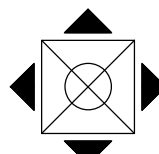
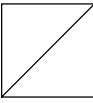



MECHANICAL SYMBOLS




CEILING DIFFUSER
(ARROWS INDICATE AIR
FLOW DIRECTION(S) FOR
DEVICES WITH
ADJUSTABLE PATTERNS)




CEILING RETURN
REGISTER




CEILING EXHAUST
REGISTER




FLEXIBLE DUCT




MITERED ELBOW WITH
TURNING VANES




RECTANGULAR
DUCTWORK INTERNAL
FREE DIMENSIONS
(WIDTH/HEIGHT)




GREASE DUCT CLEANOUT




RECTANGULAR TO ROUND
TRANSITION




ROUND DUCTWORK
INTERNAL FREE
DIMENSION (DIAMETER)




RADIUSED ELBOW WITH
INSIDE RADIUS 1/2 THE
WIDTH OR DIAMETER OF
DUCT




THERMOSTAT (24/7
PROGRAMMABLE)




REMOTE TEMPERATURE
SENSOR



REMOTE HUMIDITY
SENSOR




PLAN NOTES: SEE PLAN
NOTES LISTED ON THE
SAME SHEET FOR NOTE
MEANING




CONNECT TO EXISTING

XYZ


EQUIPMENT TAG



AIR TERMINAL DEVICE TAG:
TAG



AIRFLOW [CFM]



AUDIO/VISUAL ALARM AND
REMOTE TEST STATION

MECHANICAL ABBREVIATIONS

(N) NEW
(R) RELOCATED
ABV ABOVE
ADA AMERICANS WITH DISABILITIES ACT
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
AHJ AUTHORITY HAVING JURISDICTION
BEL BELOW
BFF BELOW FINISHED FLOOR
BFG BELOW FINISHED GRADE
BOH BACK OF HOUSE
CLG CEILING
CONT. CONTINUE
CTE CONNECT TO EXISTING
DN DOWN
EXTG EXISTING
FLR FLOOR
FOH FRONT OF HOUSE
NTS NOT TO SCALE
O/H OVERHEAD
TYP TYPICAL
UGJ UNDERGROUND
UNO UNLESS NOTED OTHERWISE
W/ WITH
W/C WALK IN COOLER
W/F WALK IN FREEZE
GC GENERAL CONTRACTOR
KES KITCHEN EQUIPMENT SUPPLIER
CD CEILING DIFFUSER
RAG RETURN AIR GRILLE
WH WATER HEATER

MECHANICAL GENERAL NOTES

- 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.
- COORDINATE WITH THE WORK OF OTHER SECTIONS. EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE CONDITIONS OF THE PROJECT SITE, PROVIDE DUCT RISES AND DROPS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.
- 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 ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
- TO THE FULLEST EXTENT POSSIBLE, TRUNK DUCTS SHALL BE ROUTED BETWEEN THE TRUSSES, SUCH THAT THE BOTTOM OF THE DUCT IS ABOVE THE ELEVATION OF THE BOTTOM OF THE TRUSS. BRANCH DUCTS TO DIFFUSERS SHALL BE ROUTED THROUGH TRUSSES.
- FLEXIBLE DUCTWORK NOT TO EXCEED MORE THAN 5'-0".
- DIMENSIONS SHOWN ARE INSIDE DIMENSIONS. WHERE INTERNALLY LINED, 2" TO BE ADDED TO THE DUCT SIZE SHOWN TO ACCOMMODATE THE 1" INTERNAL INSULATION.
- OWNER SHALL PROVIDE FOR A FULL BUILDING AIR BALANCE UPON COMPLETION OF THE PROJECT. GENERAL CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL FINAL AIR BALANCE REQUIREMENTS.
- PROVIDE A SEALED INSULATED TOP ON EACH DIFFUSER AND GRILLE BOX TO PREVENT CONDENSATION.
- ALL DUCTWORK SHALL BE SEALED TO CLASS "A" AND LEAK TESTED TO MEAT SMACNA CLASS 6 FOR RECTANGULAR AND CLASS 3 FOR ROUND DUCTS.

BUILDING DEPARTMENT NOTES

- ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF 2021 INTERNATIONAL BUILDING CODE (IBC) AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.
- 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.
- TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE 2021 IMC:
 - VENTILATION SYSTEM SERVING COMMERCIAL COOKING APPLIANCES - IMC 506
 - THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
 - DUCT CONSTRUCTION AND INSTALLATION- 2021 IMC 603
 - AIR INTAKES, EXHAUSTS AND RELIEF - 2021 IMC 401.5
 - GAS FIRED EQUIPMENT -2021 INTERNATIONAL FUEL GAS CODE
 - MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
 - VENTILATION FOR ALL AREA SHALL COMPLY WITH 2021 IMC 401.
 - 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 2021 IMC 403.3.1.3 (SYSTEM OPERATION)
 - REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
 - 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 BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
 - ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
 - DUCT SMOKE DETECTOR SHALL MEET UL268A.
 - 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 - IMC 2021 608.1. CONTRACTOR SHALL SUBMIT THE AIR BALANCE REPORT TO THE INSPECTOR.

INSULATION - GENERAL REQUIREMENTS

- A. ALL INSULATION MATERIALS, INCLUDING JACKETS, FACING, ADHESIVE, COATINGS, AND ACCESSORIES ARE TO BE FIRE HAZARD RATED AND LISTED BY UNDERWRITERS LABORATORIES, INC. USING STEINER TUNNEL TEST METHOD FOR FIRE HAZARD CLASSIFICATION OF BUILDING MATERIALS, STANDARD UL 723 (ASTM E-84), (ASA A2.5-1983). FLAMESPREAD, MAXIMUM 25. FUEL CONTRIBUTED AND SMOKE DEVELOPED, MAXIMUM 50. FLAMEPROOFING TREATMENTS SUBJECT TO DETERIORATION FROM MOISTURE OR HUMIDITY ARE NOT ACCEPTABLE.
- B. DEFINITIONS:

- EXPOSED: INDOOR DUCTS, PIPING OR EQUIPMENT LOCATED IN MECHANICAL EQUIPMENT ROOMS AND IN AREAS WHICH WILL BE VISIBLE WITHOUT REMOVING CEILINGS OR OPENING ACCESS PANELS.
- CONCEALED: INDOOR DUCTS, PIPING OR EQUIPMENT WHICH IS NOT EXPOSED.
- EXTERIOR: DUCTS, PIPING OR EQUIPMENT WHICH IS EXPOSED TO THE WEATHER.

DUCTWORK INSULATION

- A. INSULATE ALL DUCTWORK IN ACCORDANCE WITH INSULATION SCHEDULE EXCEPT AS OTHERWISE NOTED.
- INSULATION SCHEDULE - DUCTWORK

SERVICE	LOCATION	R-VALUE	TYPE	FINISH
SUPP/RET	CONCEALED	R-6	D-1	VAPORSEAL
SUPP/RET	EXPOSED	R-6	D-1	VAPORSEAL
INTAKE	ALL	R-8	D-1	VAPORSEAL
KITCHEN EXH.	INTERIOR	1.5" (2 LAYERS)		3M FIRE MASTER DUCT WRAP
SUPPLY	EXTERIOR	R-8	D-1	VAPORSEAL

- B. REINSULATE ALL DUCTWORK AND PIPING WHICH IS EXISTING TO REMAIN AND WAS DAMAGED DURING CONSTRUCTION OR SHOWN OR REQUIRED TO BE RELOCATED. INSULATE WITH SAME MATERIAL AND THICKNESS.

C. NON-INSULATED DUCTWORK:

- WHERE SOUND LINING IS OF MINIMUM THICKNESS SPECIFIED FOR INSULATION.

- AIR CONDITIONING RETURN AIR DUCTWORK EXPOSED IN AIR CONDITIONED SPACES AND INSTALLED IN HUNG CEILINGS WHERE SPACE IMMEDIATELY ABOVE AND BELOW ARE BOTH AIR CONDITIONED MATERIAL:

D. MATERIAL:

- TYPE D-1: MINIMUM 1.5" DENSITY FIBERGLASS BLANKET, MAXIMUM 0.28 K-FACTOR AT 75 ADEG F MEAN TEMPERATURE WITH FACTORY-APPLIED FOIL-SKIRM KRAFT FACING SIMILAR TO MANVILLE MICROLITE.
- TYPE D-2: 3 LB. FIBERGLASS BOARD. THE MAXIMUM K FACTOR SHALL BE 0.23 AT 75 DEG F MEAN TEMPERATURE WITH A MINIMUM DENSITY OF 3 LB. THE INSULATION SHALL BE PROVIDED WITH A FACTORY-APPLIED ALL PURPOSE OR ALL SERVICE FACING. THE INSULATION SHALL BE EQUAL TO MANVILLE TYPE 814 SPIN-GLAS AP.
- TYPE D-3: MINIMUM 6 LB FIBERGLASS BOARD. MAXIMUM 0.22 K-FACTOR AT 75 DEG F MEAN TEMPERATURE WITH FACTORY APPLIED ALL PURPOSE OR ALL SERVICE FACING. SIMILAR TO MANVILLE 817 SPIN-GLAS AP

E. FINISH:

- TYPE F-1: FITTING COVER, MOLDED WHITE PVC JACKET, UL CLASS 1, MAXIMUM PERMEANCE 0.05 SIMILAR TO MANVILLE ZESTRON.
- TYPE F-2: WHITE VAPOR BARRIER COATING WITH 10X10 OR 20X20 MESH WHITE GLASS, POLYESTER OR NYLON CLOTH REINFORCING MEMBRANE, MINIMUM 31 MIL DRY FILM THICKNESS, SIMILAR TO FOSTER TITE-FIT, UL LABEL.
- TYPE F-4: ALUMINUM JACKETING WITH MINIMUM 0.016 IN. WALL THICKNESS AND LONGITUDINAL JOINTS WITH LOCK SEAMS.
- TYPE F-6: WHITE FINISHING AND INSULATING CEMENT APPLIED OVER HEXAGONAL WIRE MESH. CEMENT SIMILAR TO KEENE SUPERSLICK.

F. INSTALLATION:

- FIBERGLASS BLANKET: 2 IN. LAP STRIPS AT ALL SEAMS. SECURE BOTTOM OF ALL DUCTS OVER 24 IN. WIDE WITH MIN 2 ROWS OF WELD PINS 12 IN. ON CENTER. SECURE ALL SEAMS WITH FOIL VAPOR BARRIER TAPE AND VAPORSEAL ADHESIVE.
- FIBERGLASS BOARD: SEAL JOINTS AND BREAKS IN FACING WITH 3 IN. WIDE TAPE TO MATCH FACING AND ADHERE WITH VAPOR SEAL ADHESIVE. APPLY 5 IN. WIDE TAPE AT CORNERS, WELD PINS ON TOP, SIDES AND BOTTOM.

THERMOSTATIC CONTROLS

6.4.3.1 ZONE THERMOSTATIC CONTROLS

6.4.3.1.1 GENERAL

THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE INDIVIDUALLY CONTROLLED BY THERMOSTATIC CONTROLS RESPONDING TO TEMPERATURE WITHIN THE ZONE. FOR THE PURPOSES OF THIS SECTION, A DWELLING UNIT SHALL BE PERMITTED TO BE CONSIDERED A SINGLE ZONE.

EXCEPTIONS TO 6.4.3.1.1

INDEPENDENT PERIMETER SYSTEMS THAT ARE DESIGNED TO OFFSET ONLY BUILDING ENVELOPE LOADS SHALL BE PERMITTED TO SERVE ONE OR MORE ZONES ALSO SERVED BY AN INTERIOR SYSTEM, PROVIDED THAT

- THE PERIMETER SYSTEM INCLUDES AT LEAST ONE THERMOSTATIC CONTROL ZONE FOR EACH BUILDING EXPOSURE HAVING WALLS FACING ONLY ONE ORIENTATION FOR 50 CONTIGUOUS FEET OR MORE AND
 - THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY THERMOSTATIC CONTROLS LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.
- EXTERIOR WALLS AND SEMIEXTERIOR WALLS ARE CONSIDERED TO HAVE DIFFERENT ORIENTATIONS IF THE EXPOSURES THEY FACE DIFFER BY MORE THAN 45 DEGREES.

6.4.3.1.2 DEAD BAND

WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF AND CONFIGURED TO PROVIDE A TEMPERATURE RANGE OR DEAD BAND OF AT LEAST 5°F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

EXCEPTIONS TO 6.4.3.1.2

- THERMOSTATS THAT REQUIRE MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.
- SPECIAL OCCUPANCY OR SPECIAL APPLICATIONS WHERE WIDE TEMPERATURE RANGES ARE NOT ACCEPTABLE (SUCH AS RETIREMENT HOMES, PROCESS APPLICATIONS, MUSEUMS, SOME AREAS OF HOSPITALS) AND ARE APPROVED BY THE AUTHORITY HAVING JURISDICTION.

6.4.3.2 SET-POINT OVERLAP RESTRICTION

WHERE HEATING AND COOLING TO A ZONE ARE CONTROLLED BY SEPARATE ZONE THERMOSTATIC CONTROLS LOCATED WITHIN THE ZONE, MEANS (SUCH AS LIMIT SWITCHES; MECHANICAL STOPS; OR, FOR DDC SYSTEMS, SOFTWARE PROGRAMMING) SHALL BE PROVIDED TO PREVENT THE HEATING SET POINT FROM EXCEEDING THE COOLING SET POINT, MINUS ANY APPLICABLE PROPORTIONAL BAND.

6.4.3.3 OFF-HOUR CONTROLS

HVAC SYSTEMS SHALL HAVE THE OFF-HOUR CONTROLS REQUIRED BY SECTIONS 6.4.3.3.1 THROUGH 6.4.3.3.5.

EXCEPTIONS TO 6.4.3.3

- HVAC SYSTEMS INTENDED TO OPERATE CONTINUOUSLY.
- HVAC SYSTEMS HAVING A DESIGN HEATING CAPACITY AND COOLING CAPACITY LESS THAN 15,000 BTU/H THAT ARE EQUIPPED WITH READILY ACCESSIBLE MANUAL ON/OFF CONTROLS.

6.4.3.3.1 AUTOMATIC SHUTDOWN

HVAC SYSTEMS SHALL BE EQUIPPED WITH AT LEAST ONE OF THE FOLLOWING:

- CONTROLS THAT CAN START AND STOP THE SYSTEM UNDER DIFFERENT TIME SCHEDULES FOR SEVEN DIFFERENT DAY TYPES PER WEEK, ARE CAPABLE OF RETAINING PROGRAMMING AND TIME SETTING DURING LOSS OF POWER FOR A PERIOD OF AT LEAST TEN HOURS, AND INCLUDE AN ACCESSIBLE MANUAL OVERRIDE OR EQUIVALENT FUNCTION THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO TWO HOURS.
- AN OCCUPANCY SENSOR THAT IS CAPABLE OF SHUTTING THE SYSTEM OFF WHEN NO OCCUPANT IS SENSED FOR A PERIOD OF UP TO 30 MINUTES.
- A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO TWO HOURS.
- AN INTERLOCK TO A SECURITY SYSTEM THAT SHUTS THE SYSTEM OFF WHEN THE SECURITY SYSTEM IS ACTIVATED.

EXCEPTION TO 6.4.3.3.1

RESIDENTIAL OCCUPANCIES MAY USE CONTROLS THAT CAN START AND STOP THE SYSTEM UNDER TWO DIFFERENT TIME SCHEDULES PER WEEK.

6.4.3.3.2 SETBACK CONTROLS

HEATING SYSTEMS SHALL BE EQUIPPED WITH CONTROLS CAPABLE OF AND CONFIGURED TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES ABOVE AN ADJUSTABLE HEATING SET POINT AT LEAST 10°F BELOW THE OCCUPIED HEATING SET POINT. COOLING SYSTEMS SHALL BE EQUIPPED WITH CONTROLS CAPABLE OF AND CONFIGURED TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE MECHANICAL COOLING SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES BELOW AN ADJUSTABLE COOLING SET POINT AT LEAST 5°F ABOVE THE OCCUPIED COOLING SET POINT OR TO PREVENT HIGH SPACE HUMIDITY LEVELS.

EXCEPTION TO 6.4.3.3.2

RADIANT HEATING SYSTEMS CAPABLE OF AND CONFIGURED WITH A SETBACK HEATING SET POINT AT LEAST 4°F BELOW THE OCCUPIED HEATING SET POINT.

MECHANICAL DRAWING LIST

M-001	MECHANICAL NOTES & LEGEND
M-101	MECHANICAL FLOOR PLAN
M-102	MECHANICAL ROOF PLAN
M-201	MECHANICAL DETAILS (1 OF 2)
M-201	MECHANICAL DETAILS (1 OF 2)
M-301	MECHANICAL SCHEDULES
M-401	MECHANICAL SPECIFICATIONS
M-501	ENERGY COMPLIANCE
M-601	HOOD DETAILS
M-602	HOOD DETAILS
M-603	HOOD DETAILS
M-604	HOOD DETAILS

COMMERCIAL KITCHEN NOTES

HVAC, FIRE PROTECTION AND PLUMBING

CONTRACTOR TO OBTAIN LATEST SPREAD SHEETS/SHOP DRAWINGS FROM KITCHEN CONSULTANT FOR APPLIANCE P&D AND HVAC REQUIREMENTS PRIOR TO ANY ROUGH-IN WORK.

THIS CONTRACTOR SHALL DO ALL WIRING AND CONTROLS AS NOTED ON WIRING NOTES IN EQUIPMENT SCHEDULE

- ENTIRE KITCHEN HOOD EXHAUST SYSTEM TO NFPA 96 STANDARDS

- REFER TO ARCH AND/OR INTERIOR DESIGN DRAWINGS FOR HOOD LOCATION AND APPROVED KITCHEN HOOD SHOP DRAWINGS FOR EXACT LOCATION OF EXHAUST DUCT CONNECTIONS.

- REFER TO LATEST KITCHEN EQUIPMENT DRAWINGS AND APPROVED SHOP DRAWINGS FOR FINAL GAS, PLUMBING, AND DRAINAGE HOOK UP SIZES AND LOCATIONS. CONTRACTOR TO REFER TO MANUFACTURER'S INSTALLATION MANUALS AND RECOMMENDATIONS AND PROVIDE ALL NECESSARY EQUIPMENT, VALVES, PIPING, ETC. TO SUIT. EXACT LOCATION OF EQUIPMENT ROUGH INS ARE TO BE DETERMINED AT SITE. ANY CHANGES TO THE KITCHEN EQUIPMENT LINE UP MUST BE REPORTED TO THE ENGINEER PRIOR TO INSTALLATION.

- HOOD DIMENSIONS SHALL BE CONFIRMED BY SITE MEASUREMENTS AND FINAL REVIEW OF COOK-LINE BY KITCHEN DESIGNER. PRIOR TO ORDERING, THE SHOP DRAWINGS SHALL BE SUBMITTED TO THE KITCHEN DESIGNER FOR THEIR APPROVAL ON THE LENGTH AND MANUFACTURER FOR APPROVAL ON THE CAPACITY, CONSTRUCTION AND FIRE SUPPRESSION.

- WHEN MULTIPLE HOODS ARE LOCATED SIDE BY SIDE OR BACK TO BACK OR USING A COMMON DUCT SYSTEM THEY SHALL BE PROTECTED SIMULTANEOUSLY MEANING ALL ASSOCIATE FIRE SUPPRESSION SYSTEMS SHALL ACTIVATE SIMULTANEOUSLY.

- ROOF MOUNTED FANS SHOULD BE ACCESSIBLE ON ALL SIDES WITHOUT A LADDER.

