIRING. ALL CONDUCTORS SHALL BE COPPER AND UNLESS OTHERWISE NOTED THIN INSULATION.
19. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, PLASTIC AND CAST ALLOY WITH THREADED HUBS IN WET OR DAMP LOCATIONS, AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
20. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
21. ELECTRICAL SYSTEM SHALL BE COMPLETE AND EFFECTIVELY GROUNDED AS REQUIRED BY THE N.E.C. OR LOCAL CODES.
22. ALL MATERIALS SHALL BE NEW AND BEAR UNDERWRITERS' LABELS WHERE APPLICABLE.
23. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANLY MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/ARCHITECT.
24. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
25. ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE THAT CERTIFICATE OF OCCUPANCY IS ISSUED. WARRANTY SHALL BE PROVIDED IN WRITING. PROVIDE COPY TO LL.
26. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
27. ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
28. CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES, INSPECTIONS AND TESTING. CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT.
29. THE ELECTRICAL INSTALLATION SHALL MEET ALL STANDARD REQUIREMENTS OF POWER AND TELEPHONE COMPANIES.
30. CONTRACTOR SHALL COORDINATE WITH MECHANICAL DRAWINGS AND PROVIDE ALL NECESSARY CONTROL WIRING.
31. ALL CIRCUIT BREAKERS FEEDING MECHANICAL EQUIPMENT SHALL BE HACR TYPE CIRCUIT BREAKERS.
32. PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES, DEVICES, ETC. FOR ALL OUTLETS AS INDICATED.
33. MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SUCH AS APPEAR ON THE UL LIST OF APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF N.E.C. NEMA, AND IEC.
34. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR CUT SHEETS OF LIGHTING FIXTURES, SWITCHES, AND OTHER ELECTRICAL ITEMS FOR APPROVAL BY ENGINEER/ARCHITECT.
35. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, PATCHING AND FIRED CAULKING REQUIRED OF HIS WORK.
36. ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS W/TYPE WRITTEN DIRECTORIES.
37. ALL ELECTRICAL AND COMMUNICATIONS OUTLETS TO BE AT 24" A.F.F. UNLESS NOTED OTHERWISE, AND VERTICALLY MOUNTED.
38. ALL LIGHT SWITCHES TO BE AT 42" A.F.F.
39. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. ALL ELECTRICAL WIRING FOR HVAC SYSTEM INCLUDING CONTROLS, THERMOSTATS, POWER, ETC. SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
40. BREAKER AND PANELS --- ALL CURRENT CARRYING BUSSES SHALL BE COPPER. ALL GROUND BUS BARS SHALL BE COPPER. PANEL BOARD ENCLOSURES SHALL BE FURNISHED WITHOUT PRE-PUNCHED CONCENTRIC HOLES. A.I.C. RATINGS SHALL BE AS INDICATED ON PANEL BOARD SCHEDULES.
41. DISCONNECT SWITCHES SHALL BE H.P. RATED, GENERAL DUTY, QUICK-MAKE, QUICK-BREAK ENCLOSURES AS REQUIRED BY EXPOSURE.
42. MOTOR STARTERS SHALL BE MANUAL OR MAGNETIC, WITH OVERLOAD RELAYS IN EACH HOT LEG.
43. THE TERM "PROVIDE" USED IN THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS INDICATES THE CONTRACTOR SHALL FURNISH AND INSTALL.
44. CONTRACTOR SHALL CONFIRM WITH ANY AND ALL REQUIREMENTS SUCH AS: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, TRANSFORMER SIZE, SCHEDULED DOWN TIME FOR OWNERS CONFIRMATION, ETC. ANY CONFLICTS SHALL BE BROUGHT TO ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK.
45. VOLTAGE DROP FOR ALL BRANCH CONDUCTORS SHALL NOT EXCEED 3%. WHERE VOLTAGE DROP EXCEEDS 3%, CONTRACTOR SHALL INCREASE SIZE OF CONDUCTORS.
46. CONTRACTOR SHALL PROVIDE GFI TYPE BREAKER FOR ALL EXTERIOR 120V CIRCUITS OR GFI PROTECTION --- FOR THE WHOLE CIRCUIT.
47. GAS PIPING SHALL BE BONDED.
48. ELECTRICAL CONTRACTOR SHALL COORDINATE SERVICE ENTRY WITH SERVICE PROVIDER PRIOR TO DETERMINING EXACT LOCATION OF THE METER BOX IN ORDER TO AVOID DISCREPANCIES BETWEEN DRAWINGS AND JOB CONDITIONS.
49. ALL OUTDOOR EQUIPMENT SHALL BE WEATHERPROOF.
50. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.
51. ABSOLUTELY NO FLEXIBLE CONDUIT IS PERMITTED IN DEMISING WALLS. FLEXIBLE CONDUIT IS PERMITTED FOR SHORT FINAL CONNECTIONS ONLY (6'-0" OR LESS).
52. EXPOSED CONDUIT SHALL BE INSTALLED IN STRAIGHT LINES, PARALLEL OR IN RIGHT ANGLES TO THE BUILDING STRUCTURE. DO NOT LOOP EXCESS FLEXIBLE CONDUIT IN CEILING SPACE OR WALL CAVITY. NO CONDUIT TO BE SUPPORTED FROM THE ROOF DECK.
53. CABLE TYPES AC AND NM CABLES ARE NOT ACCEPTABLE. TYPE MC CABLE, ELECTRIC METALLIC TUBING (EMT) AND RIGID GALVANIZED CONDUIT ARE PERMITTED.
54. ALL EQUIPMENT, DEVICES AND FIXTURES SHALL BE GROUNDED IN COMPLIANCE WITH NEC AND UL REQUIREMENTS.
55. ALL PANELS TO BE UL LABELED WITH BOLT-ON TYPE CIRCUIT BREAKERS.
56. TENANT IS REQUIRED TO MAKE A FIELD SURVEY OF THE EXISTING ELECTRICAL SERVICE TO ENSURE THAT THE TOTAL CONNECTED LOAD DOES NOT EXCEED THE ELECTRIC SERVICE. ANY/ALL MODIFICATIONS OR UPGRADES NEEDED ARE SUBJECT TO LANDLORD'S PRIOR APPROVAL AND WILL BE COMPLETED BY TENANT/TENANT'S GC AT TENANT'S SOLE EXPENSE.
57. ALL ELECTRICAL PANELS TO BE MOUNTED ON PLYWOOD BACKER BOARD.
58. PANEL PHASE LOADS TO BE BALANCED WITHIN 10%.

**GENERAL LIGHTING NOTES**

- A. WHERE LIGHT FIXTURE IS FOLLOWED BY "NL", THIS FIXTURE IS DESIGNATED AS A NIGHT LIGHT AND SHALL BE CONNECTED TO AN UNSWITCHED HOT CONDUCTOR.
- B. UPPER CASE LETTER NEXT TO LIGHT FIXTURE DENOTES FIXTURE TYPE.
- C. ALL EMERGENCY FIXTURES SHALL BE CONNECTED TO AN UNSWITCHED HOT CONDUCTOR.

**ELECTRICAL LEGEND**

SYMBOL	DESCRIPTION
[Symbol]	EXHAUST FAN
[Symbol]	KITCHEN EXHAUST FAN (REFER TO MECHANICAL PLANS)
[Symbol]	SPEAKERS @ CEILING
[Symbol]	JUNCTION BOX
[Symbol]	BATTERY BACK UP EXIT LIGHT
[Symbol]	BATTERY BACK UP EMERGENCY LIGHT
[Symbol]	WALL SWITCH (SINGLE, DOUBLE, )
[Symbol]	WALL SWITCH (3 WAY, 4 WAY)
[Symbol]	WALL SWITCH (TIMER)
[Symbol]	DIMMER WALL SWITCH
[Symbol]	OCCUPANCY SENSOR WALL SWITCH
[Symbol]	VARIABLE SPEED SWITCH
[Symbol]	SINGLE RECEPTACLE
[Symbol]	DUPLEX RECEPTACLE
[Symbol]	DUPLEX RECEPTACLE, 46" TO AFF AT KITCHEN, BATHS AND TOPS
[Symbol]	HALF SWITCHED DUPLEX RECEPTACLE
[Symbol]	230 VOLT RECEPTACLE
[Symbol]	QUADRUPLEX RECEPTACLE
[Symbol]	FLOOR MOUNTED. FLUSH DUPLEX RECEPTACLE
[Symbol]	FLOOR MOUNTED. FLUSH QUAD. RECEPTACLE
[Symbol]	FLOOR MOUNTED. FLUSH 230 VOLT RECEPTACLE
[Symbol]	CEILING MOUNTED DUPLEX RECEPTACLE
[Symbol]	ELECTRICAL PANEL
[Symbol]	DISCONNECT SWITCH
[Symbol]	USB CHARGER RECEPTACLE
[Symbol]	TELEVISION OUTLET
[Symbol]	DATA OUTLET
[Symbol]	TELEPHONE/DATA OUTLET
[Symbol]	TELEPHONE OUTLET
[Symbol]	FLOOR MTD. FLUSH TELEPHONE/DATA OUTLET
[Symbol]	QUAD. DATA OUTLET RJ45
[Symbol]	THERMOSTAT DEVICE
[Symbol]	MOTOR SWITCH
[Symbol]	30A NON FUSED DISCONNECT SWITCH
[Symbol]	60A NON FUSED DISCONNECT SWITCH
[Symbol]	100A NON FUSED DISCONNECT SWITCH

ABBREVIATIONS:

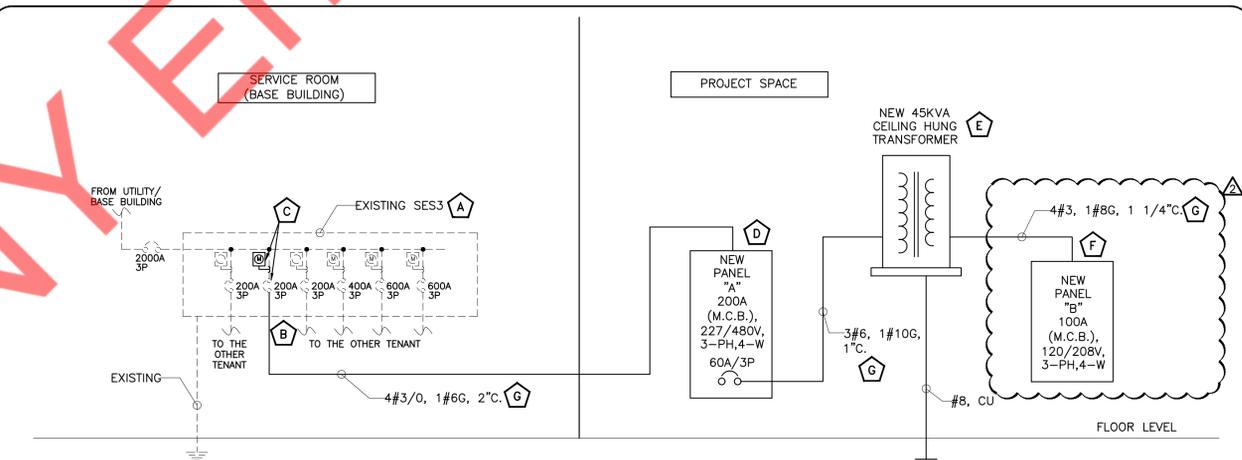
ABOVE FINISH FLOOR= A.F.F.	AIR HANDLING UNIT=AHU
COUNTER TOP LEVEL= C	ELECTRICAL CONTRACTOR=E.C.
GROUND FAULT INTERRUPTER= GFCI	EXHAUST FAN = EF
BATHROOM EXHAUST FAN=BEF	VAPOR PROOF= VP
WATER HEATER= WH	WEATHER PROOF= WP
KITCHEN EXHAUST FAN=KEF	UNDER CABINET= UC
AUTHORITY HAVING JURISDICTION=A.H.J.	VERIFY PRIOR TO INSTALL= VH
NIGHT LIGHT=NL	PUSH BUTTON= PB
AIR COOLED CONDENSING UNIT=ACCU	BELOW COUNTER= BC
	FAN COIL UNIT= FCU
	MOTORIZED DAMPER= MD
	ELECTRIC DUCT HEATER= EDH

