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/QTY. 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

REUSE ONE EXISTING 10.0 TON ELECTRIC HEAT ROOF TOP UNIT . REUSE THE EXISTING DUCTWORK, DIFFUSERS/ GRILLES AS MUCH AS POSSIBLE AND PROVIDE NEW DUCTWORK AND NECESSARY ACCESSORIES AS SHOWN IN THE PLAN.

PROVIDE TWO NEW RESTROOM EXHAUST FANS.

COORDINATE WITH GC ANY ADDITIONAL REFRIGERATION WORK REQUIRED AND WORK REQUIRED ON KITCHEN EXHAUST SYSTEMS AND WITH GC AND PLUMBING CONTRACTOR PROVIDING CONDENSATE LINES FOR MECHANICAL EQUIPMENT AND GAS FLUE FOR WATER HEATERS.

FLORIDA BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF THE 2023 FLORIDA BUILDING CODE 8TH EDITION, AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

1. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
2. VENTILATION FOR ALL AREA SHALL COMPLY WITH 2023 FLORIDA MECHANICAL CODE 8TH EDITION, CHAPTER 4.
3. 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.
4. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE 2023 FLORIDA MECHANICAL CODE 8TH EDITION:
   A. VENTILATION SYSTEM BALANCING 2023 FLORIDA MECHANICAL CODE 8TH EDITION - 403.3
5. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
   A. STANDARDS OF HEATING 2023 FLORIDA MECHANICAL CODE 8TH EDITION - 309.1
   B. DUCT CONSTRUCTION AND INSTALLATION 2023 FLORIDA MECHANICAL CODE 8TH EDITION - 603
   C. AIR INTAKES, EXHAUSTS AND RELIEF 2023 FLORIDA MECHANICAL CODE 8TH EDITION - 401.5
   D. AIR FILTERS 2023 FLORIDA MECHANICAL CODE 8TH EDITION - 605
   E. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS - 2023 FLORIDA MECHANICAL CODE 8TH EDITION - 606
   F. GAS AND FIRE EQUIPMENT- 2023 FLORIDA FUEL AND GAS CODE 8TH EDITION
6. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
7. 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 2023 FLORIDA MECHANICAL CODE 8TH EDITION
8. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
9. 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.
10. 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.

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 MANUFACTURERS 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 AND FRESH AIR 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. IF APPLICABLE CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR KITCHEN VENTILATION SYSTEM INCLUDING TYPE 1 HOOD AND FOR THE WALK-IN COOLER & FREEZER.

L. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.

M. 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.

N. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.

MECHANICAL SYMBOLS

- EXHAUST FAN
- SUPPLY OR OUTSIDE AIR DUCT
- RETURN OR EXHAUST AIR DUCT
- INSULATED RIGID DUCTWORK
- DUCT TRANSITION
- MANUAL VOLUME DAMPER
- FLEXIBLE DUCTWORK R-6.0
- ROOF MOUNTED EXHAUST FAN OUTLET
- R/A RETURN AIR
- SG SUPPLY GRILLE
- CD CONDENSATE PIPING
- (E) EXISTING
- (N) NEW
- M MOTORIZED DAMPER
- SIDE WALL /DUCT RETURN GRILLE
- EXHAUST FAN WITH LIGHT
- RTU ROOFTOP UNIT
- OPPOSED BLADE DAMPER
- S DUCT SMOKE DETECTOR
- T PROGRAMMABLE THERMOSTAT
- RS REMOTE SENSOR
- ROUND DUCT DIAMETER
- CFM CUBIC FEET/ MINUTE
- S/A SUPPLY AIR
- SUPPLY DIFFUSER REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS
- RETURN DIFFUSER REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS
- PERORATED TYPE SUPPLY DIFFUSER REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS

NOTE: THIS PROJECT MAY NOT USE EVERY SYMBOL OR DEVICE APPEARING ON THIS LEGEND.

MECHANICAL PLAN NOTES

A. REUSE ONE EXISTING 10.0 TON ELECTRIC HEAT ROOF TOP UNIT . REUSE THE EXISTING DUCTWORK, DIFFUSERS/ GRILLES AS MUCH AS POSSIBLE AND PROVIDE NEW DUCTWORK AND NECESSARY ACCESSORIES AS SHOWN IN THE PLANS . PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AND RETURN AIR DUCT CONNECTIONS. PROVIDE DUCTWORK AND AIR DISTRIBUTION DEVICES AS INDICATED ON THE PLAN. REFER TO ROOFTOP UNIT SCHEDULE FOR ADDITIONAL REQUIREMENTS.

B. FOR SYSTEM OVER 2,000 CFM CHECK FOR DUCT MOUNTED AIR SMOKE DETECTORS AND THAT MEET THE REQUIREMENTS OF U.L. 268A, INTERLOCKED TO SHUTDOWN A/C UNIT UPON DETECTION OF SMOKE. IF NECESSARY PROVIDE SMOKE DETECTOR WITH AN ANNUNCIATOR, ALARM AND POWER L.E.D.'S FOR VISIBLE AND AUDIBLE ALARM SIGNAL, AND VISIBLE TROUBLE SIGNAL. MOUNT ANNUNCIATOR ON ROOM SIDE OF CEILING.

C. 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

D. FACTORY-MADE FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NOT MORE THAN 5 FEET IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOW OR FITTINGS. FLEXIBLE AIR DUCTS SHALL BE PERMITTED TO BE USED AS AN ELBOW AT A TERMINAL DEVICE.

E. 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.

F. ALL INDOOR DUCT AND PLENUM INSULATION SCHEDULE;
1. CONCEALED, RECTANGULAR, ROUND AND FLAT-OVAL, SUPPLY-RETURN, OUTDOOR-AND EXHAUST-AIR DUCT AND AIR PLENUM INSULATION:
2. FLEXIBLE ELASTOMERIC, MINERAL-FIBER BLANKET, MINERAL-FIBER BOARD OR POLYOLEFIN WITH MINIMUM INSTALLED THERMAL RESISTANCE AS FOLLOWS:

	SA PLENUM	RA PLENUM
UNCONDITIONED SPACES:	R-4.2	R-4.2
UNVENTED ATTIC ABOVE INSULATED CEILING:	R-6	R-4.2
EXTERIOR OF BUILDING:	R-6	R-4.2

G. 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.

H. ALL EVAPORATOR UNITS SHALL HAVE A FLOAT SWITCH TO CONTROL OVERFLOW THAT WILL AUTOMATICALLY SHUT DOWN THE HVAC SYSTEM. THE DEVICE SHALL BE ATTACHED TO THE SECONDARY DRAIN OUTLET ON THE UNIT.

I. ALL CONDENSATE DRAINS WILL BE PVC FULL DIAMETER OF OUTLET AND WILL TERMINATE IN THE NEAREST APPROVED PLACE OF DISPOSAL.

J. ALL EQUIPMENT AND MATERIALS WILL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND ACCORDING TO THE BEST PRACTICE.

K. TESTING AND BALANCING SHALL BE DONE IN ACCORDANCE WITH 2023 FBC - ENERGY CONSERVATION, 8TH EDITION 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.

L. 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.

M. ALL HVAC CONTROLS AND CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.

N. PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/BARRIERS/SLABS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS.

MECHANICAL ABBREVIATIONS

BD	BACK DRAFT DAMPER
CFM	CUBIC FEET OF AIR PER MINUTE
CD	CONDENSATE DRAIN
BEF	BATHROOM EXHAUST FAN
VD	VOLUME DAMPER
RTU	ROOF TOP UNIT
OA	OUTSIDE AIR
KEF	KITCHEN EXHAUST FAN
MUA	MAKE-UP AIR UNIT
EF	EXHAUST FAN

OCCUPANCY CALCULATION PER 2023 FLORIDA MECHANICAL CODE (2021 IMC),TABLE 403.3.1.1

DINING AREA	485 SQ. FT.	@70 PEOPLE/1000SQ.FT.	34 PEOPLE
SERVICE AREA	350 SQ. FT.	@15 PEOPLE/1000SQ.FT.	6 PEOPLE
BACK OF HOUSE	360 SQ. FT.	@20 PEOPLE/1000SQ.FT.	8 PEOPLE
		TOTAL	48 PEOPLE

VENTILATION REQUIREMENTS PER 2023 FLORIDA MECHANICAL CODE (2021 IMC),TABLE 403.3.1.1

OUTSIDE AIR CALCULATIONS					
DINING AREA	485 SQ. FT. X	0.18 CFM/SQ. FT. =	88 CFM		
	34 PEOPLE. X	7.5 CFM/PEOPLE. =	255 CFM		
SERVICE AREA	350 SQ. FT. X	0.12 CFM/SQ. FT. =	42 CFM		
	6 PEOPLE. X	7.5 CFM/PEOPLE. =	45 CFM		
HALLWAY	75 SQ. FT. X	0.06 CFM/SQ. FT. =	5 CFM		
BACK OF HOUSE	360 SQ. FT. X	0.12 CFM/SQ. FT. =	45 CFM		
	8 PEOPLE. X	7.5 CFM/PEOPLE. =	60 CFM		
OUTSIDE AIR REQUIRED			540 CFM		
OUTSIDE AIR PROVIDED			560 CFM		
EXHAUST AIR CALCULATIONS					
BACK OF HOUSE	360 SQ. FT. X	0.7 CFM/SQ. FT. =	255 CFM		
RESTROOMS	70 CFM PER FIXTURE	X NO. OF FIXTURE(#2) =	140 CFM		
EXHAUST AIR REQUIRED			395 CFM		
AIR BALANCE					
RTU-1(E) -O/A PROVIDED			+560 CFM		
MUA-1(N)-O/A PROVIDED			+1500 CFM		
KEF-1(N)			-1762 CFM		
BEF-1(N)			-70 CFM		
BEF-2(N)			-70 CFM		
BUILDING PRESSURE			+158 CFM		

ROOF TOP UNIT SCHEDULE

TAG	RTU-1(E)
QUANTITY	1
UNIT	ELECTRIC HEAT
MANUFACTURER	TRANE (V.I.F.)
MODEL	THC120F3E0AH00 (V.I.F)
STATUS	EXISTING
MOUNTING	ROOF
NOMINAL CAPACITY	10.0 TON
TOTAL COOLING CAPACITY	S.A.E.
SENSIBLE CAPACITY	S.A.E.
EER/SEER	S.A.E.
ELECTRIC HEAT(kW)	13.5 (V.I.F.)
SUPPLY CFM	4000
OUTDOOR AIR CFM	560
V/HZ/P	208/60/3 (V.I.F.)
MCA (A)	58 (V.I.F.)
MOCP (A)	80 (V.I.F.)
WEIGHT (LBS)	S.A.E.

NOTES FOR EXISTING RTU-

1. EXISTING RTU WITH ALL ACCESSORIES TO REMAIN SAME AND TO BE REUSED.
2. CONTRACTOR TO FIELD VERIFY IF RTU IS WORKING AT ITS 100% RATED CAPACITIES / LOADS. INFORM TO DESIGN ENGINEER IF ANY DISCREPANCIES ARE FOUND IN PERFORMANCE PRIOR TO CONSTRUCTION.
3. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION OF UNIT ON SITE.
4. IF REQUIRED, PROVIDE NEW T-STAT & H-STAT AND TEMPERATURE & HUMIDITY SENSOR COMPATIBLE WITH EXISTING RTU. CO-ORDINATE FINAL LOCATION OF TEMPERATURE SENSOR & HUMIDITY SENSOR WITH ARCHITECT / OWNER.
5. CONTRACTOR TO BALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON EXISTING RTU TO MATCH VALUES MENTIONED IN ABOVE TABLE.
6. REPLACE FILTERS, IF REQUIRED.
7. CONTRACTOR TO ADJUST FRESH AIR DAMPER TO PROVIDE OUTSIDE AIR AS MENTIONED IN VENTILATION REQUIREMENTS TABLE.
8. S.A.E - SAME AS EXISTING.
9. V.I.F - VERIFY IN FIELD.

CONTRACTOR SHALL VERIFY EXACT ELECTRICAL CONNECTIONS, WIRE SIZES, BREAKERS, DISCONNECT ETC. PRIOR TO ORDERING AND BID.

DIFFUSER SCHEDULE

MANUFACTURER	TITUS	TITUS	TITUS	TITUS
DESIGNATION	A	B	R	E
USE	SUPPLY	SUPPLY	RETURN	SUPPLY/ RETURN
MODEL	TDC-AA	PAS	56FL	S.A.E
MOUNTING	SAT CEILING	SAT CEILING	HARD CEILING	S.A.E
LOCATION	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN
FACE SIZE	24" X 24"	24" X 24"	24"X24"	S.A.E
NECK SIZE	REFER TABLE-A	REFER TABLE-A	-	S.A.E
FRAME TYPE	LAYIN	LAYIN	LAY IN/FLANGED	S.A.E
ACCESSORIES	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	S.A.E

NOTES :
1. MAX. NC LEVEL 30 OR LESS
2. PROVIDE SQUARE TO ROUND NECK ADAPTOR.
3. CO-ORDINATE WITH ARCHITECT FOR FINAL MOUNTING, FRAME TYPE,PAINT AND FINISH.
4. PROVIDE 4-WAY AIR THROW PATTERN UNLESS NOTED OR INDICATED.
5. PROVIDE INSULATED BACKS ON ALL DIFFUSERS.
6. CONTRACTOR TO FIELD VERIFY AND CONFIRM THE CONDITION OF EXISTING DIFFUSER.
7. PROVIDE VOLUME DAMPER IF NOT FOUND OR FOUND DAMAGED.
8. S.A.E. - SAME AS EXISTING.

MAKEUP AIR UNIT SCHEDULE

TAG	MUA-1(N)
UNIT	GAS HEAT
MANUFACTURER	SUNAIR
MODEL	SA-A1-D.250-15D
STATUS	NEW
MOUNTING	ROOF
HEATING (IN)	100.5 MBH
HEATING (OUT)	92.5 MBH
THERMAL EFF(%)	92%
SUPPLY AIR (CFM)	1500
ESP	0.5 IN. WC.
HP	1.5
VOLTAGE	208/3/60
FLA (A)	4.5
MCA (A)	5.7
MOCP (A)	15.0
WEIGHT (lbs)	595

INCLUDED SYSTEM OPTIONS FOR MUA-1(N)

1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 15" MIXED FLOW DIRECT DRIVE FAN.
2. INTAKE HOOD WITH EZ FILTERS.
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
4. DOWN DISCHARGE CONSTRUCTION FOR SIZE 1 DIRECT DRIVE AHUS.
5. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
6. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE.
7. SHIP LOOSE GAS STRAINER. TO BE INSTALLED UPSTREAM OF UNIT CONNECTION. 3/4" CONNECTION.
8. CASLINK BUILDING MONITORING SYSTEM COMMUNICATIONS MODULE. REQUIRES INTERNET & FIELD WIRED ETHERNET CONNECTION OR 3G CELLULAR SERVICE. INCLUDES REV 3 COMM MODULE, RJ45 TO MODBUS CONVERTER, 3 FT CAT5 CABLE, AND 1 FT OF SHIELDED TWISTED PAIR.
9. MOTORIZED BACK DRAFT DAMPER 16" X 18" FOR SIZE 1 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, TFB120S ACTUATOR INCLUDED.
10. FREEZESTAT.
11. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
12. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER SECTION).
13. EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET.
14. 2 YEAR PARTS WARRANTY.

EXHAUST FAN SCHEDULE

DESIGNATION	BEF-1(N)&2(N)	KEF-1(N)
STATUS	NEW	NEW
QUANTITY	2	1
MANUFACTURER	GREENHECK	SUNAIR
MODEL	SP-A90	SA-DU85HFA
CFM & ESP	70@ 0.3" IN. WC ESP	1762@ 1" IN. WC ESP
HP	-	0.75
FLA(AMPS)	0.17	8.9
ACCESSORIES	BD	BD
WEIGHT (LBS)	12	131
VOLT/PH/HZ	115/1/60	115/1/60

NOTES FOR BEF-1(N), BEF-2(N)
1. BEF-1(N) & BEF-2(N) SHALL BE INTERLOCKED WITH RTU-1(E).
2. COORDINATE ELECTRICAL POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
3. PROVIDE BACK DRAFT DAMPER.

OPTIONS FOR KEF-1(N):
1. PROVIDE GREASE BOX
2. 2 YEARS PARTS WARRANTY
3. KEF-1 (N) SHALL NE INTERLOCK WITH MUA-1 (N)

NECK SIZE TABLE - A

FLEX DUCT DIA	CFM RANGE
Ø6"	0-100
Ø8"	101-200
Ø10"	201-400
Ø12"	401-600
Ø14"	601-900
Ø16"	901-1300

AIR CURTAIN SCHEDULE

TAG	ACH-1(E)
MANUFACTURER	MARS (V.I.F.)
MODEL	N236-1UA-OB (V.I.F.)
NOZZLE WIDTH (IN.)	36" (V.I.F.)
AIR VOLUME (CFM)	S.A.E
MOTOR HP	1/2 (V.I.F.)
AMPS	5.1 (V.I.F.)
V/PH/HZ	115/1/60 (V.I.F.)

NOTES:
1. V.I.F - VERIFY IN FIELD
2. S.A.E - SAME AS EXISTING
3. EXISTING AIR CURTAIN WITH ALL ACCESSORIES TO REMAIN SAME AND TO BE REUSED.
4. CONTRACTOR TO FIELD VERIFY IF THE UNIT IS WORKING AT THEIR 100% RATED CAPACITIES. INFORM TO DESIGN ENGINEER IF ANY DISCREPANCIES ARE FOUND IN PERFORMANCE PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF UNIT ON SITE.

NY ENGINEERS

PROJECT

MELTWICH

REVISIONS DATES:

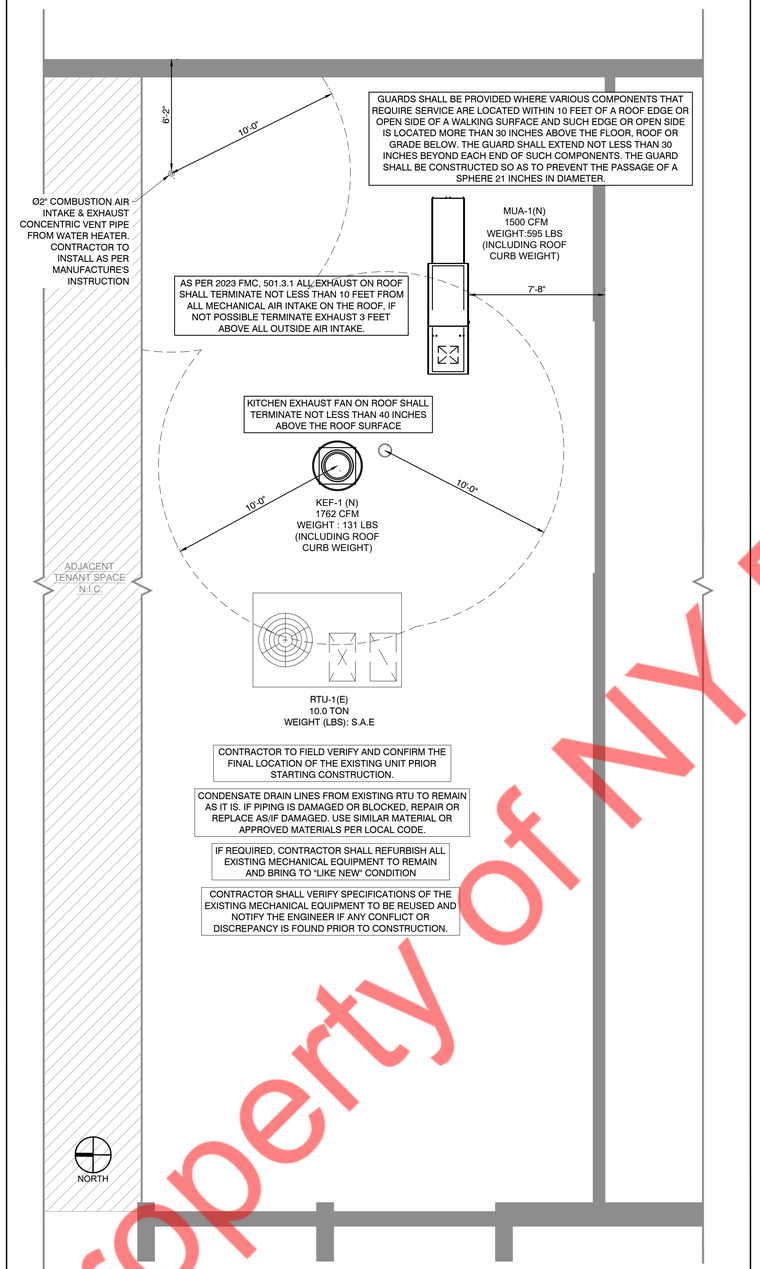
ISSUE DATE: 07.09.24
PROJECT #:
DRAWN BY: NYE
CHECKED BY: NYE

HVAC NOTES & SCHEDULES

M-1

GREASE DUCT SPECIFICATIONS

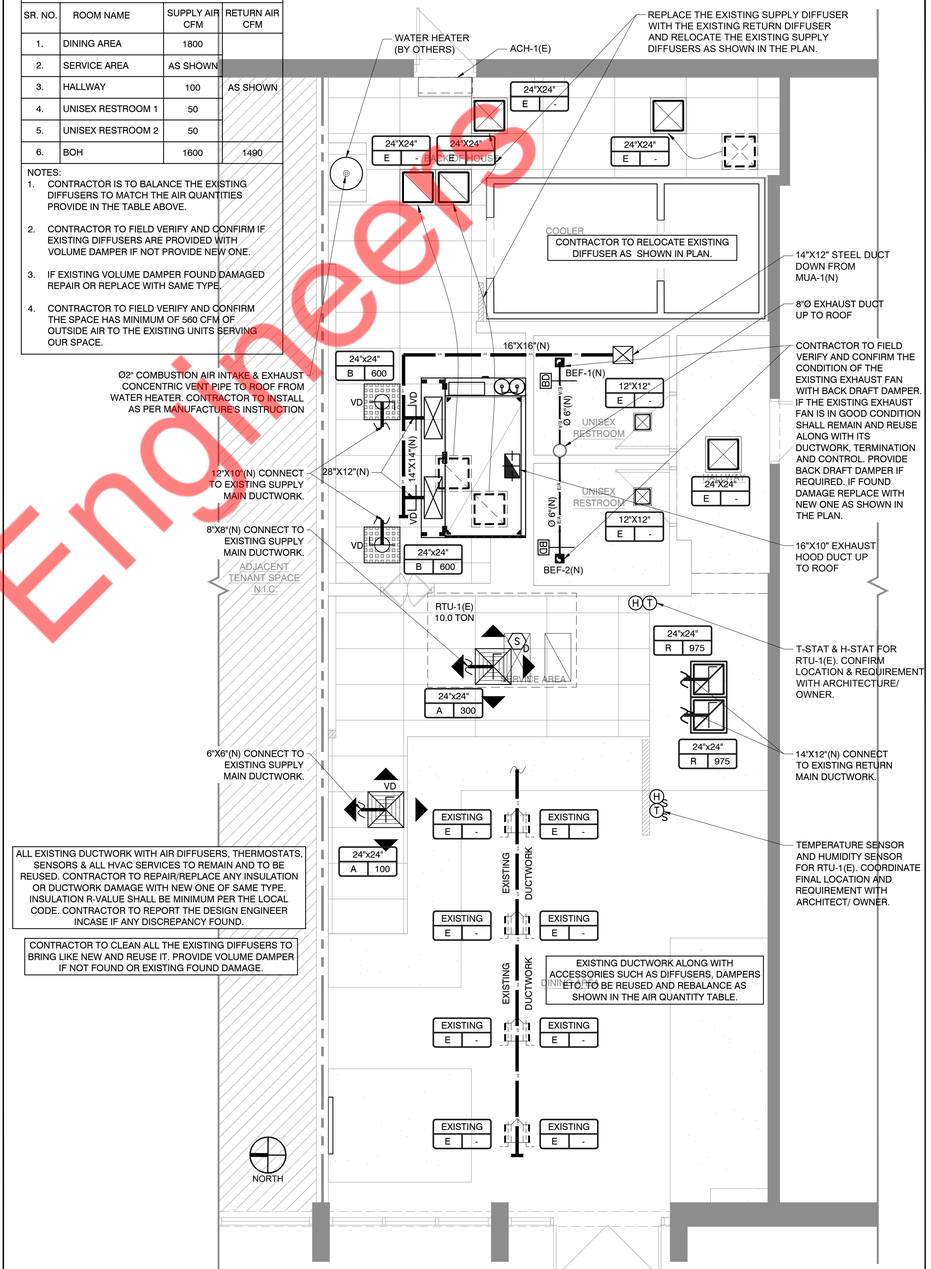
1. PROVIDE CLEAN OUT AT ALL ELBOWS AND BOTTOM OF RISER AND EVERY 20 FEET HORIZONTAL KITCHEN EXHAUST DUCT AND SHALL COMPLY ALL THE REQUIREMENTS PER 2023 FLORIDA MECHANICAL CODE 506.3.8 & 506.3.9.
2. COMMERCIAL KITCHEN GREASE DUCTS SHALL BE DESIGNED FOR THE TYPE OF COOKING APPLIANCE AND HOOD SERVED. COMMERCIAL KITCHEN GREASE DUCTS SHALL BE OF 16 GAUGE MINIMUM STEEL OR FACTORY FABRICATED GREASE DUCT WITH LISTED AND LABELED IN ACCORDANCE WITH UL 1978.
3. JOINTS, SEAMS AND PENETRATIONS OF GREASE DUCTS SHALL BE MADE WITH A CONTINUOUS LIQUID TIGHT WELD OR BRAZE MADE ON THE EXTERNAL SURFACE IF THE DUCT SYSTEMS.
4. DUCT TO EXHAUST FAN CONNECTIONS SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET AND OUTLET OF THE FAN FOR INLINE FANS. APPROVED FLEXIBLE CONNECTIONS MAY BE PROVIDED.
5. 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.
6. PRIOR TO THE USE OR CONCEALMENT OF ANY PORTION OF A GREASE DUCT SYSTEM, A LEAKAGE TEST SHALL BE PERFORMED AS PER FMC 2023 SECTION 506.3.2.5. DUCT SHALL BE CONSIDERED TO BE CONCEALED WHERE INSTALLED IN SHAFTS OR COVERED BY COATINGS OR WRAPS THAT PREVENT THE DUCTWORK FROM VISUALLY INSPECTED ON ALL SIDE. THE DUCT INSTALLER SHALL BE RESPONSIBLE FOR PROVIDING THE NECESSARY EQUIPMENT AND PERFORMING THE GREASE DUCT LEAKAGE TEST. THE DUCT LEAKAGE TEST SHALL BE PERFORMED FOR ALL THE DUCT SYSTEMS, INCLUDING THE DUCT-TO-DUCT CONNECTION. THE DUCTWORK SHALL BE PERMITTED TO BE TESTED IN SECTIONS, PROVIDED THAT EVERY JOINT IS TESTED (IF TEST IS FAILED, CONTRACTOR TO PROVIDE NEW KITCHEN EXHAUST DUCT).
7. PROVIDE SMOKE TEST TO PROOF TIGHTNESS OF THE GREASE DUCT.
8. GREASE DUCT BRACING AND SUPPORTS SHALL BE OF NON-COMBUSTIBLE MATERIAL SECURELY ATTACHED TO THE STRUCTURE AND DESIGNED TO CARRY GRAVITY AND SEISMIC LADS WITHIN THE STREET LIMITATIONS OF THE 2023 FLORIDA BUILDING CODE. BOLTS, SCREWS, RIVETS AND OTHER MECHANICAL FASTENERS SHALL NOT PENETRATE DUCT WALLS.
9. A RESIDUE TRAP SHALL BE PROVIDED AT THE BASE OF EACH VERTICAL RISER WITH PROVISION FOR CLEANOUT IN ACCORDANCE WITH NFPA 96.
10. CLEANOUT OPENINGS SHALL BE PROVIDED AT EVERY CHANGE IN DIRECTION, WITHIN 3 FEET OF THE EXHAUST FAN.
11. CLEANOUT OPENINGS SHALL BE EQUIPPED WITH TIGHT-FITTING DOORS CONSTRUCTED OF STEEL HAVING A THICKNESS NOT LESS THAN THAT REQUIRED FOR THE DUCT. DOORS SHALL BE EQUIPPED WITH A SUBSTANTIAL METHOD OF LATCHING, SUFFICIENT TO HOLD THE DOOR TIGHTLY CLOSED. DOOR ASSEMBLIES SHALL HAVE A GASKET OR SEALANT THAT IS NONCOMBUSTIBLE AND LIQUID TIGHT AND SHALL NOT HAVE FASTENERS THAT PENETRATED THE DUCT
12. A GREASE DUCT SERVING THE TYPE-1 HOOD THAT PENETRATED A CEILING, WALL OR FLOOR SHALL BE ENCLOSED FROM THE FIRE POINT OF PENETRATION TO THE OUTLET TERMINAL. DUCT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING NOT LESS THAN THAT OF THE FIRE-RESISTANCE RATED ASSEMBLY PENETRATED BUT NEED NOT EXCEED 2 HOURS.
13. PROVIDE MINIMUM 2HR INSULATION COVERING OF 2 INCHES AND SUCH MATERIAL SHALL BE IN ACCORDANCE WITH ASTM E2336. FIELD APPLIED GREASE DUCT ENCLOSURE SHALL COMPLY ALL REQUIREMENTS PER 2023 FMC SECTION 506.3.11.2.



HVAC ROOF PLAN | SCALE 1/4" = 1'-0" | 2

AIR QUANTITY TABLE			
SR. NO.	ROOM NAME	SUPPLY AIR CFM	RETURN AIR CFM
1.	DINING AREA	1800	
2.	SERVICE AREA	AS SHOWN	
3.	HALLWAY	100	AS SHOWN
4.	UNISEX RESTROOM 1	50	
5.	UNISEX RESTROOM 2	50	
6.	BOH	1600	1490

NOTES:
1. CONTRACTOR IS TO BALANCE THE EXISTING DIFFUSERS TO MATCH THE AIR QUANTITIES PROVIDE IN THE TABLE ABOVE.
2. CONTRACTOR TO FIELD VERIFY AND CONFIRM IF EXISTING DIFFUSERS ARE PROVIDED WITH VOLUME DAMPER IF NOT PROVIDE NEW ONE.
3. IF EXISTING VOLUME DAMPER FOUND DAMAGED REPAIR OR REPLACE WITH SAME TYPE.
4. CONTRACTOR TO FIELD VERIFY AND CONFIRM THE SPACE HAS MINIMUM OF 560 CFM OF OUTSIDE AIR TO THE EXISTING UNITS SERVING OUR SPACE.



HVAC FLOOR PLAN | SCALE 1/4" = 1'-0" | 1

NY ENGINEERS

PROJECT

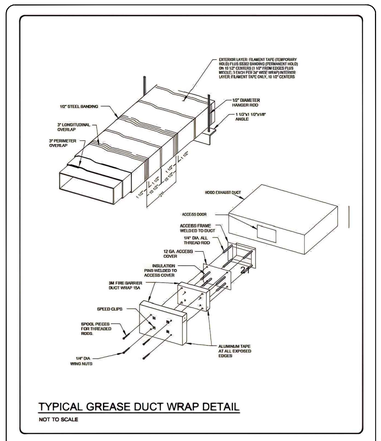
MELTWICH

REVISIONS DATES:

ISSUE DATE: 07.09.24
PROJECT #: -
DRAWN BY: NYE
CHECKED BY: NYE

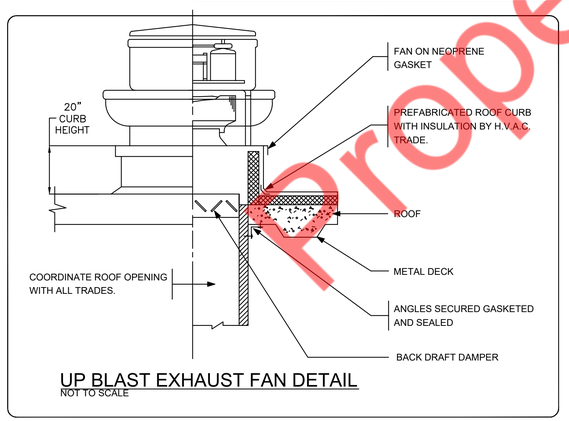
HVAC FLOOR & ROOF PLANS

M-2



TYPICAL GREASE DUCT WRAP DETAIL
NOT TO SCALE

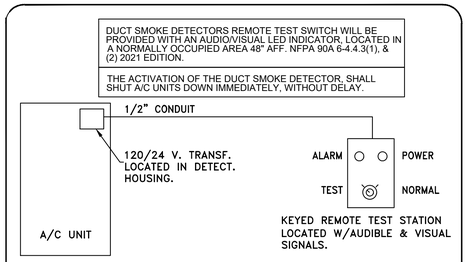
TYPICAL GREASE DUCT WRAP DETAIL
NOT TO SCALE



UP BLAST EXHAUST FAN DETAIL
NOT TO SCALE

DUCT SMOKE DETECTORS REMOTE TEST SWITCH WILL BE PROVIDED WITH AN AUDIO/VISUAL LED INDICATOR, LOCATED IN A NORMALLY OCCUPIED AREA 48" AFF. NFPA 90A 6-4.4.3(1), & (2) 2021 EDITION.

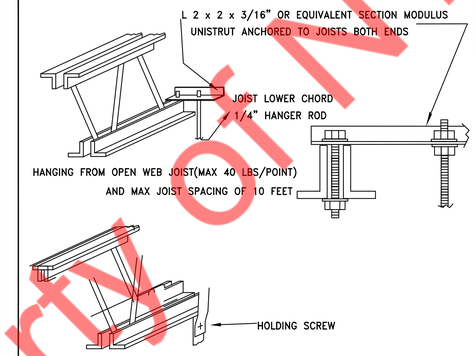
THE ACTIVATION OF THE DUCT SMOKE DETECTOR, SHALL SHUT A/C UNITS DOWN IMMEDIATELY, WITHOUT DELAY.



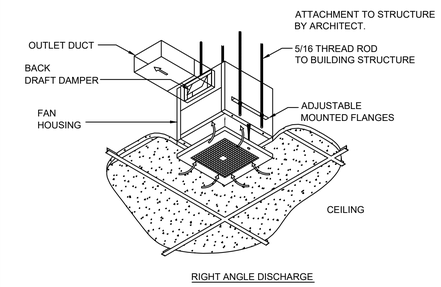
ELECTRICAL CONTRACT. SHALL COORDINATE A/C SHUT DOWN WITH MECH. CONTRACT. COORDINATE EXACT LOCATION OF TEST AND RETEST SWITCHES, AND HORN WITH OWNER.

DUCT SMOKE DETECTOR SHALL BE CONNECTED TO BUILDING FIRE ALARM SYSTEM TO ACTIVATE BUILDING FIRE ALARM IF ONE IS PRESENT.

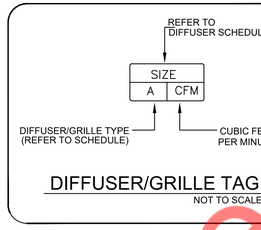
DUCT DETECTOR DETAIL
NOT TO SCALE



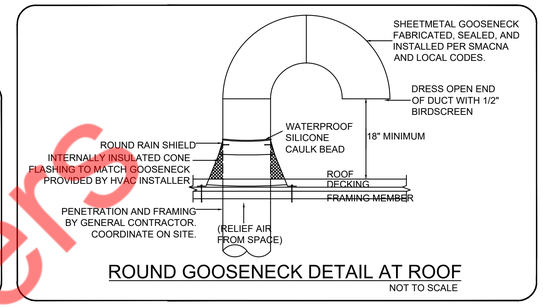
DUCT MOUNTING DETAIL
NOT TO SCALE



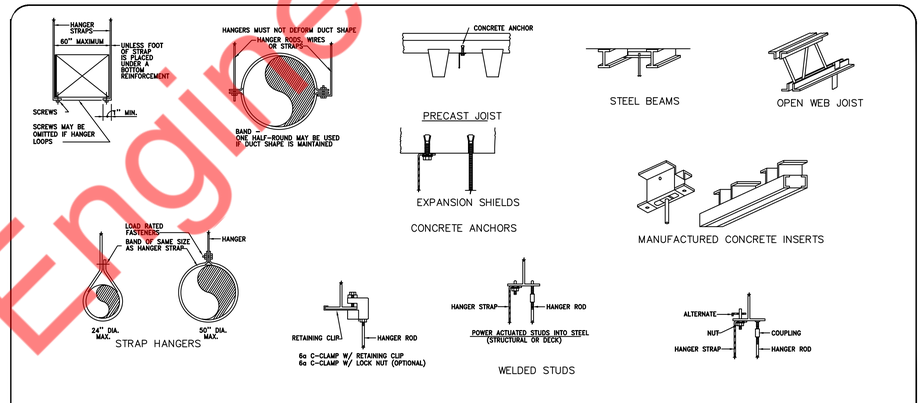
CEILING EXHAUST FAN DETAIL
NOT TO SCALE



DIFFUSER/GRILLE TAG
NOT TO SCALE

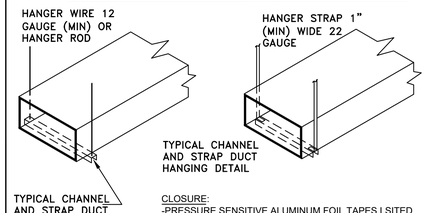


ROUND GOOSENECK DETAIL AT ROOF
NOT TO SCALE



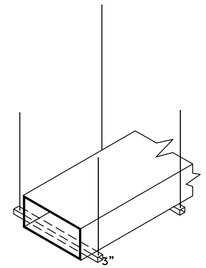
UPPER & LOWER ATTACHMENTS & DEVICES
NOT TO SCALE

CHANNEL SELECTION		
DUCT WIDTH MIN.	CHANNEL GUAGE MIN.	CHANNEL PROFILE
LESS THAN 18"	22 3"x 2"	
LESS THAN 30"	18 3"x 2"	



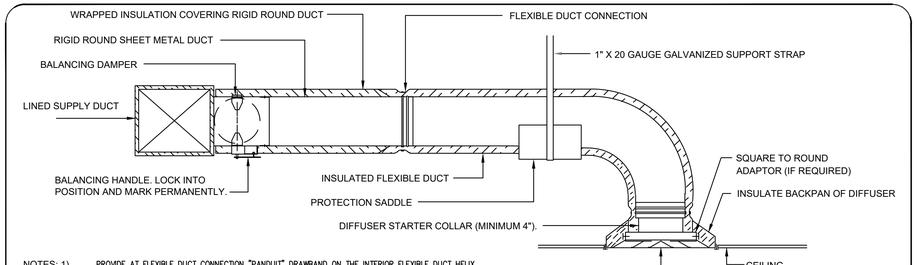
CLOSURE:
-PRESSURE SENSITIVE ALUMINUM FOIL TAPES LSITED UNDER UL 181A, PART I (P)
- HEAT ACTIVATED ALUMINUM FOIL/SCRIM TAPES LISTED UNDER UL 181A, PART II (H)
- MASTIC AND GLASS FABRIC TAPE CLOSURE SYSTEMS LISTED UNDER UL 181A, PART III (M)

DUCT SIZE,IN.	MAXIMUM HANGER SPACING
① WIDTH 48" OR GREATER	4'–0"
② LESS THEN 48"W X 12"H	6'–0"
③ WIDTH BETWEEN 24" & 48" & HEIGHT OVER 24"	6'–0"
④ WIDTH BETWEEN 24" & 48" & HEIGHT BETWEEN 12" & 24"	8'–0"
⑤ WIDTH LESS THAN 24" & HEIGHT GREATER THAN 12"	8'–0"
DUCT REINFORCING PER SMACNA REQUIRED	



HANGER SPACING AND EXTENSION 3" WIDE CHANNELS

DUCT SUPPORTS
NOT TO SCALE



NOTES: 1) PROVIDE AT FLEXIBLE DUCT CONNECTION "PANDUIT" DRAWBAND ON THE INTERIOR FLEXIBLE DUCT HELIX.
2) PROVIDE MINIMUM 4" COLLARS FOR ATTACHMENT OF THE FLEXIBLE DUCT TO ROUND DUCT, DAMPERS AND DIFFUSERS.
3) BAND RIGID ROUND DUCT INSULATION TO DUCT AND PROVIDE TAPE FOR INSULATION OVERLAP.

DIFFUSER CONNECTION DETAIL-FLEX DUCT
NOT TO SCALE

NY ENGINEERS

PROJECT

MELTWICH

REVISIONS DATES:

ISSUE DATE: 07.09.24
PROJECT #: -
DRAWN BY: NYE
CHECKED BY: NYE

HVAC DETAILS

M-3

HOOD INFORMATION – JOB#6896332

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW
1		5424 SA-ND-2-PSP-F	SUNAIR	7' 10"	600 DEG	I	HEAVY	225	1762	10"	16"	4"		1762	1586	-0.460"	1500	430 SS WHERE EXPOSED	ALONE	ALONE

PATENT NUMBERS

AC-PSP (UNITED STATES) - US PATENT 7963830 B2.
AC-PSP WALL (CANADA) - CA PATENT 2820509.
AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

HOOD INFORMATION

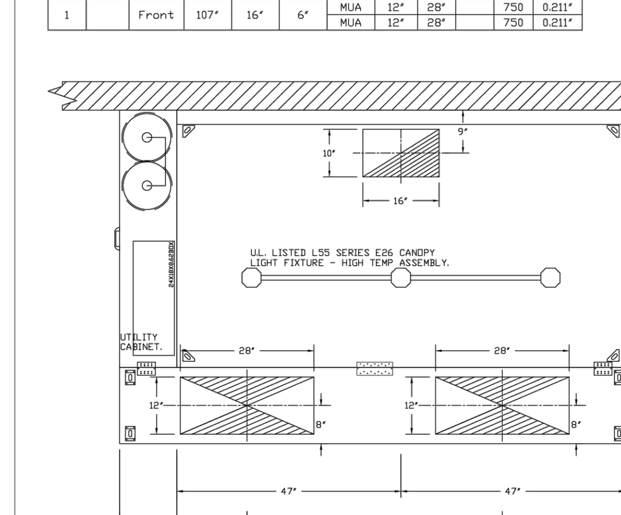
HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1		SS BAFFLE WITH HANDLES	5	16"	16"	30%	3	L55 SERIES E26	NO	LEFT	12"x54"x24"	TANK FS	4.0/4.0	SC-311110MA	1 LIGHT 1 FAN	YES	760 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		RIGHT END STANDOFF (FINISHED) 1" WIDE 54" LONG INSULATED.
		RISER SENSOR INSTALL 6IN PLEN.
		RIGHT WALL AS END PANEL.

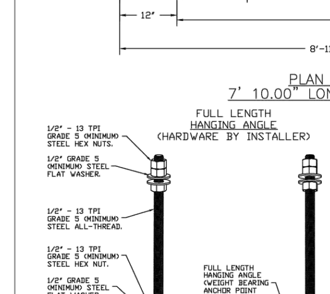
PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG	DIA	CFM	SP
1		Front	107"	16"	6"	MUA	12"	28"		750	0.211"
						MUA	12"	28"		750	0.211"



PLAN VIEW – HOOD #1
7' 10.00" LONG 5424SA-ND-2-PSP-F

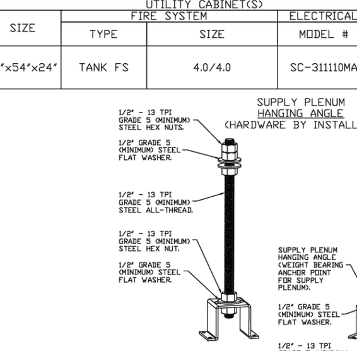
FULL LENGTH HANGING ANGLE (HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR FULL LENGTH HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

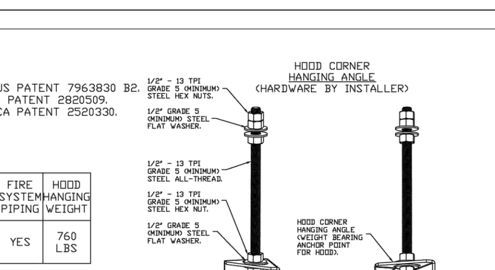
SUPPLY PLENUM HANGING ANGLE (HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

HOOD CORNER HANGING ANGLE (HARDWARE BY INSTALLER)



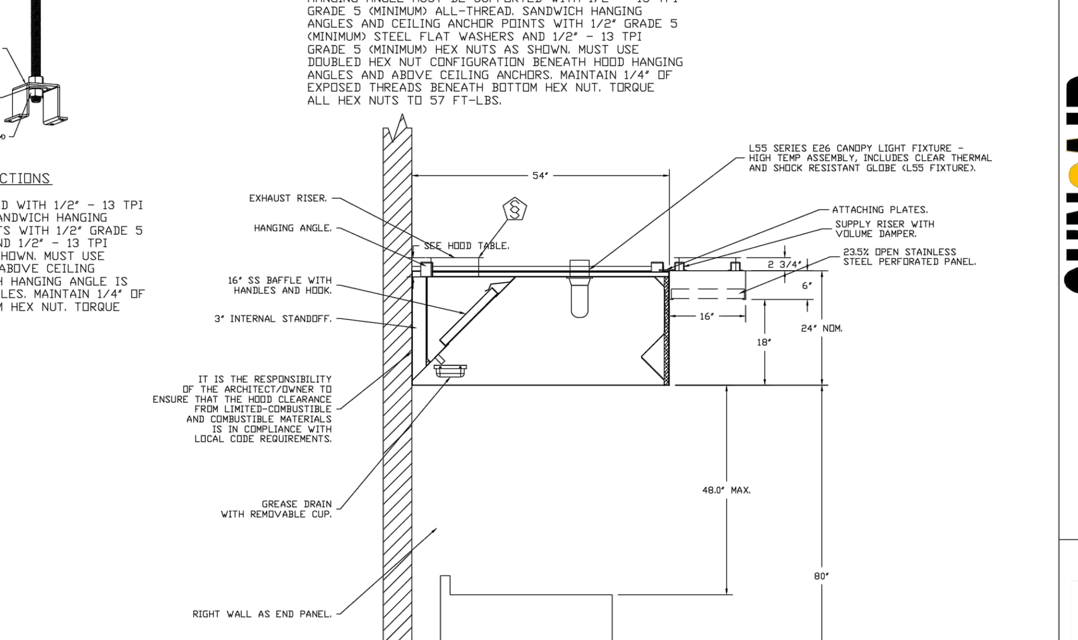
ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	*CLEARANCE
1	TOP	18"
	FRONT	0"
	BACK	18"
	LEFT	0"
	RIGHT	0"

- *0" CLEARANCE TO COMBUSTIBLES CONFORMS TO UL710 STANDARD.
- HOOD MOUNTED UTILITY CABINETS REQUIRE 36" SERVICE CLEARANCE.



SECTION VIEW – MODEL 5424SA-ND-2-PSP-F
HOOD – #1

REVISIONS (DESCRIPTION / DATE)

SUNAIR International Sales Office
4444 Eastgate Parkway, Unit #20, Mississauga, ON, L4W 4T6 PHONE: (647) 977 - 2217 FAX: 9192275905 EMAIL: reg20@captiveaire.com

DATE: 7/10/2024
DWG.#: 6896332
DRAWN BY: Lokesh C.
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 1

SECTION 23 38 13 13

SPECIFICATIONS
TAG: Commercial Kitchen Ventilation Hoods, Listed Commercial Kitchen Hoods

PART 1 - GENERAL

1.1 SUMMARY

A. The ND2 series is a Type I, wall canopy hood for use over 600°F cooking surface temperatures. The aerodynamic design includes a mechanical baffle and performance enhancing lip for exceptional capture and containment.

B. The hood shall have the size, shape, and performance specified on drawings.

1.2 SUBMITTALS

A. The manufacturer assumes no liability for the use or results of use from this document. Specifications are to be reviewed by the engineer to confirm the project's requirements and meet Federal, State, and Local codes and regulations.

B. As the manufacturer continues product development, it reserves the right to change design and specifications without notice.

C. The manufacturer shall supply complete computer generated submittal drawings, including hood section view(s) and hood plan view(s). These drawings must be available to the engineer, architect, and owner for their use in construction, operation, and maintenance.

1.3 QUALITY ASSURANCE

A. This hood is ETL-listed to standard UL710, ULC710, and ULC-S646 when installed in accordance with these installation instructions and National Fire Protection Association Standard "NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations."

B. Built-in compliance with NSF/ANSI Standard 2.

C. The hood shall be ETL Listed as:

1. "Exhaust Hood Without Exhaust Damper."
2. ETL Sanitation Listed and built in accordance with NFPA 96.
3. The ETL label shall list temperature rating(s) and minimum CFM/ft rating(s).