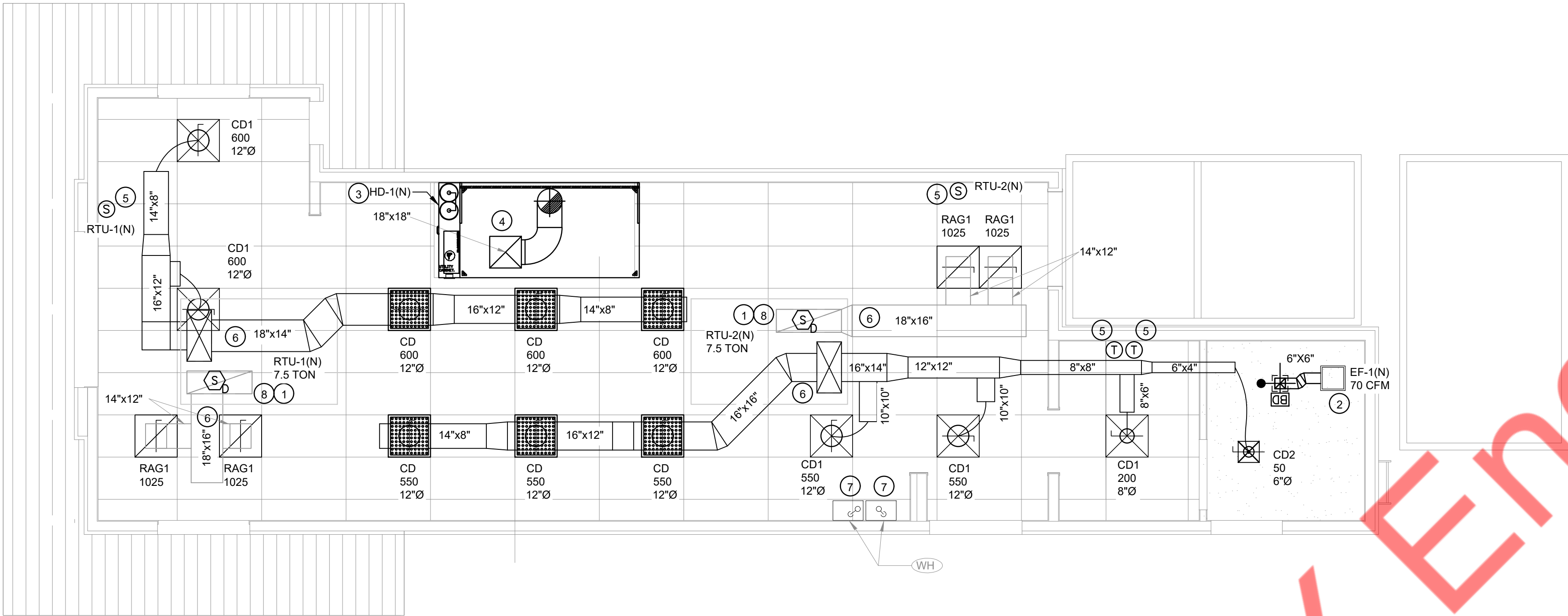
- WALL MOUNTED FANS SHALL BE ACCESSIBLE ON ALL SIDES FROM A 6 FT STEP LADDER. WHERE THIS IS NOT PRACTICAL, A PERMANENT STRUCTURE MUST BE CONSTRUCTED THAT IS ACCESSIBLE USING A MAXIMUM 20 FT EXTENSION LADDER.

ANSUL NOTES

THIS INSTALLATION IS TO BE MADE IN ACCORDANCE WITH THE R-102 INSTALLATION MANUAL AND IN ACCORDANCE WITH ALL STATE AND LOCAL CODES.

THE WIRE ROPE FOR THE DETECTOR AND REMOTE PULL STATION IS TO BE INSTALLED BY AN AUTHORIZED AND FACTORY TRAINED DISTRIBUTOR OR SERVICE REPRESENTATIVE. THIS INSTALLATION IS TO BE INSPECTED, PUT INTO OPERATION AND CERTIFIED BY AN AUTHORIZED AND FACTORY TRAINED DISTRIBUTOR OR SERVICE REPRESENTATIVE. ELECTRICAL CONTACTS AND WIRING FOR APPLIANCE SHUT OFF TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

ANSUL R-102 RESTAURANT FIRE SUPPRESSION SYSTEMS HAVE BEEN TESTED AND ARE LISTED BY UNDERWRITERS LABORATORIES INC. AS PRE-ENGINEERED SYSTEMS. SHALL COMPLY WITH ALL RELEVANT ANSUL INSTALLATION RECHARGE INSPECTION AND MAINTENANCE MANUALS AND SHALL COMPLY WITH NFPA 96 WHEN INSTALLED AND CERTIFIED BY AUTHORIZED TRAINED ANSUL DISTRIBUTORS IN ACCORDANCE WITH THE MANUAL. ALL AGENT DISTRIBUTION PIPING AND DETECTION CONDUIT HOOD PENETRATIONS MUST BE PROPERLY SEALED IN ACCORDANCE WITH NFPA 96.



1 MECHANICAL FLOOR PLAN
1/4"=1'-0"

GENERAL NOTES

- CONTRACTOR SHALL BALANCE EACH AIR DIFFUSER WITH THE CFM SHOWN ON PLANS.
- DUCTWORK SHOWN ON PLAN ARE SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR DUCTWORK ROUTING, OFFSET AND RUN DUCTWORK INSIDE THE STRUCTURE IF REQUIRED. PROVIDE ANY EXTRA DUCTWORK, FITTINGS, INSULATIONS AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATION.
- COORDINATE LOCATIONS AND SIZES OF ROOF OPENINGS WITH OWNER AND STRUCTURAL ENGINEERS.
- EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING ETC.
- DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.
- PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR FIRE RATINGS OF THE WALLS.

KEY NOTES

- SA/RA UP TO RTU. DUCT DROPS SHALL BE FULL SIZE OF ROOFTOP UNIT DUCT CONNECTION. PROVIDE FLEXIBLE CONNECTORS ON THE SUPPLY AND RETURN AIR DUCT CONNECTIONS.
- NEW TOILET CEILING EXHAUST FAN. CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION.
- INSTALL OWNER SPECIFIED GREASE EXHAUST HOOD. SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- CONNECT LISTED GREASE DUCT TO HOOD AND ROUTE TO ROOF MOUNTED GREASE EXHAUST FAN. REFER TO
- MOUNT RTU THERMOSTAT AND TEMPERATURE SENSOR AT 60" AFF. MOUNT HUMIDISTAT IN RTU RA DROP.
- INTERNALLY LINED RECTANGULAR DUCTWORK SHALL BE ONLY 10 FEET FROM RTU CONNECTION.
- CONTRACTOR TO FURNISH AND INSTALL A CONCENTRIC VENT AIR INTAKE WALL TERMINATION KIT. MAKE ALL FINAL INTAKE/EXHAUST CONNECTIONS. COORDINATE LOCATION OF WALL OPENING WITH ARCHITECT AND OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- MECHANICAL CONTRACTOR TO FURNISH AND INSTALL SMOKE DETECTOR IN THE RETURN AIR DUCT, IN ACCORDANCE WITH LOCAL CODES. DUCT SMOKE DETECTOR SHALL BE WIRED TO SHUT DOWN RESPECTIVE RTU UNDER FIRE CONDITIONS BY ELECTRICAL CONTRACTOR.

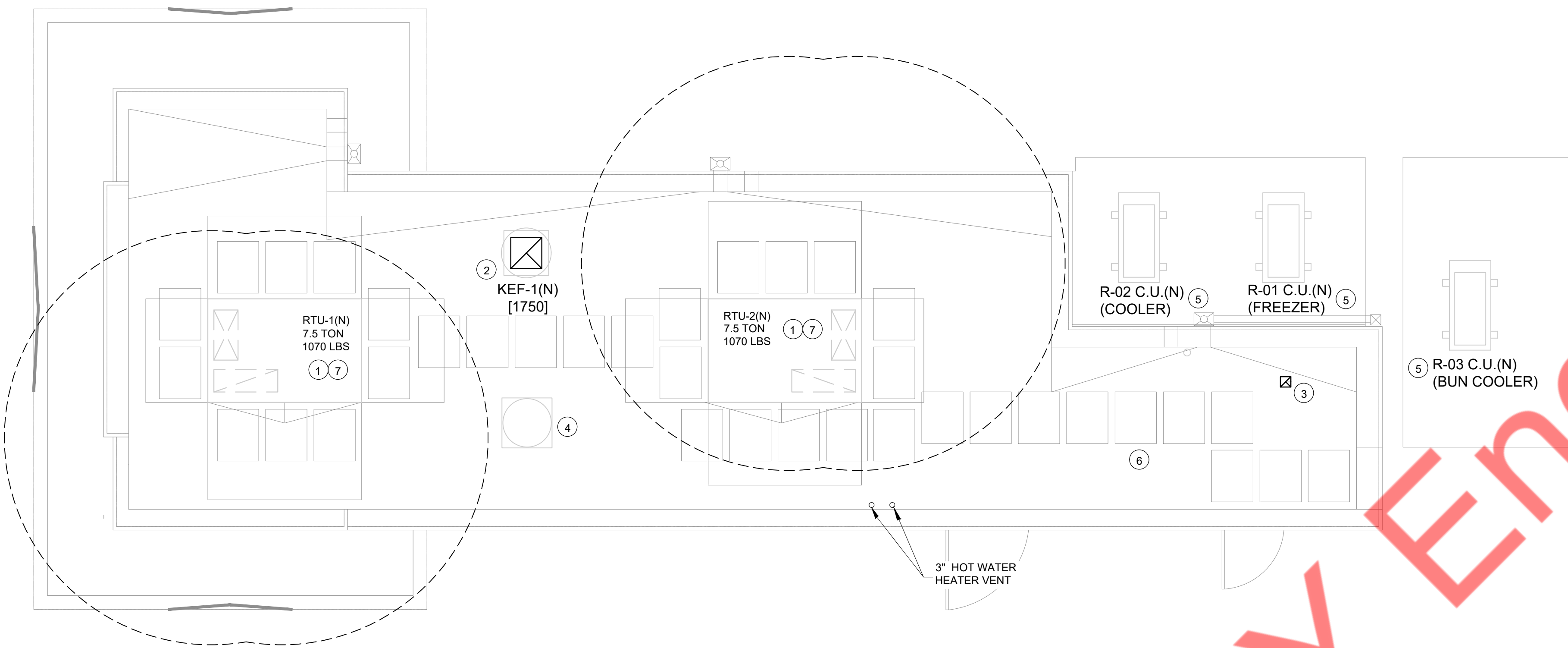
RALLY'S RESTAURANT 2024
VERSION 2024.2

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

ORIGINAL ISSUE DATE: 10/21/2024
BUILDING TYPE: NEW BUILD
PROTOTYPE: 2024
VERSION: 2024.1
STORE NUMBER: XXXX
PROJECT NUMBER: 24112

MECHANICAL FLOOR
PLAN

M-101



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

GENERAL NOTES

- A. CONTRACTOR TO ENSURE THE CLEARANCES OF EQUIPMENTS KEPT ON ROOF. PROVIDE A SUITABLE ARRANGEMENTS ON ROOF FOR SERVICE & MAINTENANCE.
- B. OUTSIDE AIR INTAKES SHALL BE LOCATED A MINIMUM 10" FROM ANY SANITARY VENT AND EXHAUST FAN DISCHARGE. WHEN NECESSARY, EXTEND VENT OR PROVIDE ADDITIONAL FRESH AIR INTAKE DUCTWORK AS DIRECTED BY THE ENGINEER.

KEY NOTES

- ① PROVIDE ROOFTOP UNIT AND ROOF CURB. INSTALL UNIT AND CURB LEVEL TO ENSURE PROPER SLOPE CONDENSATE DRAINAGE. PROVIDE FLEXIBLE CONNECTORS ON THE SUPPLY AND RETURN AIR DUCT CONNECTIONS. DUCT DROPS SHALL BE FULL SIZE OF ROOFTOP UNIT DUCT CONNECTION.
- ② CONTRACTOR TO INSTALL ROOF MOUNTED GREASE EXHAUST FAN AND CURB PROVIDED BY OTHERS.
- ③ 6"X6" EXHAUST UP THROUGH ROOF TO SPUN ALUMINUM ROOF CAP(BY OTHERS). 10'-0" FROM ANY OA INTAKE.
- ④ REMOTE CONDENSING UNIT. CONTRACTOR TO INSTALL AND ROUTE REFRIGERANT LINES TO ICE MAKER PER MANUFACTURER'S INSTRUCTIONS.
- ⑤ CONDENSING UNITS BY OTHERS.
- ⑥ CONDUIT PIPE PENETRATION. REFER TO ARCHITECTURAL DRAWING, SHEET A-601, DETAIL #8.
- ⑦ PROVIDE AND CONNECT CONDENSATE DRAIN TO NEAREST DOWNSPOUT AS SHOWN IN SHEET M-202, DETAIL #2.

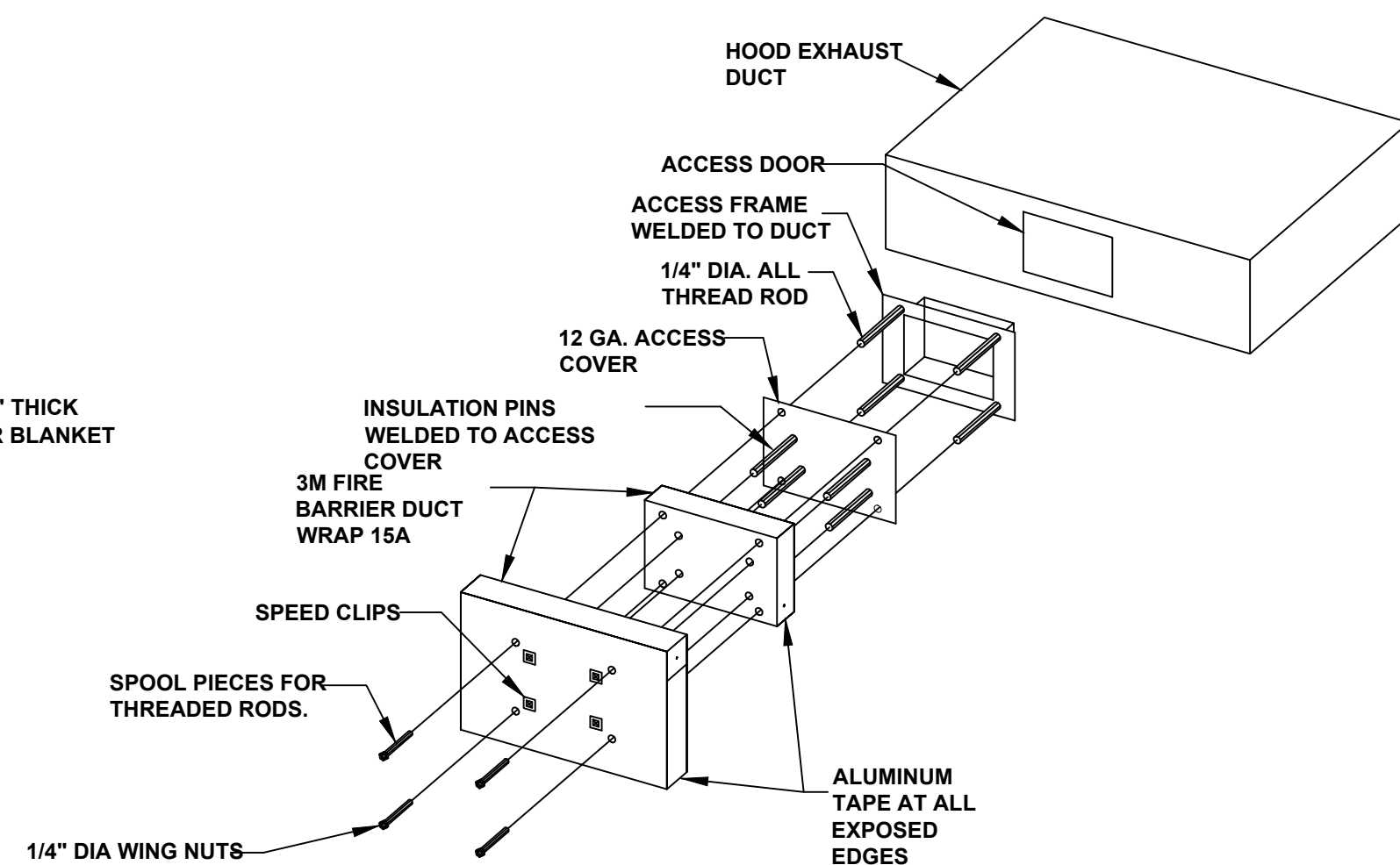
RALLYS RESTAURANT 2024
VERSION 2024.2

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

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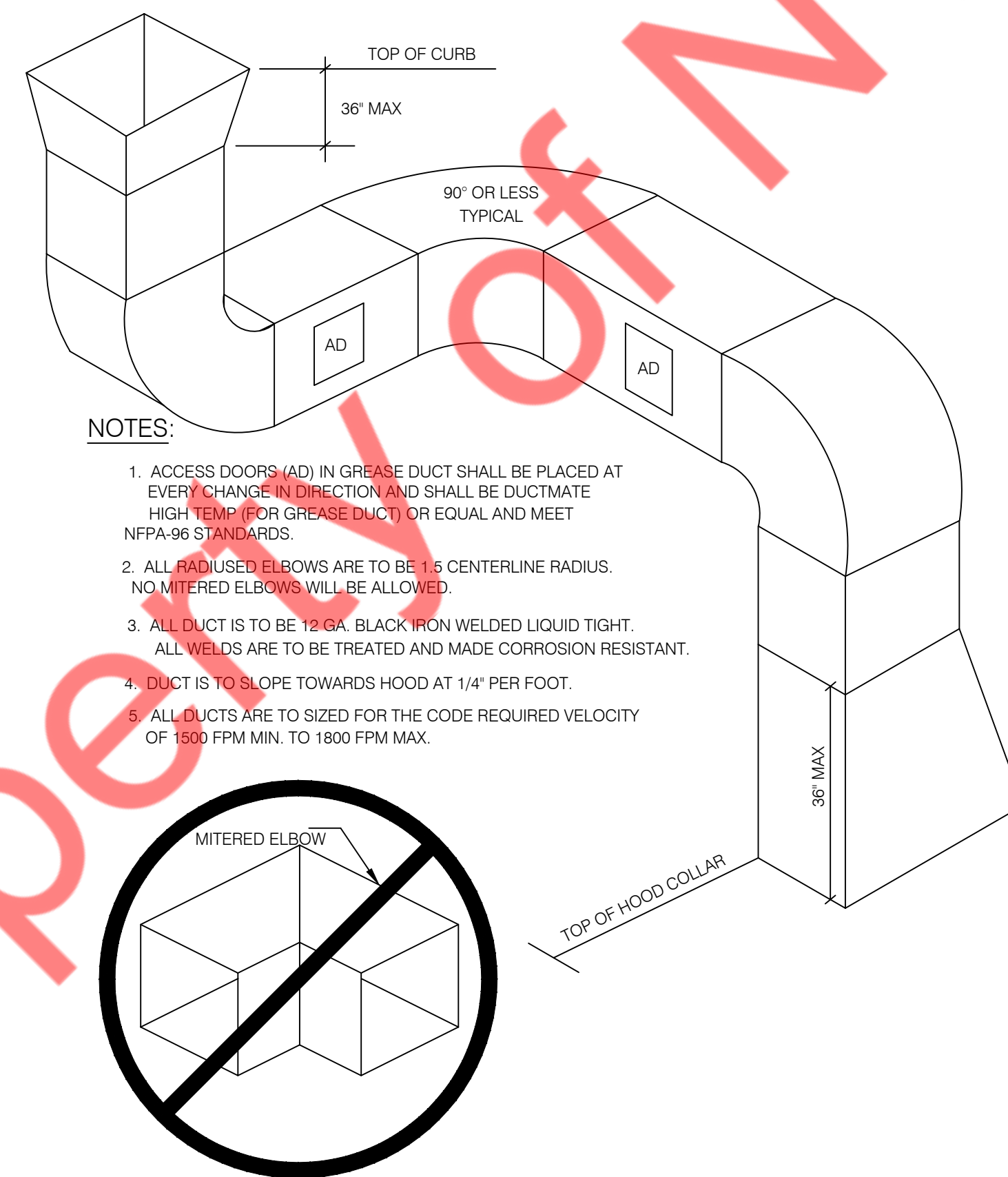
MECHANICAL ROOF
PLAN

M-102



NOTES:

- 1 GREASE DUCT WRAP DETAIL



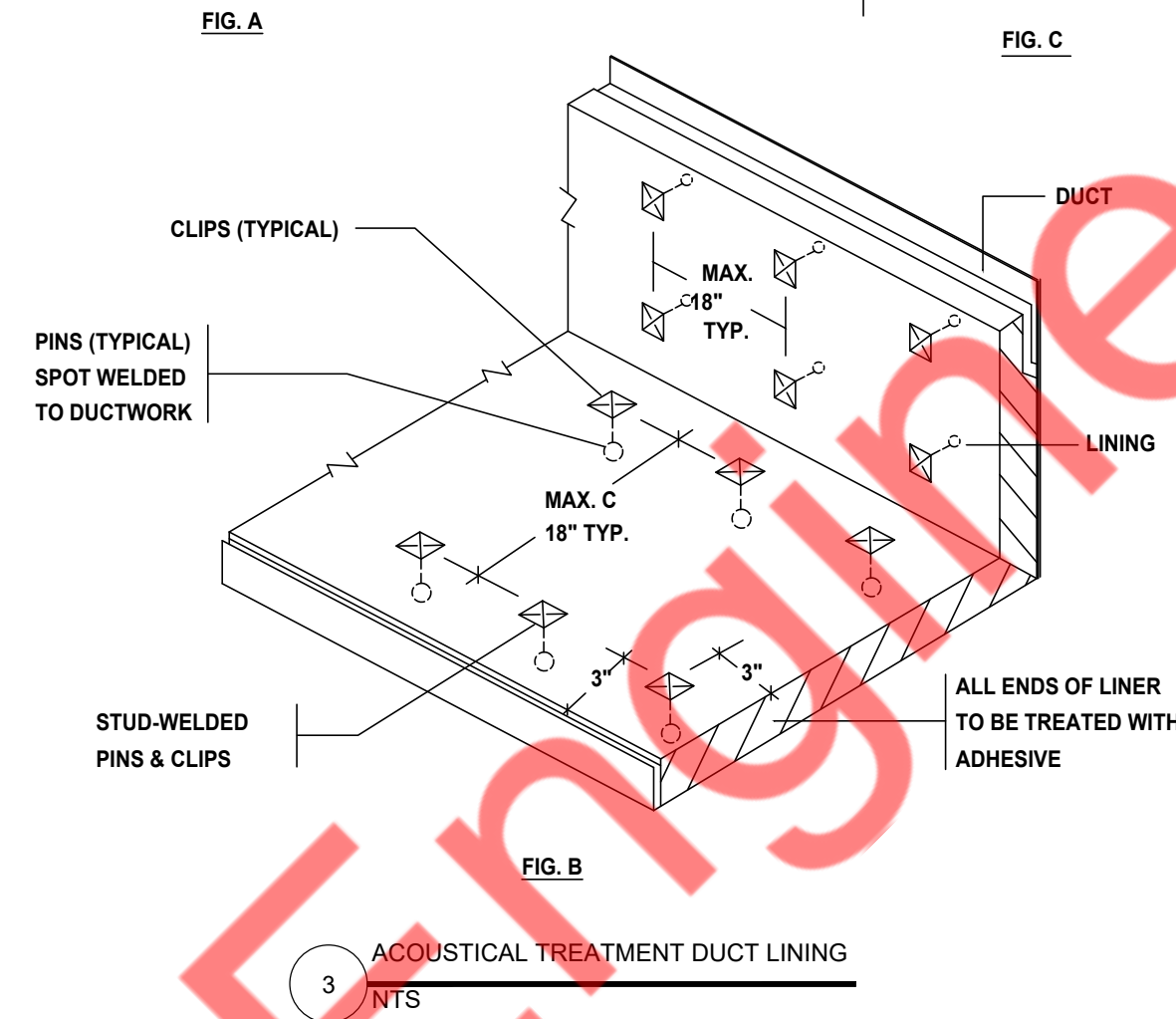
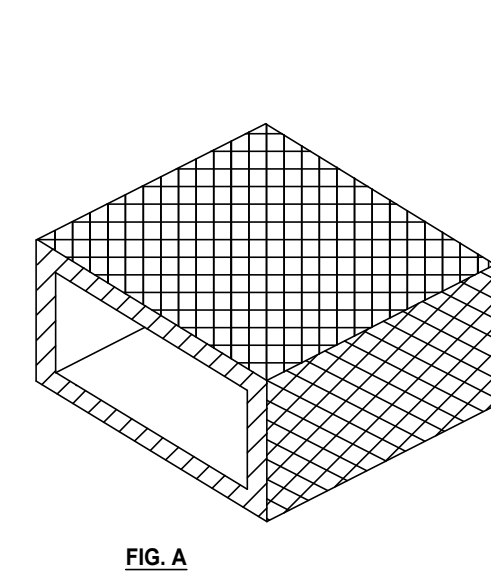
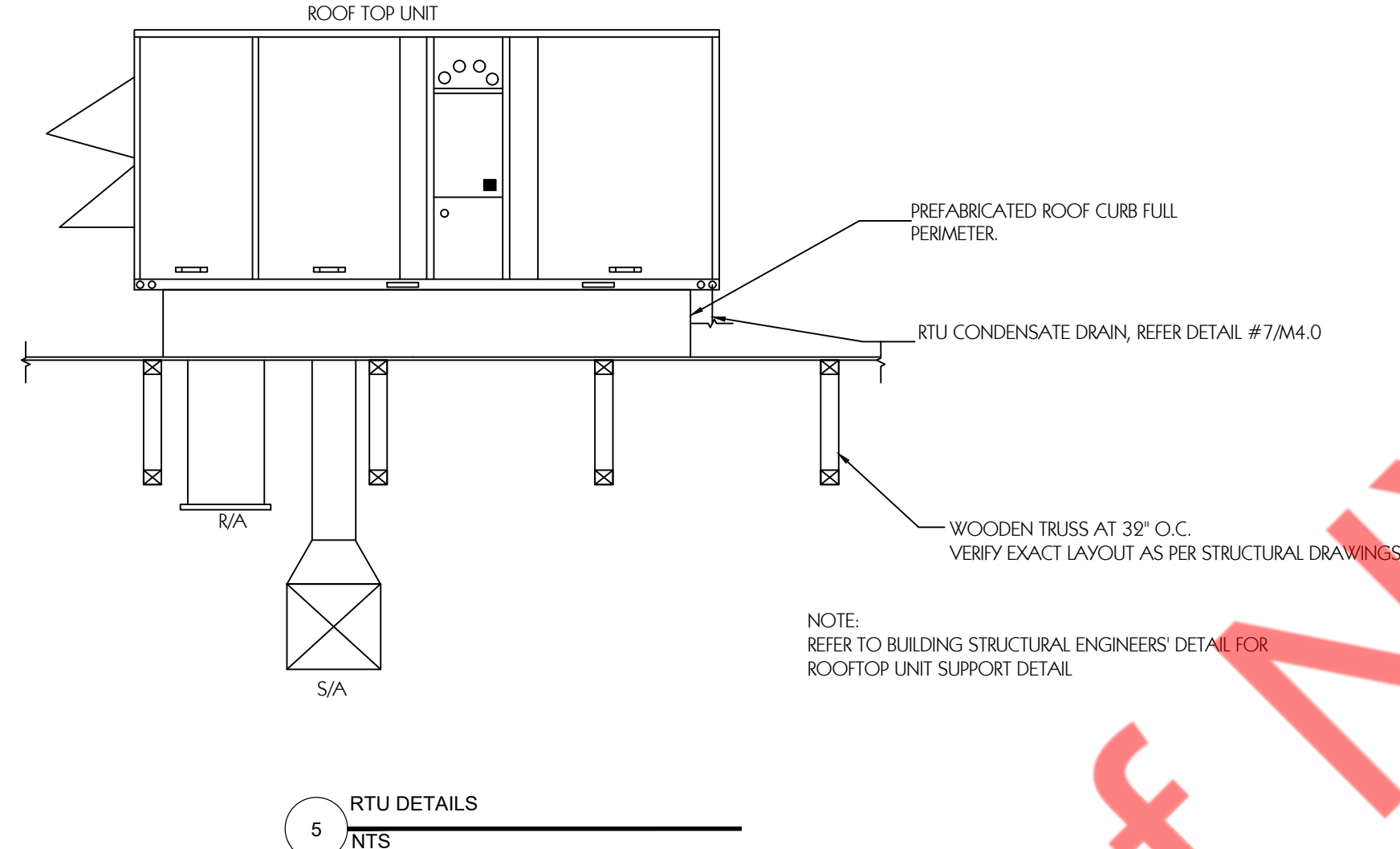
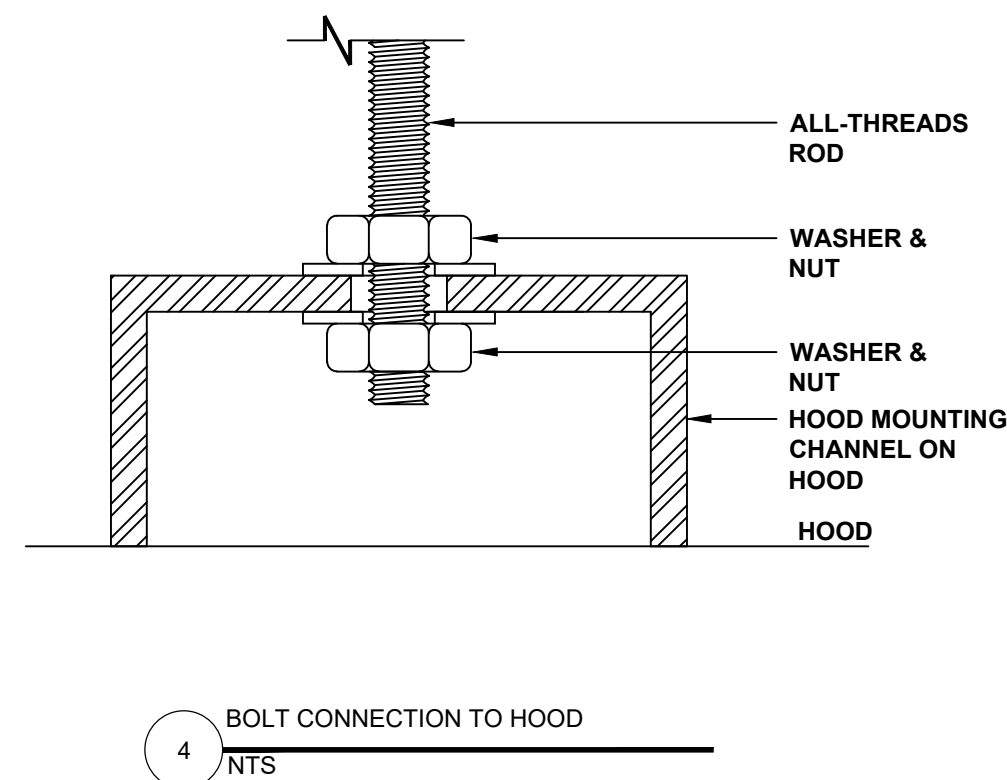
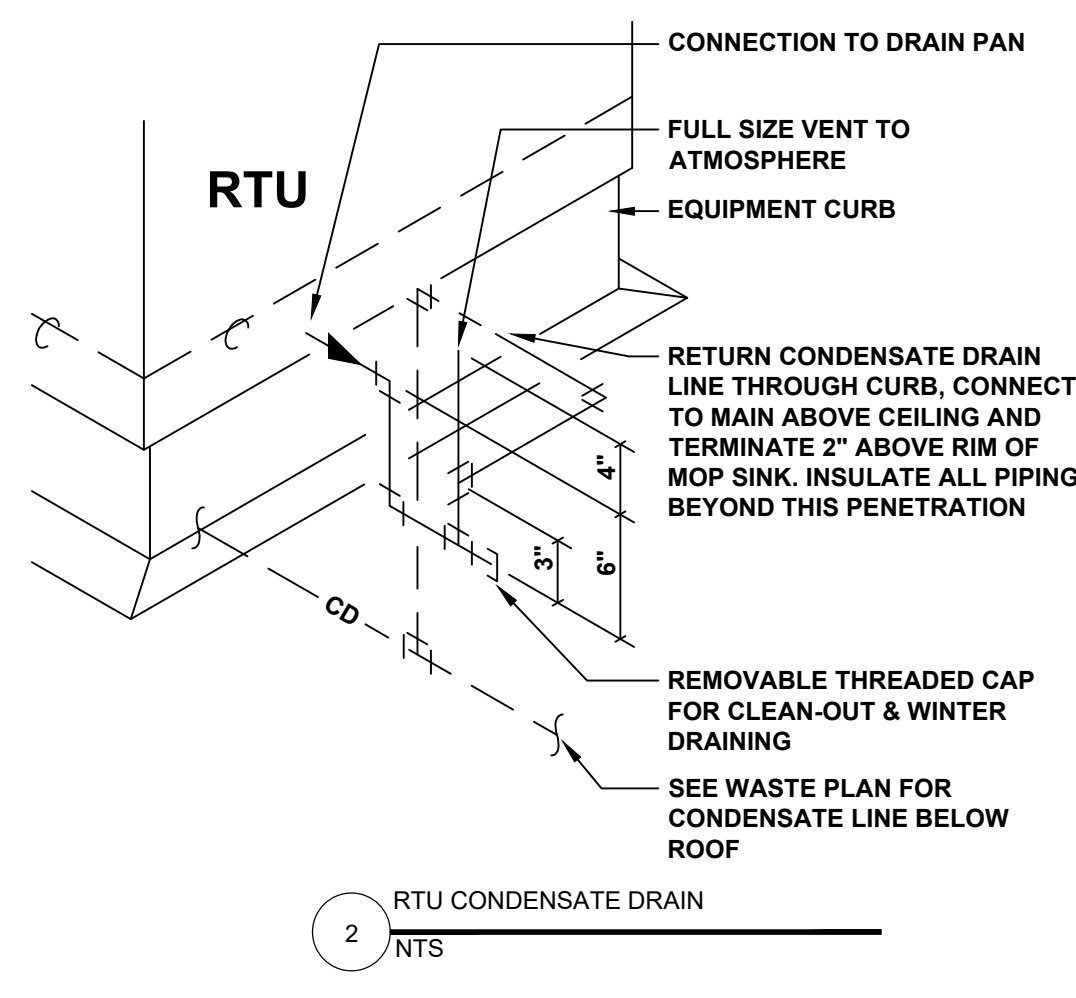
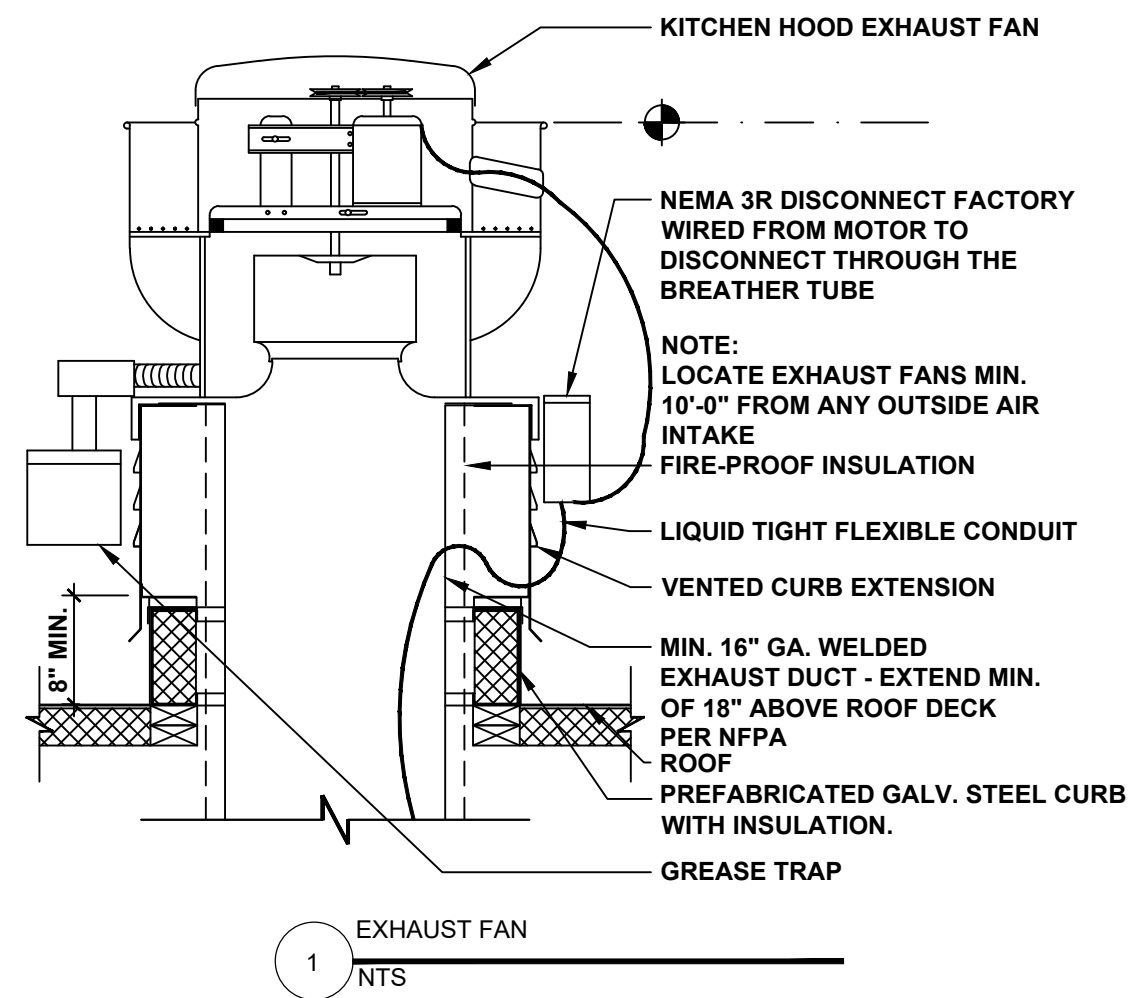
1. ACCESS DOORS (AD) IN GREASE DUCT SHALL BE PLACED AT EVERY CHANGE IN DIRECTION AND SHALL BE DUCTMAE HIGH TEMP. (FOR GREASE DUCT) OR EQUAL AND MEET NFPA-96 STANDARDS.
2. ALL RADIUS ELBOWS ARE TO BE 1.5 CENTERLINE RADIUS. NO MITERED ELBOWS WILL BE ALLOWED.
3. ALL DUCT IS TO BE 12" GA. BLACK IRON WELDED LIQUID TIGHT. ALL WELDS ARE TO BE TREATED AND MADE CORROSION RESISTANT.
4. DUCT IS TO SLOPE TOWARDS HOOD AT 1/4" PER FOOT.
5. ALL DUCTS ARE TO SIZED FOR THE CODE REQUIRED VELOCITY OF 1500 FPM MIN. TO 1800 FPM MAX.

NOTES:

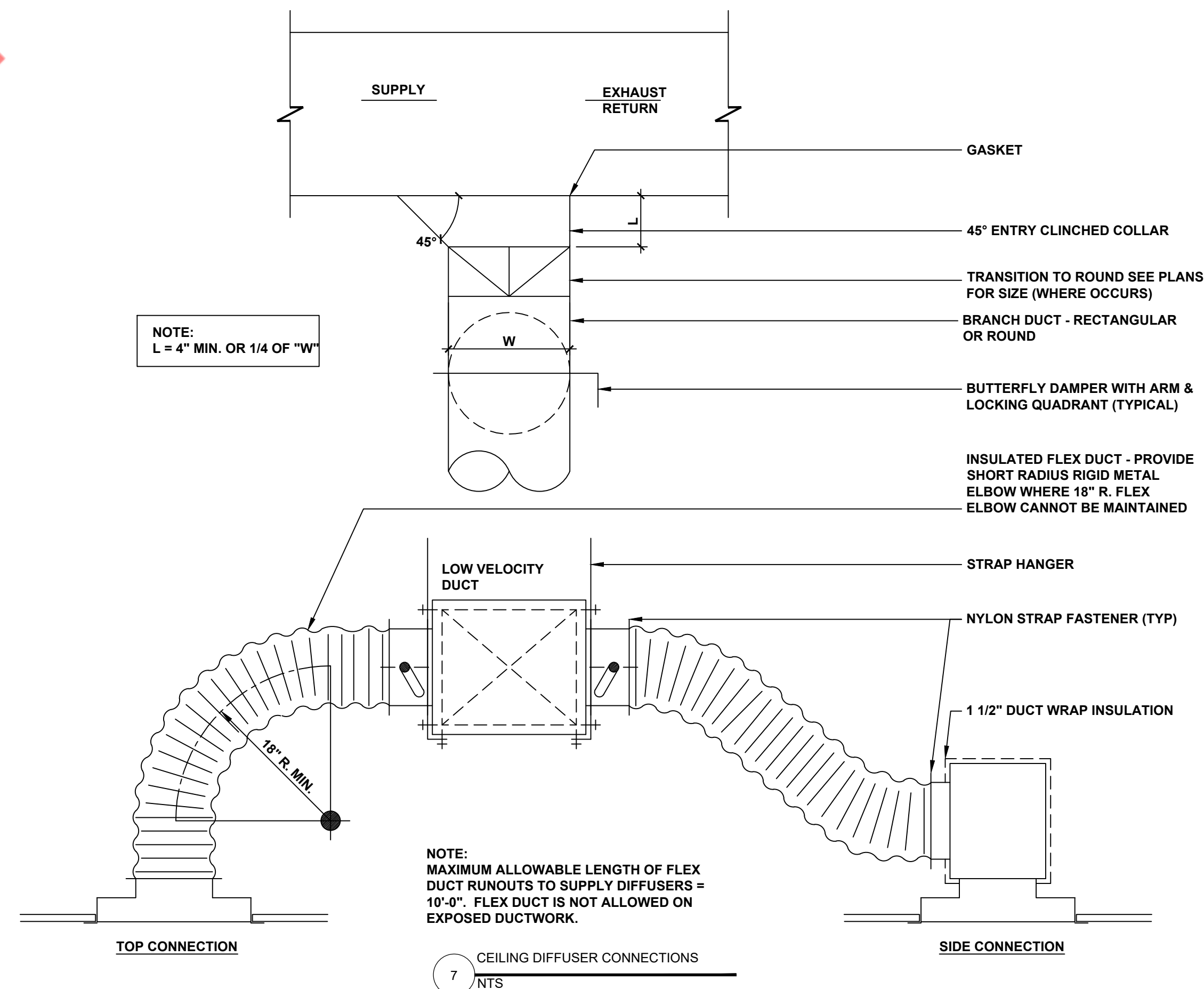
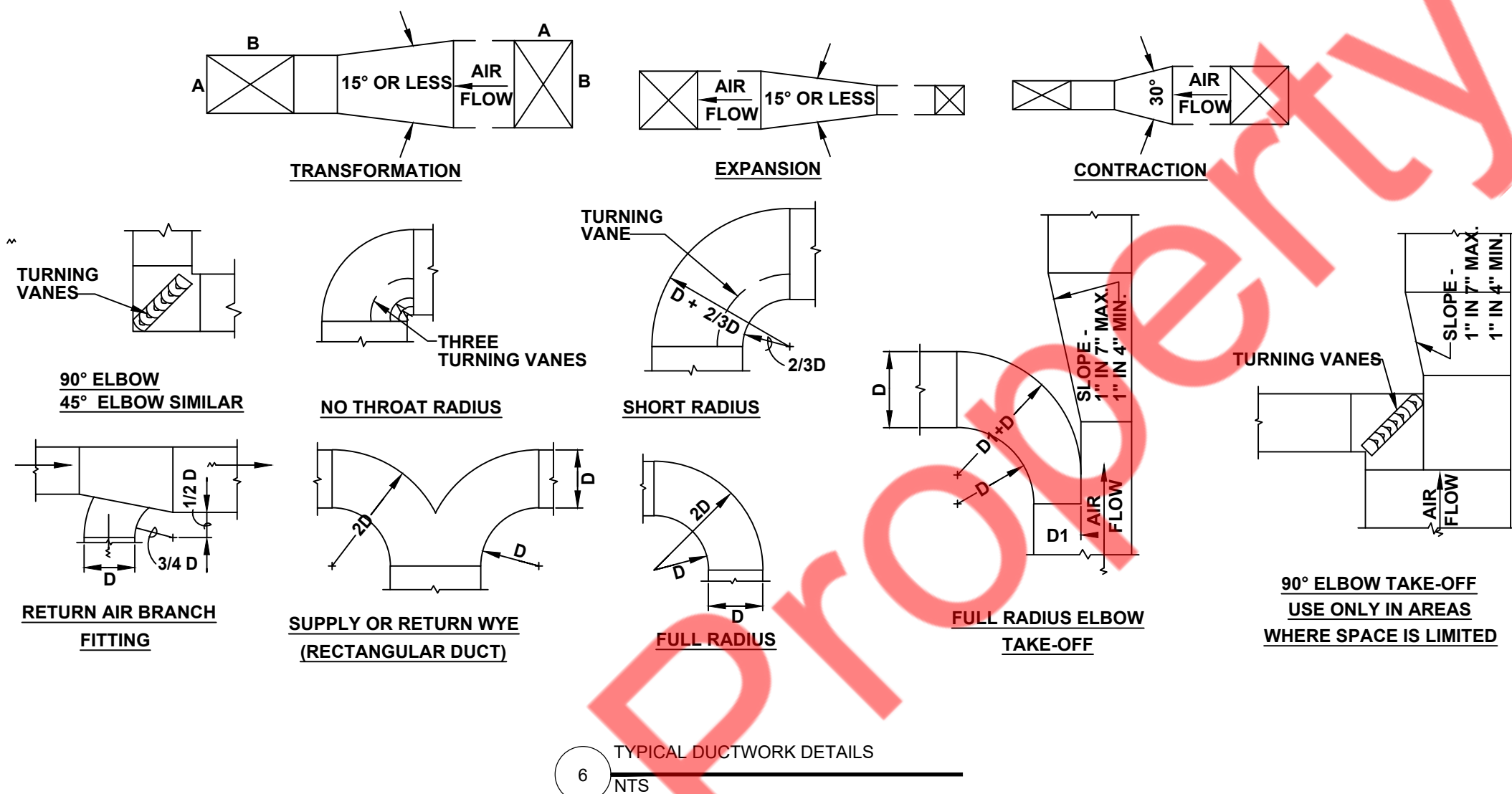
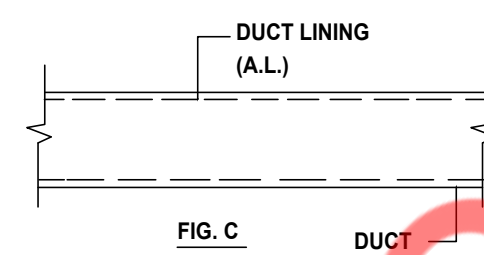
- 2 GREASE DUCT ACCESS DOOR DETAIL
NTS

3 TYPICAL GREASE DUCT DETAIL

M-201



NOTES:
DUCTS TO BE ACOUSTICALLY LINED SHALL BE DESIGNATED BY THE SYMBOL IN FIG. "C" TO THE EXTENT OF LINING. THICKNESS SHALL BE AS SPECIFIED.
DUCTS LINED WITH ACOUSTICAL MATERIAL SHOULD BE FASTENED WITH CLIPS, ADHESIVE, OR PINS



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MECHANICAL DETAILS
(2 OF 2)

M-202

RTU SCHEDULE

MARK	MANUFACTURER	MODEL	AIRFLOW	OA	ESP	HP	RPM	COOLING				HEATING				ELECTRIC			WEIGHT (LBS)
								NOM. TONS	TOTAL MBH	SENSIBLE MBH	IEER/ SEER	HEATING TYPE	INPUT MBH	OUTPUT MBH	EFFICIENCY %	V/PH/HZ	MCA (A)	MOP (A)	
RTU-1(N)	CARRIER	48GCEN08A2M5-6W4C0	3000	950	1.0	1.85 BHP	1718	7.5	87.35	51.35	17.5	GAS	180	148	82	208/3/60	39	50	893
RTU-2(N)	CARRIER	48GCEN08A2M5-6W4C0	3000	950	1.0	1.85 BHP	1718	7.5	87.35	51.35	17.5	GAS	180	148	82	208/3/60	39	50	893

NOTES:

1. ALL RTU SHALL BE STANDARD EFFICIENCY

2. PROVIDE LOW LEAK ECONOMIZER WITH BAROMETRIC RELIEF. PROVIDE FDD.

3. ELECTRICAL CONNECTION TO BE SINGLE POINT AND TO BE THROUGH THE BOTTOM OF THE UNIT

4. PROVIDE UNIT MOUNTED NON-FUSED DISCONNECT SWITCH AND UN-POWERED CONVENIENCE OUTLET.

5. 14"ROOF CURB - CONTRACTOR SHALL FIELD INSULATE. SHIP ASAP AHEAD OF THE UNIT.

6. CABINET WITH 1/2" FIBERGLASS INSULATION.

7. PROVIDE 8-WIRE, 24 VAC, AUTOMATIC CHANGEOVER, 2-STAGE HEAT / COOL, REMOTELY PROGRAMMABLE THERMOSTAT.

8. REMOTE SENSORS SHALL BE PROVIDED IN SPACE WIRED BACK TO PROGRAMMABLE, 24 HOUR, 7 DAY, THERMOSTATS.

9. ANTI SHORT CYCLE TIMER, CLOGGED FILTER SWITCH, CONDENSATE OVERFLOW SWITCH, FAN FAILURE SWITCH, HINGED ACCESS PANEL.

10. PROVIDE 2" FILTERS (MERV 8), COMPLETECOAT (MICROCHANNEL CONDENSER COIL)

11. PROVIDE HOT GAS REHEAT WITH ASSOCIATED CONTROLS AND SENSORS FOR DEHUMIDIFICATION CONTROL.

12. PROVIDE RETURN AIR SMOKE DETECTOR - UNIT MOUNTED.

13. PROVIDE ALL COMPRESSORS WITH 5 YEAR WARRANTY.

EXHAUST FAN SCHEDULE								
MARK	MANUFACTURER	MODEL	AIRFLOW	ESP	RPM	HP	V/PH/HZ	REMARKS
KEF-1(N)	CAPTIVEAIRE	DU85HFA	1750 CFM	1.25 IN-WG	1446	0.75	208/1/60	SEE NOTES 1,2,3,4,5&7
EF-1(N)	CAPTIVEAIRE	CFA-D150-CA	70 CFM	0.50 IN-WG	654	0.060	115/1/60	SEE NOTES 2,5,6,8 &9
NOTES: 1. UL 762 LISTED (GREASE) 2. VENTED ROOF CURB 3. GREASE TROUGH 4. HINGED ROOF CURB 5. WEATHERPROOF DISCONNECT SWITCH 6. BACKDRAFT DAMPER 7. EXHAUST FANS PROVIDED BY HOOD MANUFACTURER. REFER TO HOOD DRAWINGS FOR MORE INFORMATION. 8. PROVIDED WITH DAMPER TRAY 9. UL705 LISTED (HEAT OR STEAM) 10. ABOVE MAKES ARE PREFERABLE, HOWEVER EQUIVALENT MAKES ARE ALSO ACCEPTABLE.								

HOOD SCHEDULE									
MARK	MANUFACTURER	LENGTH	MODEL	SERVICE	COOKING TEMPERATURE	AIR FLOW	COLLAR	CONSTRUCTION	WEIGHT
HD-1(N)	CAPTIVEAIRE	8'-6"	5424 ND-2	-	600 DEG F	1750 CFM	-	430 SS WHERE EXPOSED	800 lbs

AIR BALANCE SCHEDULE					
ITEM	OA	RA	SA	EA	PRESSURE
RTU-1(N)	950	2050	3000	--	+950
RTU-2(N)	950	2050	3000	--	+950
KEF-1(N)	--	--	--	1750	-1750
EF-1(N)	--	--	--	-70	-70
TOTAL	1900	4100	6000	1820	+80

AIR DEVICE SCHEDULE						
MARK	SERVICE	MANUFACTURER / MODEL	STYLE	FRAME TYPE	FACE SIZE	NOTES
CD	SUPPLY AIR	TITUS / PAS-AA	ROUND NECK CEILING DIFFUSER	LAY-IN	24"x24"	1 TO 4
CD1	SUPPLY AIR	TITUS / OMNI	ROUND NECK CEILING DIFFUSER	LAY-IN	24"x24"	1 TO 4
CD2	SUPPLY AIR	TITUS / OMNI	ROUND NECK CEILING DIFFUSER	LAY-IN	12"x12"	1 TO 4
RAG1	RETURN AIR	TITUS / OMNI	ROUND NECK CEILING DIFFUSER	LAY-IN	24"x24"	1 TO 4
NOTES: 1. EQUAL DEVICES BY NAILOR, METELAIRE, OR KRUEGER ARE ACCEPTABLE. 2. COLOR: WHITE 3. REFER TO MANUFACTURER'S INSTRUCTIONS FOR PROPER INSTALLATION. 4. PROVIDE WITH ROUND NECK CONNECTION. SEE PLANS FOR SIZES. 5. PROVIDE WITH 4-WAY THROW UNLESS INDICATED OTHERWISE ON PLANS.						

VENTILATION CALCULATION												
ROOM NAME	AREA (SQ.FT)	NO. OF PEOPLE 1000 SQ.FT AS PER IMC 2021	NO. OF PEOPLE AS PER IMC 2021	NO. OF CHAIR	FINAL PEOPLE NO.	OUTSIDE AIR AS PER IMC 2021		REQ. OA CFM	PROVIDED OA CFM	EXHAUST AIRFLOW RATE (CFM/SQ.FT OR CFM/FIXT.)	TOTAL EXHAUST REQUIRED CFM	PROVIDED EXHAUST CFM
						CFM/PEOPLE	CFM/SQ.FT					
KITCHEN	760	20	16	5	16	7.5	0.12	211	1900	0.7	532	1750
EXE. OFFICE	65	5	1	1	1	5	0.06	9		0	0	0
REST ROOM	65	0	0	0	0	0	0	0		70	70	70
TOTAL								220		-	TOTAL	1820

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MECHANICAL
SCHEDULES

M-301

GENERAL

1. GENERAL CONDITIONS

- A. CONFORM WITH APPLICABLE PROVISIONS OF THE GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS AND THE GENERAL REQUIREMENTS.
- B. Definitions:
- B.A. Furnish MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION.
- B.B. Install MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE.
- B.C. Provide MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.

2. SCOPE OF WORK

- A. PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, TOOLS, ERECTION, HOISTING AND INCIDENTALS REQUIRED TO PROVIDE HEATING, VENTILATION, GREASE EXHAUST AND AIR CONDITIONING SYSTEMS.
PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM.

3. RULES AND REGULATIONS

- A. 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.
- B. WHERE THE STANDARDS OF THE DRAWINGS AND SPECIFICATIONS FOR MATERIALS AND/OR WORKMANSHIP ARE HIGHER THAN THE REQUIREMENTS CITED ABOVE, THE DRAWINGS AND SPECIFICATIONS SHALL TAKE PRECEDENCE.

4. WARRANTY

- A. PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION.

5. COORDINATION

- A. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.
- B. CONTRACTOR SHALL EXECUTE WORK SO THAT PROGRESS WILL HARMONIZE WITH THAT OF OTHER TRADES, AND SO THAT ALL WORK MAY PROCEED AS EXPEDITIOUSLY AS POSSIBLE.

- C. TO THE FULLEST EXTENT POSSIBLE, THE WORK UNDER THIS CONTRACT HAS BEEN INDICATED ON THE DRAWINGS IN SUCH POSITIONS AS TO SUIT AND ACCOMMODATE THE WORK OF OTHER TRADES, BUT THE WORK AS INDICATED IS LARGELY DIAGRAMMATIC AND THE FINAL POSITIONS OF ALL EQUIPMENT AND MATERIALS CANNOT BE INDICATED. THEREFORE, THE CONTRACTOR IS DIRECTLY RESPONSIBLE FOR THE CORRECT PLACEMENT OF WORK AND THE PROPER LOCATION AND CONNECTION OF WORK IN RELATION TO WORK OF OTHER TRADES.

6. LOCATION AND SPACE REQUIREMENTS

- A. VERIFY SPACES, DIMENSIONS, LOCATIONS, AND CONDITIONS REQUIRED FOR INSTALLATION OF ALL HVAC AND RELATED WORK.
- B. OBTAIN NECESSARY ROUGH-IN DATA AND DIMENSIONS OF FIXTURES, EQUIPMENT, TENANT FURNISHED EQUIPMENT, OWNER FURNISHED EQUIPMENT, AND EQUIPMENT FURNISHED UNDER OTHER SECTIONS.
- C. NO EXPOSED DUCTS WILL BE PERMITTED TO SHOW ON INTERIOR OF BUILDING IN FINISHED ROOMS. WHERE THIS WOULD OCCUR, EXPOSED PORTION SHALL BE FURRED AND PLASTERED, OR CASED WHEN NOT ADJACENT TO THE WALL.
- D. MAINTAIN SUFFICIENT CLEARANCE AND ACCESSIBILITY. INTERFERENCE BETWEEN WORK OF VARIOUS TRADES WILL BE RESOLVED BY THE ARCHITECT AND OWNER IN CONSULTATION WITH THE ENGINEER. RELOCATE OR OFFSET WORK AS REQUIRED TO ACCOMMODATE WORK OF OTHER TRADES. MAINTAIN CEILING HEIGHTS AND AVOID EXCESSIVE FURRING REQUIREMENTS.
- E. IF NOT PRECISELY LOCATED ON DRAWINGS, OBTAIN LOCATIONS OF FIXTURES, EQUIPMENT, AND APPLIANCES, FROM ARCHITECT AND FOOD SERVICE EQUIPMENT SUPPLIER. NO DEVIATIONS WILL BE ALLOWED.

7. MEASUREMENTS

- A. ALL DIMENSIONS OF WORK OF OTHER TRADES WHICH REQUIRE VERIFICATION SHALL BE VERIFIED FROM SHOP DRAWINGS OF SUCH WORK OR FROM ACTUAL MEASUREMENTS AT BUILDING, WHICHEVER IS THE MOST ACCURATE AND PRACTICAL IN THE JUDGMENT OF THE CONTRACTOR, WHO SHALL BE RESPONSIBLE FOR THE ACCURACY OF SUCH MEASUREMENTS.

8. PRODUCTS

1. GENERAL MATERIALS

- A. ALL MATERIALS SHALL CONFORM TO APPLICABLE ASHRAE AND SMACNA STANDARDS.
- B. BRANDS OF MATERIALS MENTIONED ARE USED AS A STANDARD AND REQUESTS FOR SUBSTITUTIONS WILL BE CONSIDERED WHEN SUBMITTED TO THE ENGINEER IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE SUPPLEMENTARY GENERAL CONDITIONS.
- C. APPROVED EQUIVALENT REFERS TO MATERIALS WHICH, IN THE OPINION OF THE ENGINEER, ARE SIMILAR AND EQUAL IN ALL RESPECTS TO MATERIAL OR METHOD INDICATED ON DRAWINGS OR AS SPECIFIED. ENGINEER IS NOT REQUIRED TO PROVE THAT A SUBSTITUTE MATERIAL IS NOT EQUAL TO SPECIFIED MATERIAL. CONTRACTOR SHALL SUBMIT IN WRITING TO ENGINEER EVIDENCE SUPPORTING HIS CONTENTION THAT SUBSTITUTED MATERIAL IS EQUIVALENT TO MATERIAL SHOWN ON DRAWINGS OR SPECIFIED. ENGINEER RESERVES RIGHT TO REJECT MATERIALS AND WORKMANSHIP, EITHER BEFORE OR AFTER INSTALLATION, THAT ARE NOT SHOWN ON DRAWINGS OR SPECIFICATIONS, OR SUBSTITUTIONS THAT HAVE NOT BEEN APPROVED BY ENGINEER IN WRITING.

9. DUCTWORK

- A. DUCT DIMENSIONS: UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.
- B. SHEET METAL DUCTWORK: PROVIDE SHEET METAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS, FOR 1" W.G. PRESSURE CLASS, SEAL CLASS "A". SHEET METAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, ASTM A-525. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL 90° ELBOWS.
- C. ROUND SHEET METAL DUCT: PROVIDE SPIRAL SEAM (ALL SIZES) OR SNAP LOCK (DUCT SIZES UP TO 10") GALVANIZED STEEL COMPLYING WITH SMACNA STANDARDS. SPIRAL SEAM DUCTWORK SHALL HAVE SMACNA SEAM TYPE RL-1.
- D. FLEXIBLE DUCT: PROVIDE FACTORY ASSEMBLED CLASS 1 AIR DUCT (UL 181) WITH 1" THICK 1 PCF FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/VAPOR BARRIER. FLEXIBLE DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50, AND SHALL BE RATED FOR MINIMUM 2" W.G. PRESSURE AND 0 TO 250°F TEMPERATURE. PROVIDE SCREW-OPERATED METAL ADJUSTABLE CLAMPING DEVICES. USE TWIST-LOCK CONICAL TAP COLLARS AT CONNECTIONS INTO SHEET METAL DUCTWORK. MAXIMUM EXTENDED LENGTH OF FLEXIBLE DUCT SHALL NOT EXCEED 6 FEET.

- E. EXPOSED DUCTWORK: EXPOSED DUCTWORK SHALL BE CLEANED OF DEBRIS AND OIL, AND LEFT BARE.
- F. DUCT SEALANT: PROVIDE POLYMERIC RUBBER TYPE SEALANT FOR USE ON BOTH INTERIOR LOCATED DUCTWORK AND DUCTWORK EXPOSED TO OUTDOOR CONDITIONS. SEALER SHALL HAVE HIGH BONDING STRENGTH FOR SURE, FIRST TIME SEALING OF JOINTS IN LOW, MEDIUM, AND HIGH PRESSURE DUCT SYSTEMS.

- G. DUCT TURNING VANES: PROVIDE FABRICATED TURNING VANES AND VANE RUNNERS, CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS". PROVIDE TURNING VANES CONSTRUCTED OF CURVED BLADES, SUPPORTED WITH BARS PERPENDICULAR TO BLADES, AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK. FOLLOW SMACNA GUIDELINES FOR SPACING SUPPORT, AND CONSTRUCTION. ALL BLADES SHALL BE DOUBLE THICKNESS AIRFOIL TYPE.

- H. KITCHEN EXHAUST DUCTS: FABRICATE KITCHEN EXHAUST DUCTS AND SUPPORTS USED FOR GREASE AND VAPOR REMOVAL FROM COOKING EQUIPMENT, OF MINIMUM 16 GAUGE CARBON STEEL WHERE CONCEALED, AND OF MINIMUM 16 GAUGE STAINLESS STEEL WHERE EXPOSED. SEAMS SHALL BE CONTINUOUSLY WELDED LIQUID TIGHT AND GROUND SMOOTH TO PREVENT BONDING.

10. DUCTWORK SUPPORT

A. HANGERS FOR HORIZONTAL SHEET METAL DUCTS.		
RECTANGULAR:		
<u>MAX. SIDE</u>	<u>METAL STRAP</u>	<u>MAX. SPACING</u>
18"	1"x18 GA.	10'
30"	1"x18 GA.	10'
48"	1"x1/8 GA.	10'
ROUND:		
<u>MAX. DIA..</u>	<u>METAL STRAP</u>	<u>MAX. SPACING</u>
10"	1"x28 GA	10'
20"	1"x26 GA	10'
B. HANGERS FOR HORIZONTAL FLEXIBLE DUCTS.		
<u>MAX. DIA.</u>	<u>METAL STRAP</u>	<u>MAX. SPACING</u>
10"	3"x28 GA.	4'
20"	3"x26 GA.	4'

- C. MISCELLANEOUS SUPPORTS. CONTRACTOR SHALL ADEQUATE SUPPORT FLEXIBLE DUCT CONNECTIONS AT DIFFUSER AND GRILL BOX TO MINIMIZE KINKING OR CRUSHING OF DUCTWORK. ENSURE FLEXIBLE DUCT BENDS HAVE SMOOTH RADII. CONTRACTOR SHALL UTILIZE WIDE METAL STRAPS OR THERMAFLEX FLEXFLOW ELBOWS OR EQUIVALENT ALTERNATE.