**LIGHTING FIXTURE SCHEDULE**

	TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLT	LAMP WATTAGE	MOUNTING
[Symbol]	A	LED PANEL 2' X 4'	ELITE	24-FPL1-LED-ML	120	34 - 53 WATTS	MOUNTED WITHIN CLG. TILE GRID
[Symbol]	B	6" LED DOWNLIGHT	LITE LINE	S4R6	120	11- 43 WATTS	SURFACE MOUNT
[Symbol]	C	14" GLOBE PENDANT LIGHT	FOUNDRY LIGHTING	SEA GULL LEO	120	TBD	2'-6" TO 3'-0" ABOVE
[Symbol]	D	14" BARN PENDANT LIGHT	BARN LIGHT ELECTRIC	AVALON	120	11- 43 WATTS	2'-6" TO 3'-0" ABOVE
[Symbol]	F	TRACK LIGHT	CONETCH LIGHTING	CTL905	120	7 - 34 WATTS	BTM OF FIXTURE @9'-0" A.F.F
[Symbol]	G	STRIP LIGHT	CORE LIGHTING	LSM-20	120	2 WATTS PER FEET	-
[Symbol]	H	48" LED STRIP LIGHT	SOLID STATE LUMINAIRES	MINI COVELINE	120	19.6 WATTS	-
[Symbol]	X	EXIT SIGN	BESTLIGHTING	CTXTEU	120	2.2 WATTS	-
[Symbol]	X1	EXIT/EMERGENCY COMBO SIGNS	BESTLIGHTING	EZXTEU	120	2.2 WATTS	-
[Symbol]	X2	EMERGENCY EXIT DISCHARGE LED LIGHT	BESTLIGHTING	TBD	120	4.5 WATTS	-
[Symbol]	Y2	WALL MOUNTED EMERGENCY LIGHTS	BEST LIGHTING	LEDR-1	120	1 WATTS	-
[Symbol]	T	TIMER WALL SWITCH	LEVITON	LEVAVPT24PZ VIZIA	120	-	-
[Symbol]	OS	OCCUPANCY WALL SWITCH	SENSORWORX	SWX-121-WH	120	-	-
[Symbol]	OS	CEILING OCCUPANCY SENSOR	SENSORWORX	SWX-221-B	120	-	-

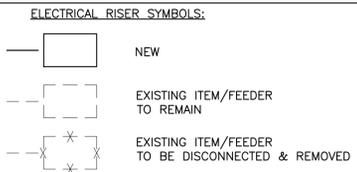
NOTES:

1. E.C. SHALL COORDINATE WITH ARCHITECT FOR FINAL FIXTURE COUNT AND TYPE.
2. COORDINATE EXACT CONTROL REQUIREMENTS WITH OWNER.
3. E.C. SHALL PROVIDE REQUIRED POWER PACKS AND RELAYS SUITABLE FOR THE ABOVE LIGHT FIXTURES IN COORDINATION WITH THE LIGHTING VENDOR. BASE BID ACCORDINGLY.



**ELECTRICAL RISER KEYED WORK NOTES:**

- A. EXISTING 277/480V, 3-PHASE, 4-WIRE, SES3 BOX SHALL REMAIN IN SERVICE ROOM. E.C. SHALL COORDINATE WITH UTILITY / OWNER / BASE BUILDING FOR EXACT POWER DISTRIBUTION.
- B. EXISTING 200A, 277/480V, 3-PHASE, 4-WIRE ELECTRICAL SERVICE FROM UTILITY/BASE BUILDING FOR THE PROJECT SPACE SHALL REMAIN. E.C. SHALL GET INFORMATION ABOUT THE EXISTING POWER DISTRIBUTION PRIOR TO COMMENCING ANY WORK AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCIES. BASE BID ACCORDINGLY.
- C. EXISTING 200A, 277/480V, 3-PHASE, 4-WIRE METER, DISCONNECT SWITCH FOR THE PROJECT SPACE SHALL REMAIN. E.C. TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING METER AND DISCONNECT SWITCH. REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- D. NEW 200A(M.C.B.), 277/480V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- E. PROVIDE NEW 45 KVA, 3-PHASE PRIMARY 277/480V AND SECONDARY 120/208V CEILING HUNG TRANSFORMER. E.C. TO COORDINATE THE EXACT LOCATION WITH ARCHITECT/ OWNER. E.C. SHALL PROCURE ALL THE ACCESSORIES REQUIRED TO MOUNT TRANSFORMER ON THE CEILING. BASE BID ACCORDINGLY.
- F. NEW 100A(M.C.B.), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- G. E.C. TO FIELD VERIFY THE EXACT LENGTH OF THE CABLE AND CHECK THE VOLTAGE DROP IS UNDER LIMIT PER NEC BEFORE INSTALLATION.



**RISER DIAGRAM GENERAL NOTE:**

1. ABOVE RISER DIAGRAM IS FOR REFERENCE PURPOSES ONLY. E.C. SHALL VERIFY EXACT POWER DISTRIBUTION IN FIELD AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY.
2. E.C. SHALL VERIFY INCOMING SERVICE AMPERAGE, WIRE SIZING AND DISTRIBUTION.
3. E.C. TO COORDINATE FAULT CURRENT (Isc) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK.
4. E.C. TO VERIFY OPERABLE CONDITIONS OF EXISTING DEVICES IN FIELD, REPLACE/RECTIFY IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
5. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER/LANDLORD/BASE BUILDING FOR THE EXACT SCOPE OF WORK/LIABILITIES.

**ELECTRICAL RISER**

SCALE	1
1/4" = 1'-0"	

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PROJECT

PEPPER LUNCH

**REVISIONS DATES:**

- 08/26/24 PROJ COORD.
- 08/30/24 PROJ COORD.
- 09/30/24 BD COMMENTS
- 09/30/24 LL COMMENTS

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**ELECTRICAL PLAN NOTES AND RISER DIAGRAM**

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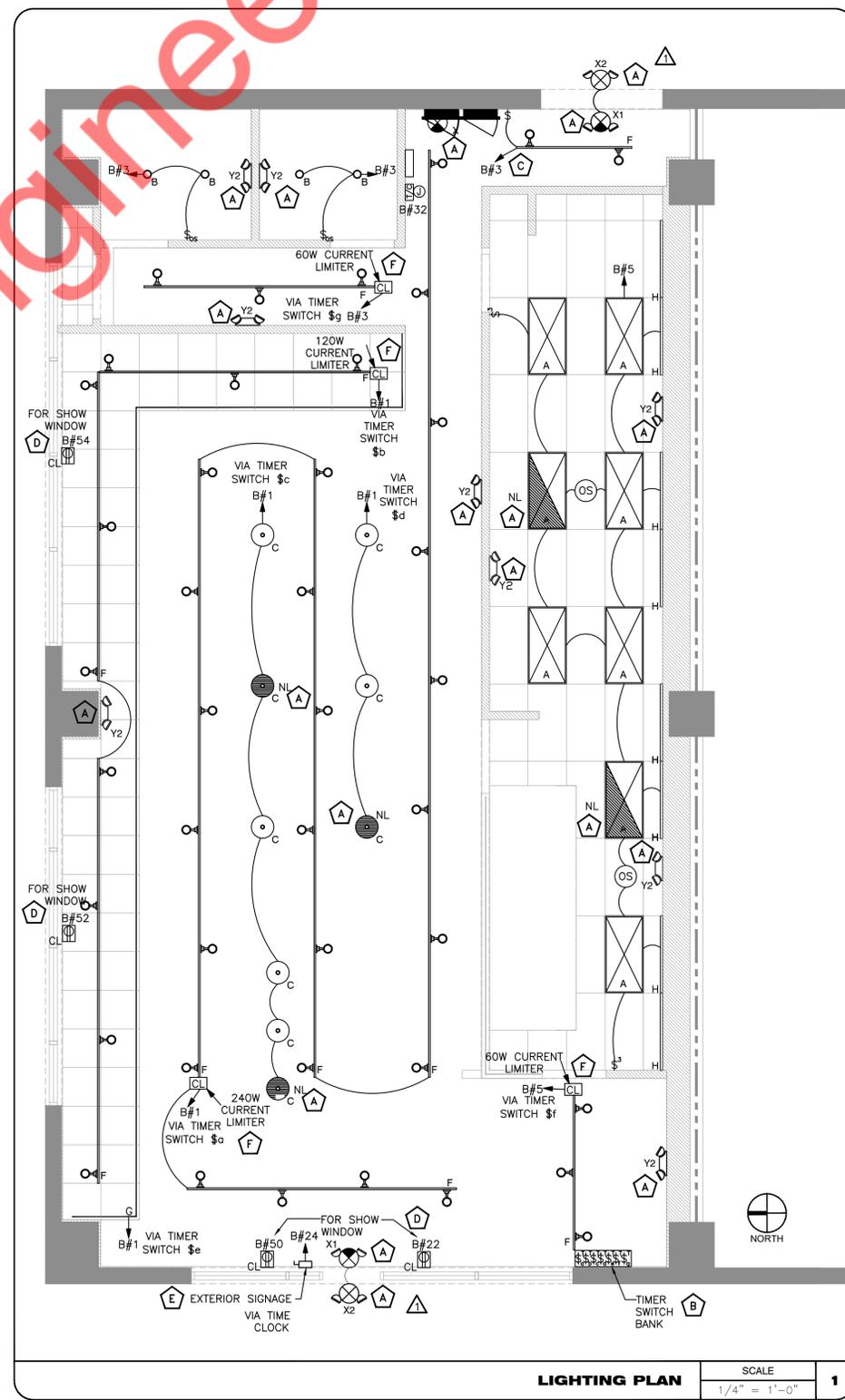
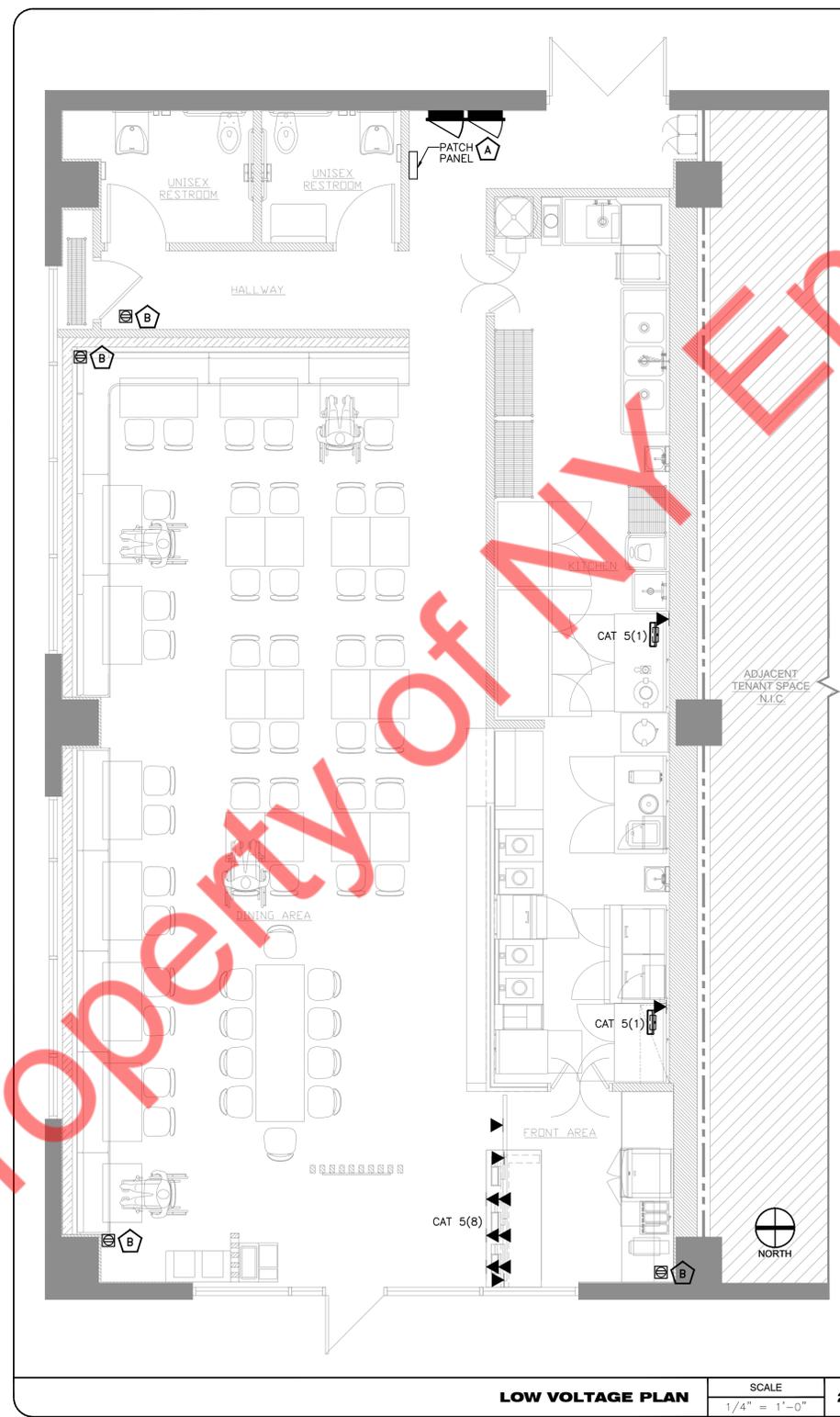
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**LIGHTING PLAN AND LOW VOLTAGE PLAN**