1.4 WARRANTY

A. All units shall be provided with the following standard warranty:

1. This equipment is warranted to be free from defects in materials and workmanship, under normal use and service, for a period of 2-years from date of shipment.

B. The manufacturer shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in material or workmanship within the 2-year warranty period, upon examination by the manufacturer, such part will be repaired or replaced by manufacturer at no charge. The buyer shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without manufacturer's prior authorization, and all returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.

C. Refer to Manufacturer's Operation, Installation, and Maintenance (OIM) Manual for detailed descriptions of what is/is not covered and contact information for warranty claims.

PART 2 - PRODUCTS

2.1 GENERAL

A. Construction shall be dependent on the structural application to minimize distortion and other defects. All seams, joints, and penetrations of the hood enclosure to the lower outermost perimeter, which directs and captures grease-laden vapor and exhaust gases, shall have a liquid-tight continuous external weld in accordance with NFPA 96.

B. Duct sizes, CFM, and static pressure requirements shall be as shown on drawings. Static pressure requirements shall be precise and accurate; air velocity and volume information shall be accurate within 1-ft increments along the length of the ventilator.

2.2 CONSTRUCTION

A. Construction shall be type 430 stainless steel.

B. Double wall insulated front to eliminate condensation and increase rigidity on wide sizes. The insulation shall have a flexural modulus of 475 EI, meet UL 181 requirements and be in accordance with NFPA 90A and 90B.

C. Hood shall be equipped with a minimum of four connections for hanger rods. Hood lengths greater than 12' will have added hangers.

D. Exhaust duct collar to be 4"high with flange.

E. The grease drain system shall be an enclosed integral part of the hood back and have slopes with an exposed, removable 1/2 grease cup to facilitate cleaning.

F. An integral baffle to direct grease laden vapors toward the exhaust filter bank.

G. Hood shall be furnished with UL classified filters, supplied in size and quantity as required by ventilator.

H. All seams shall be welded and have stainless steel on exposed surfaces.

2.3 LIGHTING

A. L55 Series canopy light fixture, includes clear thermal and shock resistant globe.

2.4 FILTERS

A. Kleen-Gard Stainless Steel Baffle Filter with Handles and Bottom Hanging Hook, UL Classified.

2.5 OPTIONS

A. Fire Suppression System: UL 300 fire suppression system.

B. Optional perforated supply plenum shall provide make-up air discharged below the cooking equipment.

1. Perforated diffuser plates shall be included in the design to provide even air distribution.
2. Unexposed surfaces shall be constructed of aluminized steel. Plenum shall be insulated to prevent condensation.
3. Perforated Supply Plenum (PSP)

C. Hood Mounted Utility Cabinet - Cabinet can store listed fire suppression system, listed components, pre-wired electrical controls.

2.6 ACCESSORIES

A. End Panel(s) maximize hood performance and eliminate the effects of cross drafts in the kitchen. Units constructed of stainless steel and sized according to hood width and cooking equipment. Exposed edges hemmed for safety and rigidity. Selected panels:

1. Wall as End Panel

B. Standoff(s) selected:

1. Right End Standoff

C. Miscellaneous option(s) selected:

1. Riser Sensor Install -Sensor set-up for 6"plenum.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions under which the system is installed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual, and all applicable building codes.

REVISIONS (DESCRIPTION / DATE)

SUNAIR International Sales Office
4444 Eastgate Parkway, Unit #20, Mississauga, ON, L4W 4T6 PHONE: (647) 977 - 2217 FAX: 9192275905 EMAIL: reg20@captiveaire.com

DATE: 7/10/2024
DWG.#: 6896332
DRAWN BY: Lokesh C.
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 2

FIRE SYSTEM INFORMATION – JOB#6896332

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	40	28	FIRE CABINET LEFT	LEFT, HOOD 1

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	2.000	SUNAIR

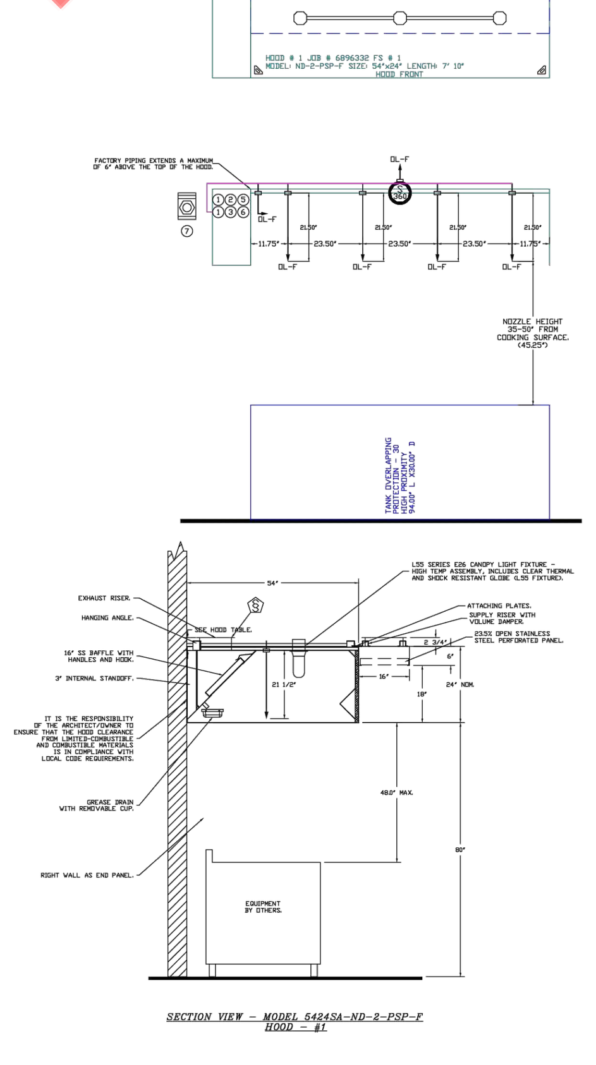
FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1		0 - 0 - TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - 12-F28021-32144-DT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F. (A0034310).	1	0
		0 - 0 - 32-00002 QUIK SEAL - 1/2" (UL).	1	0
		0 - 0 - 4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	2	0
		0 - 0 - 4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	1	0
		0 - 0 - 79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2" NPT FEMALE CONNECTION, VIEGA.	1	0
		0 - 0 - 79580 1/2" X 1/2" PRO-PRESS TEE X 1/2" NPT FEMALE CONNECTION, VIEGA.	2	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5" BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	8	0
		0 - 0 - 9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	6	0
		0 - 0 - 9097200PC PRO PRESS PC611 1/2 PRESS TEE LD.	5	0
		0 - 0 - 98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" MPT HALF UNION. USED ON TANK SERVICE PORT.	1	0
		0 - 0 - BI145 3/8" BLACK IRON 90 ELL.	2	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	6	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	2	0
		16 - 16 - 79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	6	0
		16 - 16 - OL-F NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE).	6	0
		26 - 26 - QSA-3/8 QUIK SEAL - 3/8" (UL).	6	0
		34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0

REVISIONS (DESCRIPTION / DATE)

SUNAIR International Sales Office
4444 Eastgate Parkway, Unit #20, Mississauga, ON, L4W 4T6 PHONE: (647) 977 - 2217 FAX: 9192275905 EMAIL: reg20@captiveaire.com

DATE: 7/10/2024
DWG.#: 6896332
DRAWN BY: Lokesh C.
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 3



SECTION VIEW – MODEL 5424SA-ND-2-PSP-F
HOOD – #1

NOTES
- FIELD PIPE DROPS AS SHOWN PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- OL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 6896332.
JOB NAME: MELTWICH- GAINSVILLE,, FL R1.

SYSTEM SIZE: TANK-SP-2 DESIGN FP: 28. MAXIMUM FP: 40.
HOOD # 1 7' 10.00" LONG x 54" WIDE x 24" HIGH.
RISER # 1 SIZE: 10" x 16".
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

LEGEND – FIRE CABINET TANK SYSTEM

1 4 GALLON TANK.
2 PRIMARY ACTUATOR RELEASE.
3 SECONDARY ACTUATOR RELEASE.
4 PRESSURE SUPERVISION SWITCH.
5 PRIMARY HOSE ASSEMBLY.
6 SECONDARY HOSE ASSEMBLY.
7 REMOTE MANUAL ACTUATION DEVICE.

REVISIONS (DESCRIPTION / DATE)

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SHEET NO. 4

NY ENGINEERS

PROJECT

MELTWICH

REVISIONS DATES:

ISSUE DATE: 07.09.24
PROJECT #: -
DRAWN BY: NYE
CHECKED BY: NYE

HOOD DETAILS
1 OF 5

M-4

SECTION 21 23 00
WET- CHEMICAL FIRE-EXTINGUISHING SYSTEMS
TAG: TANK Fire Suppression

PART 1 - GENERAL

1.1 SUMMARY

A. TANK Fire Suppression is a pre-engineered, stored-pressure wet chemical solution extinguishing system.

1.2 SUBMITTALS

A. The manufacturer assumes no liability for the use or results of use from this document. Specifications are to be reviewed by the engineer to confirm the requirements of the project and meet Federal, State, and Local codes.

B. As the manufacturer continues product development, it reserves the right to change design and specifications without notice.

1.3 QUALITY ASSURANCE

A. The TANK Fire Suppression System is ETL Listed in accordance with ANSI/CAN/UL/ULC 300, ULCORD-C 1254.6.

B. Microprocessor-based control board shall be ETL Listed to UL Standard 864 and CAN/ ULC-S527-11.

C. TANK Fire Suppression System intended for installation and for use in accordance with the National Fire Protection Association Standards:

1. Wet Chemical Extinguishing Systems, NFPA 17A
2. National Electrical Code, NFPA 70
3. National Fire Alarm & Signaling Code, NFPA 72

D. New York City and FDNY approved under COA# 5870.

E. California State Fire Marshal (CFSM), Listing No. 7085-2199:0502.

1.4 WARRANTY

A. All units shall be provided with the following standard warranties:

1. TANK Fire Suppression System is warranted to be free from defects in materials and workmanship, under normal use and service, for a period of 60-months from date of shipment.

B. Warranty does not cover consumable products such as batteries and nitrogen.

C. The manufacturer shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in material or workmanship within the 60-month warranty period, upon examination by the manufacturer, such part will be repaired or replaced by manufacturer at no charge. The buyer shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without manufacturer's prior authorization, and all returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.

D. Refer to Manufacturer's Operation, Installation, and Maintenance (OIM) Manual for detailed descriptions of what is/is not covered and contact information for warranty claims.

PART 2 - PRODUCTS

2.1 GENERAL

A. A pre-engineered, fixed pipe, automatic wet chemical agent fire suppression system for protection of all hazard areas associated with cooking operations, including exhaust hoods, plenums, ductwork, and cooking appliances.

2.2 COMPONENTS

A. Exhaust hood fire system components to be factory installed.

B. Cylinder and Valve Assembly

1. The cylinders shall have a tin-nickel alloy plated brass valve with pressure gauge.
2. Wet chemical agent shall be contained in one or more stored pressure DOT/TC rated steel cylinder and valve assemblies.
3. Each cylinder is factory-filled with liquid fire suppressant and pressurized to 200 PSIG at 70°F.
4. Maximum cylinder flow points = 20.

C. Distribution Nozzles

1. Nozzles shall be located to protect the exhaust ducts, plenums, and all cooking appliances requiring protection.
2. All nozzles shall be equipped with a metal blow off cap. The cap prevents contamination from entering the pipe network and is designed to pop-off upon system discharge, allowing agent to flow to the protected hazard area.
3. All nozzles shall incorporate a stamped part number to easily identify nozzle type.

D. Distribution System

1. The distribution system shall consist of Copper, Schedule 40 black iron, chrome-plated or stainless-steel pipe and fittings. All exposed piping and fittings must be chrome-plated or stainless steel.
2. Fittings shall be minimum class 150. Galvanized fittings shall not be used.

E. Suppression System

1. The system control equipment shall be capable of all functions associated with automatically and manually discharging the wet chemical agent from all cylinder and valve assemblies, including automatic shutdown of the heat source or fuel and electrical power to all protected areas upon system discharge.
2. Liquid Fire Suppressant shall be Aqueous Potassium Carbonate (APC).
3. All mechanical components of the actuator kit shall be enclosed.
4. The actuator kit shall be capable of automatic or manual activation means.
5. Supervisory Pressure Switch added to monitor operating system pressure.
6. For manual activation, an electrically operated manual release shall be used to actuate the system manually.
7. For automatic activation, the system will be activated by a Firestat (heat) detector.

F. Electrical

1. Electrical Division to provide shunt trip breakers at main power panel, or disconnects, as designated by the Electrical Engineer; interconnection provided at hood control panel for the signal to shut down all electricity in and under the exhaust hood. Shunt trips/disconnects to accomplish shut off of electricity in the event of fire system activation by others.
2. Printed circuit board with microprocessor-based controller that provides all the necessary monitoring, timing, and supervision functions required for the reliable operation of the fire system.
3. Independent supervised loops incorporate redundancy and fault detection.
4. Real-time cloud-based monitoring connection provided with system by ownership.
5. Primary power supply, with battery backup for power loss.
6. All wiring must be in accordance to NFPA 70 and the Authority Having Jurisdiction (AHJ).
7. Electric gas valve provided for equipment below exhaust hood. Coordinate size and installation with Plumbing Division.
8. All wiring is to be in accordance with the applicable manufacturer's instructions for the fire alarm control panel, gas shut-off valve, manual reset relay, and contractor supplied shut-off devices.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions under which the system is installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer.

3.2 APPLICATION

A. Wet chemical-based fire suppression system for use in commercial kitchens. It can be mounted in the integral cabinet located at the end of the hood or offered as a wall mount package.

3.3 INSTALLATION

A. As part of this item, provide wall mounted type K handheld portable fire extinguisher, placard, and mounting bracket as required in the immediate vicinity of each cooking area, per NFPA-96 and NFPA-10. Additional fire extinguishers as required in the kitchen area are to be specified by the Architect and provided by the General Contractor.

B. Install in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual, and all applicable building codes.

C. Six-month and twelve-month inspections, servicing, and replacement of components as per NFPA 96 to be provided by the General Contractor or Owner.

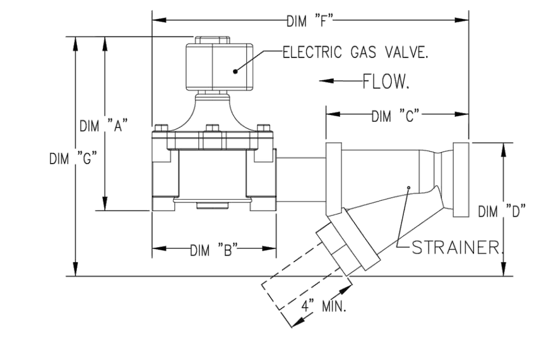
GAS VALVES AND STRAINERS

	GAS VALVE SIZING							GAS VALVE DIMENSIONS						INSTALLATION	PART NUMBERS		
	TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "F"	DIM "G"	MOUNTING ORIENTATION	GAS VALVE PART NUMBER	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT
GAS VALVE FOR FS#1→	ELECTRICAL	2"	120 VAC	0 PSI (0 IN.W.C.)	5 PSI (138 IN.W.C.)	2,940,500 BTU/HR	1,908,048 BTU/HR	7-5/8"	6-3/8"	7-1/4"	7-13-16"	15-5/8"	13-15/16"	HORIZONTAL	8214280	4417K68	(SC)EGVA2

ELECTRIC GAS VALVES ONLY:
3/4"-2" 120VAC GAS VALVES CAN BE MOUNTED WITH THE SOLENOID IN ANY POSITION ABOVE HORIZONTAL.
2 1/2"-3" 120VAC GAS VALVES MUST BE MOUNTED WITH THE SOLENOID VERTICAL AND UPRIGHT.
24VDC GAS VALVES MUST BE MOUNTED WITH THE SOLENOID VERTICAL AND UPRIGHT.

ALL GAS VALVES/STRAINERS
PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE STRAINERS A MINIMUM OF 4" CLEARANCE DISTANCE MUST BE PROVIDED AT THE BASE OF THE STRAINER CUSTOMER MUST VERIFY BTU CONSUMPTION AS WELL AS PRESSURE RATING SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.

CALCULATIONS
TO CALCULATE GAS FLOW FOR OTHER THAN 1 IN.W.C. PRESSURE DROP
NEW BTU/HR = (BTU/HR AT 1 IN.W.C. PRESSURE DROP) X NEW PRESSURE DROP$^{0.5}$
TO CALCULATE GAS FLOW FOR OTHER THAN 0.64 SPECIFIC GRAVITY
NEW BTU/HR = (BTU/HR AT 0.64) X (0.64 / NEW SPECIFIC GRAVITY)$^{0.5}$.



EXHAUST FAN INFORMATION – JOB#6896332

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1		1	SA-DU85HFA	SUNAIR	1762	1.000	1357	ODP	0.750	0.4500	3	208	2.6	558 FPM	96	12

MUA FAN INFORMATION – JOB#6896332

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCP	WEIGHT (LBS)	SONES
2		1	SA-A1-D.250-15D	15MF-1-MOD	A1-D.250	1000	1500	0.500	1703	TEFC,PREMIUM	1.500	0.7420	3	208	4.5	5.7A	15A	508	14.6

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
2		100521	92479	60°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1		1	GREASE BOX
		1	FAN BASE CERAMIC SEAL - DU/DR85HFA - INSTALLED AT PLANT - FOR GREASE DUCTS
		1	2 YEAR PARTS WARRANTY
2		1	SIZE 1 TEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	SHIP LOOSE GAS STRAINER 3/4"
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	MOTORIZED BACKDRAFT DAMPER FOR A1-D HOUSING - MEETS AMCA CLASS 1A RATING
		1	FREEZESTAT
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) - THREE PHASE ONLY
		1	2 YEAR PARTS WARRANTY
		1	EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET

FAN ACCESSORIES

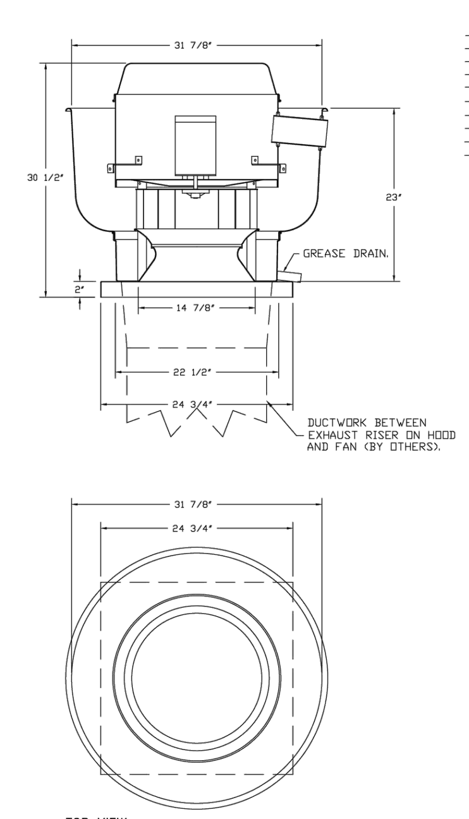
FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1		YES						
2							YES	

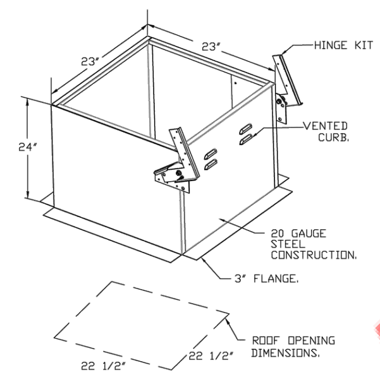
CURB ASSEMBLIES

NO	ON FAN	WEIGHT	ITEM	SIZE
1	# 1	41 LBS	CURB	23.000"W X 23.000"L X 24.000"H VENTED HINGED.
2	# 2	74 LBS	CURB	21.000"W X 71.000"L X 24.000"H INSULATED.

HMI SCHEDULE				
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #2	HMI #1 - UNIT HMI # 1	MOUNTED IN UNIT	NOT AVERAGED	55

FAN #1 SA-DU85HFA - EXHAUST FAN



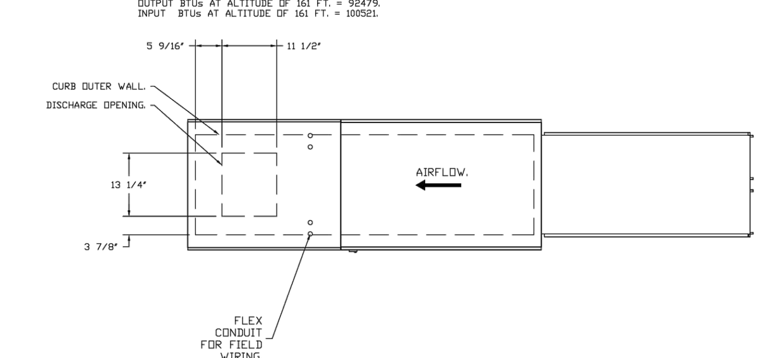


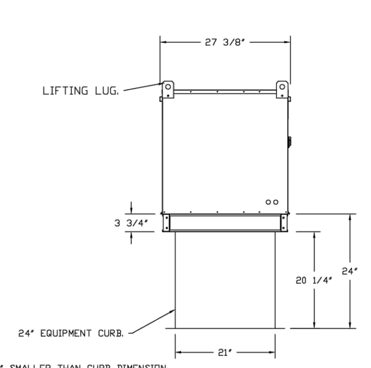
FAN #2 SA-A1-D.250-15D - HEATER
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 15" MIXED FLOW DIRECT DRIVE FAN.
2. INTAKE HOOD WITH EZ FILTERS.
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
4. DOWN DISCHARGE CONSTRUCTION FOR SIZE 1 DIRECT DRIVE AHUS.
5. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
6. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE.
7. SHIP LOOSE GAS STRAINER. TO BE INSTALLED UPSTREAM OF UNIT CONNECTION. 3/4" CONNECTION.
8. CASLINK BUILDING MONITORING SYSTEM COMMUNICATIONS MODULE. REQUIRES INTERNET & FIELD WIRED ETHERNET CONNECTION OR 3G CELLULAR SERVICE. INCLUDES REV 3 COMM MODULE, RJ45 TO MODBUS CONVERTER, 3 FT CAT5 CABLE, AND 1 FT OF SHIELDED TWISTED PAIR.
9. MOTORIZED BACK DRAFT DAMPER 16" X 18" FOR SIZE 1 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, TFB120S ACTUATOR INCLUDED.
10. FREEZESTAT.
11. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
12. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER SECTION).
13. EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET.
14. 2 YEAR PARTS WARRANTY.

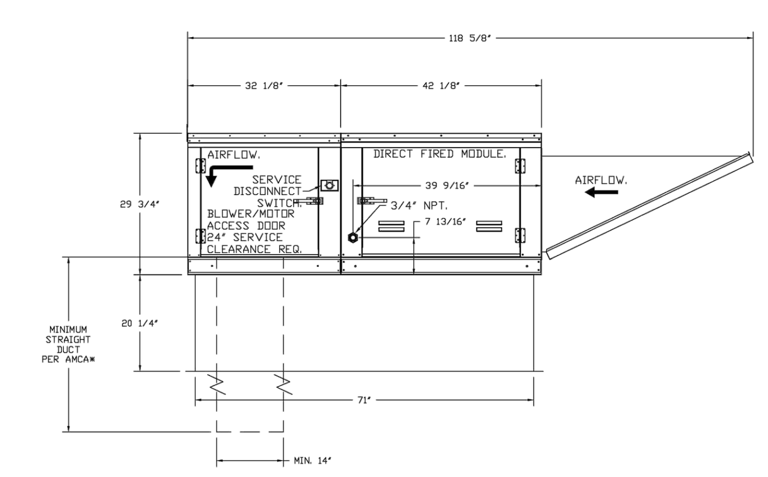
*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 14" x 14".

SUPPLY SIDE HEATER INFORMATION:

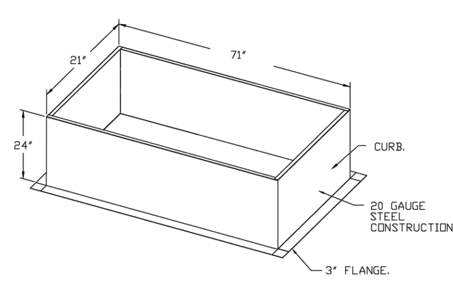
WINTER TEMPERATURE = 33°F. TEMP. RISE = 60°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY.
OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 93019.
INPUT BTUs AT ALTITUDE OF 0.0 FT. = 101108.
OUTPUT BTUs AT ALTITUDE OF 161 FT. = 92479.
INPUT BTUs AT ALTITUDE OF 161 FT. = 100521.