11. DUCTWORK ACCESSORIES

- A. FLEXIBLE DUCT CONNECTORS: PROVIDE UL LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS.
- B. DUCT ACCESS DOORS: PROVIDE HINGED ACCESS DOORS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT. PROVIDE INSULATED ACCESS DOORS FOR INSULATED DUCTWORK. CONSTRUCT OF SAME OR THICKER GAUGE SHEET METAL AS DUCT IN WHICH IT IS INSTALLED. PROVIDE FLUSH FRAMES FOR UNINSULATED DUCTS, AND EXTENDED FRAMES FOR EXTERNALLY INSULATED DUCTS. PROVIDE CONTINUOUS HINGE ON ONE SIDE, WITH ONE HANDLE-TYPE LATCH FOR ACCESS DOORS 12" HIGH AND SMALLER, AND TWO HANDLE-TYPE LATCHES FOR LARGER ACCESS DOORS.
- C. ROUND VOLUME DAMPERS: PROVIDE MINIMUM 20 GAUGE GALVANIZED STEEL FRAME AND BLADES, MINIMUM 3/8" SQUARE STEEL AXLE, MOLDED SYNTHETIC BEARINGS, WITH LOCKING POSITION REGULATOR. REGULATOR SHALL BE POSITIONED WITH SHEETMETAL BRACKET BEYOND DUCT COVERING. WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSTALLATION, AS REQUIRED.
- D. RECTANGULAR VOLUME DAMPERS: PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL BLADES, MINIMUM 1/2" HEXAGONAL AXLE, MOLDED SYNTHETIC BEARINGS, WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN THE FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO A LOCKING QUADRANT WITH ADJUSTABLE LEVER. MAXIMUM BLADE WIDTH SHALL NOT EXCEED 6".

12. FIRE DAMPERS/SMOKE DAMPERS

- A. CURTAIN FIRE DAMPERS: PROVIDE CURTAIN TYPE FIRE DAMPERS, SUITABLE FOR VERTICAL OR HORIZONTAL INSTALLATION AS REQUIRED FOR THE LOCATION SHOWN. CURTAIN FIRE DAMPERS SHALL HAVE MINIMUM 24 GAUGE GALVANIZED STEEL BLADES, COMPLETELY OUT OF THE AIR STREAM. CURTAIN FIRE DAMPERS SHALL CONFORM TO UL STANDARD 555, WHICH INCLUDES TESTING TO CLOSE UNDER DYNAMIC AIRFLOW CONDITIONS, AND SHALL BE UL LABELED AS A DYNAMIC RATED FIRE DAMPER. DAMPERS SHALL BE 1-1/2 OR 3 HOUR RATED AS REQUIRED BY LOCATION, AND SHALL HAVE A 212°F FUSIBLE LINK.

- B. CEILING FIRE DAMPERS: PROVIDE CEILING FIRE DAMPERS CONSTRUCTED AND TESTED IN ACCORDANCE WITH CURRENT EDITION OF UL STANDARD 555C. CEILING FIRE DAMPERS SHALL HAVE MINIMUM 20 GAUGE GALVANIZED STEEL BLADES, WITH UL CLASSIFIED INSULATION, AND MINIMUM 20 GAUGE GALVANIZED STEEL FRAMES. CEILING FIRE DAMPERS SHALL HAVE A 212°F FUSIBLE LINK. PROVIDE DIFFUSER RADIATION SHIELDS CONSTRUCTED OF REFRACTORY CERAMIC FIBER AS APPLICABLE.
- C. COMBINATION FIRE/SMOKE DAMPERS: PROVIDE COMBINATION FIRE/SMOKE DAMPERS CONSTRUCTED AND TESTED IN ACCORDANCE WITH CURRENT EDITION OF UL STANDARD 555S. COMBINATION FIRE/SMOKE DAMPERS SHALL HAVE GALVANIZED STEEL AIRFOIL BLADES WITH SILICONE RUBBER BLADE SEALS AND FLEXIBLE STAINLESS STEEL JAMB SEALS. FRAMES SHALL BE MINIMUM 16 GAUGE GALVANIZED STEEL. AXLES SHALL BE MINIMUM 1/2" PLATED STEEL. PROVIDE 212°F FUSIBLE LINK. PROVIDE OPPOSED BLADE CONFIGURATION. LINKAGES SHALL BE CONCEALED IN THE FRAME. LEAKAGE RATING SHALL BE UL 555S CLASS 1 (4 CFM/SF AT 1.0" WG). PROVIDE FACTORY INSTALLED ACTUATOR, LOCATED OUT OF THE AIR STREAM. COMBINATION FIRE/SMOKE DAMPERS SHALL BE POWERED OPEN, SPRING CLOSED.
- D. PROVIDE APPROVED FIRE DAMPERS AT ALL LOCATIONS INDICATED ON THE PLANS AND/OR REQUIRED BY BUILDING CODE.
- E. FIRE DAMPERS AND FUSIBLE LINKS SHALL BE ACCESSIBLE THROUGH ACCESS DOORS OR PANELS IN DUCTS AND ACCESS PANELS IN THE BUILDING STRUCTURE OR CEILINGS.
- F. FIRE DAMPERS FURNISHED AS AN INTEGRAL PART OF DIFFUSERS OR GRILLES SHALL BE ACCESSIBLE BY MEANS OF REMOVABLE GRILLE OR DIFFUSER FACE.

13. CONTROL SYSTEMS

- A. PROVIDE COMPLETE CONTROL SYSTEMS, INCLUDING ALL INSTRUMENTS, CONTROLS, THERMOSTATS, TEMPERATURE SENSORS, LOW VOLTAGE WIRING, TRANSFORMERS, AND ALL NECESSARY APPURTENANCES. LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS.

EXECUTION

1. TESTING, ADJUSTING, AND BALANCING

- A. TEST, ADJUST, AND BALANCE ALL MECHANICAL SYSTEMS AND EQUIPMENT TO ENSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH NEBB OR AABC AND ASHRAE STANDARDS. ELIMINATE NOISE AND VIBRATION, AND ENSURE PROPER FUNCTION OF CONTROLS. SUBMIT COMPLETED CERTIFIED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCING CONTRACTOR SHALL BE AN INDEPENDENT NEBB OR AABC CERTIFIED TEST AND BALANCE CONTRACTOR. BALANCE ALL SYSTEMS TO WITHIN 10% OF AIR FLOWS INDICATED ON THE DRAWINGS, AND REPORT ALL DISCREPANCIES TO HVAC INSTALLER FOR CORRECTION. MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER. FINAL STORE BALANCE SHALL BE POSITIVE WITH RESPECT TO OUTDOORS.

2. VIBRATION AND NOISE

- A. ELIMINATE VIBRATION AND NOISE FROM THE OPERATION OF FANS, MOTORS AND EQUIPMENT TO THE EXTENT THAT THEY WILL NOT BE HEARD OUTSIDE OF THE ROOM IN WHICH INSTALLED. ADJUSTMENTS AND CHANGES TO PRODUCE SATISFACTORY QUIETNESS TO BE MADE WITHOUT EXPENSE TO OWNER.

3. OPERATING AND MAINTENANCE MANUALS

- A. PROVIDE COMPLETE OPERATIONS AND MAINTENANCE MANUALS FOR ALL MECHANICAL EQUIPMENT INSTALLED ON PROJECT. INCLUDE INDEX OF EQUIPMENT, DIRECTORY INCLUDING SUPPLIER TELEPHONE NUMBERS, AND LIST OF RECOMMENDED SPARE PARTS. MANUALS SHALL BE FURNISHED IN "D-RING" BINDERS, CLEARLY LABELED "OPERATION AND MAINTENANCE MANUAL FOR STORE NO. ____". PROVIDE 2 COPIES OF EACH MANUAL. PROVIDE INSTRUCTIONS BY QUALIFIED TECHNICIAN TO OWNER'S REPRESENTATIVE.

4. CLEANING

- A. MACHINERY AND APPARATUS: THOROUGHLY CLEAN CEMENT AND PLASTER AND OTHER MATERIALS. REMOVE GREASE AND OIL SPOTS WITH CLEANING SOLVENT. CAREFULLY WIPE SURFACES CLEAN.
- B. EXPOSED METAL WORK: CAREFULLY CLEAN WITH STEEL BRUSH, REMOVING ALL RUST AND SOILED SPOTS, AND PROVIDE TOUCH-UP PAINT AS REQUIRED.
- C. FINAL CLEANING: REMOVE ALL SCRAPS AND INSTALLATION-RELATED DEBRIS FROM AREA. LEAVE ENTIRE INSTALLATION AREA IN A NEAT, CLEAN AND READY-TO-USE CONDITION.



Energy Code:	90.1 (2019) Standard
Project Title:	Rally's and Checker's-
Location:	Newport News, Virginia
Climate Zone:	3a
Project Type:	New Construction

Construction Site:	Owner/Agent:	Designer/Contractor:
		MICHAEL TOBIAS NY ENGINEERS 382 NE 191st STREET, SUITE 49674 MIAMI, Florida 33179 914-257-3455

[illegible]

2 RTU-1&2 - RTU-2/1N (Single Zone):
 Heating: 1 each - Central Furnace, Gas, Capacity = 180 kBtuh
 Proposed Efficiency = 82.00% Et, Required Efficiency: 60.0% Et (or 80% AFUE)
 Cooling: 1 each - Single Package DX Unit, Capacity = 68 kBtuh, Air-Cooled Condenser, Air Economizer
 Proposed Single Package Efficiency = 12.00 EER, Required Efficiency = 11.00 EER
 Proposed Part Load Efficiency = 17.50 IEEER, Required Part Load Efficiency = 14.60 IEEER

3 WH-1&2:
 Gas Instantaneous Water Heater, Capacity: 0 gallons, Input Rating: 199 kBtuh w/ Circulation Pump
 No minimum efficiency requirement applies

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2019) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

MICHAEL TOBIAS	10/20/24
Name - Title	Signature Date



Project Title: Rally's and Checker's- Newport News, VA Report date: 10/20/24
Data filename: Page 1 of 9

Section # & Reg. ID	Mechanical Rough-In Inspection	Plans Verified	Field Verified	Complies?	Comments/Assumptions
6.8.1-15 [ME10]	Electrically operated DX-DOAS Units meet requirements of Tables 6.8.1-15 & 6.8.1-16.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.4.4.2.2 [ME11]	Ductwork operating >3x1 in. water column requires a leakage testing.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.2.3 [ME19]	Dehumidification controls provided to prevent reheating, recouling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.2.4.1 [ME58]	Humidifiers with airframe mounted preheating jackets have preheat auto-shutoff valve set to activate when humidity is not required.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.2.4.2 [ME59]	Humidification system dispersion tube hot surfaces in the airstreams of ducts or air-handling units insulated >= R-0.5.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.2.5 [ME70]	Reheat coils controlled to stop heat output whenever mechanical cooling, including economizer operation, is active.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.2.6 [ME106]	Units that provide ventilation air to multiple zones and operate in conjunction with zone heating and cooling systems are prevented from using heating or heat recovery to warm supply air preve 60°F when representative building loads or outdoor air temperature indicate that most zones demand cooling.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.3.3 [ME42]	Multiple zone VAV systems with DDC, of individual zone boxes have static pressure setpoint reset controls.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply. See the Mechanical Systems list for values.
6.5.3.4 [ME25]	HVAC pumping systems with >= 3 control valves designed for variable fluid flow (see section 6.6.4.1).			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.7.2.1 [ME32]	Kitchen hoods >5,000 cfm have make up >=50% of exhaust air volume.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.7.2.4 [ME49]	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1 High Impact (Tier 1)
2 Medium Impact (Tier 2)
3 Low Impact (Tier 3)

Project Title: Rally's and Checker's- Newport News, VA
 Report date: 10/20/24

Data filename:
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requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req. ID	Plan Review	Complies?	Comments/Assumptions
4.2.2 6.4.2.1, 6.4.2.2, [P02]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and documents where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 7.7.1, 10.4.2 [P03]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 11.1.1, 8.4.1.2, 8.4.1.3 [P06]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Federal connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.5.2 [P05]	Commissioning shall be performed as stated in Sections 5.9.2, 6.9.3, 7.9.2, 8.2.2, 9.9.2, 10.9.2, 11.2(d), and 12.1.2 (c). Commissioning must utilize ASHRAE/IES standard 202 or other generally accepted engineering standards acceptable to the building official. FFT and verification requirements for commissioning are as stated in Section 4.2.1. Commissioning shall document compliance of the building systems, controls, and building envelope with required provisions of this standard. Commissioning requirements shall be incorporated into the construction documents.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

☐ 1 High Impact (Tier 1)
 ☒ 2 Medium Impact (Tier 2)
 ☐ 3 Low Impact (Tier 3)

Project Title: Rally's and Checker's- Newport News, VA
 Report date: 10/20/24

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Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.8.1 [ME34]	Unenclosed spaces that are heated use only radiant heat.			<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.9 [ME35]	Hot gas bypass limited to: <=240 KtBtu/h - 15% >240 KtBtu/h - 10%			<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
7.4.2 [ME36]	Service water heating equipment meets efficiency requirements.			<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
6.4.3.9 [ME37]	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 60° Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60° and cooling setpoint >= 60°			<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.10 [ME73]	Doors separating conditioned space from the outdoors have controls that disable/ret heat and cooling system when			<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

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Additional Comments/Assumptions:

☐ 1 High Impact (Tier 1)
 ☒ 2 Medium Impact (Tier 2)
 ☐ 3 Low Impact (Tier 3)

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 Report date: 10/20/24
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Additional Comments/Assumptions:

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Additional Comments/Assumptions:

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Additional Comments/Assumptions:

Project Title: Rally's and Checker's- Newport News, VA ☐ Report date: 10/20/24
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The diagram illustrates the decomposition of a horizontal line into two segments. The top line is divided into a blue segment on the left and a yellow segment on the right by a vertical line. The bottom line is similarly divided into a blue segment on the left and a yellow segment on the right by a vertical line. The segments are labeled with 'a' and 'b' respectively.

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Data filename:		Page	5 of 9

**RALLYS RESTAURANT 2024
VERSION 2024.2**

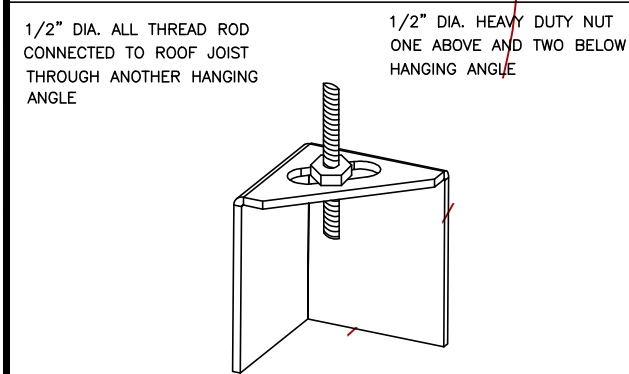
NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

ORIGINAL ISSUE DATE:	10/21/2024
BUILDING TYPE:	NEW BUILD
PROTOTYPE:	2024
VERSION:	2024.
STORE NUMBER:	XXXX
PROJECT NUMBER:	24112

ENERGY COMPLIANCE

M-501

ND-2 HANGING ANGLE DETAIL



*ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR. HANGING ANGLE IS PRE-PUNCHED AT FACTORY.

HANGING ANGLE LOCATIONS

HOOD STYLE	DIM FROM REAR	DIM FROM FRONT (24" H)	DIM FROM FRONT (30" H)
CANOPY ND2	4.166"	2.246"	2.246"
ND2-PSP-F	4.166"	2.246"	2.246"
BACKSHELF BD-2	4.166"	2.246	-
VHB/VHB-G	36"x36"	42"x42"	48"x48"
FRONT/BACK DIMS BY SIZE	2.246"	2.246"	2.246"

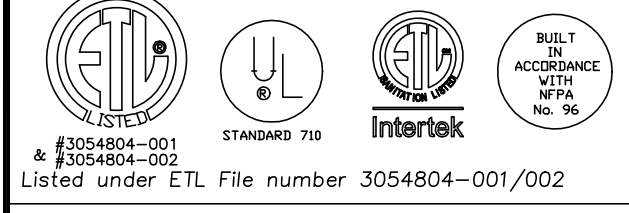
CALCULATIONS UTILIZED

EXHAUST CFM=LENGTH OF HOOD X CFM/UNFT. (LOAD)
SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED
TOTAL DUCT AREA=144 X
DUCT LENGTH= TOTAL DUCT AREA
DUCT DEPTH

*CAPTIVE-AIRE DUCT CONNECTION SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 300-400 FPM.

BUILDING CODES

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:



Listed under ETL File number 3054804-001/002

CLEARANCE TO COMBUSTIBLES

CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:	
MATERIAL	CLEARANCE REDUCTION SYSTEM
NON-COMBUSTIBLE	NONE REQUIRED
LIMITED-COMBUSTIBLE	3" UNINSULATED STANDOFF
COMBUSTIBLE	1" INSULATED STANDOFF

GENERAL NOTES

INSTALLATION

- ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
- ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
- HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
- ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTOR'S PLANS.
- COOKING EQUIPMENT TO SHUTOFF IN EVENT OF FIRE.
- EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
- ALL LIGHTS/FIXTURE SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.
- LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
- SEISMIC RESTRAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
- INSTALLING CONTRACTORS ASSUME ALL RELATED RESPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

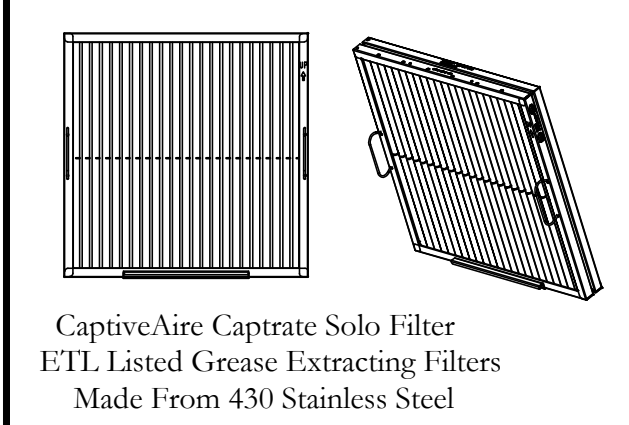
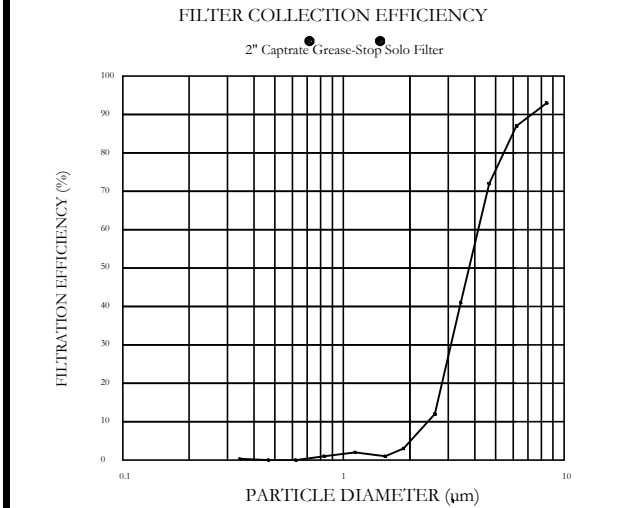
BALANCE

- KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.
- KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING AREA.
- RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.

ADDITIONAL

- WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
- SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

FILTER DETAIL



HOOD INFORMATION - JOB#7053925

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM (SIZES)							HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP		END TO END	ROW
1	Item 19A	5424 ND-2	CAPTIVEAIRE	8' 6"	600 DEG	I	HEAVY	206	1750			4'	14"	1750	1637	-0.878'	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM		ELECTRICAL	SWITCHES	FIRE	HOOD
												TYPE	SIZE	MODEL #	QUANTITY		
1	Item 19a	CAPTRATE SOLO FILTER	6	16"	16"	85% SEE FILTER SPEC	3	RECESSED ROUND	NO	LEFT	12"x54"x24"	TANK F.S	4.0/4.0	SC-210110MA_M4	1 LIGHT 1 FAN	YES	800 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	Item 19A	BACKSPLASH 102.00" HIGH X 150.00" LONG 430 SS VERTICAL. RIGHT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS. LEFT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS. INSULATION FOR TOP OF HOOD. INSULATION FOR BACK OF HOOD.