**ELECTRICAL LIGHTING PLAN KEYED WORK NOTES:**

- A** CONNECT ALL EMERGENCY EGRESS AND NIGHT LIGHTING FIXTURES TO THE NEAREST LIGHTING BRANCH CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS PER STATE AND LOCAL CODES.
- B** E.C. SHALL COORDINATE EXACT LOCATION OF TIMER SWITCH BANK WITH ARCHITECT/OWNER.
- C** LIGHTING CONTROL NEAR THE ELECTRICAL PANEL SHALL NOT BE WITH ONLY AUTOMATIC MEANS AS PER NEC 110.26(D).
- D** PROVIDE CEILING MOUNTED RECEPTACLE FOR SHOW WINDOW AS REQUIRED BY CODE. VERIFY WITH LOCAL ENERGY AGENCY. VERIFY EXACT LOCATION WITH ARCHITECT. SHOW WINDOW RECEPTACLE TO BE PROVIDED BY TIME CLOCK PER TENANT GUIDELINES.
- E** JUNCTION BOX WITH TOGGLE DISCONNECT PER NEC FOR CONNECTION TO BUILDING MOUNTED SIGNAGE. VERIFY EXACT LOCATION AND CONNECT TO SIGN PER MANUFACTURER'S INSTRUCTION. ROUTE CIRCUIT TO PANEL VIA TIMECLOCK AS INDICATED ON PLAN.
- F** PROVIDE CURRENT LIMITER FOR TRACK LIGHT. E.C. TO COORDINATE WITH LIGHTING MANUFACTURER FOR SUITABLE MODEL OF CURRENT LIMITER FOR TRACK LIGHTS. BASE BID ACCORDINGLY.

**ELECTRICAL LIGHTING PLAN GENERAL NOTE:**

1. LIGHT BULBS SHALL BE SHIELDED, COATED, OR OTHERWISE SHATTER-RESISTANT IN AREAS WHERE THERE IS EXPOSED FOOD; CLEAN EQUIPMENT, UTENSILS, AND LINENS AS PER FOOD ESTABLISHMENT REQUIREMENTS OF HEALTH DEPARTMENT OF PINELLAS PARK CITY / PINELLAS COUNTY.

**LOW VOLTAGE PLAN KEYED WORK NOTES:**

- A** E.C. TO COORDINATE EXACT LOCATION & MOUNTING DETAILS OF PATCH PANEL ON FIELD WITH ARCHITECT/OWNER IN COORDINATION WITH LV VENDOR AND PROVIDE CONNECTIONS ACCORDINGLY.
- B** E.C. TO COORDINATE EXACT LOCATION/MOUNTING DETAILS & ELECTRICAL/L.V. REQUIREMENTS FOR SECURITY CAMERA ON FIELD WITH ARCHITECT/OWNER IN COORDINATION WITH LV VENDOR AND PROVIDE CONNECTIONS ACCORDINGLY.

**LOW VOLTAGE PLAN GENERAL NOTE:**

1. E.C. TO COORDINATE WITH G.C./L.V. VENDOR FOR EXACT QUANTITY AND POWER REQUIREMENTS FOR LOW VOLTAGE EQUIPMENTS BEFORE COMMENCING ANY WORK. BASE BID ACCORDINGLY.

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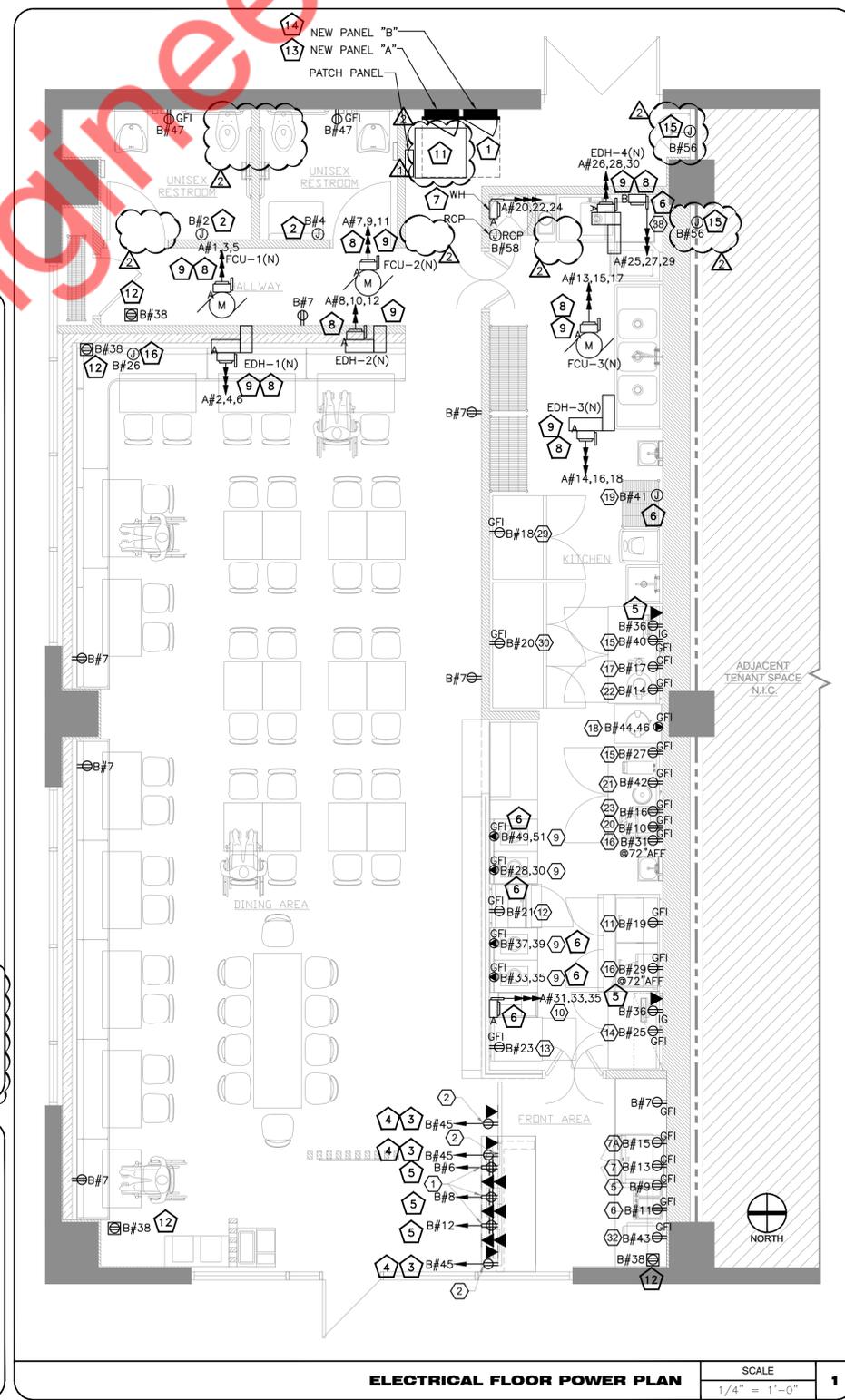
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ELECTRICAL FLOOR AND PARTIAL ROOF POWER PLAN



**ELECTRICAL POWER PLAN KEYED WORK NOTES:**

- 1 WORKING SPACE CLEARANCE SHALL NOT BE LESS THAN SPECIFIED IN TABLE 110.26(A)(1) NEC.
- 2 JUNCTION BOX FOR HAND DRYER. COORDINATE MOUNTING HEIGHT TO COMPLY WITH ADA.
- 3 PROVIDE (1) DUPLEX RECEPTACLE AND (1) CAT6 DATA CABLE AND CONNECTION FOR EACH MENUBOARD AT .COORDINATE IN FIELD FOR FINAL LOCATION WITH OWNER.
- 4 COORDINATE WITH OWNER FOR ADDITIONAL POWER AND DATA REQUIREMENTS FOR MENUBOARD PRIOR COMMENCING WORK.
- 5 PROVIDE FOUR (4) CAT 6 HOMERUN TO EACH POS AND (2) KDS CAT 6 HOMERUN TO STATION (10 TOTAL) AND ONE (1) QUAD 20 AMPS RECEPTACLE AT 24" A.F.F AT COUNTER FOR EACH POS & (1) DUPLEX AT KDS. COORDINATE EXACT LOCATION OF ELECTRICAL/DATA OUTLETS WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN.
- 6 ELECTRICAL CONTRACTOR SHALL COORDINATE ELECTRICAL CONNECTION TYPE AND POWER REQUIREMENT WITH EQUIPMENT MANUFACTURER PRIOR TO BID. MAKE POWER PROVISION ACCORDINGLY. BASE BID ACCORDINGLY.
- 7 ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WATER HEATER "WH" MANUFACTURER FOR THE EXACT POWER REQUIREMENTS PRIOR TO ROUGH-IN. BASE BID ACCORDINGLY.
- 8 ELECTRICAL CONTRACTOR SHALL COORDINATE DISCONNECT AND FUSE REQUIREMENT FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR EXACT LOCATION OF THE MECHANICAL UNITS IN THE FIELD.
- 9 ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND POWER REQUIREMENT OF THE MECHANICAL UNIT IS FIELD PROVIDE CIRCUIT AND CONTROL AS REQUIRED.
- 10 NOT USED.
- 11 NEW 45KVA, 3-PHASE PRIMARY 277/480V AND SECONDARY 120/208V CEILING HUNG TRANSFORMER. E.C. TO COORDINATE THE EXACT LOCATION WITH ARCHITECT/ OWNER. E.C. SHALL PROCURE ALL THE ACCESSORIES REQUIRED TO MOUNT TRANSFORMER ON THE CEILING. BASE BID ACCORDINGLY.
- 12 E.C. SHALL COORDINATE EXACT LOCATION & MOUNTING DETAILS OF SECURITY CAMERA AND IT'S ELECTRICAL/DATA REQUIREMENTS WITH ARCHITECT/OWNER IN COORDINATION WITH L.V. VENDOR ON THE FIELD. PROVIDE CONNECTIONS ACCORDINGLY.
- 13 PROVIDE NEW 200A(MCB), 277/480V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A" FOR PROJECT SPACE. E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION IN FIELD.
- 14 PROVIDE NEW 100A(MCB), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B" FOR PROJECT SPACE. E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION IN FIELD.
- 15 JUNCTION BOX FOR FIRE SMOKE DAMPER. E.C. TO FIELD VERIFY EXACT LOCATION OF MOTORIZED DAMPER WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- 16 JUNCTION BOX FOR VAV CONTROLLER. E.C. TO FIELD VERIFY EXACT LOCATION OF VAV CONTROLLER WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. E.C. SHALL PROVIDE ALL NECESSARY ACCESSORIES FOR PROPER WORKING OF VAV. BASE BID ACCORDINGLY.