OPTIONS:
- FULL BOTTOM CORNERS



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PROJECT

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HOOD DETAILS
2 OF 5

M-5

SECTION 23 74 33
FACTORY FABRICATED PACKAGED HEATING AND COOLING MAKE-UP AIR UNITS SPECIFICATIONS
TAG: Modular Direct-Fired Heater

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes modular packaged heating and cooling units capable of supplying up to 100 percent outdoor air.

1.2 SUBMITTALS

A. The manufacturer assumes no liability for the use or results of use of this document. This specification is to be reviewed by the engineer to confirm requirements of the project and building codes are met.

B. As the manufacturer continues product development, it reserves the right to change design and specifications without notice.

1.3 QUALITY ASSURANCE

A. ETL-Listed to the American National Standard/CSA Standard for Gas Unit Heaters And Gas-Fired Duct Furnaces ANSI Z83.4, CSA 3.7.

B. The Safety Control Board is ETL-Listed to standards UL 60730-2-9, UL 60730-1; CSA E60730-1, and CSA E60730-2-9.

1.4 WARRANTY

A. All units are provided with the following 2-year standard warranty.

B. This warranty shall not apply if:

1. The equipment is not installed by a qualified installer per the manufacturer's installation instructions shipped with the product.
2. The equipment is not installed in accordance with Federal, State, Local codes and regulations.
3. The equipment is misused, neglected, or not maintained per the manufacturer's maintenance instructions.
4. The equipment is not operated within its published capacity.
5. The invoice is not paid within the terms of the sales agreement.

C. The manufacturer shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in material or workmanship within the 2-year warranty period, upon examination by the manufacturer, such part will be repaired or replaced by the manufacturer at no charge. The buyer shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without manufacturer's prior authorization, and all returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.

PART 2 - PRODUCTS

2.1 GENERAL ASSEMBLY

A. Unit(s) shall be factory assembled, tested and shipped as a complete packaged assembly, for indoor or outdoor mounting, consisting of the following specifications, deliver all capacities scheduled, and conform to design indicated herein. Alternate layouts or dimensional changes will not be accepted.

2.2 CABINET

A. Unit(s) shall be constructed of minimum 20-gauge G-90 galvanized steel riveted together via structural pop-rivets. All metal shall be CNC bent for precise assembly.

1. Base Construction: The base shall be constructed of galvanized steel for improved rigidity. Base shall be structurally reinforced to accommodate the blower assembly and burner.
2. Rigging Provisions: The unit shall have a structural base constructed of minimum 14ga. G-90 galvanized steel, and include lifting points on all four sides.
3. Roof Construction: Roof shall be pitched to allow for proper drainage.
4. Exterior Wall Construction: All exterior walls shall consist of insulated galvanized steel construction.
5. Service Access Doors: All door jambs shall be gasketed around their perimeter. Doors may be mounted via spring actuated, stainless steel hinges with stainless steel rivets, and self-compressing stainless steel pad lockable latches or through removable sliding panels.
6. Each compartment shall have removable access panels to allow for ease of service and maintainability. Electrical cabinet doors shall be outfitted with schematic/manual pouches formed into the door, along with wiring diagram attached to the indoor of the door from the factory.

B. Entire interior and exterior casing shall be constructed of minimum 20-gauge G-90 galvanized steel with no painting, and shall have undergone a salt spray corrosion test as per ASTM B 117.

C. An observation port shall be located on the exterior of the unit for observation of the main flame and pilot flame. All controls, gas valves, modulating controls and electrical components shall be mounted within the burner vestibule. The burner vestibule shall be an integral part of the unit and not extend outside the exterior casing of the unit and not exposed to the main air stream.

2.3 AIRFLOW CONFIGURATIONS

A. Unit shall be configurable for down (vertical) discharge through unit.

B. Unit intake airflow configuration shall be through use of a fresh/outdoor damper.

1. Damper: Manufacturer shall provide and install on unit, when possible, a two-position, motor-operated damper with internal end switch to energize the blower-starter circuit, when damper is 80% open. Blades shall be a maximum of 6" wide 16-gauge G-90 galvanized steel and shall be made to guarantee the absence of noticeable vibration at design air velocities. Damper blades are to be mounted on friction-free synthetic bearings. Damper edges shall have PVC coated polyester fabric mechanically locked into blade edge. Jamb seals used are flexible metal, compression type. Damper shall exceed AMCA Class 1A standard for low leakage. Damper assembly shall be a single assembly, and outfitted with an integral bird screen and louver/gutter system to divert any drainage through the base of the unit -intake air hood not required.
2. Discharge Diffuser: Shall be constructed of G-90 galvanized steel with horizontal and vertical blades capable of four-way diffusion.
3. Actuator: A single direct drive damper actuator shall be used with spring return to ensure that the outdoor air section opens when not powered.

2.4 SUPPLY AIR BLOWER AND MOTOR

A. All supply fans shall be:

1. Direct Drive: Blower assembly shall consist of a centrifugal backward inclined, non- overloading wheel secured directly to a heavy-duty, ball bearing type motor via two set screws. The motor and wheel assembly shall be mounted to a heavy gauge galvanized steel frame. The motor shall be controlled by a variable frequency drive, allowing for variable airflow without the need of belts and pulleys.

B. Blower Motor: Motor shall be a premium efficiency motor available as:

1. Totally Enclosed Fan Cooled (TEFC) motor driven by a Variable Frequency Drive.

C. Fans to be selected at or near efficiency peak. Check fan curves provided with job.

D. Blower and motor assembly shall be dynamically balanced. The entire blower and motor assembly shall be mounted on rubber vibration isolators. Wheels balanced as per AMCA 204-96; Balance Quality and Vibration Levels for fans.

2.5 SHAFTS AND BEARINGS

A. Shafts shall be precision ground and polished. Heavy duty, pre-lubricated bearings designed for, and individually tested, specifically for, use in air handling applications.

2.6 HEATING SYSTEM

A. The gas burner shall be a direct-fired, pull-through type, using natural gas at an inlet-supply pressure to the unit of 7"w.c. minimum natural gas.

B. Burner design shall be capable of using natural gas. Burner ignition shall be of the direct-spark design with remote flame sensing at the pilot assembly to detect the presence of flame in the burner.

C. Direct-sparking sequence shall last through the complete duration of the trial for ignition period for guaranteed light-off. Each burner ignition module shall have LED indicators for troubleshooting and a set of exposed prongs for testing flame indication signal.

D. Unit should include self-adjusting burner profile plates, which ensure proper air velocity and pressure drop across the burner for clean combustion. Spring-loaded profile plates should react to the momentum of the fresh air stream. No motors or actuators are needed to drive them, nor should they need to be manually set to a specific position. Units should be capable of variable air volume applications.

E. Each furnace shall have:

1. The burner shall have non-clogging, stainless steel combustion baffles attached to a ductile aluminum gas-supply section with no moving parts to wear out or fail. The burner shall be capable of 92% combustion efficiency with a maximum turndown ratio of up to 30 to 1.
2. Stainless steel Quick Seal Connection for gas connection.
3. Manifold and Input gas pressure gauges.
4. Inlet pressure gauge installed on the gas manifold (0-35"wc).
5. Inlet pressure gauge installed on the gas manifold (-5 to 15"wc).

2.7 FILTERS

A. Provide filters as part of unit. All filters shall be furnished and installed to meet the performance requirements set forth in the schedule and as specified under another section of this work.

B. The filters shall be (2") thick, aluminum mesh coated with super-filter adhesive, aluminum mesh with polyester foam or pleated throw away. Aluminum-mesh filters shall have aluminum frames with media to be layers of slit and expanded aluminum, varying in pattern to obtain maximum depth loading. Washable 2" filters shall be enclosed in two- piece, die-cut frame with diagonal supports. Frame shall be constructed of heavy-duty beverage board. Filter media is supported on the air leaving side by a metal grid.

C. All filters shall be installed on tracks for easy removal from the unit.

D. Shall be either insulated or non-insulated constructed of G-90 galvanized steel with filters supported by internal slides and with removable access panels.

2.8 ELECTRICAL

A. All controls shall be pre-wired and housed in an insulated electrical cabinet within the unit to protect against risk of condensation.

B. All direct fired and cooling only units shall be provided with single point electrical connection.

C. Unit shall be provided with a door safety switch that de-energizes the supply fan when the door is opened.

D. Units shall be provided with a factory mounted averaging intake air temperature sensor to allow for accurate intake temperature reading regardless of how the OA/RA dampers are positioned.

E. The electrical cabinet shall be outfitted with the following:

1. Color wiring schematics, laminated to the interior wall of the cabinet doors.
2. Factory mounted disconnect with unit bottom knockouts.
3. A LED backlit, LCD Human-Machine Interface (HMI) shall be mounted within the unit's control cabinet to allow for all set points configuration and refrigeration system monitoring at the unit.
4. Up to 4 additional space mounted HMIs available. Additional HMIs shall allow for full programming capabilities and are outfitted with integral temperature and humidity sensors. Additional HMIs shall be capable of being individually averaged for space temperature/humidity readings. All HMIs shall be wired using standard CAT5/6 cables.

2.9 CONTROLS

A. Unit shall be outfitted with a control board to allow for full control of the entire unit.

B. Provide onboard air flow switch located on MUA control board to sense air flow.

C. All unit controls shall be compatible with BACnet and LonWorks based building management systems.

D. All units shall be outfitted with CASLink cloud based monitoring, which monitors every point of operation. Provides configurable automated fault alert e-mails, and remote control capabilities.

E. Integrated cellular module to provide remote connection to monitoring services to view both real time and historical unit operation. Data shall be stored a minimum of 3 years on the cloud. Data sample rate shall be a maximum of 60 seconds.

F. Temperature Control System:

1. Discharge Temp Control (Heating) - Unit modulates the burner flame (current supply in the case of electric heating) to accurately maintain the desired discharge temperature set point and compensate for fluctuations in entering air temperature, air volume and % of OA using heating PID controls.

G. Activation Controls:

1. Activate Based on Intake (Heating) - Unit will activate heating when the intake temperature drops below the desired set point.
2. Activate Based on Space (Heating) - Unit will activate heating when the space temperature drops below the desired set point.
3. Activate Based on Both (Heating) - Unit will activate heating when the space AND intake temperature drop below the desired set point.
4. Activate Based on Either (Heating) - Unit will activate heating when the space OR intake temperature drops below the desired set point.
5. Activate Based on Stat (Heating) - Unit will activate heating when the space thermostat sends a 24V signal to W and G on the main control board. Unit will modulate to maintain a constant discharge heat set point.

2.10 ROOF CURBS

A. Unit shall be factory assembled, and constructed of 18GA galvanized steel.

B. Curb shall be fully insulated with 1"acoustical and thermal insulation.

C. Curb shall be factory outfitted with duct support hangers.

2.11 VARIABLE FREQUENCY DRIVES

A. Provide Variable Frequency Drive for speed control on all non-ECM direct drive supply fans.

B. All VFDs shall provide the following inherent protections:

1. Phase protection
2. Brownout protection
3. Overload/Overheat protection
4. Soft starts to protect bearings/hardware
5. Low & High voltage & over-torque protections

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine all areas and conditions under which packaged units are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.2 INSTALLATION

A. Install units in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual and all applicable building codes.

3.3 CONNECTIONS

A. Piping installation requirements are specified in other Division 23 Sections. Drawings indicate the general arrangement of piping, fittings, and specialties. Install piping to allow service and maintenance.

B. Duct installation requirements are specified in other Division 23 Sections. Drawings indicate the general arrangement of ducts.

C. Electrical connections conform to applicable requirements in Division 26 Sections.

3.4 SYSTEM START-UP

A. System start-up is performed by a factory-trained Service Technician.

SECTION 23 34 23
POWER VENTILATORS
TAG: Centrifugal Upblast

PART 1 - GENERAL

1.1 SUMMARY

A. Fan shall be a spun aluminum, G90 Galvanized, roof or wall-mounted, direct drive, upblast centrifugal exhaust ventilator.

1.2 SUBMITTALS

A. The manufacturer assumes no liability for the use or results of use of this document. This specification is to be reviewed by the engineer to confirm requirements of the project and building codes are met.

B. As the manufacturer continues product development, it reserves the right to change design and specifications without notice.

1.3 QUALITY ASSURANCE

A. ETL Listed and complies with UL705 (electrical) Standards and CSA Std C22.2, No 113.

B. Fan shall bear the AMCA certified rating seal for air performance.

C. Wheels shall be balanced in two planes and done in accordance with AMCA standard 204-96, Balance Quality and Vibration Levels for Fans.

1.4 WARRANTY

A. All units are provided with the following 2-year standard warranty from date of shipment.

B. This warranty shall not apply if:

1. The equipment is not installed by a qualified installer per the manufacturer's installation instructions shipped with the product.
2. The equipment is not installed in accordance with Federal, State, and Local codes and regulations.
3. The equipment is misused, neglected, or not maintained per the manufacturer's maintenance instructions.
4. The equipment is not operated within its published capacity.
5. The invoice is not paid within the terms of the sales agreement.

C. The manufacturer shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in material or workmanship within the 2-year warranty period, upon examination by the manufacturer, such part will be repaired or replaced by the manufacturer at no charge. The buyer shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without manufacturer's prior authorization. All returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.

PART 2 - PRODUCTS

2.1 GENERAL ASSEMBLY

A. The fan shall be factory assembled, tested, and shipped as a complete unit.

B. The following specifications, delivering all capacities scheduled and conforming to the design indicated herein. Alternate layouts or dimensional changes will not be accepted.

2.2 CONSTRUCTION

A. The fan wind band shall be constructed of heavy gauge aluminum or G90 Galvanized and shall be spun on an automatic lathe to provide consistent dimensions.

B. Horizontal and vertical internal supports shall be used to fasten the wind band to the discharge apron securely. This provides rigidity for hinging and added strength to reduce shipping damage.

C. The discharge apron shall have a rolled bead for added strength.

D. Base corners shall be welded to provide strength and support for hinging and cleaning and prevent leakage into the building.

E. The fan shall bear a permanently attached nameplate displaying model and serial number of unit for future identification.

F. Nylon washers provide a tight seal. All fasteners in the fan housing shall be backed with nylon washers.

G. The unit shall be factory tested after assembly.

2.3 CURB

A. The curb shall be constructed of galvanized steel.

B. The heavy duty G90 galvanized curb cap shall have fully welded corners for added strength and leak protection.

C. Fan #1 has curb options:

1. Hinged Base: Attached
2. Vented

2.4 WHEEL

A. The fan wheel shall be centrifugal backward inclined and non-overloading.

B. The wheel blades shall be aerodynamically designed to minimize turbulence, increase efficiency and reduce noise.

C. The wheel blades shall be welded to the wheel inlet cone.

D. If balancing weights are required, they shall be riveted to the blades or wheel.

E. The wheel inlet shall overlap the fan base inlet for maximum performance and efficiency.

F. The wheel shall be firmly attached to the motor shaft with two set screws.

2.5 MOTOR

A. Fan(s) Fan #1: Motor Type: Open Drip Proof (ODP).

B. Motor shall be permanently lubricated and rated for continuous duty.

C. Furnished at the specified voltage, phase, and enclosure. Motor speed shall be variable, controlled using an integrated speed controller.

D. Motors shall be mounted out of the airstream and furnished at the specified voltage, phase, and enclosure.

E. Motor mounting plate shall be constructed of heavy gauge galvanized steel.

F. The motor compartment shall be cooled by outside air drawn through an extruded aluminum conduit tube.

G. An integral electrical conduit running from the fan base to the motor compartment is provided for ease of installation.

H. The conduit tube passage shall be sealed to prevent noise. Silicone rubber grommets shall isolate the conduit tube from the fan housing.

I. The motor compartment shall be a two-piece construction. The cap has quick-release clips to provide fast and easy access to the motor compartment.

2.6 GREASE

A. The grease spout shall be made of aluminum tubing, welded to the fan housing. The weld shall be factory tested to ensure no leaks.

B. Grease Box.

2.7 OPTIONS AND ACCESSORIES

A. Fan #1 has fan options:

1. Grease Box.
2. Fan Base Ceramic Seal - DU/DR85HFA - Installed at Plant - For Grease Ducts.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine all areas and conditions under which package(s) are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.2 INSTALLATION

A. Install the package in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual, and all applicable building codes.

3.3 CONNECTIONS

A. Electrical connections conform to applicable requirements in Division 26 Sections.

3.4 SYSTEM START-UP

A. System start-up is performed by a factory-trained Service Technician.

SECTION 23 09 23
SPECIFICATIONS
TAG: CASLink Building Management System, SCADA

PART 1- GENERAL

1.1 SUMMARY

A. Building Management System (BMS), utilizing Direct Digital Controls (DDC).

1.2 DESCRIPTION

A. CASLink is a cloud-based Building Management System that can be used to monitor, control and optimize the operation of kitchen ventilation, lighting, utilities and HVAC equipment. It gathers sensor data, component operating data, alarms, user and factory settings information periodically.

B. Information is displayed in a user-friendly interface hosted on the CASLink website, which is accessible through a secure login to owners and operators using an internet enabled device.

C. Email alerts based on sensor data and system alarms, both prescriptive and custom, can be set up on demand.

1.3 SUBMITTALS

A. The manufacturer assumes no liability for the use or results of use from this document. Specifications are to be reviewed by the engineer to confirm the requirements of the project and meet Federal, State, and Local codes.

B. As the manufacturer continues product development, it reserves the right to change the design and specifications without notice.

1.4 WARRANTY

A. All units shall be provided with the following standard warranties:

1. System is warranted to be free from defects in materials and workmanship, under normal use and service, for a period of 2-years from date of shipment.

B. The manufacturer shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in material or workmanship within the 60-month warranty period, upon examination by the manufacturer, such part will be repaired or replaced by manufacturer at no charge. The buyer shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without manufacturer's prior authorization, and all returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.

C. Refer to Manufacturer's Operation, Installation, and Maintenance (OIM) Manual for detailed descriptions of what is/is not covered and contact information for warranty claims.

PART 2- PRODUCTS

2.1 GENERAL

A. CASLink is implemented by a SCADA module installed in an electrical control panel or in an electrical cabinet. The SCADA module serves as a gateway to communicate locally

gathered data from CASLink-enabled controllers to CASLink's servers. Data is transmitted via a factory installed cellular device, which is integral to the SCADA module.

2.2 COMPONENTS

A. System integration (Products Not Furnished or Installed)

1. Kitchen Hood Demand Control Ventilation Systems
2. Kitchen Hood Smart Control Systems
3. Paragon Dedicated Outdoor Air System
4. Direct Fired MUA Controls
5. Indirect Fired MUA Controls
6. RTULink Cloud-Based Thermostat
7. CORE Fire Protection
8. TANK Fire Protection
9. High Volume Low Speed (HVLS) Fans
10. Lighting Control Panel
11. Hood Self-Cleaning Remote Manifold

PART 3- EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions under which the system is installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer.

3.2 APPLICATION

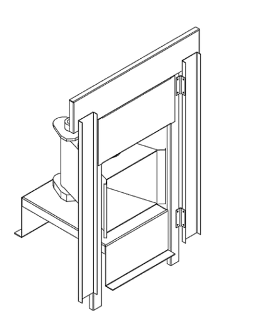
A. CASLink monitors relevant sensor and system data at adequate data rates which allows users and support teams to assess performance and diagnose alarms remotely. Gathered data is displayed and organized in a user-friendly interface which can be accessed by customers and manufacturer engineering support teams.

B. CASLink's website requires login credentials. These can be created for owners and operators as needed. Two-factor authentication is required for enhanced security.

C. CASLink's interface allows for adjustments of critical system settings such that performance can be optimized remotely using historical data. CASLink processes historical data to create dashboards that include real time operating information, analytics and insights derived from proprietary machine learning algorithms.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual, and all applicable building codes.



DIRECT FIRED (DF) PROFILE PLATE ASSEMBLY

DIRECT FIRED PROFILE PLATE SPECIFICATIONS:
DESCRIPTION:
DIRECT FIRED BURNERS SHALL HAVE PATENTED (US PATENT NO.: US6629523B2), SELF-ADJUSTING PROFILE PLATES DESIGNED TO ENSURE PROPER AIR VELOCITY AND PRESSURE DROP ACROSS THE BURNER. PROFILE PLATES SHALL ALLOW BURNERS TO ACHIEVE CLEAN COMBUSTION BY LIMITING BY-PRODUCT LEVELS TO A MAXIMUM OF 5PPM OF CARBON MONOXIDE (CO), AND 0.5PPM OF NITROGEN DIOXIDE (NO_2) DIRECT FIRED UNITS SHALL BE CONFIGURED WITH THE BLOWER MOUNTED DOWNSTREAM OF THE BURNER. THIS ARRANGEMENT WILL ENSURE A CONSISTENT AIRFLOW, REGARDLESS OF INLET AIR TEMPERATURE.

APPLICATION:
SPRING-LOADED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF A FRESH AIR STREAM, WITHOUT THE NEED FOR ANY MOTORS OR ACTUATORS TO MECHANICALLY ADJUST THEM. WITH THIS FEATURE, ALL DF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.

CERTIFICATIONS:
ALL PROFILE PLATE ASSEMBLIES SHALL BE INCLUDED IN THE DF UNIT'S ETL LISTING AND COMPLY WITH COMBINED SAFETY STANDARDS ANSI Z83.4 AND CSA 3.7 (NON-RECIRCULATING DF HEATERS) AND ANSI Z83.18 (RECIRCULATING DF HEATERS).

GENERAL CONSTRUCTION:
-PROFILE PLATES SHALL BE FORMED FROM G90 GALVANIZED STEEL.
-PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
-PROFILE PLATES SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
-DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.
-SPRING HINGES SHALL BE MADE FROM PLATED STEEL.

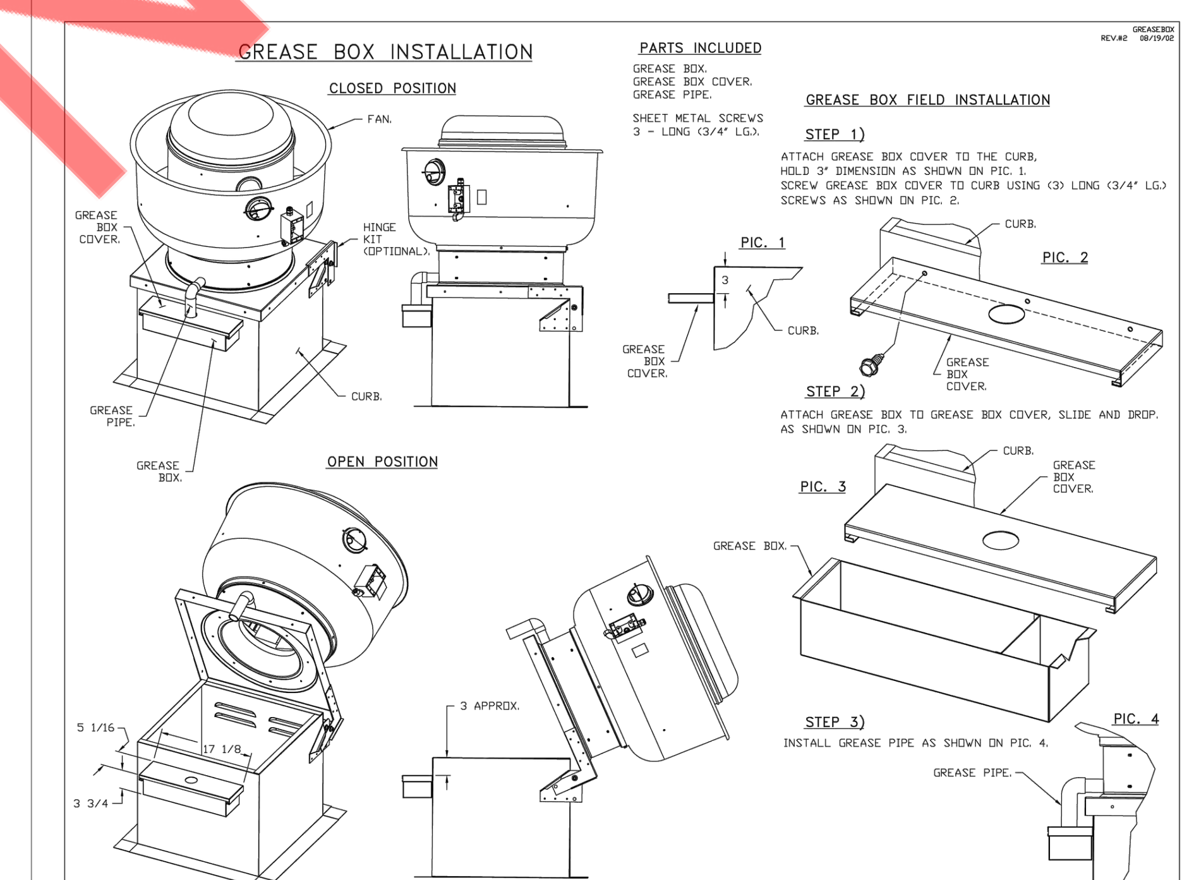
GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO SUNAIR MODEL "SADW"
ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "SADW"
IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING
CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "SADW"
DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER
THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER.
PER MANUFACTURES LISTING MODEL "SADW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE
SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12".
DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE
ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE
UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY
EQUAL TO SUNAIR MODEL "SADW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430
STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED	☐
APPROVED WITH NO EXCEPTION TAKEN	☐
REVISE AND RESUBMIT	☐
SIGNATURE	
YOUR TITLE	DATE

GREASE BOX INSTALLATION



*NOTE: UL 705 INSTALL.