AIR BALANCE NOTE:

NET EXHAUST = HOOD EXHAUST - HOOD SUPPLY
NET EXHAUST = 1750 CFM - 0 CFM
NET EXHAUST = 1,750 CFM NEEDED FROM HVAC

FOR QUESTIONS, CALL THE
Florida Gulf Coast Office
REGION 62
PHONE: (813) 435-3388
EMAIL: reg62@captivateire.com

ND-2 Series Specification

The model ND-2 is an exhaust only canopy hood rated for all types of cooking equipment. The hood shall have the size, shape and performance specified on drawings.

Construction shall be type 430 stainless steel, with a #3 or #4 polish where exposed. The manufacturer, ETL and NSF shall determine the individual component construction. 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 that directs and captures grease-laden vapor and exhaust gases shall have a liquid-tight continuous external weld in accordance with NFPA 96. The hood shall be wall type with a minimum of four connections for hanger rods. Connectors shall have 9/16" holes pre-punched in 1 1/2" x 1 1/2" angle iron at the factory to allow for hanger rod connection by others.

The hood shall be furnished with UL classified filters, supplied in size and quantity as required by ventilator. The filters shall extend the full length of the hood and the filler panels shall not be more than 6' in width.

The hood manufacturer shall supply complete computer generated submittal drawings including hood sections 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.

Exhaust duct collar to be 4" high with 1" flange. 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.

UL Incandescent light fixtures and globes shall be installed and pre-wired to a junction box. The light fixtures shall be installed with a maximum of 4'0" spacing on center and allow up to a 100 watt standard light bulb.

The hood shall have:
- A double wall insulated front to eliminate condensation and increase rigidity. The insulation shall have a flexural modulus of 475 EI, meet UL 181 requirements and be in accordance with NFPA 90A and 90B.
- An integral front baffle to direct grease laden vapors toward the exhaust filter bank.
- A built-in wiring chase provided for outlets and electrical controls on the hood face and shall not penetrate the capture area or require an external chase way.
- Removable grease cup for easy cleaning.

The hood shall be ETL Listed as 'Exhaust Hood Without Exhaust Damper', NSF Listed and built in accordance with NFPA 96.

The hood shall be listed for 450°F cooking surfaces at 150 CFM/ft, 600°F cooking surfaces at 200 CFM/ft, and 700°F cooking surfaces at 250 CFM/ft. The hood shall be ETL Listed as 'Exhaust Hood Without Exhaust Damper'.

VERIFY CEILING HEIGHT

____' - ____'

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

GREASE DUCT & CHIMNEY SPECIFICATIONS:

PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" 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 "DW" 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 CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

HVAC DISTRIBUTION NOTE

CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

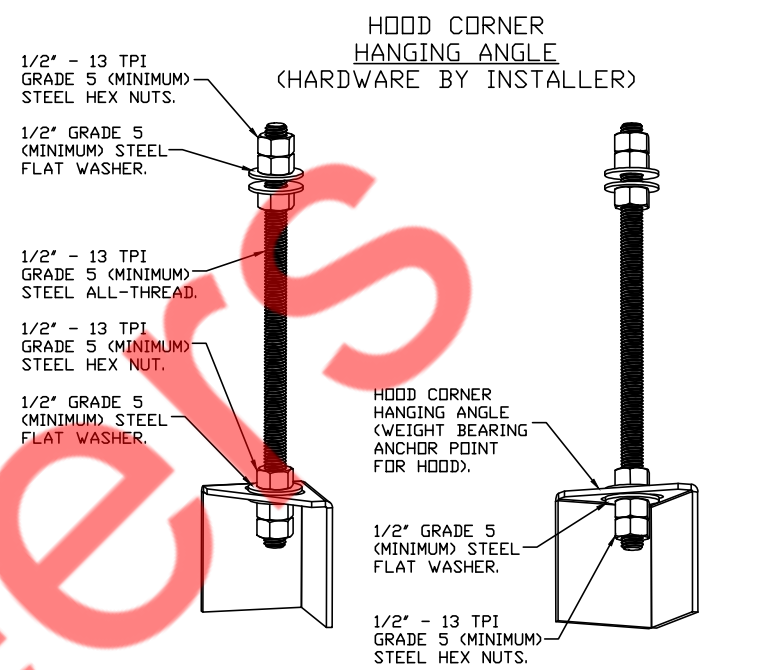
HVAC DISTRIBUTION NOTE

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH

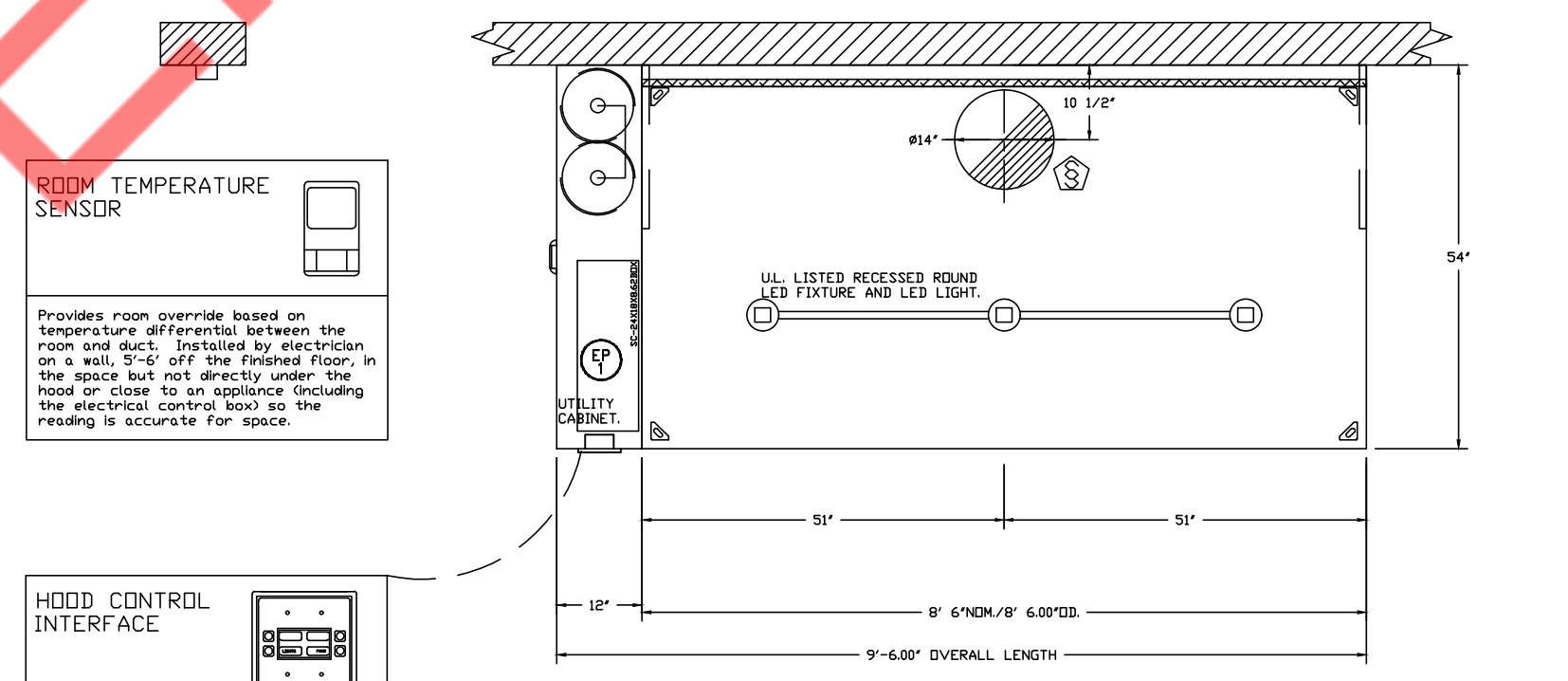


NFPA #96
UL 710 & ULC710 STANDARDS
E.T.L. LISTED 3054804-001

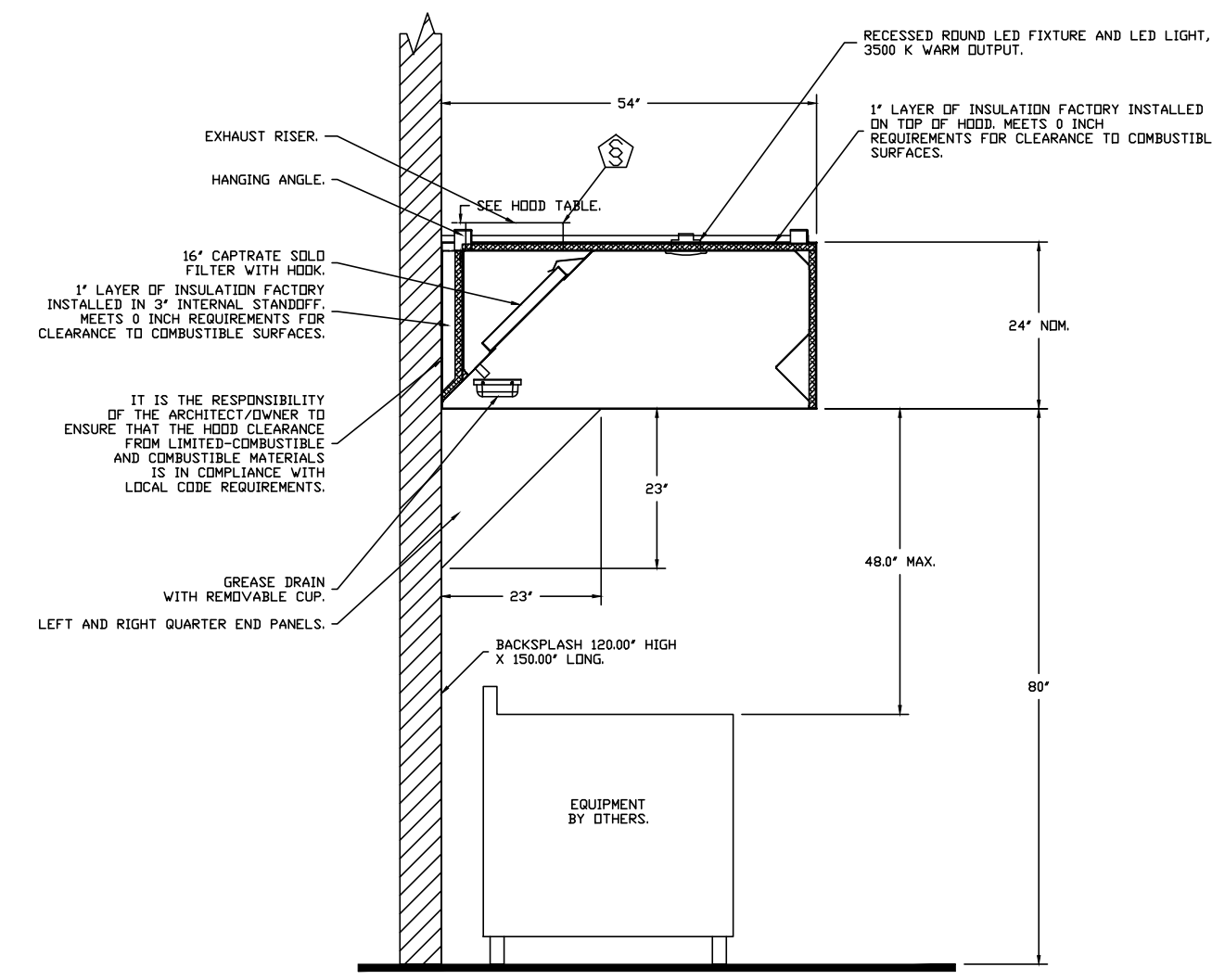


ASSEMBLY INSTRUCTIONS

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.



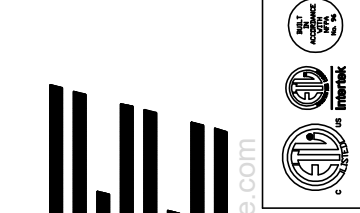
PLAN VIEW - HOOD #1 (Item 19A)
8' 6.00" LONG 5424ND-2



SECTION VIEW - MODEL 5424ND-2
HOOD - #1 (Item 19A)

REVISIONS

DESCRIPTION	DATE



Florida Gulf Coast Office

4519 George Road, Suite 150, Tampa, FL 33634 PHONE: (813) 435-3388 FAX: 9197475642 EMAIL: reg62@captivateire.com

Rallys - Newport News, VA

DATE: 9/19/2024

DWG.#:
7053925

DRAWN BY: W. Brink

SCALE:
1/2" = 1'-0"

MASTER DRAWING

SHEET NO.
1

RALLY'S RESTAURANT 2024
VERSION 2024.2

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

ORIGINAL ISSUE DATE: 10/21/2024
BUILDING TYPE: NEW BUILD
PROTOTYPE: 2024
VERSION: 2024.1

STORE NUMBER: XXXX
PROJECT NUMBER: 24112

HOOD DETAILS

SHEET NO.

1

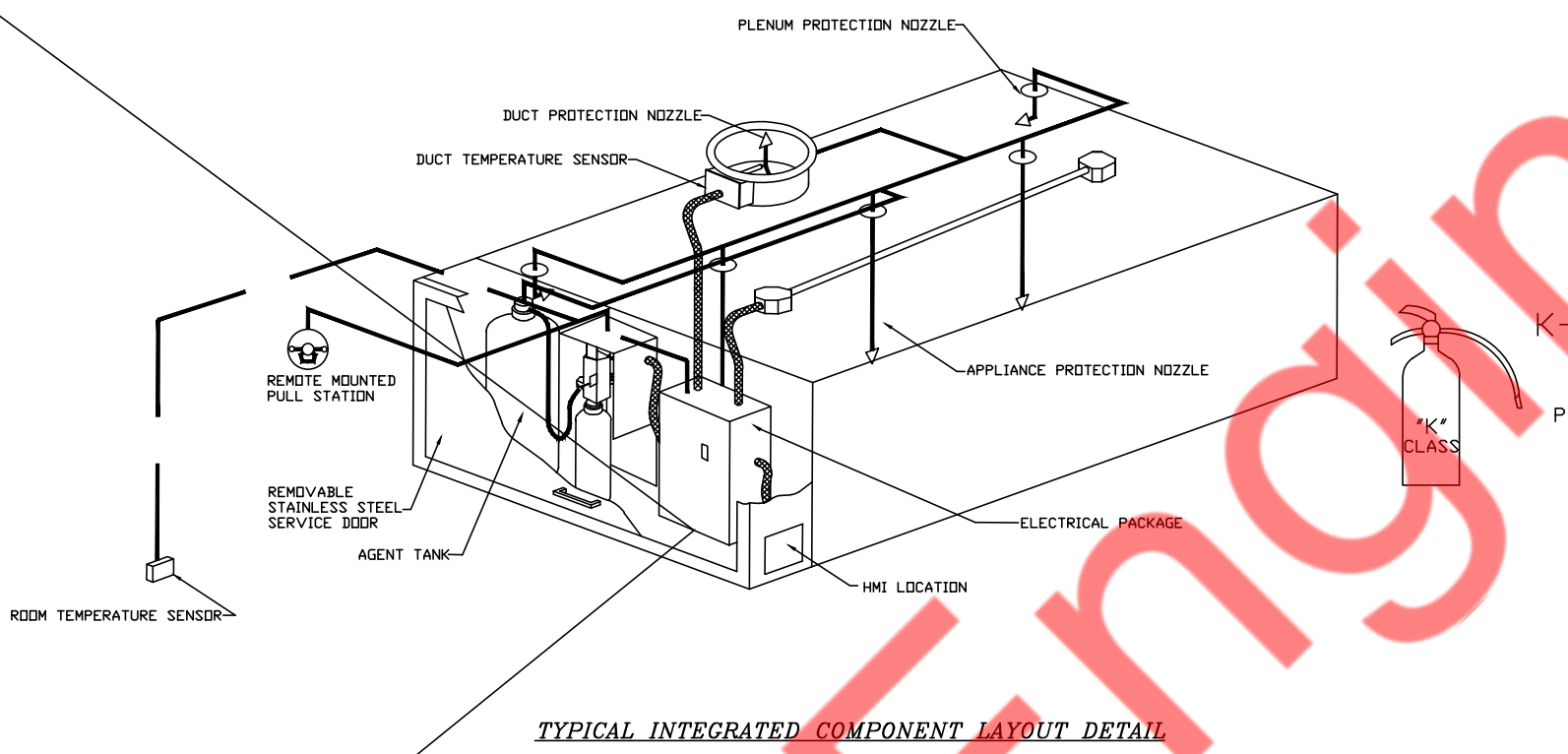
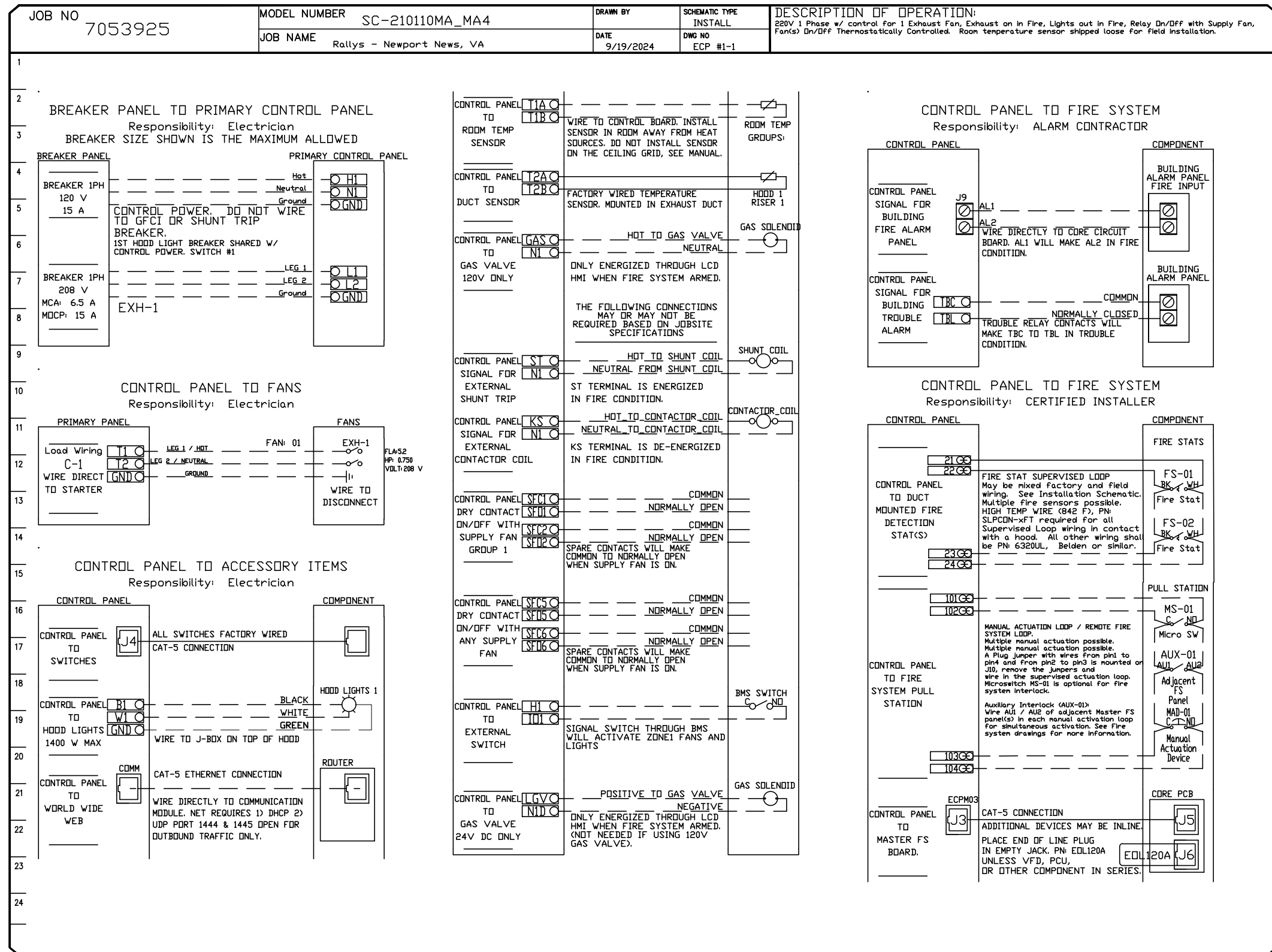
M-601

ELECTRICAL PACKAGE - JOB#7053925

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		FAN TAG	TYPE	S	HP	VOLTS
1		SC-210110MA_MA4	UTILITY CABINET LEFT	UTILITY CABINET LEFT	1 LIGHT	SMART CONTROLS THERMOSTATIC CONTROL	KEY-1	EXHAUST	1	0.750	208
				HOOD # 1	1 FAN	V-RELAY ON/OFF WITH SUPPLY					5E

NOTE: THIS HOOD SYSTEM HAS A HEAT SENSOR THAT COMPLIES WITH IMC 507.2.1.1 FOR AUTOMATIC FAN ACTIVATION WHENEVER COOKING OPERATIONS OCCUR.