**ELECTRICAL POWER PLAN GENERAL WORK NOTES:**

- A. ARRANGE LOAD TO MAINTAIN A BALANCE BETWEEN PHASES OF 10% OR LESS.
- B. TENANT SHALL HAVE BREAKER LOCKS ON CONTROL AND TIME CLOCK CIRCUITS.
- C. SWITCHING DUTY BREAKERS SHOULD BE INSTALLED FOR TURNING LOADS ON/OFF.
- D. ELECTRICAL DEVICES, TIME CLOCKS, PANELS, CABINETS, ETC., SHALL BE MOUNTED ON A FIRE-TREATED PLYWOOD BACKER BOARD.
- E. ELECTRICAL CONTRACTOR TO COORDINATE WITH ARCHITECT, MECHANICAL, PLUMBING AND OTHER VENDORS FOR EXACT EQUIPMENT LOCATION AND INSTALLATION REQUIREMENTS.
- F. ALL 120V, 15A AND 20A RECEPTACLE IN THE KITCHEN AREA SHALL BE GFCI IN ACCORDANCE WITH NEC ARTICLE 210.8(B). E.C SHALL VERIFY THE ACCESSIBILITY OF GFI RECEPTACLE DUE TO LOCATION AND MOUNTING HEIGHT. IF RECEPTACLE IS NOT ACCESSIBLE THEN PROVIDE GFI RATED BREAKER IN THE PANEL.
- G. ALL ELECTRICAL AND COMMUNICATIONS OUTLETS TO BE AT 24" A.F.F. UNLESS NOTED OTHERWISE, AND VERTICALLY MOUNTED.

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PROJECT

PEPPER LUNCH

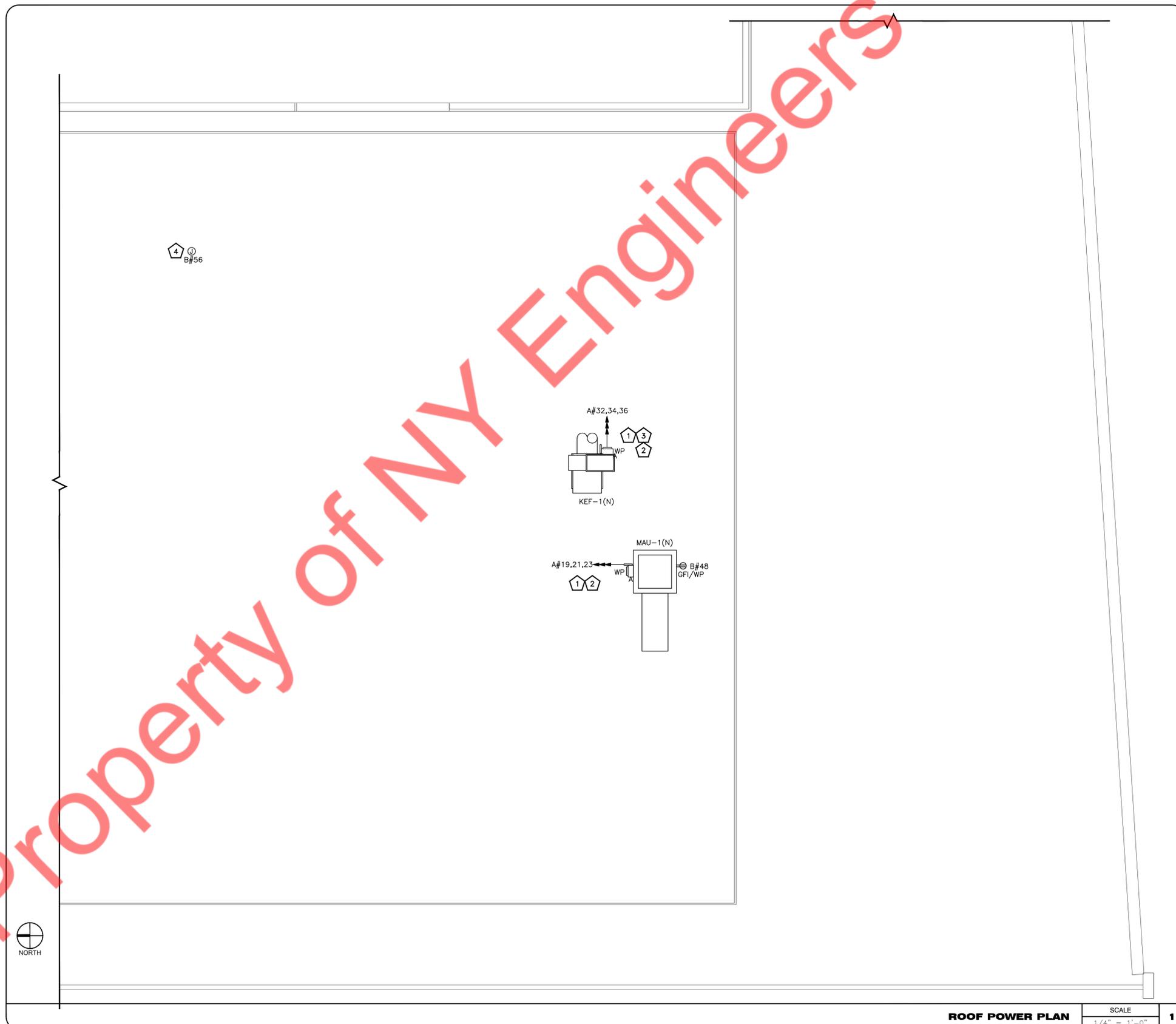
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ROOF POWER PLAN

E-4



ELECTRICAL ROOF PLAN KEYED WORK NOTES:

- 1 ELECTRICAL CONTRACTOR SHALL COORDINATE DISCONNECT AND FUSE REQUIREMENT FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR EXACT LOCATION OF THE MECHANICAL UNITS IN THE FIELD.
- 2 ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND POWER REQUIREMENT OF THE MECHANICAL UNIT IS FIELD PROVIDE CIRCUIT AND CONTROL AS REQUIRED.
- 3 INTERCONNECT EXHAUST FANS KEF-1(N) WITH HOOD. E.C SHALL COORDINATE VERIFY FINAL REQUIREMENT AND INTERCONNECTION DETAILS WITH MECHANICAL CONTRACTOR/OWNER BEFORE COMMENCING ANY WORK. BASE BID ACCORDINGLY.
- 4 JUNCTION BOX FOR FIRE SMOKE DAMPER. E.C. TO FIELD VERIFY EXACT LOCATION OF MOTORIZED DAMPER WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

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PROJECT

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PANEL SCHEDULES

PANEL: A(NEW)												MOUNTING: SURFACE					
277/480V		VOLTS,		3		PHASE,		4		WIRE		AIC RATING		10,000		LOCATION: BOH	
MAIN CB		200A		MLO		NA		BUS		225A		MIN,		FED FROM:		EX. ELE. SERVICE	
NOTE: L - LIGHTING, R - RECEPTACLE, H - HVAC, E - KITCHEN EQUIPMENTS, O - OTHER/MISCELLANEOUS, * - GFI BREAKER																	
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.			
						A	B	C									
1			M	1.91		5.24			3#12, #12G, 3/4"	3.33	H		20/3P	2			
3	15/3P	FCU-1(N)	M	1.91	3#12, #12G, 3/4"		5.24		3#12, #12G, 3/4"	3.33	H	EDH-1(N)	20/3P	4			
5			M	1.91			5.24			3.33	H			6			
7			M	0.87		4.20				3.33	H			8			
9	15/3P	FCU-2(N)	M	0.87	3#12, #12G, 3/4"		4.20		3#12, #12G, 3/4"	3.33	H	EDH-2(N)	20/3P	10			
11			M	0.87			4.20			3.33	H			12			
13			M	0.87		3.20				2.33	H			14			
15	15/3P	FCU-3(N)	M	0.87	3#12, #12G, 3/4"		3.20		3#12, #12G, 3/4"	2.33	H	EDH-3(N)	20/3P	16			
17			M	0.87			3.20			2.33	H			18			
19			H	2.36		8.36				6.00	O			20			
21	15/3P	MAU-1(N)	H	2.36	3#12, #12G, 3/4"		8.36		3#10, #10G, 3/4"	6.00	O	WH	30/3P	22			
23			H	2.36			8.36			6.00	O			24			
25			E	8.22		13.22				5.00	H			26			
27	40*/3P	38_DISHWASHER	E	8.22	3#8, #10G, 3/4"		13.22		3#10, #10G, 3/4"	5.00	H	EDH-4(N)	30/3P	28			
29			E	8.22			13.22			5.00	H			30			
31			E	4.67		5.81				1.14	M			32			
33	30*/3P	10_FRYSER	E	4.67	3#10, #10G, 3/4"		5.81		3#12, #12G, 3/4"	1.14	M	KEF-1 (N)	20/3P	34			
35			E	4.67			5.81			1.14	M			36			
37	20	SPARE				16.91				16.91	O			38			
39	20	SPARE				16.21			3#6, #10G, 1"	16.21	O	NEW 45KVA TRANSFORMER	60/3P	40			
41		SPACE					12.17			12.17	O			42			
TOTAL LOAD (KVA)						56.94	56.23	52.20									
LOAD CLASSIFICATION		CONNECTED LOAD (KVA)		DEMAND FACTOR		DEMAND LOAD (KVA)		PANEL TOTAL LOAD									
TOTAL LIGHTING	L	0.00	125%	0.00													
TOTAL RECEPTACLE	R	0.00	100%	0.00													
TOTAL HVAC	H	49.07	100%	49.07													
TOTAL MOTOR	M	14.35	100%	14.35													
TOTAL KITCHEN/EQUIPMENTS	E	38.66	65%	25.13													
TOTAL OTHER/MISCELLANEOUS	O	63.29	100%	63.29													
												165.37	KVA	TOTAL CONNECTED LOAD			
												151.84	KVA	TOTAL DEMAND LOAD			
												199.14	AMP	TOTAL CONNECTED CURRENT			
												182.85	AMP	TOTAL DEMAND CURRENT			
												277/480	Wye	SYSTEM VOLTAGE			

PANEL SCHEDULE KEYED WORK NOTES:  
 A PROVIDE LOCKABLE BREAKER AS PER NATIONAL ELECTRICAL CODE 2017 SECTION 422.31. COORDINATE IN FIELD. BASE BID ACCORDINGLY.