SUNAIR

DATE: 7/10/2024
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SCALE: 1/2" = 1'-0"
MASTER DRAWING
SHEET NO.

NY ENGINEERS

PROJECT

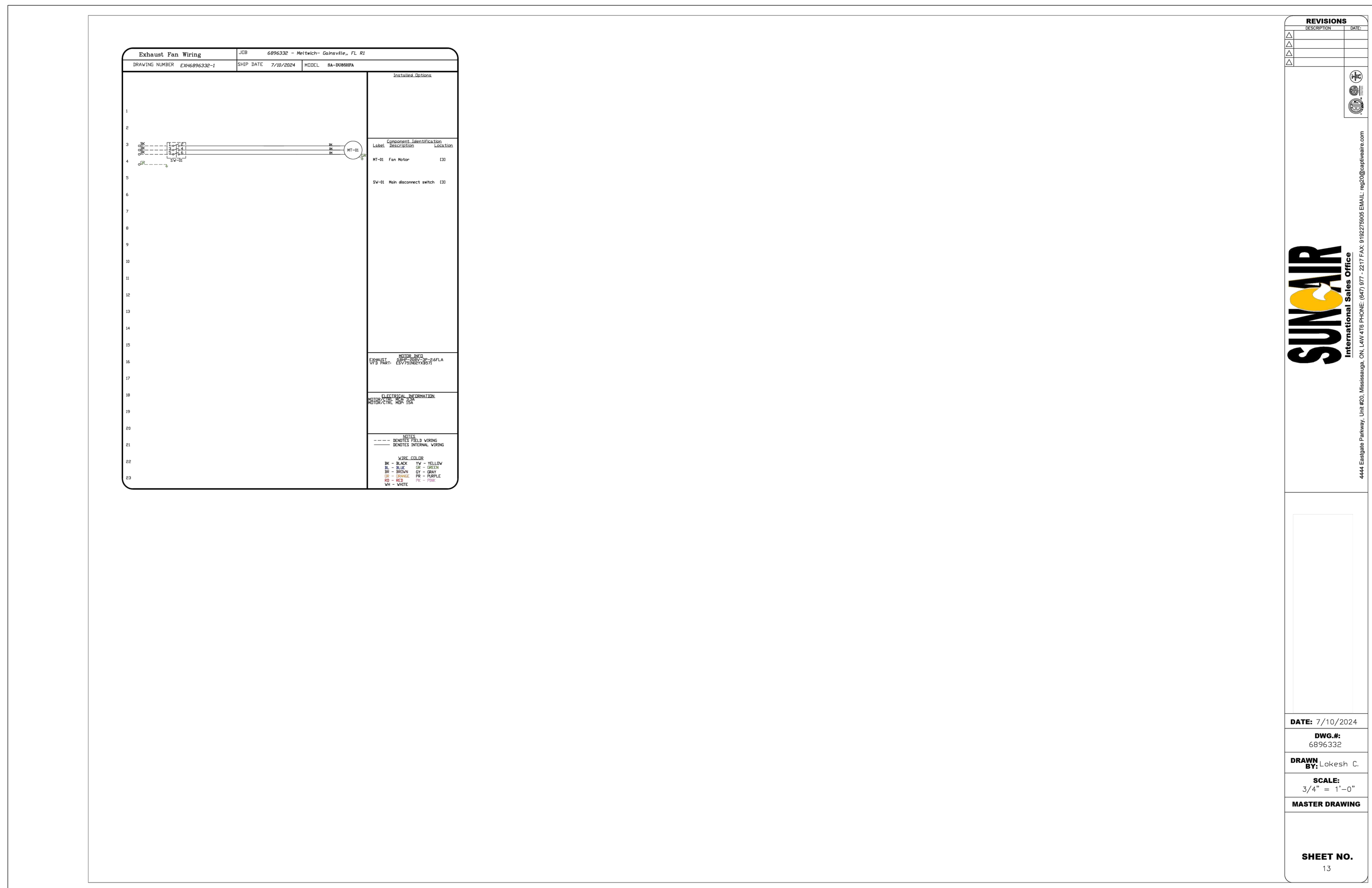
MELTWICH

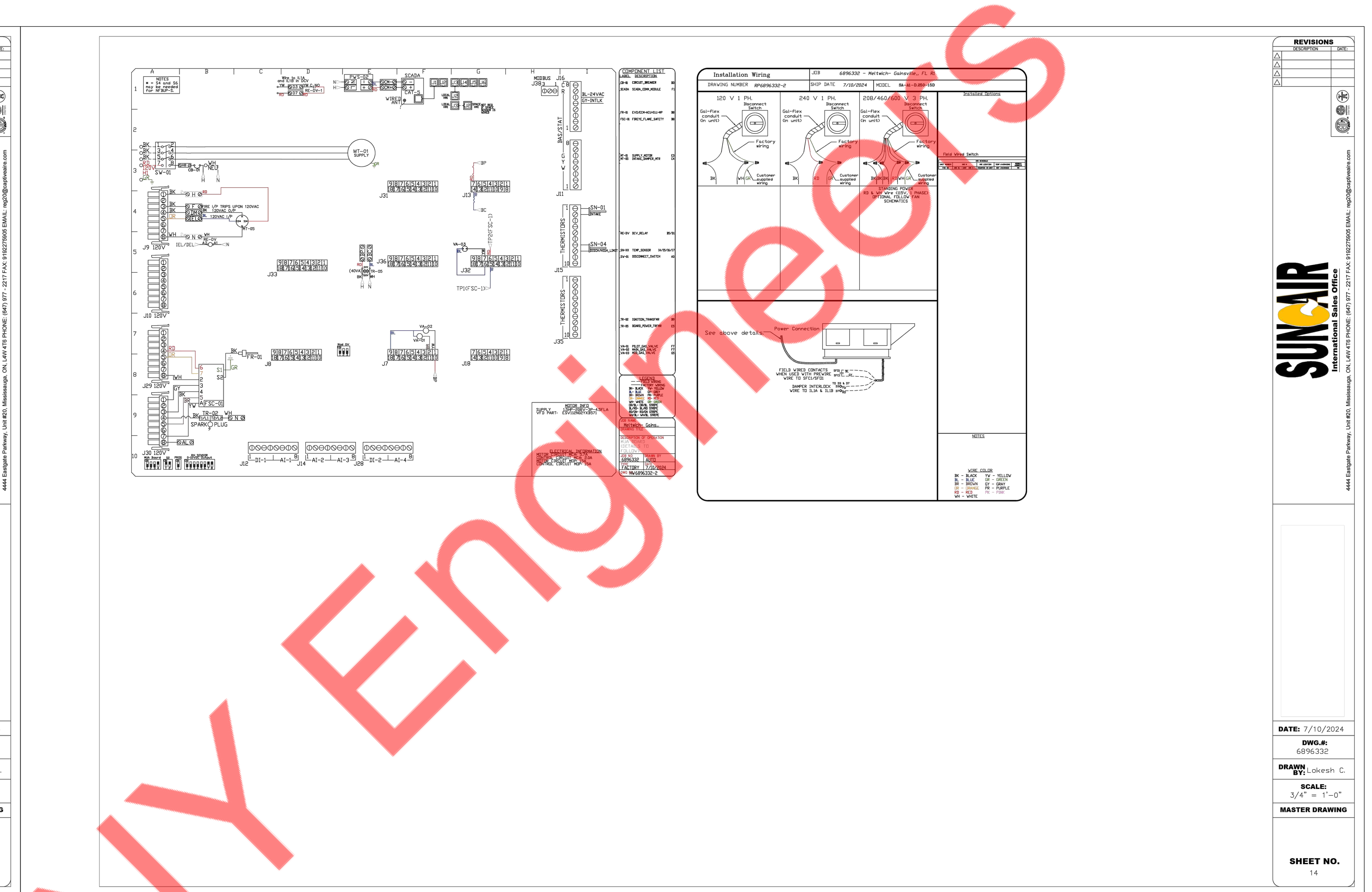
REVISIONS DATES:

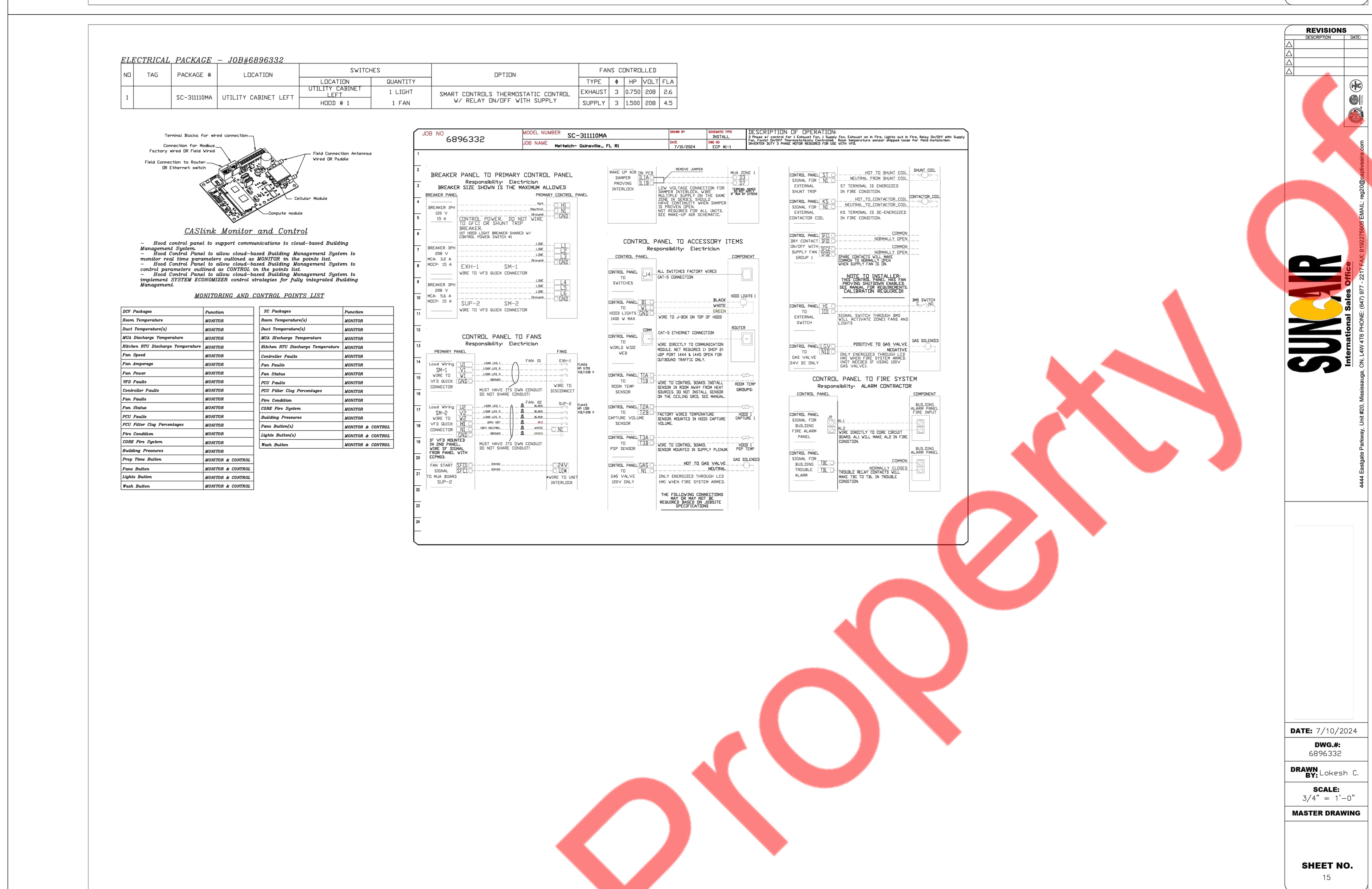
ISSUE DATE: 07.09.24
PROJECT #:
DRAWN BY: NYE
CHECKED BY: NYE

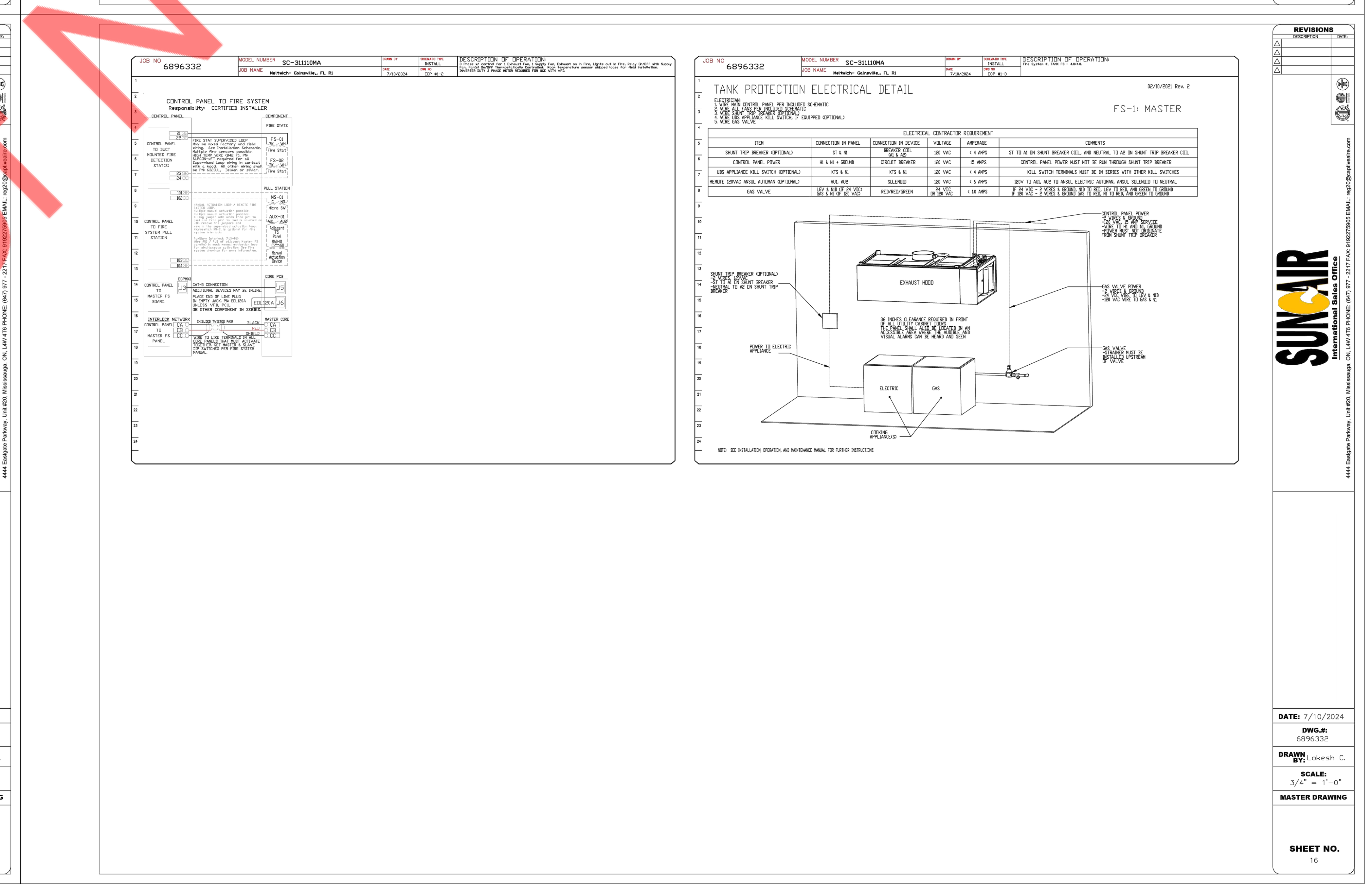
HOOD DETAILS
3 OF 5

M-6









NY ENGINEERS

PROJECT

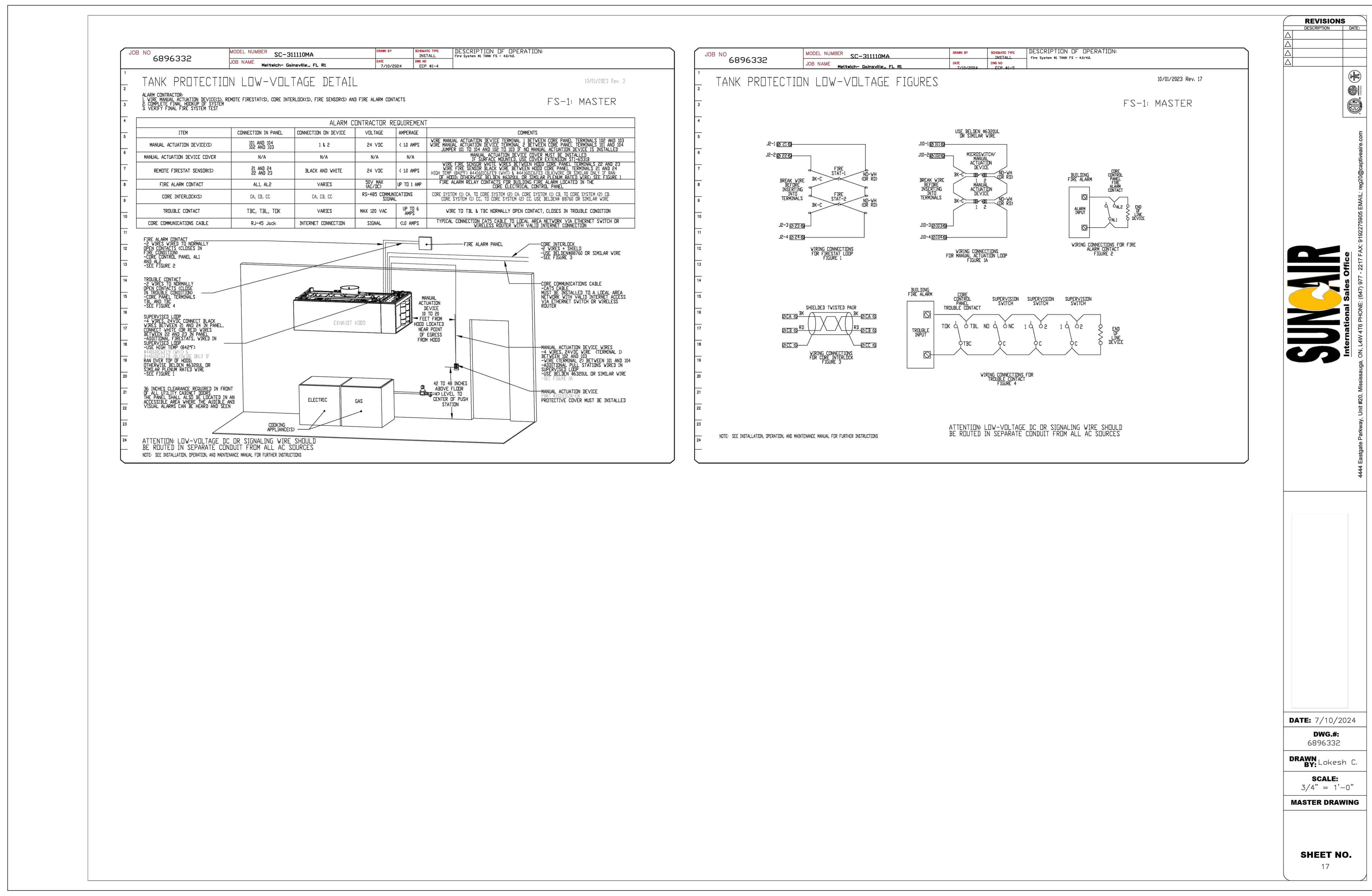
MELTWICH

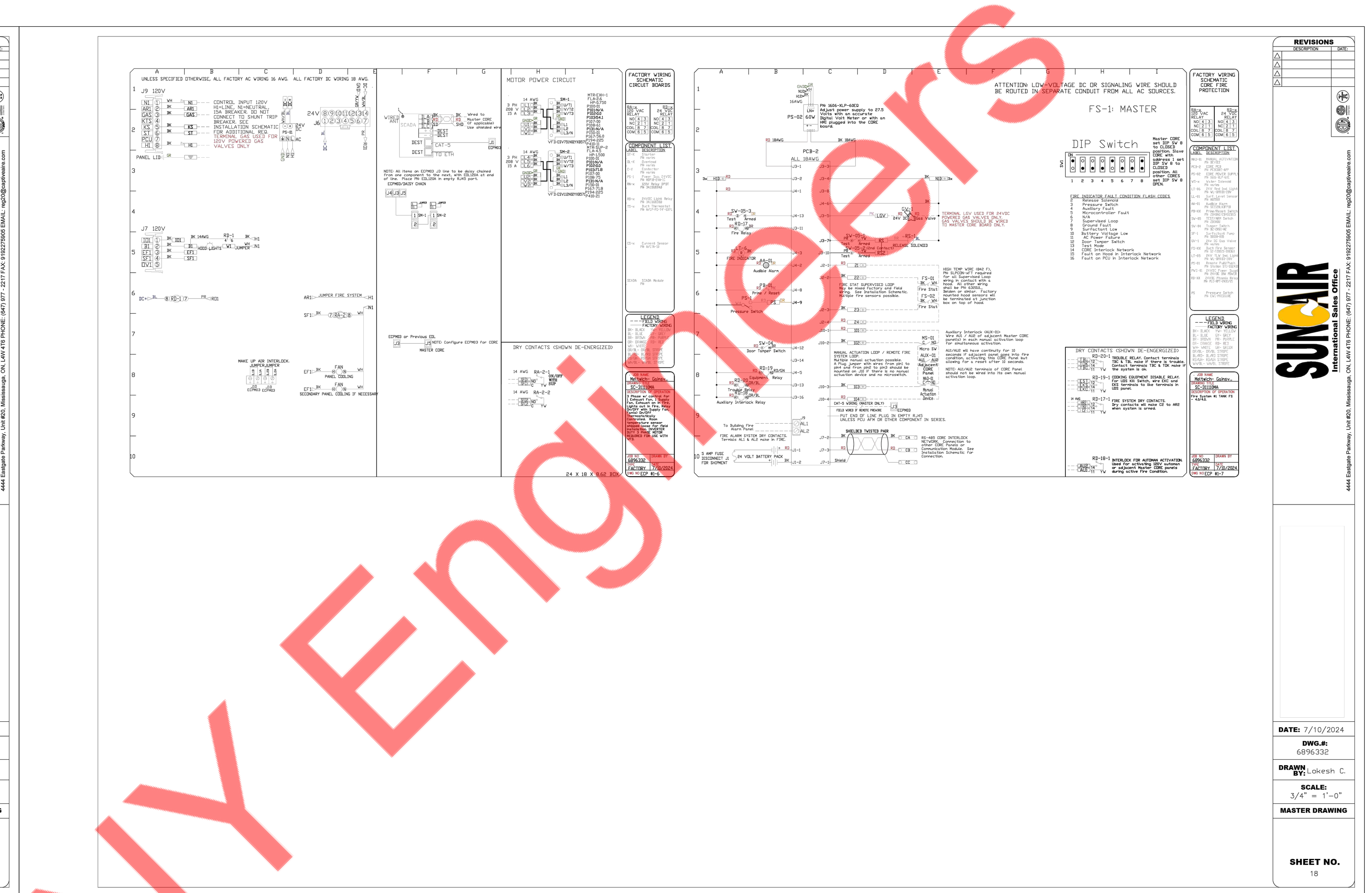
REVISIONS DATES:

ISSUE DATE: 07.09.24
PROJECT #:
DRAWN BY: NYE
CHECKED BY: NYE

HOOD DETAILS
4 OF 5

M-7





NY ENGINEERS

PROJECT

MELTWICH

REVISIONS DATES:

ISSUE DATE: 07.09.24
PROJECT #:
DRAWN BY: NYE
CHECKED BY: NYE

HOOD DETAILS
5 OF 5

M-8

SCOPE OF WORK

1. REUSE EXISTING 200A,120/208V, 3-PHASE, 4-WIRE ELECTRICAL SERVICE FOR THE PROJECT SPACE.
2. PROVIDE (1) NEW 200A(MCB), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A" FOR THE PROJECT SPACE.
3. ALL NECESSARY EQUIPMENT, WIRING AND LIGHTING FOR THE PROJECT SPACE INCLUDING WIRING FOR VENTILATION EQUIPMENT. COORDINATE WITH G.C 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 2020 EDITION OF THE NATIONAL ELECTRIC CODE AND ALL CODES 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 THHN 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 WORKMANLIKE 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 IECE.
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 CONTRACT 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. 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.
51. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.
52. ABSOLUTELY NO FLEXIBLE CONDUIT IS PERMITTED IN DEMISING WALLS. FLEXIBLE CONDUIT IS PERMITTED FOR SHORT FINAL CONNECTIONS ONLY (6'-0" OR LESS).
53. EXPOSED CONDUIT SHALL BE INSTALLED IN STRAIGHT LINES, PARALLEL OR IN RIGHT ANGLES TO THE BUIDING STRUCTURE. DO NOT LOOP EXCESS FLEXIBLE CONDUIT IN CEILING SPACE OR WALL CAVITY. NO CONDUIT TO BE SUPPORTED FROM THE ROOF DECK.
54. CABLE TYPES AC AND NM CABLES ARE NOT ACCEPTABLE. TYPE MC CABLE, ELECTRIC METALLIC TUBING (EMT) AND RIGID GALVANIZED CONDUIT ARE PERMITTED.
55. ALL EQUIPMENT, DEVICES AND FIXTURES SHALL BE GROUNDED IN COMPLIANCE WITH NEC AND UL REQUIREMENTS.
56. ALL PANELS TO BE UL LABELED WITH BOLT-ON TYPE CIRCUIT BREAKERS.
57. 7-DAY 24-HOUR TIME CLOCK IS REQUIRED TO CONTROL STOREFRONT ENTRY LIGHTS, SHOW WINDOW LIGHTS, SHOW WINDOW RECEPTACLES AND STOREFRONT SIGNAGE. ILLUMINATED STOREFRONT SIGNS MUST REMAIN LIT DURING ALL MALL BUSINESS HOURS.
58. 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. ANYALL 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.
59. ALL ELECTRICAL PANELS TO BE MOUNTED ON PLYWOOD BACKER BOARD.
60. PANEL PHASE LOADS TO BE BALANCED WITHIN 10%.

EXISTING CONDITIONS NOTES

STOP AND READ

THE CONTRACTOR AND SUB-CONTRACTORS **SHALL NOT INITIATE ANY WORK UNTIL EXISTING FIELD CONDITIONS ARE PROPERLY VERIFIED**. THIS SHALL HOLD TRUE FOR FIRST GENERATION AND 2ND GENERATION SPACES. WHEN DEMOLITION IS REQUIRED, THAT WILL BE PERMITTED TO EXPOSE CONDITIONS. THESE VERIFICATIONS SHALL INCLUDE BUT NOT LIMITED TO: DIMENSIONS BOTH HORIZONTALLY AND VERTICAL, ELECTRICAL SERVICE /PANELS LOCATION AND VOLTS/PHASE, LOCATION/QTY 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 REMAIN AND 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.

GENERAL LIGHTING NOTES

A. UPPER CASE LETTER NEXT TO LIGHT FIXTURE DENOTES FIXTURE TYPE.

B. ALL EMERGENCY FIXTURES SHALL BE CONNECTED TO AN UNSWITCHED HOT CONDUCTOR.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	EXHAUST FAN
	COMBINATION EXHAUST FAN/LIGHT (REFER TO MECHANICAL PLANS)
J	JUNCTION BOX
	BATTERY BACK UP EXIT LIGHT
	BATTERY BACK UP EMERGENCY LIGHT
$	WALL SWITCH (SINGLE, DOUBLE,)
$3	WALL SWITCH (3 WAY, 4 WAY)
$T	WALL SWITCH (TIMER)
$OS	OCCUPANCY SENSOR WALL SWITCH
	SINGLE RECEPTACLE
	DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE, 46" TO AFF AT KITCHEN, BATHS AND TOPS
	HALF SWITCHED DUPLEX RECEPTACLE
	230 VOLT RECEPTACLE
	QUADRUPLEX RECEPTACLE
	FLOOR MOUNTED. FLUSH DUPLEX RECEPTACLE
	FLOOR MOUNTED. FLUSH QUAD. RECEPTACLE
	FLOOR MOUNTED. FLUSH 230 VOLT RECEPTACLE
CL	CEILING MOUNTED DUPLEX RECEPTACLE
	ELECTRICAL PANEL
	DISCONNECT SWITCH
	USB CHARGER RECEPTACLE
TV	TELEVISION OUTLET
T	TELEPHONE OUTLET
T	TELEPHONE/DATA OUTLET
D	DATA OUTLET
T D	FLOOR MTD. FLUSH TELEPHONE/DATA OUTLET
QUAD	QUAD. DATA OUTLET RJ45
	NON FUSED DISCONNECT SWITCH

ABBREVIATIONS:

ABOVE FINISH FLOOR= A.F.F.	BELOW COUNTER= BC
COUNTER TOP LEVEL= C	PUSH BUTTON= PB
GROUND FAULT INTERRUPTER= GFCI	UNDER CABINET= UC
VERIFY PRIOR TO INSTALL= VH	VAPOR PROOF= VP
WEATHER PROOF= WP	ELECTRICAL CONTRACTOR=E.C.
KITCHEN EXHAUST FAN = KEF	BATHROOM EXHAUST FAN=BEF
WATER HEATER= WH	RECIRCULATION PUMP=RCP
AUTHORITY HAVING JURISDICTION= A.H.J.	ROOF TOP UNIT= RTU
MAKE UP AIR UNIT=MAU	EXHAUST FAN=EF

LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLT	LAMP WATTAGE	MOUNTING
	A	2x4 RECESSED LED LAY-IN	LEVITON_VISCOR	ERCTB2X42L-T528N120	120	28 WATTS	RECESSED
	A1	2x2 RECESSED LED LAY-IN	LEVITON_VISCOR	ERCTB2X42L-T514N120	120	14 WATTS	RECESSED
	B	LED RECESSED DOWNLIGHT	TBD	TBD	120	6 WATTS	SURFACE
	D	LED TRACK LIGHTING	TBD	TBD	120	20 WATTS	SURFACE/BAR HANG/CLOSED CEILING
	X1	WALL/CEILING MOUNTED EXIT SIGN	TBD	TBD	120	3.6 WATTS	WALL
	EM	WALL MOUNTED EMERGENCY LIGHT	TBD	TBD	120	2 WATTS	WALL
	EM2	CEILING MOUNTED EMERGENCY LIGHT	TBD	TBD	120	2 WATTS	CEILING
$T	T	TIMER WALL SWITCH	LEVITON	VPT24-16Z	120	-	WALL
$OS	OS	OCCUPANCY WALL SWITCH	LEVITON	ODS10	120	-	WALL
$D	D	DIMMER WALL SWITCH	LUTRON	DVSTV-453PH-WH	120	-	WALL
OS	OS	CEILING OCCUPANCY SENSOR	LEVITON	O2C10-UDW	120	-	CEILING
	(E)	EXISTING LIGHTING FIXTURE TO REMAIN	-	-	-	-	-

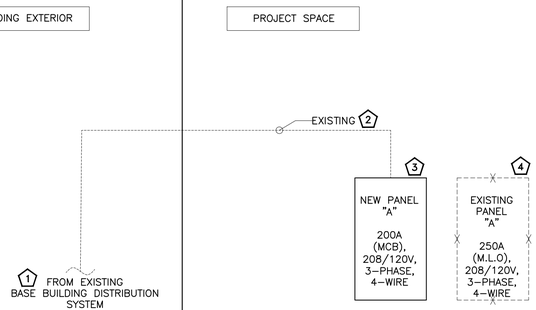
NOTE:
1. E.C. SHALL COORDINATE WITH ARCHITECT FOR FINAL FIXTURE COUNT AND TYPE.
2. COORDINATE EXACT CONTROL REQUIREMENTS WITH OWNER.
3. E.C SHALL PROVIDE REQUIRED POWER PACKS AND RELAYS SUITABLE FOR THE ABOVE LIGHT FIXTURES IN COORDINATION WITH THE LIGHTING VENDOR. BASE BID ACCORDINGLY.

LIGHT FIXTURE SCHEDULE NOTES:

REFER TO SHEET A-2 - REFLECTED CEILING PLAN IN ARCHITECTURAL DRAWINGS FOR MORE INFORMATION ON COLORS AND TRIMS REQUIRED

(*) EXISTING FIXTURES ARE ACCEPTABLE. IF THEY NEED TO BE REPLACED, REPLACE W/ EXACT MATCH OR MATCH SCHEDULE

SUBSTITUTIONS TO THE ABOVE FIXTURE SCHEDULE MUST BE SUBMITTED 14 DAYS PRIOR TO BID & REVIEWED BY THE ARCHITECT, ENGINEER & OWNER. SUBSTITUTIONS WILL NOT BE REVIEWED AFTER THIS TIME. SUBMITTAL PACKAGES MUST INCLUDE COLOR, CUT SHEETS, ALL PHOTO METRICS & FIXTURE SAMPLES FOR ALL DECORATIVE FIXTURES, LANDSCAPE FIXTURES & OUTDOOR FIXTURES. WITHOUT THIS INFORMATION NO REVIEW WILL BE PROVIDED.



ELECTRICAL RISER KEYED NOTES:

1. EXISTING 200A, 208/120V, 3-PHASE, 4-WIRE INCOMING ELECTRICAL SERVICE FROM THE EXISTING BASE BUILDING DISTRIBUTION SYSTEM TO THE PROJECT'S SPACE SHALL REMAIN. E.C. SHALL COORDINATE WITH THE BASE BUILDING/LANDLORD/OWNER FOR EXACT POWER DISTRIBUTION. REPORT TO ENGINEER ON RECORD FOR ANY DISCREPANCIES.
2. EXISTING FEEDER TO REMAIN AND REROUTED TO THE NEW PANEL "A". E.C. TO VERIFY OPERABLE CONDITION AND LENGTH OF THE FEEDER IN FIELD AND PROVIDE NEW IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
3. NEW 200A(MCB), 208/120V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
4. DEMOLISH THE EXISTING 250A(M.L.O.), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A". INFORM ENGINEER FOR ANY DISCREPANCY. BASE BID ACCORDINGLY.

ELECTRICAL RISER SYMBOLS:
- NEW
- EXISTING ITEM/FEEDER TO REMAIN
- EXISTING ITEM/FEEDER TO BE DISCONNECTED & REMOVED

RISER DIAGRAM GENERAL NOTES:

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.

ELECTRICAL RISER | SCALE N.T.S. | 1

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ELECTRICAL PLAN NOTES AND RISER DIAGRAM

E-1

LIGHTING PLAN GENERAL NOTES:

1. CONTRACTOR ADVISED TO UPDATE THE EMERGENCY LIGHT FIXTURES LOCATIONS/QUANTITY PER SITE REQUIREMENT UP ON FINAL INSPECTION OR PER LOCAL AHJ REQUIREMENT.

2. (E) IN THE PLAN INDICATES EXISTING TO REMAIN.

LIGHTING PLAN KEYED NOTES:

(A) CONNECT EMERGENCY AND EGRESS LIGHTING FIXTURES TO THE NEAREST LIGHTING 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. E.C SHALL CONFIRM CLEAR SPACE FOR SWITCH, NO OBJECT INFRONT ON SWITCH LOCATION.

(C) EXHAUST FANS BEF-1(N) & BEF-2(N) SHALL BE INTERLOCKED WITH RTU-1(N). E.C. SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR IN THE FIELD. PRIOR TO ROUGH IN.

(D) PROVIDE DISCONNECT SWITCH, TIMER AND OTHER ELECTRICAL CONNECTIONS FOR EXTERIOR SIGN. E.C SHALL COORDINATE EXACT POWER REQUIREMENT, LOCATION AND MOUNTING DETAILS WITH OWNER/LANDLORD & SIGN VENDOR.

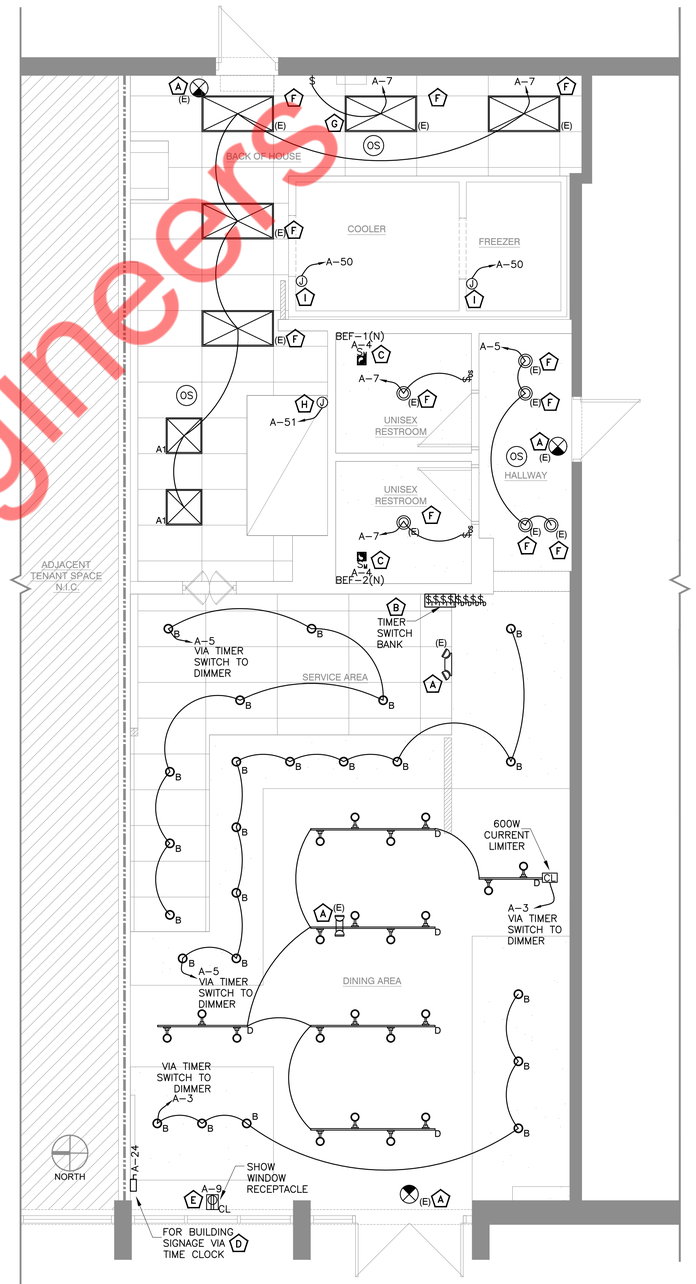
(E) PROVIDE SHOW WINDOW RECEPTACLE AS PER N.E.C. 210.62. VERIFY EXACT LOCATION WITH ARCHITECT.

(F) EXISTING LIGHT FIXTURE DENOTED BY (E) SHALL REMAIN AS SHOWN IN THE PLANS. E.C. SHALL VERIFY THE EXACT EXISTING LIGHTING CONTROLS PROVIDED, THEIR OPERATING CONDITIONS IN FIELD. THE EXISTING LIGHTING CONTROLS SHALL BE IN COMPLIANCE WITH LATEST IECC/ASHRAE CODES. IF REQUIRED PROVIDE NEW CONTROLS AS SHOWN IN THE PLANS. INFORM ENGINEER/OWNER/ARCHITECT ON RECORD FOR ANY DISCREPANCIES/ISSUES BEFORE COMMENCING ANY WORK. BASE BID ACCORDINGLY.

(G) LIGHTING NEAR ELECTRICAL PANELS SHALL NOT BE CONTROLLED BY ANY AUTOMATIC MEANS AND SHALL BE COMPLIED AS PER NEC 110.26(D).

(H) PROVIDE 120V DEDICATED CIRCUIT FOR NEW HOOD LIGHTING & CONTROL PANEL. COORDINATE FOR LIGHTING CONNECTION & ALL OTHER REQUIREMENT WITH CAPTIVE AIRE HOOD DRAWINGS/MANUFACTURER IN FIELD.

(I) EXISTING LIGHTING FIXTURE IN THIS WALK IN COOLER/FREEZER ALONG WITH ITS CONTROLS SHALL REMAIN AS IT IS. E.C SHALL VERIFY THE OPERABLE CONDITION OF THE LIGHTING CONNECTION AND CONTROLS BEFORE COMMENCING ANY WORK. IF REQUIRED PROVIDE NEW AS SHOWN IN THE DRAWING. E.C SHALL COORDINATE IN FIELD FOR ANY OTHER REQUIREMENT WITH OWNER/VENDOR. BASE BID ACCORDINGLY.



LIGHTING PLAN | SCALE 1/4" = 1'-0" | 1

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LIGHTING PLAN

E-2

POWER PLAN GENERAL NOTES:

1. ALL 125-VOLT THROUGH 250-VOLT RECEPTACLES SUPPLIED BY SINGLE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 50 AMPERES OR LESS, AND ALL RECEPTACLES SUPPLIED BY THREE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 100 AMPERES OR LESS, INSTALLED IN THE LOCATIONS SPECIFIED IN 210.8(B) SHALL HAVE GFCI PROTECTION. ALL THE KITCHEN EQUIPMENT SHALL HAVE GFI BREAKER IN PANELS.
2. E.C. SHALL COORDINATE WITH THE EQUIPMENT VENDOR FOR EXACT RECEPTACLE REQUIREMENT AND WITH ARCHITECT/OWNER FOR EXACT LOCATION AND MOUNTING HEIGHT OF THE RECEPTACLES IN THE FIELD.

POWER PLAN KEYED NOTES:

(A) NEW 200A(MCB), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A." E.C. TO COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.

(B) E.C SHALL VERIFY THE INSTALLATION OF ELECTRICAL EQUIPMENTS ARE IN COMPLIANCE WITH N.E.C. ARTICLE 110.26(A) AND (B). E.C. SHALL FIELD VERIFY THAT THE PANELS ARE UNOBSTRUCTED AND THE AREA WHERE THE PANELS ARE PLACED SHALL NOT BE USED AS A STORAGE SPACE.

(C) ELECTRICAL CONTRACTOR TO CO-ORDINATE WITH FIRE SUPPRESSION SYSTEM VENDOR FOR ITS POWER REQUIREMENT AND OTHER DETAILS BEFORE COMMENCING ANY WORK. BASE BID ACCORDINGLY.

(D) EXISTING WALK IN COOLER/FREEZER UNITS ELECTRICAL FIXTURE SHALL REMAIN AND RECIRCUITED TO THE NEW PANEL "A". E.C SHALL VERIFY THE OPERABLE CONDITION OF THE EXISTING BRANCH CIRCUIT AND ELECTRICAL FIXTURE. PROVIDE NEW IF FOUND INOPERABLE. ELECTRICAL CONTRACTOR TO COORDINATE ANY REQUIREMENT WITH WALK IN COOLER/FREEZER MANUFACTURER/ OWNER BEFORE COMMENCING ANY WORK. BASE BID ACCORDINGLY.

(E) E.C SHALL COORDINATE WITH THE POS SYSTEM VENDOR/MANUFACTURER/OWNER FOR THE EXACT REQUIREMENT OF THE POS SYSTEM AND MOUNTING HEIGHT OF THE OUTLETS/DATA OUTLETS BEFORE COMMENCING ANY WORK. INFORM ENGINEER FOR ANY DISCREPANCY. BASE BID ACCORDINGLY.

(F) EXISTING PLUMBING EQUIPMENT (EX.RCP) WITH ITS ELECTRICAL FIXTURE AND ELECTRICAL CONNECTION TO REMAIN AND CIRCUIT/FEEDER SHALL BE REROUTE TO THE NEW PANEL "A". E.C. SHALL VERIFY OPERABLE CONDITION OF ELECTRICAL CONNECTION, ELECTRICAL FIXTURE & LENGTH OF THE EXISTING BRANCH FEEDER ON FIELD. REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.

(G) ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE PLUMBING CONTRACTOR FOR EXACT LOCATION AND POWER REQUIREMENT OF THE PLUMBING UNITS IN THE FIELD. PROVIDE CIRCUIT AND CONTROL AS REQUIRED.

(H) ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR EXACT LOCATION AND POWER REQUIREMENT OF THE MECHANICAL UNITS IN THE FIELD. PROVIDE CIRCUIT AND CONTROL AS REQUIRED.

(I) 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

(J) KEF-1(N) SHALL BE INTERLOCKED WITH MUA-1(N). E.C. SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR IN THE FIELD. PRIOR TO ROUGH IN.

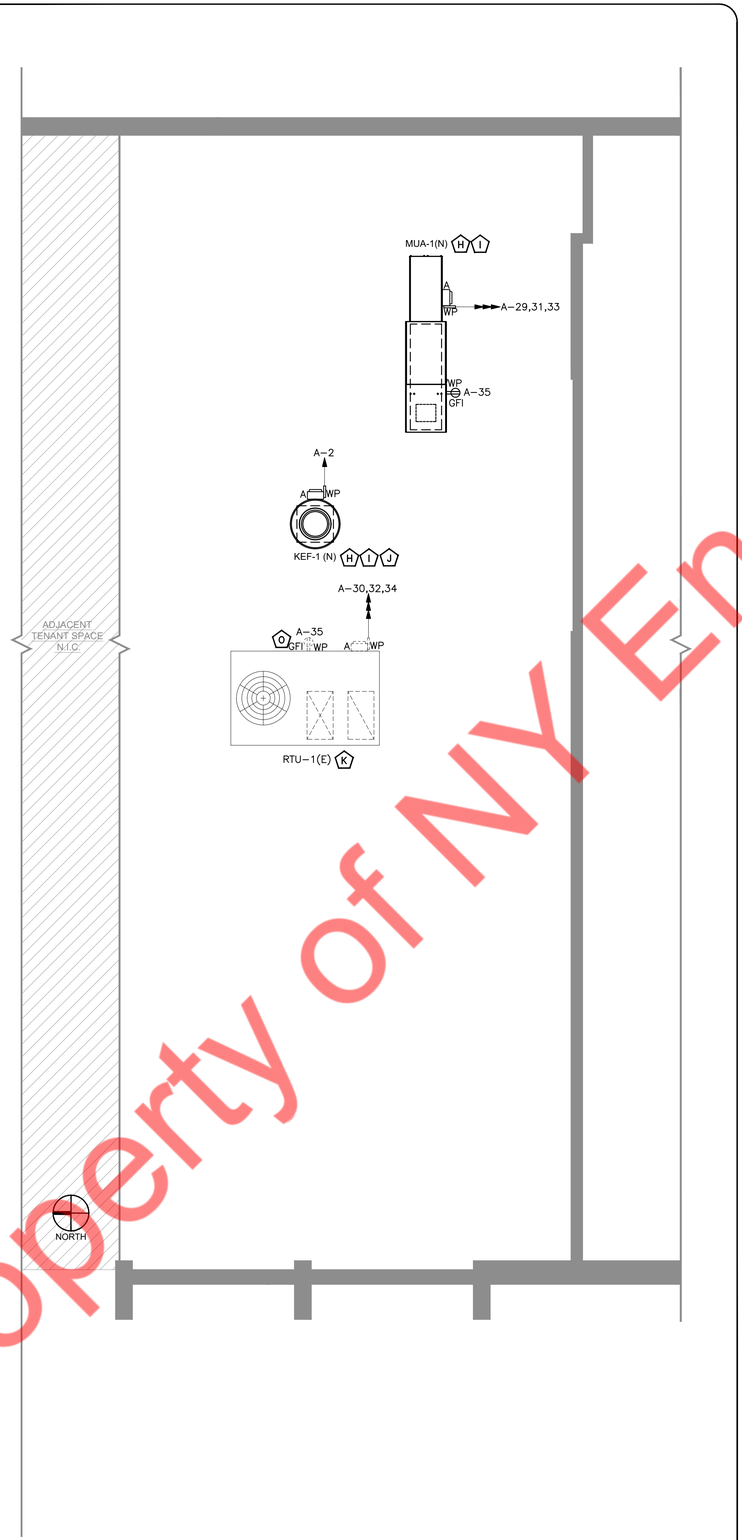
(K) EXISTING MECHANICAL EQUIPMENT RUT-1(E) WITH ITS ELECTRICAL CONNECTION AND ELECTRICAL FIXTURE TO REMAIN AND CIRCUIT/FEEDER SHALL BE REROUTED TO THE NEW PANEL "A". E.C. SHALL VERIFY OPERABLE CONDITION OF ELECTRICAL CONNECTION, ELECTRICAL FIXTURE AND LENGTH OF THE BRANCH FEEDER ON FIELD. REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.