PANEL SCHEDULE GENERAL NOTES:  
 1. ALL CIRCUITING SHOWN IS FOR REFERENCE PURPOSE ONLY.  
 2. ELECTRICAL CONTRACTOR TO VERIFY THE EXACT PANEL SIZES AND INCOMING FEEDER SIZE.  
 3. E.C. SHALL VERIFY THE EQUIPMENT LOAD & RATINGS IN FIELD AND ACCORDINGLY CONSIDER THE ELECTRICAL LOAD IN PANEL BOARD SCHEDULE.

PANEL: B(NEW)												MOUNTING: SURFACE					
120/208V		VOLTS,		3		PHASE,		4		WIRE		AIC RATING		10,000		LOCATION: BOH	
MAIN CB		100A		MLO		NA		BUS		125A		MIN,		FED FROM:		45 KVA X'MER	
NOTE: L - LIGHTING, R - RECEPTACLE, H - HVAC, E - KITCHEN EQUIPMENTS, O - OTHER/MISCELLANEOUS, * - GFI BREAKER																	
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.			
						A	B	C									
1	20	LIGHTING: DINING AREA	L	0.67	2#12, #12G, 3/4"	1.17			2#12, #12G, 3/4"	0.50	M	HAND DRYER	20	2			
3	20	LIGHTING: HALLWAY AND RESTROOM	L	0.40	2#12, #12G, 3/4"		0.90		2#12, #12G, 3/4"	0.50	M	HAND DRYER	20	4			
5	20	LIGHTING: KITCHEN AND FRONT AREA	L	0.48	2#12, #12G, 3/4"			0.84	2#12, #12G, 3/4"	0.36	R	1_POS	20	6			
7	20	GENERAL RECEPTACLE	R	0.90	2#12, #12G, 3/4"	1.26			2#12, #12G, 3/4"	0.36	R	1_POS	20	8			
9	20	5_REFRIGERATED BACK BAR CABINET	E	0.36	2#12, #12G, 3/4"		0.72		2#12, #12G, 3/4"	0.36	E	20_RICE DISPENSER	20	10			
11	20	6_BEVERAGE DISPENSER	E	0.40	2#12, #12G, 3/4"		0.76		2#12, #12G, 3/4"	0.36	R	1_POS	20	12			
13	20	7_SODA DISPENSER	E	1.07	2#12, #12G, 3/4"	1.15			2#12, #12G, 3/4"	0.08	E	22_RICE/GRAIN WARMER	20	14			
15	20	7A_ICE MAKER	E	1.32	2#12, #12G, 3/4"		1.85		2#12, #12G, 3/4"	0.53	E	23_WARMR 7QT	20	16			
17	20	17_PEPER GRINDER	E	0.12	2#12, #12G, 3/4"		0.81		2#12, #12G, 3/4"	0.69	E	29_REACH-IN REFRIGERATOR	20	18			
19	20	11_MEGA TOP SANDWICH/SALAD 60"	E	0.62	2#12, #12G, 3/4"	2.14			2#12, #12G, 3/4"	1.52	E	30_REACH-IN FREEZER	20	20			
21	20	12_MEGA TOP SANDWICH/SALAD 27"	E	0.23	2#12, #12G, 3/4"	1.23			2#12, #12G, 3/4"	1.00	R	SHOW WINDOW RECEPTACLE	20	22			
23	20	13_WORKTOP FREEZER 27"	E	0.29	2#12, #12G, 3/4"		1.29		2#12, #12G, 3/4"	1.00	L	EXTERIOR SIGNAGE/ TIME CLOCK	20	24			
25	20	14_WORKTOP FREEZER 48"	E	0.25	2#12, #12G, 3/4"	0.35			2#12, #12G, 3/4"	0.10	M	VAV CONTROLLER	20	26			
27	20	15_WORKTOP FREEZER 60"	E	0.35	2#12, #12G, 3/4"	1.91			2#12, #12G, 3/4"	1.56	E	9_INDUCTION COOKTOP	20*/2P	28			
29	20	16_MICROWAVE	E	1.54	2#12, #12G, 3/4"	3.10			2#12, #12G, 3/4"	1.56	E		30				
31	20	16_MICROWAVE	E	1.54	2#12, #12G, 3/4"	1.84			2#12, #12G, 3/4"	0.30	O	TIME CLOCK	20	32			
33	20*/2P	9_INDUCTION COOKTOP	E	1.56	2#12, #12G, 3/4"	1.56			2#12, #12G, 3/4"	0.36	R	SPARE	20	34			
35	20*/2P	9_INDUCTION COOKTOP	E	1.56	2#12, #12G, 3/4"	1.92			2#12, #12G, 3/4"	0.36	R	KDS	20	36			
37	20*/2P	9_INDUCTION COOKTOP	E	1.56	2#12, #12G, 3/4"	1.96			2#12, #12G, 3/4"	0.40	O	SECURITY CAMERA	20	38			
39	20*/2P	9_INDUCTION COOKTOP	E	1.56	2#12, #12G, 3/4"	1.91			2#12, #12G, 3/4"	0.35	E	15_WORKTOP FREEZER 60"	20	40			
41	20	19_RICE WASHER	E	0.12	2#12, #12G, 3/4"		1.92		2#12, #12G, 3/4"	1.80	E	21_HOT WATER DISPENSER	20	42			
43	20	32_BAG-N-BOX SODA SYSTEM	E	1.38	2#12, #12G, 3/4"	3.98			2#12, #12G, 3/4"	2.60	E	18_RICE GRAIN COOKER	30*/2P	44			
45	20	43* LED MENU BOARD	L	0.90	2#12, #12G, 3/4"		3.50		2#12, #12G, 3/4"	2.60	E		46				
47	20	RESTROOM RECEPTACLE	R	0.18	2#12, #12G, 3/4"		0.54		2#12, #12G, 3/4"	0.36	R	ROOF RECEPTACLE	20	48			
49	20*/2P	9_INDUCTION COOKTOP	E	1.56	2#12, #12G, 3/4"	2.96			2#12, #12G, 3/4"	1.40	R	SHOW WINDOW RECEPTACLE	20	50			
51	20*/2P	9_INDUCTION COOKTOP	E	1.56	2#12, #12G, 3/4"	2.56			2#12, #12G, 3/4"	1.00	R	SHOW WINDOW RECEPTACLE	20	52			
53	20	SPARE				1.00			2#12, #12G, 3/4"	1.00	R	SHOW WINDOW RECEPTACLE	20	54			
55	20	SPARE				0.10			2#12, #12G, 3/4"	0.10	M	FSD	20	56			
57	20	SPARE				0.08			2#12, #12G, 3/4"	0.08	O	RCP	20	58			
59	20	SPARE				0.00						SPARE	20	60			
61	20	SPARE				0.00						SPARE	20	62			
63	20	SPARE				0.00						SPARE	20	64			
65	20	SPARE				0.00						SPARE	20	66			
67		SPACE				0.00						SPACE	20	68			
69		SPACE				0.00						SPACE	20	70			
71		SPACE				0.00						SPACE	20	72			
TOTAL LOAD (KVA)						16.91	16.21	12.17									
LOAD CLASSIFICATION		CONNECTED LOAD (KVA)		DEMAND FACTOR		DEMAND LOAD (KVA)		PANEL TOTAL LOAD									
TOTAL LIGHTING	L	3.45	125%	4.31													
TOTAL RECEPTACLE	R	7.28	100%	7.28													
TOTAL HVAC	H	0.00	100%	0.00													
TOTAL MOTOR	M	1.20	100%	1.20													
TOTAL KITCHEN/EQUIPMENTS	E	32.58	65%	21.18													
TOTAL OTHER/MISCELLANEOUS	O	0.78	100%	0.78													
												45.29	KVA	TOTAL CONNECTED LOAD			
												34.75	KVA	TOTAL DEMAND LOAD			
												125.86	AMP	TOTAL CONNECTED CURRENT			
												96.57	AMP	TOTAL DEMAND CURRENT			
												120/208	Wye	SYSTEM VOLTAGE			

KITCHEN EQUIPMENT SCHEDULE:

ITEM NO.	DESCRIPTION	VOLTAGE	PHASE	AMPS	KW
5	REFRIGERATED BACK BAR CABINET	115	1	3.1	0.36
6	BEVERAGE DISPENSER	115	1	3.5	0.40
7	SODA DISPENSER	115	1	9.3	1.07
7A	ICE MAKER	115	1	11.5	1.32
9	INDUCTION COOKTOP	208	1	15	3.12
10	FRYER	208	3	38.91	14.00
11	MEGA TOP SANDWICH/SALAD 60"	115	1	5.4	0.62
12	MEGA TOP SANDWICH/SALAD 27"	115	1	2	0.23
13	WORKTOP FREEZER 27"	115	1	2.5	0.29
14	WORKTOP FREEZER 48"	115	1	2.2	0.25
15	WORKTOP FREEZER 60"	115	1	3	0.35
16	MICROWAVE	115	1	13.4	1.54
17	PEPPER GRINDER	115	1	1	0.12
18	RICE GRAIN COOKER	208	1	25	5.20
19	RICE WASHER	115	1	1	0.12
20	RICE DISPENSER	115	1	3.13	0.36
21	HOT WATER DISPENSER	115	1	15	1.73
22	RICE/GRAIN WARMER	115	1	0.67	0.08
23	WARMR 7QT	115	1	4.6	0.53
29	REACH-IN REFRIGERATOR	115	1	6	0.69
30	REACH-IN FREEZER	115	1	13.2	1.52
32	BAG-N-BOX SODA SYSTEM	115			

**SCOPE OF WORK**

PROVIDE ALL PLUMBING FOR NEW FAST FOOD RESTAURANT INCLUDING ALL WATER, GREASE, SANITARY AND VENT LINE AND CONNECT TO EXISTING UTILITIES. PROVIDE NEW STORAGE TYPE WATER HEATER. REUSE EXISTING GREASE INTERCEPTOR WITH EXISTING GREASE SANITARY NETWORK.  
COORDINATE WITH GC AND MECHANICAL CONTRACTOR FOR ANY REQUIRED CONDENSATE LINES.