(L) ALL 15/20A, 125V AND 250V NON LOCKING TYPE RECEPTACLES IN LOBBY/ HALLWAY SHALL BE LISTED TAMPER RESISTANCE AS PER NEC 406.12.

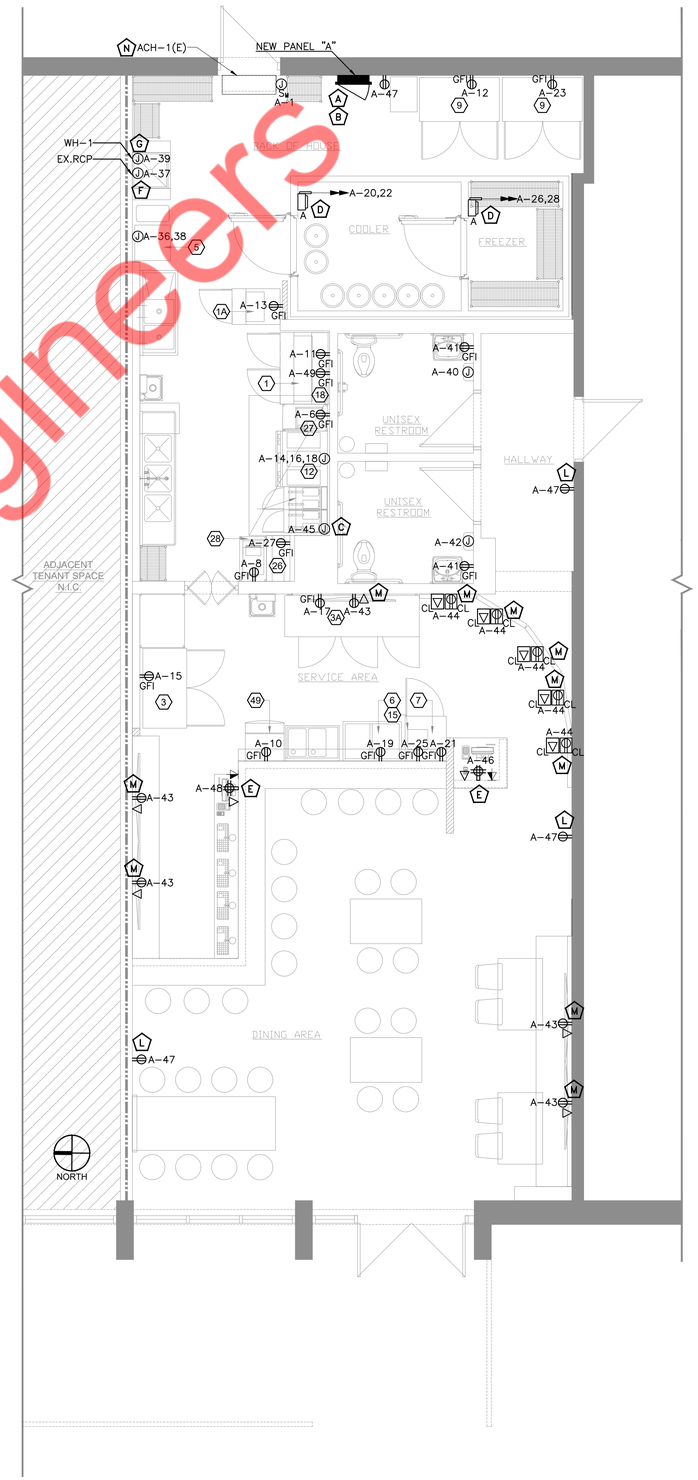
(M) E.C SHALL COORDINATE WITH THE ARCHITECT/OWNER FOR EXACT LOCATION, MOUNTING HEIGHT AND RECEPTACLE REQUIREMENT FOR THE TELEVISION BEFORE COMMENCING ANY WORK. BASE BID ACCORDINGLY.

(N) EXISTING MECHANICAL EQUIPMENT(ACH-1(E)) WITH ITS ELECTRICAL CONNECTION AND ELECTRICAL FIXTURE TO REMAIN AND CIRCUIT/FEEDER SHALL BE REROUTED TO THE NEW PANEL "A". E.C. SHALL VERIFY OPERABLE CONDITION OF ELECTRICAL CONNECTION, ELECTRICAL FIXTURE AND LENGTH OF THE BRANCH FEEDER ON FIELD. REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.

(O) ELECTRICAL ROOF OUTLETS IF ANY SHALL REMAIN. E.C SHALL COORDINATE IN FIELD THE OPERABLE CONDITION OF THE SAME AND PROVIDE NEW IF FOUND INOPERABLE AS SHOWN ON THE DRAWING. BASE BID ACCORDINGLY.



ROOF PLAN | SCALE 1/4" = 1'-0" | 1



POWER PLAN | SCALE 1/4" = 1'-0" | 1

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POWER & ROOF PLAN

E-3

ELECTRICAL PANEL SCHEDULE:-

PANEL:	A(N)											MOUNTING:	RECESSED
208Y/120	VOLTS		3	PHASE	4	WIRE						PANEL LOCATION:	BACK OF HOUSE
MCB	200A		M.L.O.	NA	BUS:	225A							
NOTE:													

CKT NO.	TRIP AMPS		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	AIR CUIRTAIN	M	0.59	2#12, #12G, 3/4"C	1.61			2#12, #12G, 3/4"C	1.02	M	KEF-1(N)	20	2
3	20	LIGTHING - DINING AREA	L	0.66	2#12, #12G, 3/4"C		0.70		2#12, #12G, 3/4"C	0.04	M	BEF-1 & 2(N)	20	4
5	20	LIGHTING - SERVICE AREA & HALLWAY	L	0.13	2#12, #12G, 3/4"C			1.83	2#12, #12G, 3/4"C	1.70	E	TOASTER_#27	20	6
7	20	LIGHTING - UNISEX RESTROOM & BACK OF HOUSE	L	0.18	2#12, #12G, 3/4"C	1.18			2#12, #12G, 3/4"C	1.00	E	FOOD WARMER _#28	20	8
9	20	SHOW WINDOW RECEPTACLE	R	1.80	2#12, #12G, 3/4"C		2.79		2#12, #12G, 3/4"C	0.99	E	UNDERCOUNTER ICE MAKER_#49	20	10
11	20	COLD TABLE 48"_#1	E	0.67	2#12, #12G, 3/4"C			1.77	2#12, #12G, 3/4"C	1.10	E	2 DR REACH-IN REFRIGERATION_#9	20	12
13	20	COLD TABLE 27"_#1A	E	0.40	2#12, #12G, 3/4"C	7.36			3#8, #10G, 3/4"C	6.96	H	3-PLATEN PRESS GIRDLE_#12	40/3P	14
15	20	2DR BACK BAR UNDERCOUNTER REFRIGERATOR_3	E	0.32	2#12, #12G, 3/4"C		7.28			6.96	H			16
17	20	2DR BACK BAR UNDERCOUNTER REFRIGERATOR_3A	E	0.32	2#12, #12G, 3/4"C			7.28		6.96	H			18
19	20	ICE CREAM COOLER 39"_#6	E	0.35	2#12, #12G, 3/4"C	1.52			2#12, #12G, 3/4"C	1.17	E	WALK-IN COOLER	20/2P	20
21	20	UC REFRIGERATOR_#7	E	0.26	2#12, #12G, 3/4"C		1.43			1.17	E			22
23	20	2 DR REACH-IN REFRIGERATION_#9	E	1.10	2#12, #12G, 3/4"C			2.90	2#12, #12G, 3/4"C	1.80	L	EXTERIOR BUILDING SIGNAGE/ TIMECLOCK	20	24
25	20	MILKSHAKE MIXER_#15	E	0.40	2#12, #12G, 3/4"C	2.00			2#12, #12G, 3/4"C	1.60	E	WALK-IN FREEZER	20/2P	26
27	20	DUMP STATION WITH HEATING LAMP_#26	E	0.20	2#12, #12G, 3/4"C		1.80			1.60	E			28
29	15/3P	MUA-1(N)	H	0.68	3#12, #12G, 3/4"C			7.65	3#4, #8G, 1"C	6.96	H	RTU-1(E)	80/3P	30
31			H	0.68		7.65				6.96	H			32
33			H	0.68			7.65			6.96	H			34
35	20	RECEPTACLE- ROOF	R	0.36	2#12, #12G, 3/4"C			3.86	2#8, #10G, 3/4"C	3.50	E	DISHWASHER_#5	40/2P	36
37	20	EX.RCP	O	0.06	2#12, #12G, 3/4"C	3.56				3.50	E			38
39	20	WATER HEATER (WH-1)	O	0.86	2#12, #12G, 3/4"C		2.26		2#12, #12G, 3/4"C	1.40	R	HAND DRYER	20	40
41	20	RECEPTACLE- RESTROOMS	R	0.36	2#12, #12G, 3/4"C			1.76	2#12, #12G, 3/4"C	1.40	R	HAND DRYER	20	42
43	20	RECEPTACLE- TV	R	0.90	2#12, #12G, 3/4"C	1.80			2#12, #12G, 3/4"C	0.90	R	RECEPTACLE- MEANU BOARD	20	44
45	20	FIRE SUPRESSION SYSTEM	R	0.50	2#12, #12G, 3/4"C		0.86		2#12, #12G, 3/4"C	0.36	R	RECEPTACLE- POS	20	46
47	20	RECEPATCEL- GENERAL	R	0.72	2#12, #12G, 3/4"C			1.08	2#12, #12G, 3/4"C	0.36	R	RECEPTACLE- POS	20	48
49	20	PRINTER_#18	E	0.18	2#12, #12G, 3/4"C	0.68			2#12, #12G, 3/4"C	0.50	L	LIGHTING- WALK-IN COOLER/FREEZER	20	50
51	20	LIGHTING- HOOD	L	1.80	2#12, #12G, 3/4"C		1.80					SPARE	20	52
53	20	SPARE						0.00				SPARE	20	54
						27.36	26.57	28.13						

EQUIPMENT SCHEDULE:-

ITEM NO.	DESCRIPTION	VOLTAGE	PHASE	AMPS	kW	REMARK
1	COLD TABLE 48"	115	1	5.8	0.67	-
1A	COLD TABLE 27"	115	1	3.5	0.40	-
3	2DR BACK BAR UNDERCOUNTER REFRIGERATOR	115	1	2.8	0.32	-
3A	2DR BACK BAR UNDERCOUNTER REFRIGERATOR	115	1	2.8	0.32	-
5	DISHWASHER	208	1	30.1	6.26	-
6	ICE CREAM COOLER 39"	120	1	2.9	0.35	-
7	UC REFRIGERATOR	115	1	2.3	0.26	-
9	2 DR REACH-IN REFRIGERATION	115	1	9.6	1.10	-
12	3-PLATEN PRESS GIRDLE	208	3	30.9	10.60	-
15	MILKSHAKE MIXER	120	1	3.3	0.40	-
26	DUMP STATION WITH HEATING LAMP	110	1	1.8	0.20	-
27	TOASTER	120	1	14.2	1.70	
28	FOOD WARMER	120	1	8.3	1.00	-
49	UNDERCOUNTER ICE MAKER	115	1	8.6	0.99	-

NY ENGINEERS

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PANEL SCHEDULES

E-4

SCOPE OF WORK

PROVIDE ALL PLUMBING FOR NEW FAST FOOD RESTAURANT WITHIN AN EXISTING BUILDING SHELL, INCLUDING ALL WATER, GAS, GREASE, SANITARY & VENT LINES AND CONNECT TO EXISTING UTILITIES. PROVIDE NEW GAS STORAGE TYPE WATER HEATER & ONE EXTERIOR GREASE INTERCEPTOR.

COORDINATE WITH GC AND MECHANICAL CONTRACTOR FOR ANY REQUIRED CONDENSATE LINES.

PLUMBING NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, RULES AND ORDINANCES.
2. 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.
3. ALL EQUIPMENT WHICH IS TO REMAIN MUST BE REFURBISHED TO A LIKE NEW CONDITION.
4. PLUMBING CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS.
5. ALL MATERIALS SHALL BE NEW.
6. ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE. ALL EXCAVATION AND BACKFILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
7. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
8. 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.
9. DRAWINGS ARE DIAGRAMMATIC. DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC.
10. 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.
11. VERIFY LOCATION, SIZE, DIRECTION OF FLOW AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION. ADVISE ENGINEER OF ANY DISCREPANCIES.
12. EXPOSED WATER PIPING SHALL BE TYPE "L" COPPER FOR 2" AND UNDER. WATER PIPING IN WALLS AND UNDERGROUND MAY BE "PEX" TYPE PIPING THAT MEETS ANSI/NSF STANDARD 61.
13. SOIL, WASTE AND VENT PIPING SHALL BE PVC BUT MAY NOT RUN THRU RATED ASSEMBLIES OR IN PLENUMS.
14. ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE STOPS AND APPROPRIATELY MARKED ACCESS PANELS. COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
15. FURNISH AND INSTALL APPROVED AIR CHAMBERS AT EACH PLUMBING FIXTURE GROUP AS PER CODE AND WITH GOOD ENGINEERING PRACTICE.
16. DIELECTRIC COUPLINGS ARE REQUIRED BETWEEN ALL DISSIMILAR METAL IN PIPING AND EQUIPMENT CONNECTIONS; EXCEPT AT WATER HEATER AS PER CODE.
17. ISOLATE COPPER PIPE FROM HANGER OR SUPPORTS WITH ISOLATOR PAD.
18. 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 RATING AS WALLS OR FLOORS AS PART OF THE PLUMBER'S WORK.
19. 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.
20. STUDOR MINI/MAXI AIR ADMITTANCE VALVES MAY NOT BE USED AS AN ALTERNATE TO VENT PIPING THRU ROOF.
21. PROVIDE CHROME PLATED COMBINATION COVER PLATE AND CLEAN OUT PLUG OR ACCESS PANEL FOR ALL CLEANOUTS.
22. NO COMBUSTIBLE MATERIAL TO BE USED IN MECHANICAL ROOMS OR IN CEILING SPACES WHERE USED AS RETURN AIR PLENUMS.
23. NO WATER, SANITARY OR DRAINAGE PIPING PERMITTED IN ELECTRICAL OR ELEVATOR EQUIPMENT ROOMS.
24. 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.
25. CONDENSATE DRAIN LINES TO BE RUN UNDER SLAB IN PVC SCH 40 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.
26. PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.
27. NO JOINTS UNDERGROUND FOR COPPER.
28. PLUMBING FIXTURES SHALL COMPLY WITH 2023 FLORIDA BUILDING CODE, PLUMBING, 8TH EDITION.
29. WATER HAMMER ARRESTORS AS PER 2023 FLORIDA BUILDING CODE, PLUMBING, 8TH EDITION.
30. PLUMBING CONTRACTOR SHALL REVIEW ALL BID DOCUMENTATION.
31. PLUMBING CONTRACTOR SHALL REVIEW WALL FINISHES @ LOCATION REQUIRING BARRIER-FREE COMPLIANCE (EXAMPLE: CENTER LINE TO TOILET).
32. 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.
33. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER. PROVIDE A COPY TO LL.

PLUMBING LEGEND

SAN	SANITARY SEWER PIPING
GSAN	GREASE SANITARY SEWER PIPING
EX.V	EXISTING VENT PIPING
V	VENT PIPING
CW	DOMESTIC COLD WATER PIPING
HW	HOT WATER PIPING
HWR	HOT WATER RETURN PIPING
G	GAS PIPING
	PIPE RISE
	PIPE DROP
FCO	FLOOR CLEAN OUT
	P-TRAP
S.O.V.	SHUT - OFF VALVE
CW	DOMESTIC COLD WATER
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
DCVA	DOUBLE CHECK VALVE ASSEMBLY
EX.	EXISTING
	GATE VALVE
	GAS COCK
	WATER HAMMER ARRESTER
FD	FLOOR DRAIN
EX.FD	EXISITNG FLOOR DRAIN
I.W.	INDIRECT WASTE
	BALANCING VALVE
FS	FLOOR SINK
EX.FS	EXISTING FLOOR SINK
	POINT OF CONNECTION
	THERMOSTATIC MIXING VALVE

FIXTURE BRANCH SCHEDULES

FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
WATER CLOSET (E)	E	--	E	E
LAVATORY (E)	E	E	E	E
3 COMP SINK(E)	E	E	I.W	--
PREP SINK(E)	E	E	I.W	--
HAND SINK(E)	E	E	2"	E
MOP SINK(E)	E	E	3"	E
UNDERBAR SINK(N)	1/2"	1/2"	I.W	--
DISHWASHER(N)	--	3/4"	I.W	--
FLOOR DRAIN/SINK	--	--	3"	2"

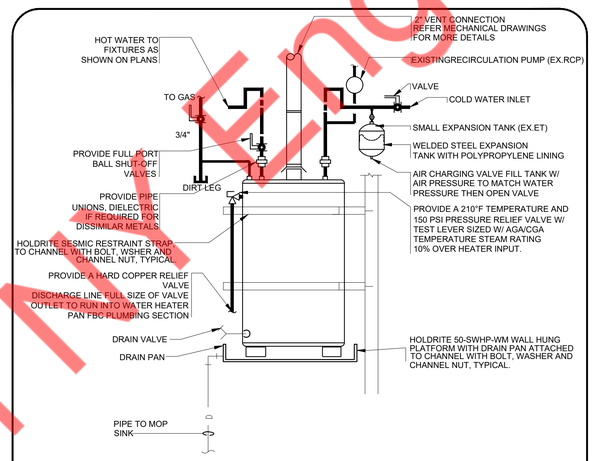
RESTROOM FIXTURE SCHEDULE

Item No.	Qty.	Description	Manufacturer	Model	WATER Hot	WATER Cold	WASTE	Usage	Spec
EX.LAV	2	EXISTING LAVATORY	EXISTING SHALL REMAIN	EXISTING SHALL REMAIN			E		
	2	EXISTING LAVATORY FAUCET	EXISTING SHALL REMAIN	EXISTING SHALL REMAIN	E	E			
EX.WC	2	EXISTING WATER CLOSET	EXISTING SHALL REMAIN	EXISTING SHALL REMAIN		E	E		

KITCHEN EQUIPMENT PLUMBING SCHEDULE

Item No.	Qty.	Description	Manufacturer	Model	WATER Hot	WATER Cold	WASTE Direct	WASTE Indirect
4	2	HAND SINK	EXISTING SHALL REMAIN	EXISTING SHALL REMAIN	E	E	2"	
5	1	DISHWASHER	SERVE CANADA	DHIR DS50USA	3/4"			2(1/2")
10	1	3-COMP SINK	EXISTING SHALL REMAIN	EXISTING SHALL REMAIN	E	E		V.I.F
11	1	FLOOR MOP SINK**+	EXISTING SHALL REMAIN	EXISTING SHALL REMAIN	E	E	3"	
36	4	DRAFT BEER SYSTEM	TBD	TBD				2"
47	1	PREP SINK/W 2 COMPARTMENT	EXISTING SHALL REMAIN	EXISTING SHALL REMAIN	E	E		V.I.F
48	1	UNDERBAR SINK	REGENCY	600B22136L9				2(1-1/2")
48A	1	SINK FAUCET***	-	-	1/2"	1/2"		
11	1	ICE MAKER	AVANTCO	194UC280HA		3/4"		3/4"
TMV	1	THERMAL MIXING VALVE	WATTS	LFMMV	1/2"	1/2"		
EX.FD	3	EXISTING FLOOR DRAIN	EXISTING SHALL REMAIN	EXISTING SHALL REMAIN			3"	
EX.FS	1	EXISTING FLOOR SINKS	EXISTING SHALL REMAIN	EXISTING SHALL REMAIN			3"	
FS	5	FLOOR SINKS	ZURN	Z1900-23-31 (ZS1900 IF IN EXPOSED AREAS)			3"	

+ HOT WATER 140°F, **ADAPTOR REQUIRED, ***PROVIDE TMV AS PER SCHEDULE

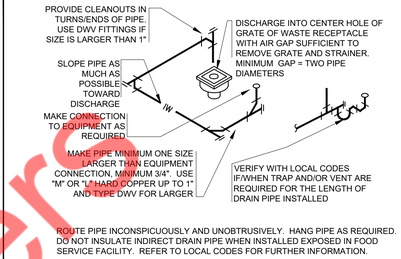


WATER HEATER DETAIL (WH-1)

NOT TO SCALE

WATER HEATER DETAIL NOTES

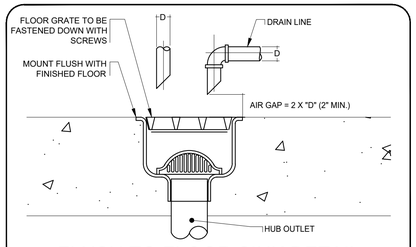
1) PIPING ARRANGEMENT SHOWN IS SCHEMATIC
2) ADJUST TO SUIT FIELD CONDITIONS
3) REFER ISOMETRIC RISER FOR PIPES SIZES
4) SET HEATER THERMOSTAT AT 140° F
5) GAS WATER HEATER SHALL BE 50 GALLONS
6) REFER MANUFACTURER INSTRUCTION MANUAL FOR MORE DETAILS AND PROPER INSTALLATION



ROUTE PIPE INCONSPICUOUSLY AND UNOBTRUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

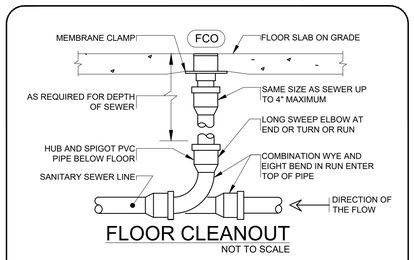
INDIRECT WASTE DETAIL

NOT TO SCALE



FLUSH TO FLOOR SINK DETAIL

NOT TO SCALE



FLOOR CLEANOUT

NOT TO SCALE

FLOOR CLEANOUT DETAIL NOTES

1) LOCATE CLEANOUT AT THIS LOCATIONS:
   A) BUILDING EXIT
   B) AT TURNS OF PIPES GREATER THAN 45 DEGREES
   C) AT 90' INTERVALS ON STRAIGHT RUNS
   D) WHERE IS SHOWN ON PLANS
   E) WHERE IS 18" CLEAR AROUND

ENERGY CONSERVATION NOTES

1. AS PER 2023 FBC-ENERGY CONSERVATION CODE SECTION C404.4, PIPING FROM A WATER HEATER TO THE TERMINATION OF HEATED WATER FIXTURE SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE C403.2.10 OF MINIMUM PIPE INSULATION THICKNESS.

MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU· IN./ (H· FT2· °F)	MEAN RATING TEMPERATURE, °F	<1	1 TO <1½	1½ TO <4	4 TO <8	≥8
141-200	0.25-0.29	125	1.5	1.5	2	2	2
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

2. AS PER 2023 FBC-ENERGY CONSERVATION CODE SECTION C404.6.1, AUTOMATIC CONTROLS SHALL BE INSTALLED THAT LIMITS THE OPERATION OF A RECIRCULATING PUMP AND THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE.
3. AS PER 2023 FBC-ENERGY CONSERVATION CODE SECTION C404.7, PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
   A. 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.
   B. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).

GREASE INTERCEPTOR SIZING

TAG	DESCRIPTION	QTY	DFU	TOTAL DFU
4	HAND SINK	02	2	4
11	MOP SINK	01	5	5
FS	FLOOR SINK	05	5	25
FD	FLOOR DRAIN	03	5	15
			TOTAL DFU	49

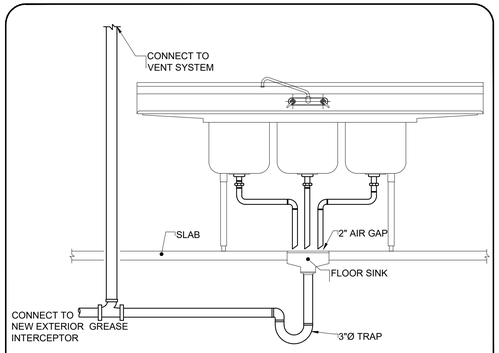
NOTE- DFU VALUE AS PER TABLE 1014.3.6 UNIFORM PLUMBING CODE 2021.