**PLUMBING NOTES**

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, RULES AND ORDINANCES.
- PLUMBING CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THIS SET. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT SHOWN AS EXISTING MATCHES THE DESCRIPTIONS AND SPECIFICATIONS SHOWN ON DRAWINGS AND SCHEDULES. IF DIFFERENT NOTIFY ARCHITECT/ENGINEER BEFORE BIDDING, ORDERING OR PRECEDING WITH WORK.
- ALL EQUIPMENT WHICH IS TO REMAIN MUST BE REFURBISHED TO A LIKE NEW CONDITION.
- PLUMBING CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS.
- ALL MATERIALS SHALL BE NEW.
- ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED WORK SHALL BE FULLY OPERATIVE. ALL EXCAVATION AND BACKFILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
- REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- PLUMBING CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTION AND TESTS. PLUMBING CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT. PLUMBING CONTRACTOR MUST BE PRESENT FOR ALL INSPECTIONS OF HIS WORK BY REGULATORY AUTHORITIES.
- DRAWINGS ARE DIAGRAMMATIC. DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC.
- ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION. REPORT ANY DISCREPANCY TO ENGINEER/ARCHITECT PRIOR TO BEGINNING CONSTRUCTION.
- VERIFY LOCATION, SIZE, DIRECTION OF FLOW AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION. ADVISE ENGINEER OF ANY DISCREPANCIES.
- WATER PIPING SHALL BE CPVC AS PER THE 2018 INTERNATIONAL PLUMBING CODE.
- SOIL, WASTE, VENT AND RAINWATER PIPING SHALL BE PVC BUT MAY NOT RUN THRU RATED ASSEMBLIES OR IN PLENUMS.
- ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE STOPS AND APPROPRIATELY MARKED ACCESS PANELS. COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
- FURNISH AND INSTALL APPROVED AIR CHAMBERS AT EACH PLUMBING FIXTURE GROUP AS PER CODE AND WITH GOOD ENGINEERING PRACTICE.
- DI-ELECTRIC COUPLINGS ARE REQUIRED BETWEEN ALL DISSIMILAR METAL IN PIPING AND EQUIPMENT CONNECTIONS, EXCEPT AT WATER HEATER AS PER CODE.
- ISOLATE COPPER PIPE FROM HANGER OR SUPPORTS WITH ISOLATOR PAD.
- ALL FIRE RATED FLOOR AND WALL PENETRATIONS SHALL BE PROPERLY PROTECTED FROM FIRE, SMOKE AND WATER PENETRATION BY FILLING VOIDS BETWEEN PIPE AND WALL/FLOOR SLEEVES WITH FIRE RATED FOAM, TO ACHIEVE THE SAME RATINGS AS WALLS OR FLOORS AS PART OF THE PLUMBER'S WORK.
- PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF CERTIFICATE OF OCCUPANCY. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE WITHIN 72 HOURS OF NOTIFICATION AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED. PROVIDE COPY TO LL.
- STUDOR MINI/MAXI AIR ADMITTANCE VALVES MAY NOT BE USED AS AN ALTERNATE TO VENT PIPING THRU ROOF.
- PROVIDE CHROME PLATED COMBINATION COVER PLATE AND CLEAN OUT PLUG OR ACCESS PANEL FOR ALL CLEANOUTS.
- NO COMBUSTIBLE MATERIAL TO BE USED IN MECHANICAL ROOMS OR IN CEILING SPACES WHERE USED AS RETURN AIR PLENUMS.
- NO WATER, SANITARY OR DRAINAGE PIPING PERMITTED IN ELECTRICAL OR ELEVATOR EQUIPMENT ROOMS.
- WATER PIPING INSULATION SHALL BE 1" THICK ARMAFLEX INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR ALL HOT WATER PIPING. WHERE DOMESTIC WATER TEMPERATURES CAN CAUSE SWEATING, ALL COLD WATER PIPING SHALL BE INSULATED WITH 1/2" THICK ARMAFLEX INSULATION.
- CONDENSATE DRAIN LINES TO BE RUN UNDER SLAB IN PVC SCH40 PIPE AND STUBBED OUT OF WALL TO UNIT. TIE-IN OF A/C TO BE BY OTHERS. PVC PIPING WITH 1/2" THICK ARMAFLEX INSULATION MAY BE USED IN LOCATIONS WHERE ALLOWED BY LOCAL CODES. SEE PLUMBING DRAWINGS FOR SIZE AND LOCATION OF PIPING. PVC WILL BE MIN. SCHEDULE 40 FOR SIZE AND LOCATION OF PIPING. PVC WILL BE MIN. SCHEDULE 40.
- PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.
- NO JOINTS UNDERGROUND FOR COPPER.
- PLUMBING FIXTURES SHALL COMPLY WITH 2018 INTERNATIONAL PLUMBING CODE.
- WATER HAMMER ARRESTORS AS PER 2018 INTERNATIONAL PLUMBING CODE.
- PLUMBING CONTRACTOR SHALL REVIEW ALL BID DOCUMENTATION.
- PLUMBING CONTRACTOR SHALL REVIEW WALL FINISHES @ LOCATION REQUIRING BARRIER-FREE COMPLIANCE (EXAMPLE: CENTER LINE TO TOILET).
- CONSTRUCTION "AS BUILT" DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF ACCEPTANCE. PROVIDE A COPY TO LL.
- OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER. PROVIDE A COPY TO LL.

**PLUMBING REQUIREMENTS**

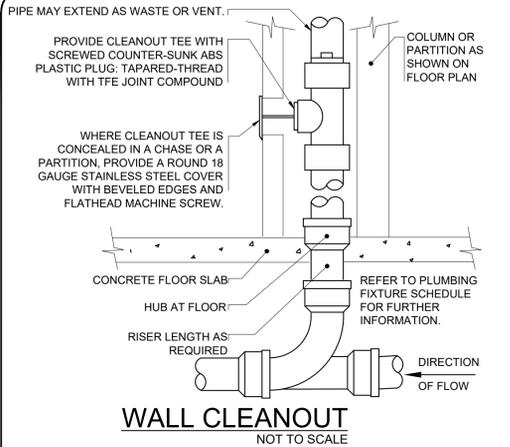
- ANY BELOW GRADE WATER LINES TO BE CPVC (NO JOINTS BELOW GRADE) AND SLEEVED, OR AS PER AHJ.
- ALL FLOOR DRAINS/SINKS TO HAVE A TRAP PRIMER OR TRAP GUARD.
- PROVIDE FCO'S AT ANY SANITARY SEWER AND GREASE LINE CONNECTIONS TO THE MAIN LINE (OR EXISTING RISERS).
- EXTEND VTR'S (NEW & EXISTING) TO ALIGN WITH NEAREST PARAPET HEIGHT OR 60' ABOVE ROOF SURFACE, WHICHEVER IS LOWER.
- CONSOLIDATE SEWER LINES (SAN. & GREASE) AND OTHER BELOW GRADE UTILITIES/INFRASTRUCTURE INTO AS FEW TRENCHES (12" MIN.) AND BRANCH LINES AS POSSIBLE, OR AS PER AHJ, AND REINFORCE AS PER LL'S INSTRUCTIONS.
- WATER LINES WITHIN DEMISING WALLS TO BE COPPER, PEX, CPVC OR PER AHJ, WHICHEVER IS MORE STRINGENT.
- ENSURE WATER METER IS IN WORKING ORDER AND REPAIR/REPLACE AS NECESSARY. IF ONE IS NOT ALREADY IN PLACE, PROVIDE AND INSTALL WATER METER, AS PER PROPERTY MANAGEMENT'S REQUIREMENTS WITH SHUTOFF VALVE TO IMMEDIATELY FOLLOW. MUST HAVE A NON-RESETTABLE REMOTE READER, PLACED AT A LEVEL THAT CAN BE READ WITHOUT USE OF A LADDER OR STEPSTOOL, AND HAVE A MULTIPLIER OF 1.

**FIXTURE BRANCH SCHEDULES**

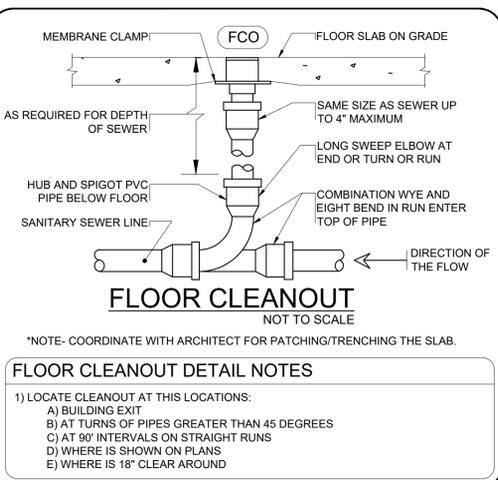
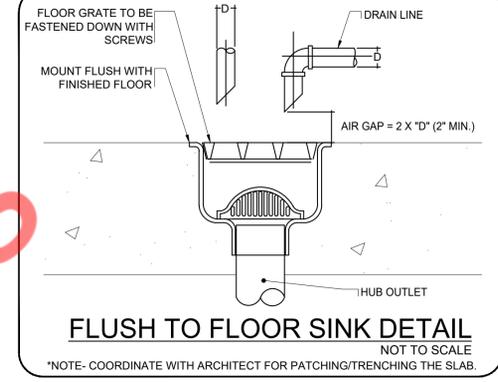
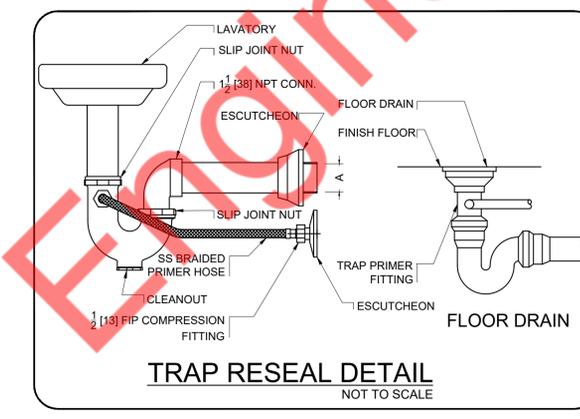
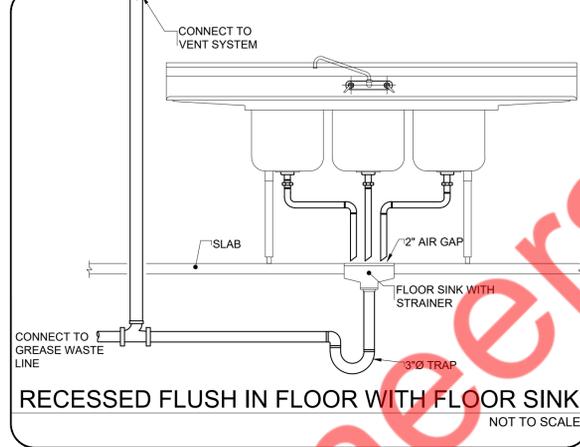
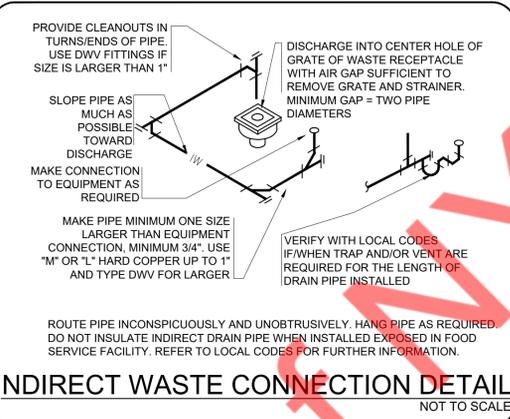
FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
WATER CLOSET (N)	1"	--	4"	2"
LAVATORY (N)	1/2"	1/2"	2"	1-1/2"
3 COMP SINK (N)	3/4"	3/4"	1.0"	--
FLOOR DRAIN / SINK	--	--	3"	2"
HAND SINK / DROP IN HAND SINK	1/2"	1/2"	2"	1-1/2"
PREP SINK	3/4"	3/4"	1.0"	--

**PLUMBING LEGENDS**

	SANITARY SEWER PIPING
	EXISTING SANITARY SEWER PIPING
	VENT PIPING
	GREASE SANITARY SEWER PIPING
	EXISTING GREASE SANITARY SEWER PIPING
	DOMESTIC COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
	EXISTING DOMESTIC COLD WATER PIPING
	PIPE UP
	PIPE DROP
	FLOOR CLEAN OUT
	P-TRAP
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	WALL CLEANOUT
	EXPANSION TANK
	RECIRCULATION PUMP
	EXISTING
	GATE VALVE
	CHECK VALVE
	BALANCING VALVE
	PRESSURE REGULATOR
	FLOOR DRAIN
	INDIRECT WASTE
	FLOOR SINK
	POINT OF CONNECTION
	THERMOSTATIC MIXING VALVE



- WALL CLEANOUT DETAIL NOTES**
- PROVIDE WCO WHERE SHOWN ON PLANE, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT.
  - LOCATE ABOVE FIXTURE FLOOR RIM WITHIN 4" OF FLOOR.
  - CONSULT LOCAL CODES FOR OTHER WCO REQUIREMENTS.
  - LONG SWEEP AT END OF LINE OR COMBINATION WYE AND EIGHT BEND IN RUN OF LINE.
  - CLEAN OUT FACE SHALL BE WITHIN 4" OF WALL SURFACE. PROVIDE A PIPE EXTENSION IF REQUIRED.



**ENERGY CONSERVATION NOTES**

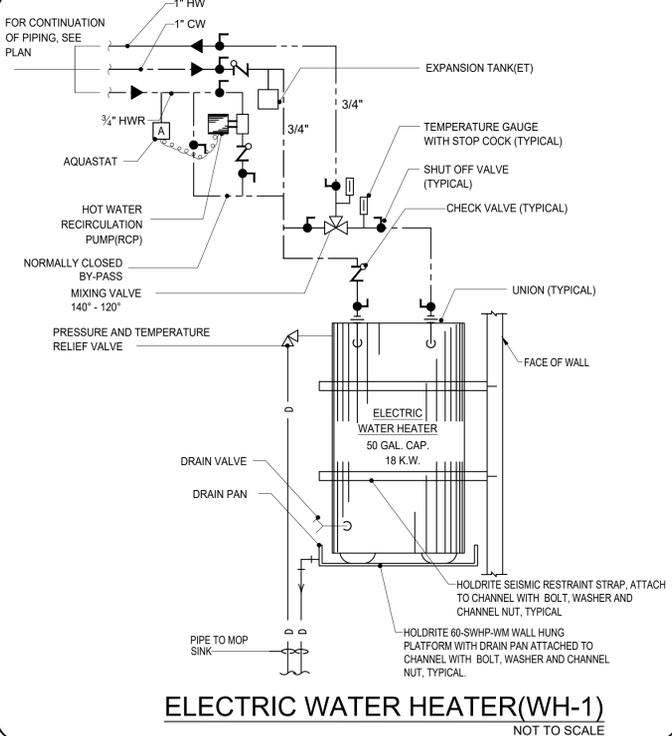
- ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE-RETARDANT, FACTORY-APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY WITH INTERNATIONAL ENERGY CONSERVATION CODE 2018 SECTION C-404.4 & TABLE C403.11.3 REFER BELOW TABLE.

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	MINIMUM PIPE INSULATION THICKNESS	
	INSULATIVITY BTU IN./ (H. FT2 °F)	NOMINAL PIPE OR TUBE SIZE (INCHES)
105-140	0.21-0.28	100 1.0 1.0 1.5 1.5 1.5
40-60	0.21-0.27	75 0.5 0.5 1.0 1.0 1.0

- AS PER INTERNATIONAL ENERGY CONSERVATION CODE 2018 C404.6.1 HEATED-WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. CONTROLS FOR CIRCULATING HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.

- WATER DISTRIBUTION SYSTEM AS PER INTERNATIONAL ENERGY CONSERVATION CODE 2018 C404.7, HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED-WATER SUPPLY PIPE BACK TO THE HEATED-WATER SOURCE THROUGH A COLD-WATER SUPPLY PIPE SHALL BE A DEMAND RECIRCULATION WATER SYSTEM. PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
  - THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.
  - THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).

NOMINAL PIPE SIZE (INCHES)	MAXIMUM PIPING LENGTH (FEET)	
	PUBLIC LAV	OTHER FIXTURES
1/2"	2'	43'
3/4"	0.5'	21'
1"	0.5'	13'
1 1/2"	0.5'	8'



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PROJECT

**PEPPER LUNCH**

**REVISIONS DATES:**

08/26/24 PROJ. COORD.
08/30/24 PROJ. COORD.
09/30/24 BD COMMENTS
09/30/24 LL COMMENTS

ISSUE DATE: 08.14.24  
PROJECT #:  
DRAWN BY: NYE  
CHECKED BY: NYE

**GENERAL NOTES, SCHEDULES & DETAILS**

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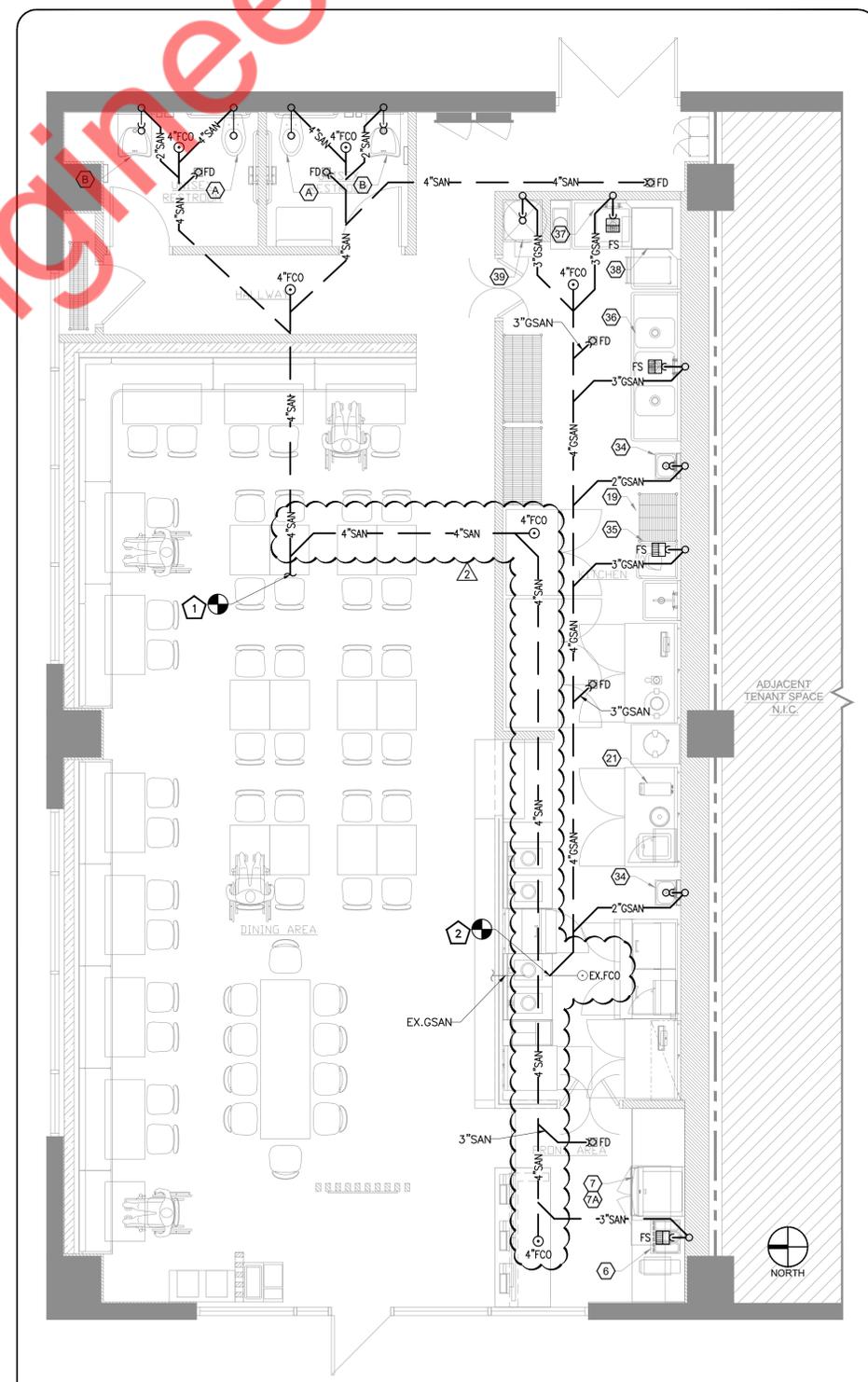
PROJECT

PEPPER LUNCH

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SANITARY PLAN & RISER



SANITARY PLAN SCALE 1/4" = 1'-0" 1

- SANITARY PLAN & RISER KEY NOTES**
- CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING SANITARY PIPE IN SPACE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING SANITARY LINE AND UPGRADE / MAKE NECESSARY CHANGES IF REQUIRED.
  - CONNECT NEW 4" GREASE SANITARY WASTE PIPING TO EXISTING GREASE SANITARY PIPING IN SPACE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING SANITARY LINE AND UPGRADE / MAKE NECESSARY CHANGES IF REQUIRED.
  - CONNECT NEW 3" VENT PIPE TO EXISTING VENT PIPING IN SPACE. CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND SIZE OF EXISTING VENT PIPE AND MAKE NECESSARY CHANGES TO THE EXISTING PIPING IF REQUIRED.

- GENERAL NOTES**
- SLOPE OF DRAINAGE PIPING SHALL BE 1/16" PER FOOT OF RUN FOR PIPE 8" & LARGER, 1/8" PER FOOT OF RUN FOR PIPE 3" TO 6" AND 1/4" PER FOOT OF RUN FOR PIPE 2-1/2" & SMALLER. VENT PIPING SHALL BE PITCHED TO DRAIN.
  - CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
  - ALL MATERIAL INDICATED AND IMPLIED ON THESE DRAWINGS SHALL BE NEW UNLESS OTHERWISE NOTED.
  - ALL CLEANOUTS TO BE ACCESSIBLE.
  - REFER SANITARY RISER DIAGRAM FOR ALL PIPE SIZES.
  - SLOPE OF GREASE WASTE PIPING SHALL BE 1/4" PER FOOT OF RUN, WHERE THE GREASE WASTE PIPING IS UPSTREAM OF GREASE INTERCEPTOR.
  - DO NOT CONNECT NEW GREASE WASTE LINE TO EXISTING 4" GREASE WASTE STUB IN SPACE. TANK WILL GET UNDERSIZED FOR CONNECTED TENANTS.