1250 GALLONS EXTERIOR GREASE INTERCEPTOR IS PROPOSED.

GREASE INTERCEPTOR SCHEDULE

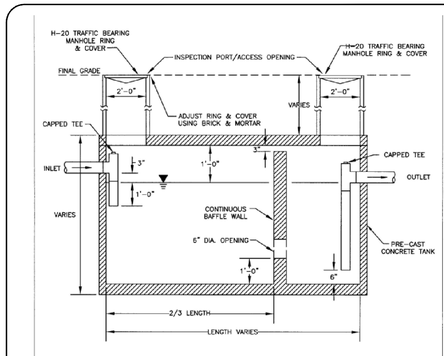
DESCRIPTION	SERVICE	LOCATION	CAPACITY
GREASE INTERCEPTOR GI-1	KITCHEN WASTE	OUTSIDE	1250

NOTE-CONTRACTOR TO PROVIDE ALL REQUIRED ACCESSORIES FOR SATISFACTORY WORKING OF GREASE TRAP AS PER SITE CONDITION



RECESSED FLUSH IN FLOOR WITH FLOOR SINK

NOT TO SCALE



EXTERIOR GREASE INTERCEPTOR DETAIL

NOT TO SCALE

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PLUMBING LEGENDS, NOTES & DETAILS

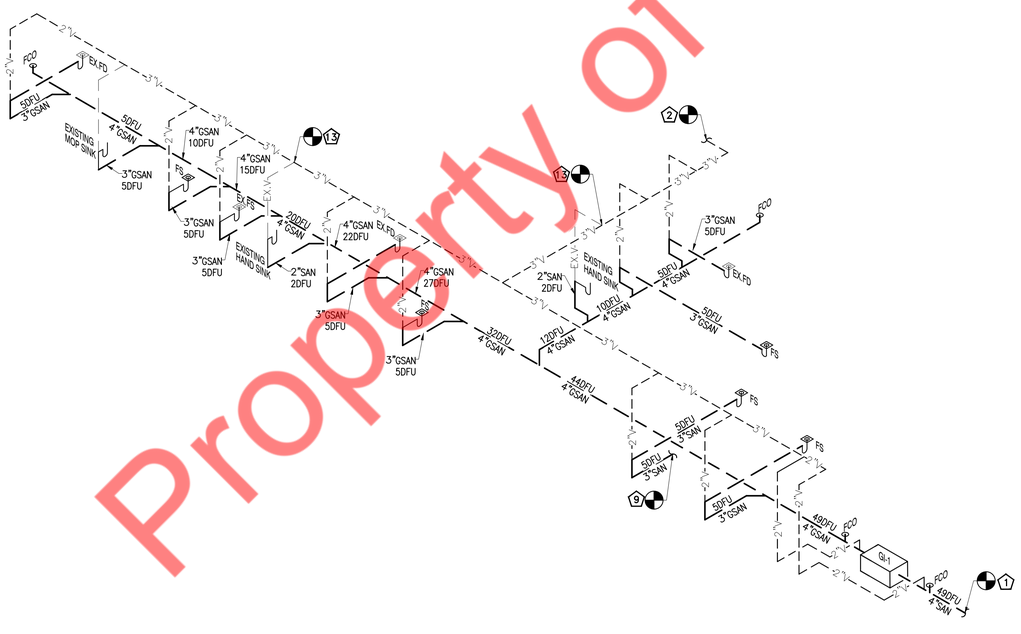
P-1

GENERAL NOTES

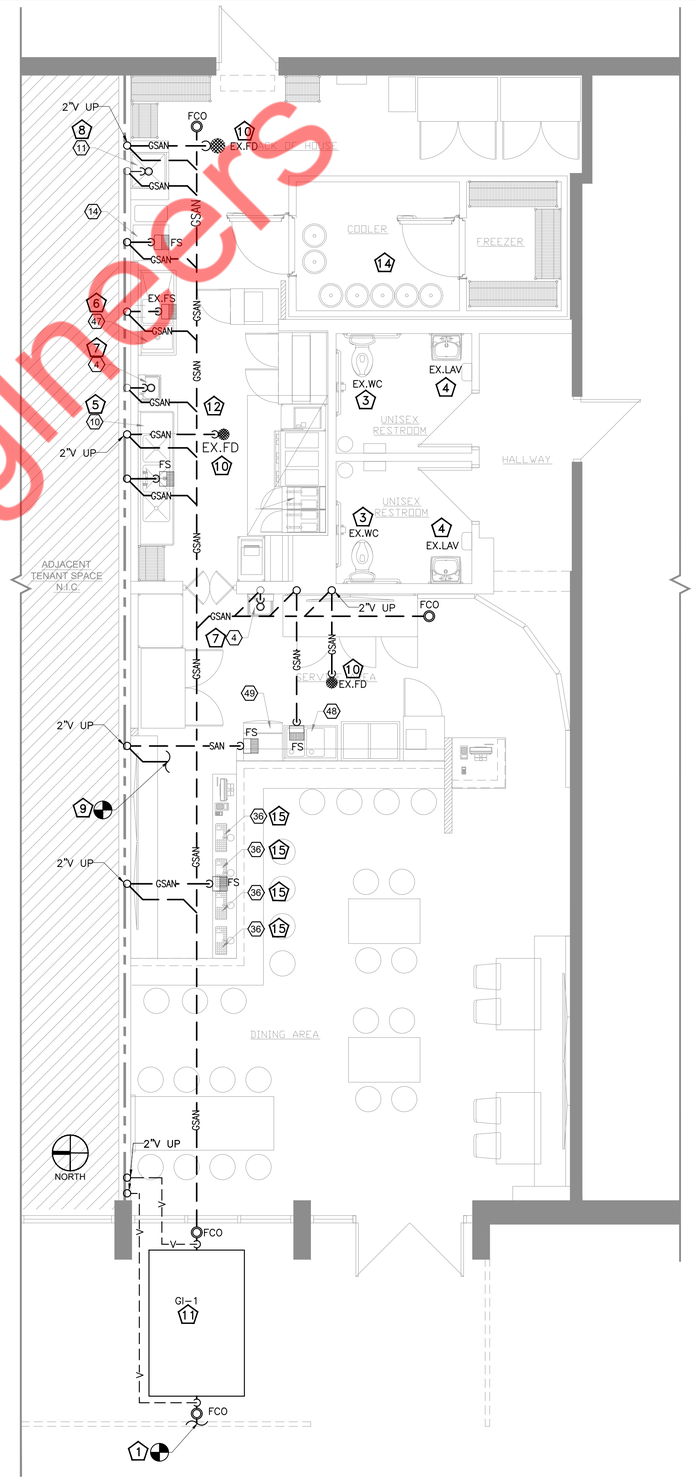
1. UNLESS OTHERWISE NOTED, SLOPE OF DRAINAGE SYSTEM TO BE 1/16" PER FOOT OF RUN FOR PIPE 8" AND OVER, 1/8" PER FOOT FOR PIPE 3" TO 6" AND 1/4" PER FOOT FOR PIPE 2-1/2" AND SMALLER.
2. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
3. ALL MATERIAL INDICATED AND IMPLIED ON THESE DRAWINGS SHALL BE NEW UNLESS OTHERWISE NOTED.
4. ALL CLEANOUTS TO BE ACCESSIBLE.
5. CONTRACTOR TO FIELD VERIFY THE EXISTING SANITARY AND VENT LOCATION AND ROUTING. MAKE NECESSARY CHANGES TO NEW GREASE SANITARY PIPING AS PER THE EXISTING SITE CONDITION.

SANITARY PLAN & RISER KEY NOTE

1. CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING SANITARY MAIN LINE OF ADEQUATE SIZE IN/NEARBY SPACE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING SANITARY LINE AND MAKE NECESSARY CHANGES IF REQUIRED.
2. CONNECT NEW 3" VENT PIPING TO EXISTING VENT LINE OF ADEQUATE SIZE IN/NEARBY SPACE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND ROUTING OF EXISTING VENT LINE ON SITE AND MAKE NECESSARY CHANGES IF REQUIRED.
3. EXISTING WATER CLOSET TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION. CONTRACTOR TO FIELD VERIFY THE CONDITION OF THE EXISTING PIPING AND REPLACE IF REQUIRED.
4. EXISTING LAVATORY TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION. CONTRACTOR TO FIELD VERIFY THE CONDITION OF THE EXISTING PIPING AND REPLACE IF REQUIRED.
5. EXISTING 3 COMPARTMENT SINK TO REMAIN. PROVIDE NEW FLOOR SINK AND ROUTE INDIRECT DRAIN FROM 3-COMP SINK TO FLOOR SINK.
6. EXISTING PREP SINK TO REMAIN WITH EXISTING FLOOR SINK. PROVIDE NEW GREASE SANITARY AND VENT PIPING CONNECTIONS TO THE EXISTING FLOOR SINK.
7. EXISTING HAND SINK TO REMAIN WITH EXISTING VENT PIPING. CONNECT NEW GREASE SANITARY PIPING CONNECTIONS TO THE EXISTING HAND SINK. CONTRACTOR TO FIELD VERIFY THE VENT PIPE SIZE AND CONDITION AND REPLACE IF REQUIRED.
8. EXISTING MOP SINK TO REMAIN WITH EXISTING VENT PIPING. CONNECT NEW GREASE SANITARY PIPING CONNECTIONS TO THE EXISTING MOP SINK. CONTRACTOR TO FIELD VERIFY THE VENT PIPE SIZE AND CONDITION AND REPLACE IF REQUIRED.
9. CONNECT NEW 3" SANITARY WASTE PIPING TO EXISTING SANITARY MAIN LINE IN/NEARBY SPACE OF ADEQUATE SIZE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING SANITARY MAIN AND MAKE NECESSARY CHANGES IF REQUIRED.
10. CONNECT EXISTING FLOOR DRAIN TO NEW 3" GREASE PIPE AND PROVIDE VENT AS SHOWN.
11. PROVIDE NEW EXTERIOR GREASE INTERCEPTOR OF 1250 GALLONS.
12. DEMOLISH THE EXISTING INDOOR GREASE INTERCEPTOR.
13. CONNECT EXISTING VENT PIPING TO NEW 3" VENT LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND ROUTING OF EXISTING VENT LINE AND MAKE NECESSARY CHANGES AS PER THE SITE CONDITIONS.
14. EXISTING DRAIN OF COOLER & FREEZER TO REMAIN. CONTRACTOR TO FIELD VERIFY CONDITION OF EXITING PIPING AND REPLACE IF REQUIRED.
15. ROUTE INDIRECT WASTE FROM DRAFT BEER SYSTEM TO THE NEAREST FLOOR SINK.



SANITARY & VENT RISER | SCALE N.T.S. | 2



SANITARY & VENT PLAN | SCALE 1/4" = 1'-0" | 1

NY ENGINEERS

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SANITARY, VENT PLAN & RISER

P-2

GENERAL NOTES

1. CW/HW/HWR PIPING TO BE PROVIDED WITH INSULATION AS PER 2023 FBC-ENERGY CONSERVATION CODE, NOTES (REFER SHEET P-1)
2. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
3. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR & SHUT-OFF VALVES AS REQUIRED.
4. NEW WATER HEATERS DRAIN SPILLS TO THE MOP SINK.

EXISTING RECIRCULATION PUMP SCHEDULE	
MANUFACTURER & MODEL	GRUNDFOS UPS-15-58 FC
EQUIPMENT TAG	EX.RCP
STATUS	EXISITNG
GPM	V.I.F
WATER TEMP.(°F)	140
PUMP TYPE	INLINE
MHP	87 WATTS
V/PH/HZ	115/1/60
RPM	-
SERVICE FACTOR	1.0

NOTE:

CONTRACTOR TO FIELD VERIFY THE CONDITION OF RECIRCULATION PUMP. IF NOT IN GOOD CONDITION THEN REPLACE IF REQUIRED.

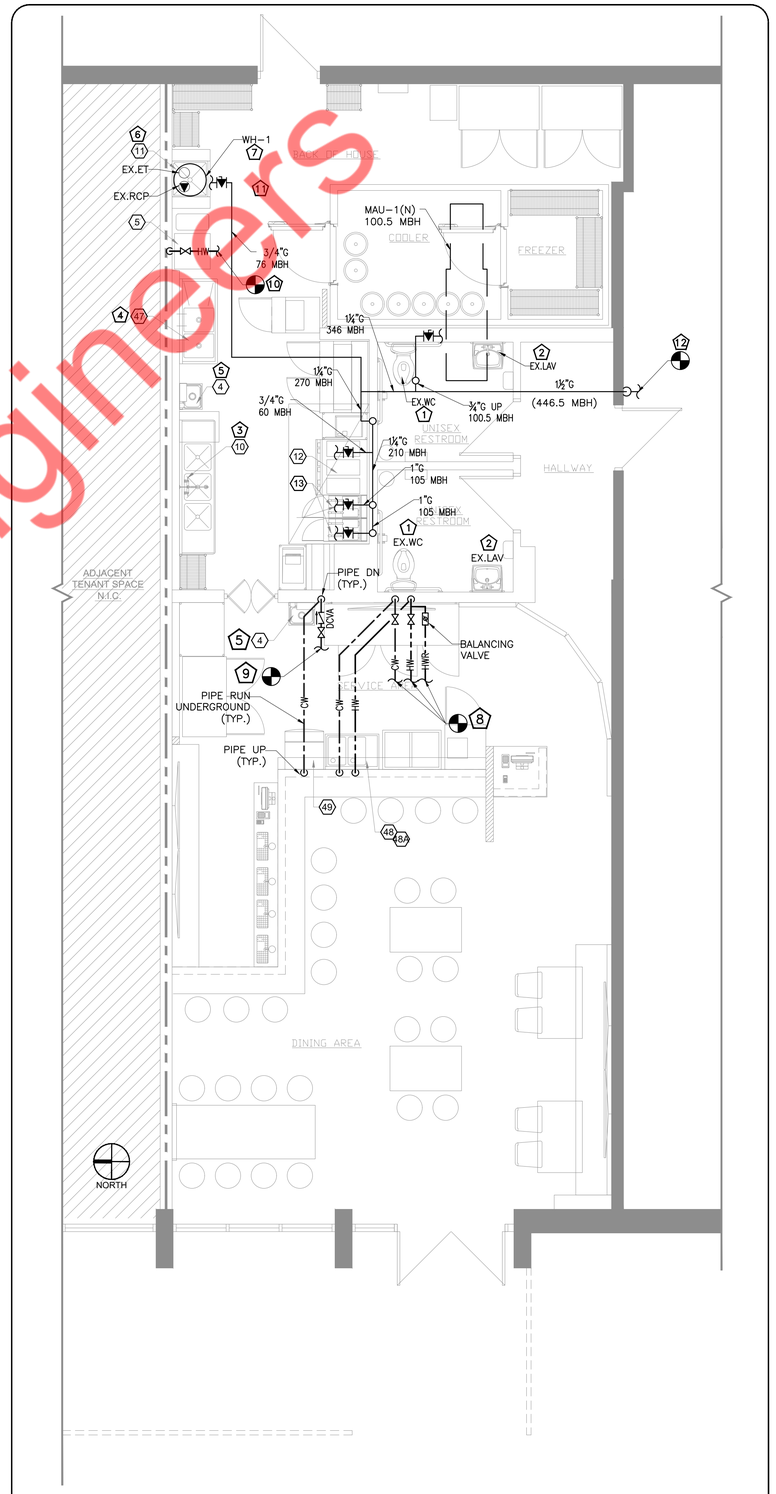
NEW WATER HEATER SCHEDULE	
MANUFACTURER	RHEEM
MODEL	GHE50SU-76
EQUIPMENT TAG	WH-1
STATUS	NEW
QUANTITY	1
CAPACITY	50 GALLONS
FUEL	GAS
RECOVERY	112 GPH*
MBTU	76
V/PH/HZ	110/1/60
AMPERAGE	7.5 MAX
WEIGHT (EMPTY)	212 LBS.

NOTES:

1. * OPERATION @ 80°F TEMPERATURE RISE.
2. INSTALLATION OF WATER HEATER TO BE MADE AS PER MANUFACTURER RECOMMENDATIONS.
3. CONTRACTOR TO FILED VERIFY THE CONDITION OF EXISTING EXPANSION TANK. IF NOT IN GOOD CONDITION OR NOT AVAILABLE. PROVIDE NEW EXPANSION TANK, AMTROL MODEL THERM-X-TROL ST-5C-DD, 2 GAL AS PER LOCAL CODE REQUIREMENTS.

WATER, GAS PLAN & RISER KEY NOTE

1. EXISTING WATER CLOSET TO REMAIN WITH EXISTING CW PIPING CONNECTION, ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED.
2. EXISTING LAVATORY TO REMAIN WITH EXISTING CW/HW/HWR PIPING CONNECTION, ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED.
3. EXISTING 3-COMP SINK TO REMAIN WITH EXISTING CW/HW PIPING CONNECTION, ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED.
4. EXISTING PREP SINK TO REMAIN WITH EXISTING CW/HW PIPING CONNECTION, ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED.
5. EXISTING HAND SINK TO REMAIN WITH EXISTING CW/HW PIPING CONNECTION, ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED.
6. EXISTING MOP SINK TO REMAIN WITH EXISTING CW/HW PIPING CONNECTION, ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED.
7. EXISTING WATER HEATER TO BE REPLACED WITH NEW GAS STORAGE TYPE WATER HEATER. CONNECT EXISTING CW/HW/HWR PIPING & EXISTING RE-CIRCULATION PUMP & EXPANSION TANK TO THE NEW WATER HEATER. CONTRACTOR TO FIELD VERIFY THE CONDITION OF THE EXISTING PIPING, RE-CIRCULATION PUMP, EXPANSION TANK AND REPLACE/UPGRADE IF REQUIRED.
8. EXTEND AND CONNECT NEW 1/2" CW/HW/HWR PIPING TO EXISTING CW/HW/HWR PIPING OF ADEQUATE SIZE WITH BALANCING VALVE. CONTRACTOR TO FIELD VERIFY THE SIZE AND LOCATION OF THE EXISTING PIPE AND UPGRADE IF REQUIRED.
9. EXTEND AND CONNECT NEW 3/4" CW PIPING TO EXISTING CW PIPING OF ADEQUATE SIZE. CONTRACTOR TO FIELD VERIFY THE SIZE AND LOCATION OF THE EXISTING CW PIPE AND UPGRADE IF REQUIRED.
10. EXTEND AND CONNECT NEW 3/4" HW PIPING TO EXISTING HW PIPING OF ADEQUATE SIZE. CONTRACTOR TO FIELD VERIFY THE SIZE AND LOCATION OF THE EXISTING HW PIPING AND UPGRADE IF REQUIRED.
11. CONTRACTOR TO FIELD VERIFY IF EXISTING BFP IS AVAILABLE AND IN GOOD WORKING CONDITION. IF EXISTING BFP IS NOT AVAILABLE OR NOT IN GOOD CONDITION THEN PROVIDE NEW.
12. CONTRACTOR TO PROVIDE NEW 1½" GAS PIPING AND PROVIDE NEW GAS METER OF MINIMUM CAPACITY OF 450 MBH.



WATER & GAS PLAN

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

GAS SCHEDULE						
ITEM NO.	QTY.	DESCRIPTION	MANUFACTURER	MODEL	SIZE	BTU/HR.
12	1	GRIDDLE	GARLAND	XPG36	3/4"	60,000
13	2	FRYERS	GARLAND	SR142G	1"	210,000
WH-1	1	WATER HEATER	RHEEM	GHE50SU-76	3/4"	76,000
MAU-1(N)	1	MAKEUP AIR UNIT	SUNAIR	SA-A1-D.250-150	3/4"	100,500
				TOTAL LOAD		446,500

GAS PIPE SIZING PER TABLE 402.4(2) 2023 FLORIDA FUEL GAS CODE, 8TH EDITION

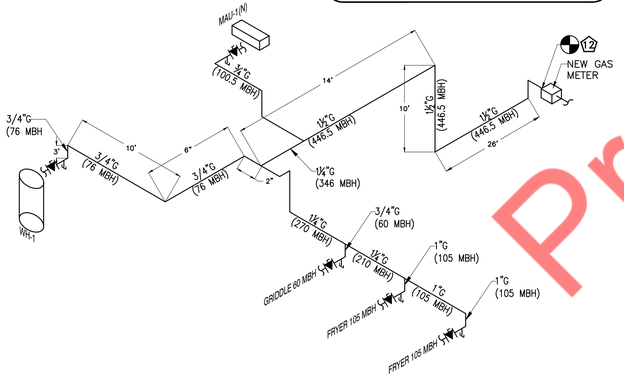
EQUIVALENT LENGTH OF PIPE = 3+10+6+2+14+10+26 = 71 + FITTINGS (+40%) = 100 FEET

NATURAL GAS PIPING SYSTEM

PROVIDE A COMPLETE GAS PIPING SYSTEM TO SERVE GAS EQUIPMENT FURNISHED BY OTHERS, AS NOTED ON THE DRAWINGS. PROVIDE EITHER THREADED STEEL OR MALLEABLE IRON PIPE WITH MALLEABLE FITTINGS OR WELDED STEEL. PROVIDE ALL UNIONS, SHUT-OFF VALVES AND DIRT LEGS REQUIRED BY NFPA-54 AND GOVERNING LOCAL CODES AND AT EACH GAS APPLIANCE CONNECTION. PROVIDE ALL TESTS, METERS, PRESSURE REGULATOR INSPECTIONS, HANGERS AND EQUIPMENT CONNECTIONS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

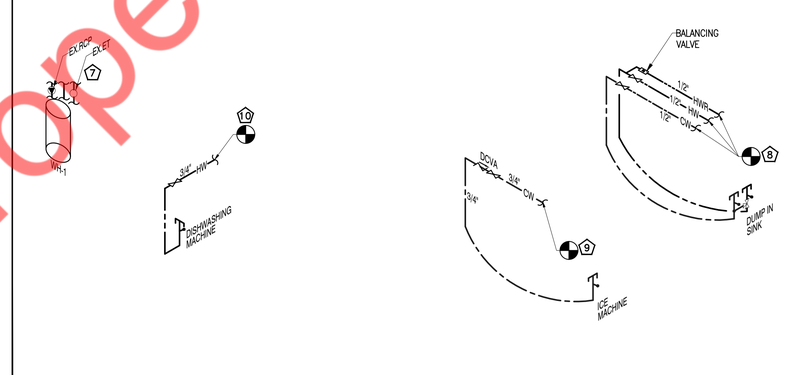
NOTES:

1. GAS PIPING TO BE SCHEDULE 40 STEEL PIPE W/125 CAST IRON SCREWED FITTINGS.
2. GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR.
3. VERIFY ALL EQUIPMENT BTU'S PRIOR TO INSTALLATION. ADJUST PIPE SIZE ACCORDING TABLE 402.4(2) 2023 FLORIDA FUEL GAS CODE, 8TH EDITION
4. CONTRACTOR TO PROVIDE NEW 1½" GAS PIPING AND PROVIDE NEW GAS METER OF MINIMUM CAPACITY OF 450 MBH.
5. COORDINATE WITH OWNER/LANDLORD FOR THE LOCATION AND REQUIREMENT OF GAS METER.



GAS RISER

SCALE	N.T.S.	3



FIXTURE FACTOR VALUE.*

2 LAVATORY(E) @ 2	= 4
2 WATER CLOSET(E) (TANK) @ 5	= 10
2 HAND SINK @(E) 1.4	= 2.8
1 UNDER BAR SINK(N) @ 1.4	= 1.4
1 3-COMP SINK(E) @ 4	= 4
1 PREP SINK (E)@ 1.4	= 1.4
1 MOP SINK (E)@ 3	= 3
1 DISHWASHER(N) @ 1.4	= 1.4
1 **MISC (N)@ 0.25	= 0.25
TOTAL	= 28.25

* TABLE E103.3(2) OF FLORIDA PLUMBING CODE,2023 (8TH EDITION)

** ICE MACHINE

1-1/4" WATER DISTRIBUTION LINE AND WATER METER SIZE REQUIRED.

WATER RISER

SCALE	N.T.S.	2

NY ENGINEERS

PROJECT

MEI,TWICH

REVISIONS DATES:

ISSUE DATE: 07.09.24
PROJECT #:
DRAWN BY: NYE
CHECKED BY: NYE

WATER,GAS PLAN & RISER

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