**GREASE INTERCEPTOR SIZING**

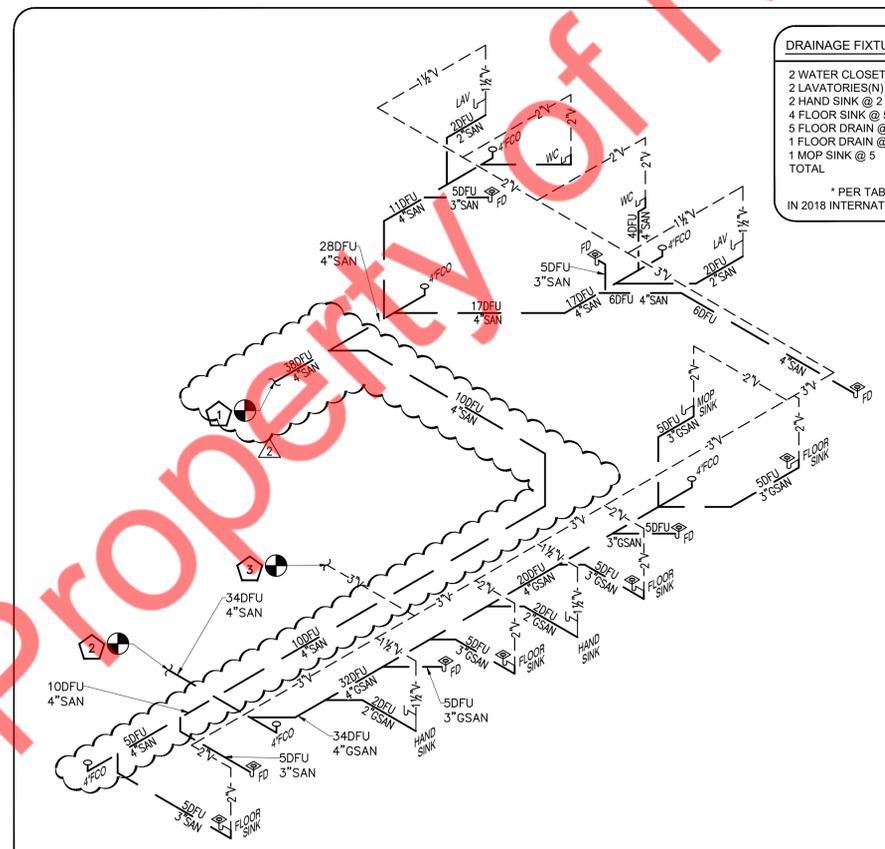
TAG	DESCRIPTION	QTY	DFU	TOTAL DFU
34	HAND SINK	02	2	4
39	MOP SINK	01	5	5
FD	FLOOR DRAIN	02	5	10
FS	FLOOR SINK	03	5	15
TOTAL DFU				34

SIZING AS PER 2018 IPC SECTION 1003.3.5.1 AND 1003.3.3  
 PROVIDE 1250 GALLONS EXTERIOR GREASE INTERCEPTOR

**DRAINAGE FIXTURE FACTOR VALUE \***

2 WATER CLOSETS(N) @ 4	= 8.0
2 LAVATORIES(N) @ 2	= 4.0
2 HAND SINK @ 2	= 4.0
4 FLOOR DRAIN @ 5	= 20
5 FLOOR DRAIN @ 5	= 25
1 MOP SINK @ 5	= 5.0
1 FLOOR SINK @ 5	= 5.0
TOTAL	= 72

\* PER TABLE 709.1 & 709.2  
 IN 2018 INTERNATIONAL PLUMBING CODE



SANITARY RISER SCALE N.T.S. 2

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PROJECT

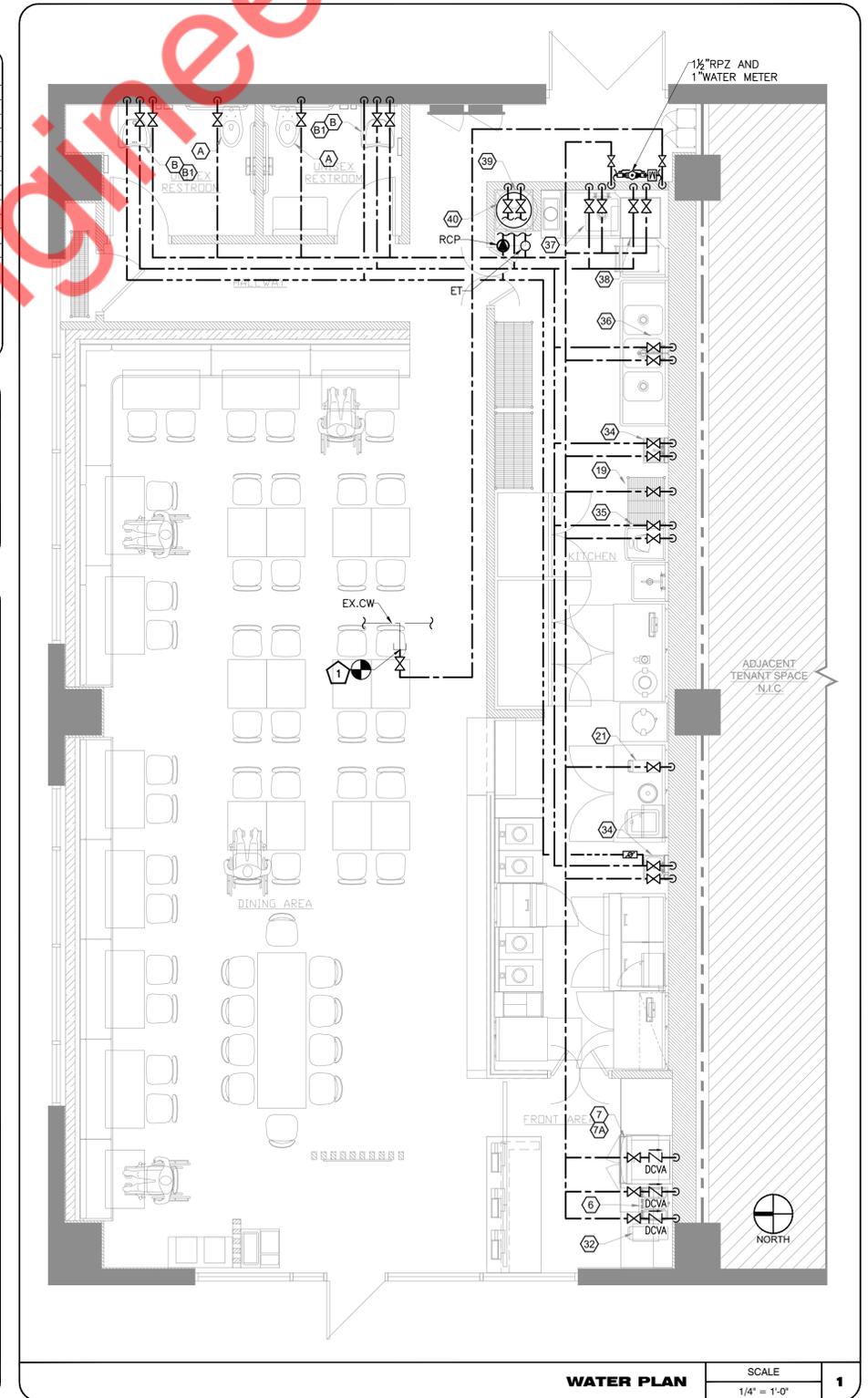
PEPPER LUNCH

REVISIONS DATES:  
 08/26/24 PROJ. COORD.  
 08/30/24 PROJ. COORD.  
 09/30/24 BD COMMENTS  
 09/30/24 LL COMMENTS

ISSUE DATE: 08.14.24  
 PROJECT #:  
 DRAWN BY: NYE  
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WATER PLAN & RISER

P-3



**STORAGE WATER HEATER SCHEDULE**

MANUFACTURER	AO SMITH
MODEL	DRE-52
EQUIPMENT TAG	WH
STATUS	NEW
CAPACITY	50 GALLONS
QUANTITY	1
POWER REQUIREMENT	18 KW
RECOVERY	92 GPH*
PUMP TYPE	UF
V/PH/Hz	115/1/60
RPM	2280
SERVICE FACTOR	1.0

NOTE:  
 PROVIDE AQUA STAT WITH AUTOMATIC TIMER KIT FOR THE TEMPERATURE CONTROL OF HOT WATER SYSTEM. COORDINATE ELECTRICAL REQUIREMENTS FOR TIMER WITH ELECTRICAL CONTRACTOR.

NOTES:  
 1. \* NON-SIMULTANEOUS OPERATION ELEMENT @ 80° F TEMPERATURE RISE.  
 2. INSTALL NEW EXPANSION TANK (ET) AMTROL MODEL THERM-X-TROL ST-SC-DD, 2.0 GAL PER LOCAL CODE REQUIREMENTS.

**RECIRCULATION PUMP SCHEDULE**

MANUFACTURER & MODEL	GRUNDFOS UP 15-18 B5
EQUIPMENT TAG	RCP
STATUS	NEW
GPM	2
WATER TEMP. (°F)	140
PUMP TYPE	INLINE
MHP	86 WATTS
V/PH/Hz	115/1/60
RPM	2280
SERVICE FACTOR	1.0

NOTE:  
 PROVIDE AQUA STAT WITH AUTOMATIC TIMER KIT FOR THE TEMPERATURE CONTROL OF HOT WATER SYSTEM. COORDINATE ELECTRICAL REQUIREMENTS FOR TIMER WITH ELECTRICAL CONTRACTOR.

**WATER METER SCHEDULE**

MANUFACTURER	NEPTUNE OR SIMILAR
EQUIPMENT TAG	WATER METER
STATUS	NEW
METER TYPE	TURBINE
LOW FLOW SENSITIVITY	98.5%-101.5%

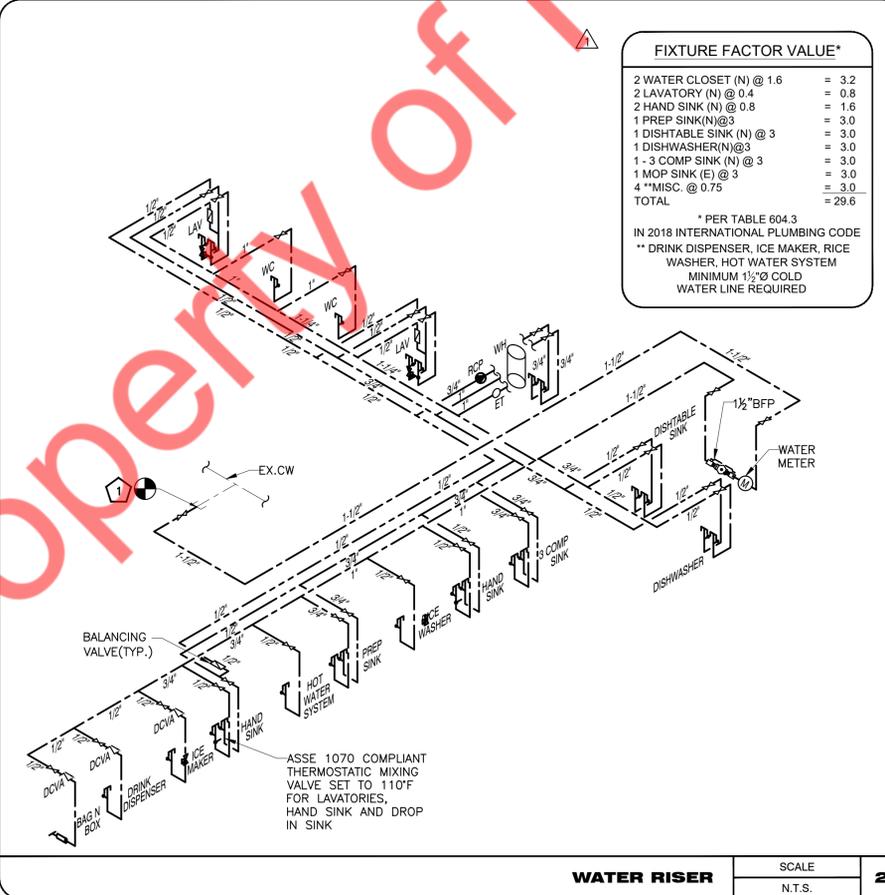
NOTE:  
 PROVIDE WATER METER THAT COMPLIES ASU STANDARDS.

**GENERAL NOTES**

- CW/HW/HWR PIPING TO BE PROVIDED WITH INSULATION AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE (REFER SHEET P-1).
- PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
- PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR & SHUT-OFF VALVES AS REQUIRED.
- REFER WATER RISER DIAGRAM FOR ALL PIPE SIZES.
- NEW WATER HEATER DRAIN SPILLS TO MOP SINK.

**WATER PLAN & RISER KEY NOTE**

- CONNECT NEW 1-1/2" CW LINE TO EXISTING COLD WATER LINE. CONTRACTOR TO FIELD VERIFY THE EXACT SIZE AND LOCATION OF THE EXISTING COLD WATER LINE & UPGRADE IF REQUIRED.



WATER RISER

SCALE  
 N.T.S. 2

WATER PLAN

SCALE  
 1/4" = 1'-0" 1