HOOD + FAN WIRING SCHEMATIC (ALL CONNECTIONS BY ELECTRICIAN)



CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH

NFPA #96
UL 710 & ULC710 STANDARDS
ETL LISTED 3054804-001

REVISIONS

DESCRIPTION	DATE

CAPTIVE-AIRE

Florida Gulf Coast Office

4519 George Road, Suite 150, Tampa, FL 33634 PHONE: (813) 435-3388 FAX: 9197475642 EMAIL: reg2@captiveaire.com

Rallys - Newport News, VA

RALLY'S RESTAURANT 2024
VERSION 2024.2

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

DATE: 9/19/2024

DWG.#:
7053925

DRAWN BY: W. Brink

SCALE:
1/2" = 1'-0"

MASTER DRAWING

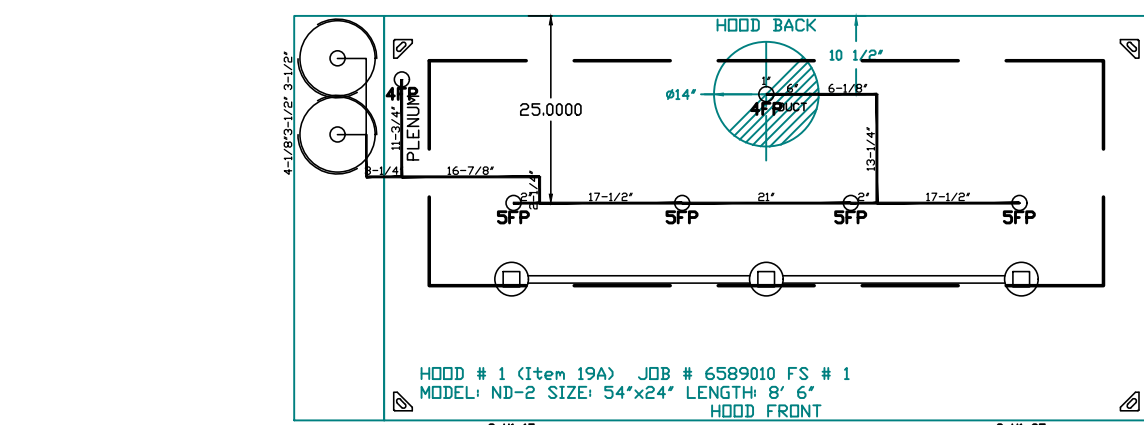
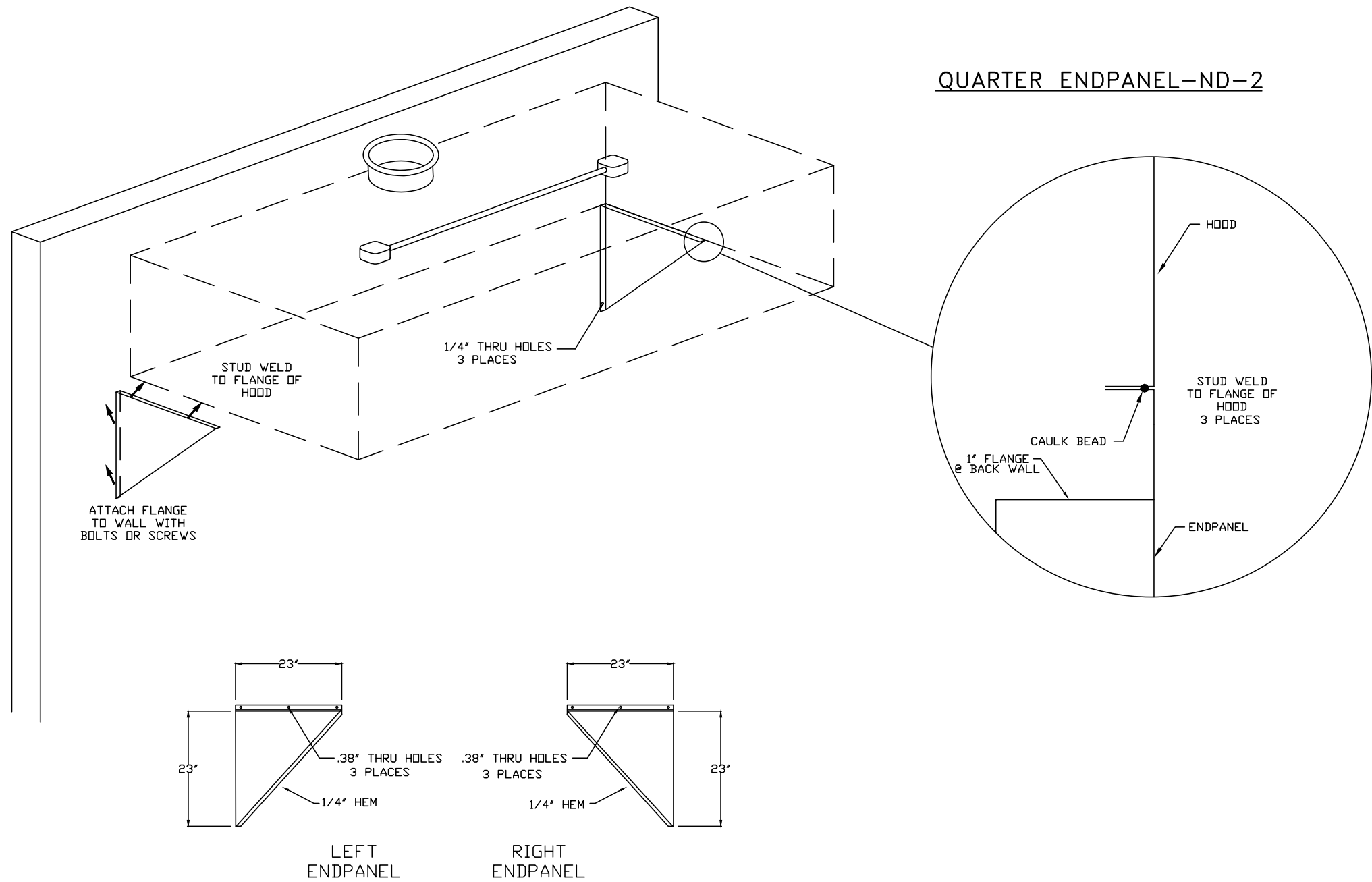
SHEET NO.
2

ORIGINAL ISSUE DATE: 10/21/2024
BUILDING TYPE: NEW BUILD
PROTOTYPE: 2024
VERSION: 2024.1
STORE NUMBER: XXXX
PROJECT NUMBER: 24112

HOOD DETAILS

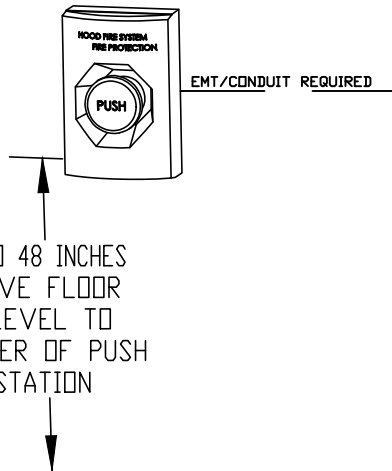
M-602

FOR QUESTIONS ON WIRING, CONTROLS OR TROUBLESHOOTING - PLEASE CALL TECHNICAL SUPPORT AT 1-866-784-6900



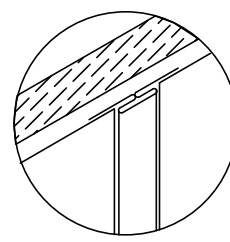
- NOTES
- FIELD PIPE DROPS AS SHOWN
 - PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
 - FIELD INSTALLED DROP: FACTORY WILL PROVIDE 60\"/>
 - SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
 - RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVEING, 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.
 - DL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS
 - JOB #: 6589010
 - JOB NAME: CHECKERS & RALLYS - 2024 BIG BUFORD PROTOTYPE.
 - SYSTEM SIZE: TANK-SP-2 DESIGN FP: 28, MAXIMUM FP: 40.
 - HOOD # 1 8' 600\"/>
 - RISER # 1 SIZE 1 1/2\"/>
 - 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
- 4 GALLON TANK.
 - PRIMARY ACTUATOR RELEASE.
 - SECONDARY ACTUATOR RELEASE.
 - PRESSURE SUPERVISION SWITCH.
 - PRIMARY HOSE ASSEMBLY.
 - SECONDARY HOSE ASSEMBLY.
 - REMOTE MANUAL ACTUATION DEVICE.

DEEP HANDY/JBOX REQUIRED FOR FIRE SUPPRESSION
MANUAL ACTIVATION DEVICE
MANUAL ACTIVATION DEVICE SHOULD BE LOCATED
10-20' AWAY FROM HOOD IN PATH OF EGRESS.
REFER TO LIFE SAFETY PLAN FOR FINAL LOCATION

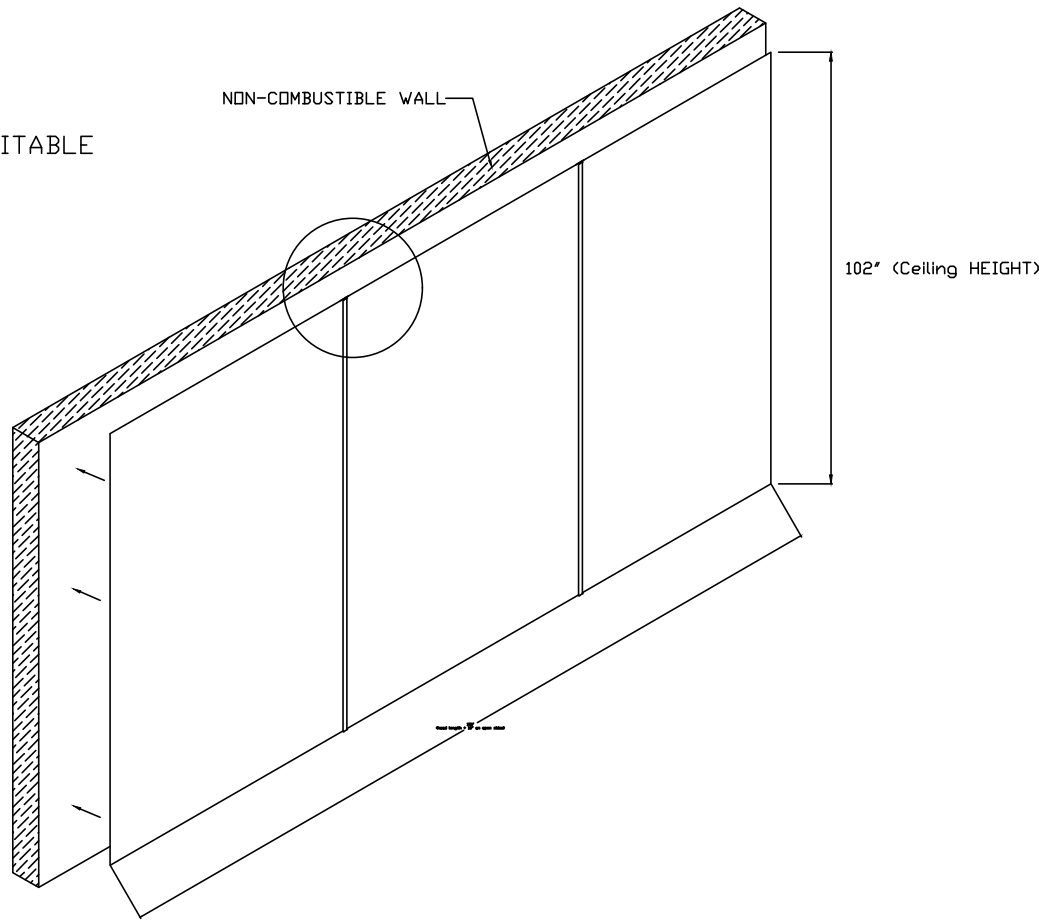


BACKSPLASH

- BACKSPLASH IS NOT INSULATED AND IS UNSUITABLE FOR INSTALL AGAINST COMBUSTIBLE WALLS



BACKSPLASH PANELS SLIDE INTO DIVIDER BAR



SYSTEM DESIGN VERIFICATION (SDV)

IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.

DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

ACTUAL FIRE SYSTEM PIPING SCHEMATIC TO BE PROVIDED BY
CONTRACTED FIRE SYSTEM DISTRIBUTOR AT TIME OF PERMITTING

FIRE SYSTEM INFORMATION - JOB#7053925

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

GAS VALVE(S)

FIRE SYSTEM NO.	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	TBD	CAPTIVEAIRE SYSTEMS

JOB NO	MODEL NUMBER	SC-210110MA_MA4	DRAWN BY	SCHEMATIC TYPE	DESCRIPTION OF OPERATION
6589010	JOB NAME	Checkers & Rallys - 2024 Big ...	DATE	DWG NO	Fire System #1 TANK FS - 40/4.0
			2/6/2024	EXP #1-4	

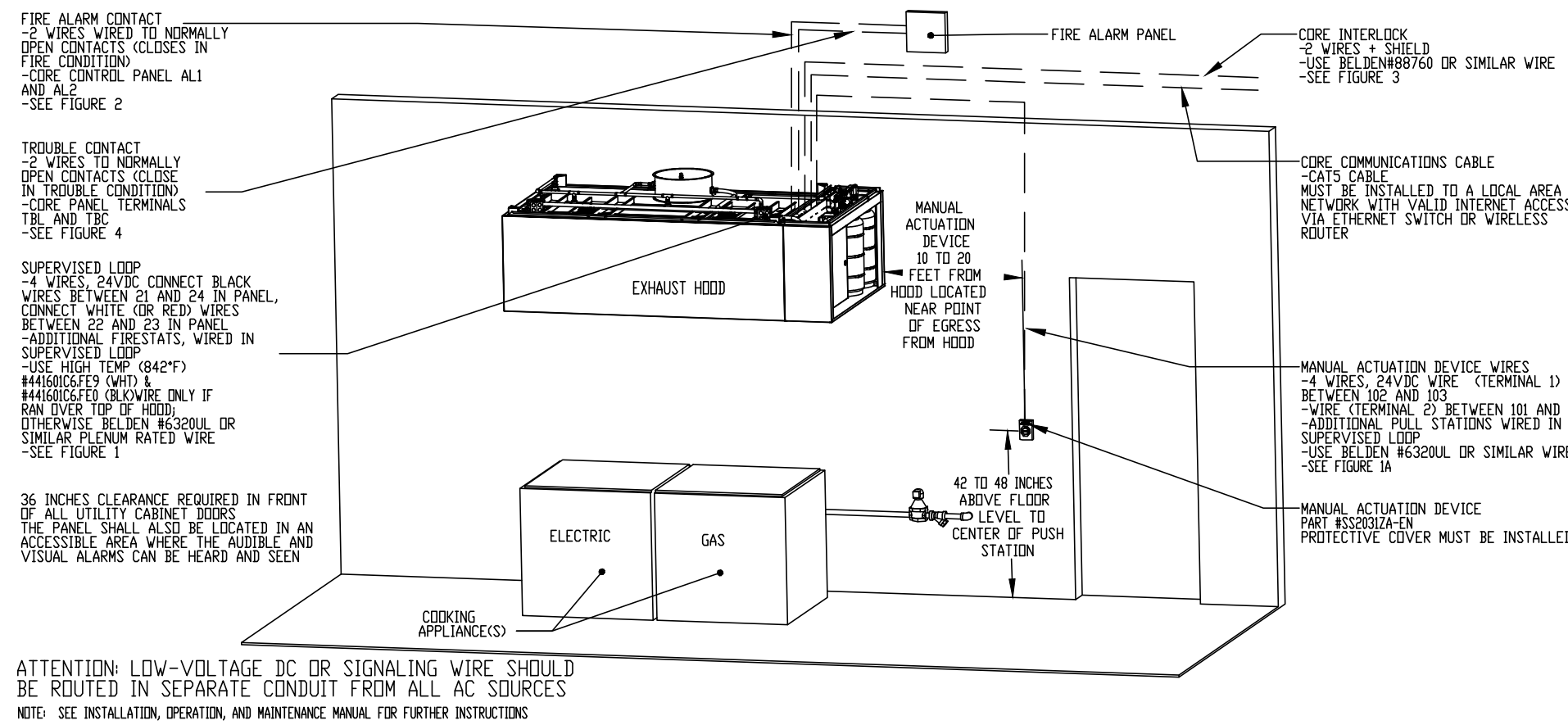
TANK PROTECTION LOW-VOLTAGE DETAIL

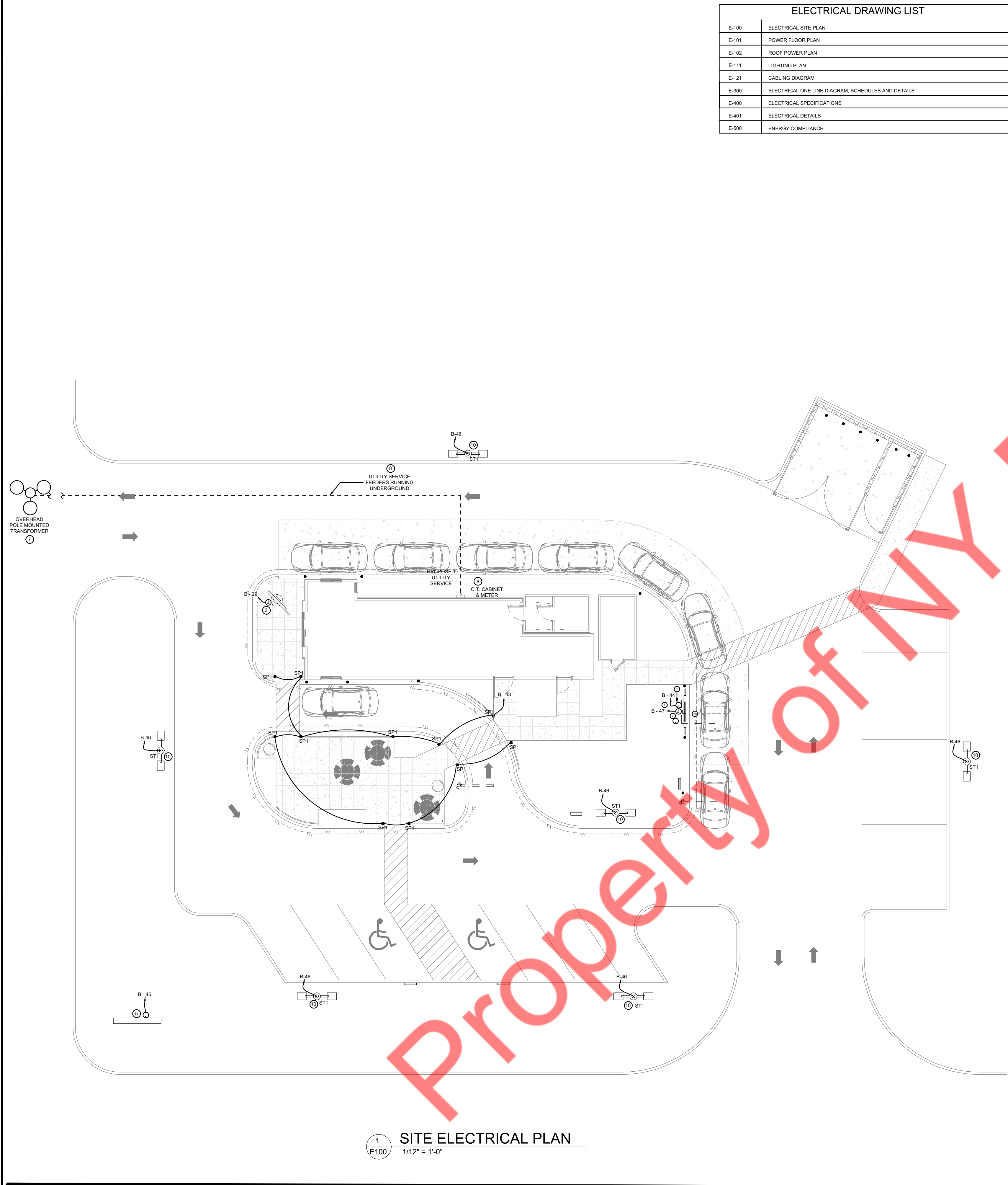
10/01/2023 Rev. 3

FS-1: MASTER

ALARM CONTRACTOR:
1. WIRE MANUAL ACTUATION DEVICES, REMOTE FIRESTAT(S), CORE INTERLOCKS, FIRE SENSORS(S) AND FIRE ALARM CONTACTS
2. COMPLETE FINAL WIRING OF SYSTEM
3. VERIFY FINAL FIRE SYSTEM TEST

ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE TO BE INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED IF SURFACE MOUNTED, USE COVER EXTENSION ST-65330
REMOTE FIRESTAT SENSOR(S)	21 AND 24	BLACK AND WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR WHITE WIRE BETWEEN CORE PANEL TERMINALS 22 AND 23 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 HIGH TEMP (800°F) MANUFACTURED UNIT & MANUFACTURED GLOW-OR GLOW ONLY IF NON-OF HOOD OTHERWISE BELTEN #6320UL OR SIMILAR PLENUM RATED WIRE (SEE FIGURE 1)
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCKS	CA, CB, CC	CA, CB, CC	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM (1) CA, TO CORE SYSTEM (2) CA, CORE SYSTEM (3) CB, TO CORE SYSTEM (2) CB, CORE SYSTEM (4) CC, TO CORE SYSTEM (2) CC, USE RS-485 BIPOLAR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TDK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSURES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	< 1.0 AMPS	TYPICAL CONNECTION CAT5 CABLE TO LOCAL AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION





ELECTRICAL DRAWING LIST	
E-100	ELECTRICAL SITE PLAN
E-101	POWER FLOOR PLAN
E-102	ROOF POWER PLAN
E-111	LIGHTING PLAN
E-121	CABLING DIAGRAM
E-300	ELECTRICAL ONE LINE DIAGRAM, SCHEDULES AND DETAILS
E-400	ELECTRICAL SPECIFICATIONS
E-401	ELECTRICAL DETAILS
E-500	ENERGY COMPLIANCE

04.24.20

(SYMBOLS APPLY ONLY WHEN USED ON DRAWINGS)

SYMBOL	DESCRIPTION
	LIGHT FIXTURE (WALL MOUNTED/CEILING MOUNTED)
	LIGHT FIXTURE
	LIGHT FIXTURE, NIGHT LIGHT
	SINGLE POLE SWITCH
	RECEPTACLE, DUPLEX
	RECEPTACLE, DUPLEX, MOUNTED HORIZONTALLY
	RECEPTACLE, GFI
	RECEPTACLE, DUPLEX FLUSH FLOOR
	RECEPTACLE, DUPLEX ISOLATED GROUND FLUSH FLOOR
	RECEPTACLE, DOUBLE DUPLEX
	RECEPTACLE, DUPLEX ISOLATED GROUND
	RECEPTACLE, DOUBLE DUPLEX ISOLATED GROUND
	RECEPTACLE, SIMPLEX
	NON-FUSED DISCONNECT
	FUSED DISCONNECT
	EQUIPMENT CONNECTION POINT (PROVIDED WITH EQUIPMENT)
	CIRCUIT, CONCEALED IN WALLS OR CEILING, E INDICATES EXISTING WIRING
	CIRCUIT, CONCEALED IN SLAB FLOOR, E INDICATES EXISTING WIRING
	CIRCUIT, EXPOSED, E INDICATES EXISTING WIRING
	LOW VOLTAGE WIRING
	CONDUIT SLEEVE
	FLUSH MOUNTED PANELBOARD
	SURFACE MOUNTED PANELBOARD
	TELEPHONE BOX FOR ISD
	DATA BOX FOR ISD
	JUNCTION BOX
	LOW VOLTAGE CABLE BOX FOR OTHER
	TELEPHONE, FLUSH FLOOR
	MOTOR

EXTERIOR LIGHTING FIXTURE SCHEDULE

TAG	COUNT	TYPE	WATTS	MANUFACTURER	MODEL	ADDITIONAL INFO
SP1	11	PATHWAY BOLLARD	22	ENVISION	LED-BLD-3P22-RD-UNV-44	-
ST1	6	SITE LIGHTS	150	ENVISION	LED-ARL3-5P-150-TRI-UNV	MOUNTED AT 22'

NOTE:
E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR THE FINAL LIGHT FIXTURE SELECTION, WATTAGE, CONTROLS, FINISH AND COLOR IN FIELD, AND ACCORDINGLY SELECT THE LIGHT FIXTURE.

KEYED NOTES

- RUN TO CIRCUIT POS-1, 2#10, 1#10(G), 3/4" CONDUIT FROM SPEAKER BOARD FOR OCS UNIT.
- 3/4" CONDUIT RUN TO ABOVE OFFICE FOR CAT 5 CABLE.
- CONTRACTOR TO PROVIDE IN GROUND FEEDS FOR NEW MENUBOARD. CONTRACTOR TO DO FINAL CONNECTIONS.
- VEHICLE DETECTOR LOOP INSTALLED BY G.C. PICK UP WINDOW AND ORDER POINT. ELECTRICAL FEEDS AND FINAL INSTALLATION BY G.C.; IF CONCRETE IS EXISTING G.C. TO SAW CUT AND INSTALL.
- PYLON SIGN SPECIFIED BY SIGNAGE VENDOR. GC TO PROVIDE FOUNDATION AND ELECTRICAL FEEDS. ALSO, TO COORDINATE EXACT LOCATION OF PYLON SIGN WITH ARCHITECT/OWNER AND SHOULD FEED POWER TO PYLON SIGN FROM THE CIRCUIT SHOWN IN PANEL SCHEDULE.
- NEW 400A, 120/208V, 3PH, 4W CT CABINET AND ELECTRICAL METER FOR THE PROJECT SPACE. E.C. SHALL COORDINATE WITH OWNER/UTILITY COMPANY FOR EXACT LOCATION OF INCOMING UTILITY POWER SUPPLY AND CT CABINET & METER IN FIELD. E.C. SHALL PROVIDE NEMA-3R ENCLOSURE FOR OUTDOOR EQUIPMENT.
- POLE MOUNTED TRANSFORMER. E.C. TO COORDINATE EXACT LOCATION OF POLE MOUNTED TRANSFORMER ON FIELD.
- COORDINATE WITH UTILITY COMPANY FOR EXACT LENGTH OF UNDERGROUND SERVICE CABLE AND ROUTING OF CABLES FROM POLE MOUNTED OVERHEAD TRANSFORMER TO C.T. CABINET & METER AT THE PROJECT SPACE.
- NOT USED.
- E.C. TO COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION OF SITE LED LIGHT POST ON FIELD.

SITE PLAN GENERAL NOTES

A. ALL UNDERGROUND CONDUITS TO BE BURIED AT A MINIMUM DEPTH OF 24" BELOW FINISH GRADE, U.N.O.

B. LAYOUT ON THIS PLAN IS SUBJECT TO CHANGE. PRIOR TO CONSTRUCTING THIS WORK, CONTRACTOR SHALL TO COORDINATE WITH ARCHITECT AND CIVIL ENGINEER FOR FINAL LAYOUTS, CONDUITS, ETC.

ABBREVIATIONS

a, b, c LOWER CASE LETTERS INDICATE SWITCHING CONFIGURATION

NTS NOT TO SCALE

REC REFRIGERATION ELECTRICAL CONTRACTOR

RC REFRIGERATION CONTRACTOR

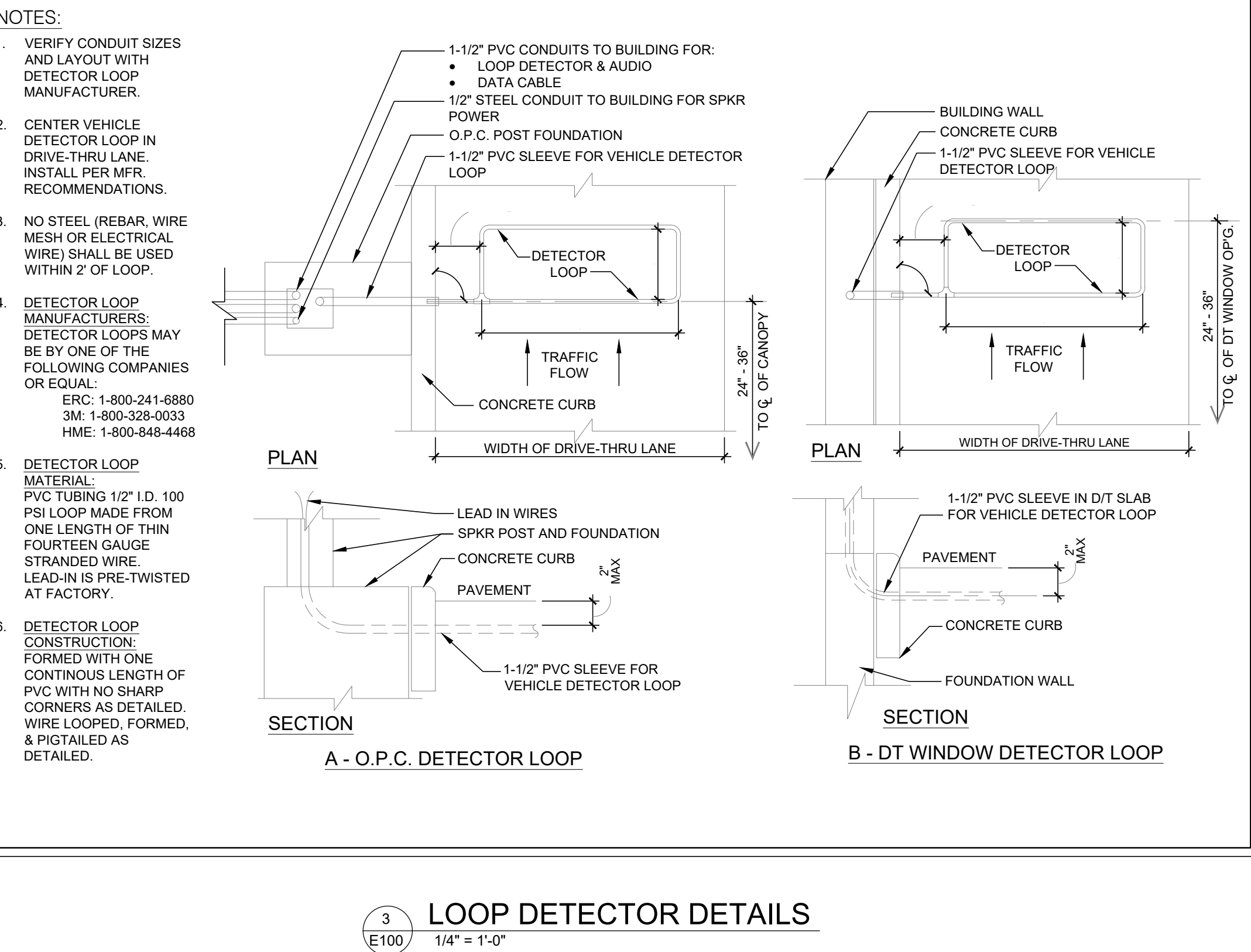
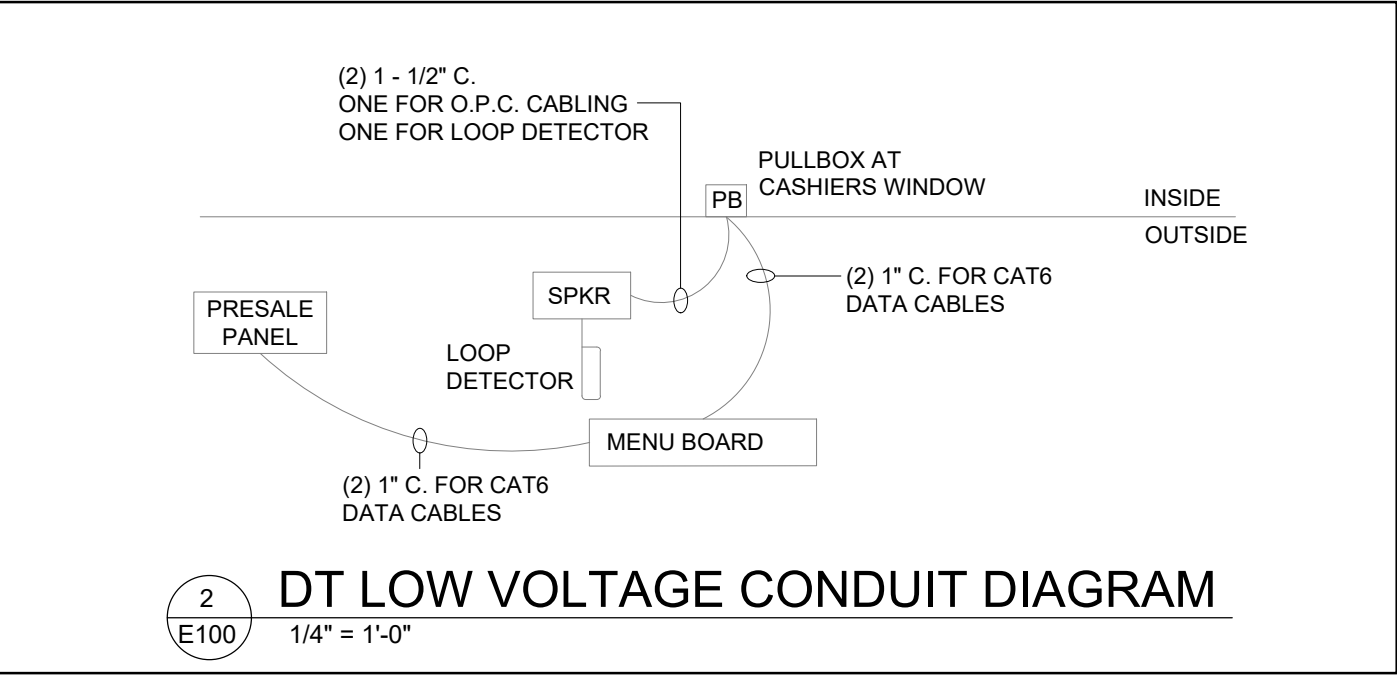
TYP TYPICAL

WH WATER HEATER

RCP RE-CIRCULATING PUMP

WP WEATHER PROOF

NOTE: ALL LEGEND MAY NOT BE USED.



RALLY'S RESTAURANT 2024
VERSION 2024.2

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

ORIGINAL ISSUE DATE: 10/21/2024
BUILDING TYPE: NEW BUILD
PROTOTYPE: 2024
VERSION: 2024.1
STORE NUMBER: XXXX
PROJECT NUMBER: 24112

ELECTRICAL SITE
PLAN

E-100

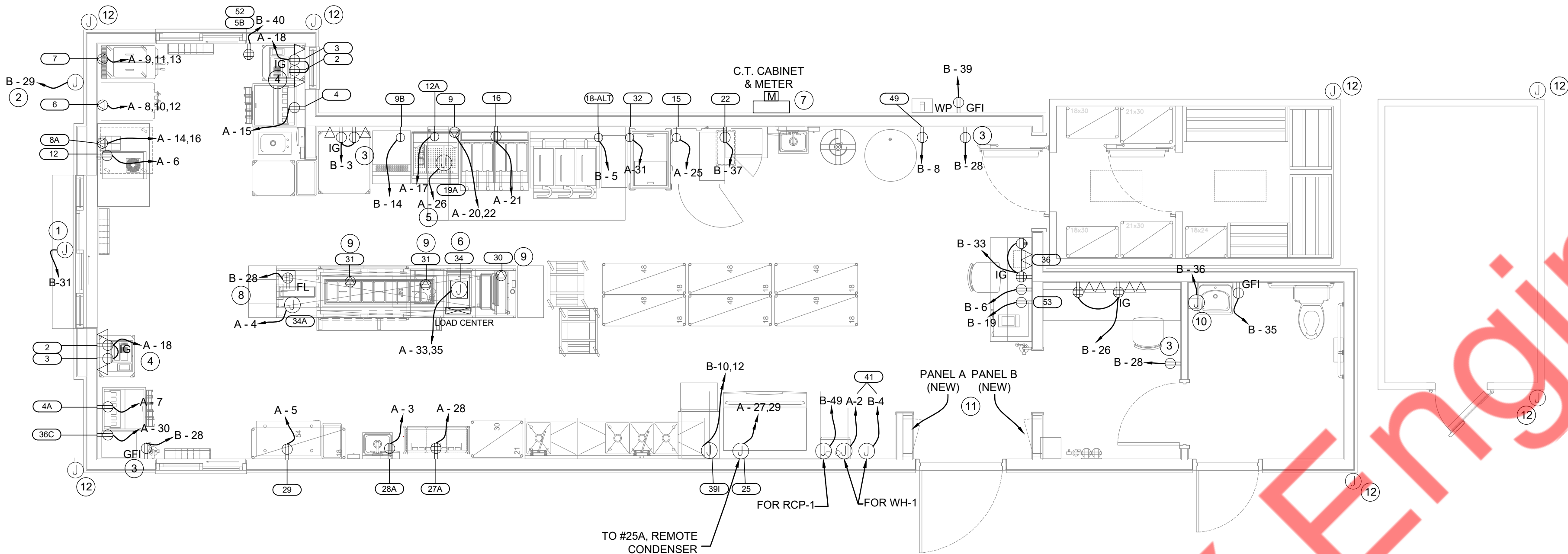
POWER PLAN GENERAL NOTES

- 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 BE WITH GFCI PROTECTION.
- ELECTRICAL CONTRACTOR SHALL LABEL ALL OUTLETS WITH EQUIPMENT NAME IN KITCHEN AND SERVICE AREAS. LABELS SHALL BE SELF-ADHESIVE WITH BLACK TEXT ON WHITE BACKGROUND IN 3/8" MINIMUM TEXT HEIGHT. LABELS ARE TO BE APPLIED HORIZONTALLY TO THE OUTLET COVERPLATE IN A NEAT AND PROFESSIONAL MANNER. HAND WRITTEN LABELS ARE NOT ACCEPTABLE.
- WHERE LIQUID-TIGHT NONMETALLIC FLEX (LFNC) IS UTILIZED IN CONCRETE SLABS, ONLY FITTINGS LISTED FOR USE WITH LFNC SHALL BE USED. ANGLE FITTINGS ARE NOT PERMITTED TO BE USED.
- FOR ROUGH-IN DIMENSIONS AND KITCHEN EQUIPMENT CONNECTIONS, INCLUDING RECEPTACLE TYPE, MOUNTING HEIGHT, LOCATION REFER TO KITCHEN EQUIPMENT DRAWING.
- THE RECEPTACLES MARKED AS "GFI" ON THE FLOOR PLAN INDICATES THAT THE RECEPTACLES SHALL BE GFI PROTECTED. E.C. SHALL PROVIDE GFI BREAKER IN PANEL IF GFI RECEPTACLES IN NOT READILY ACCESSIBLE OR FOR THE RECEPTACLES OTHER THAN 20A. BASE BID ACCORDINGLY.

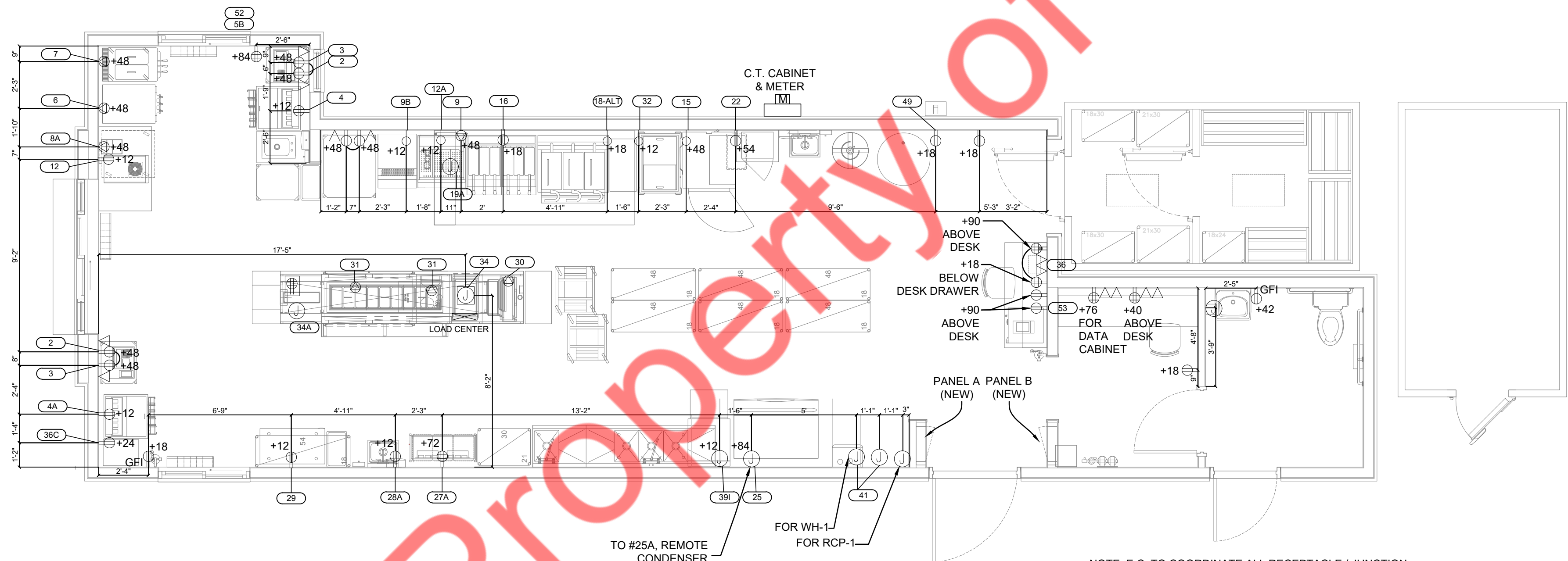
POWER PLAN KEYED NOTES

- G.C. TO PROVIDE JUNCTION BOX AND DISCONNECT SWITCH AS INDICATED TO ILLUMINATED EXTERIOR SIGN. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH ARCHITECT AND SIGNAGE INSTALLER PRIOR TO ROUGH-IN.
- PROVIDE POWER FOR MENU BOARDS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH ARCHITECT AND OWNER AT SITE PRIOR TO ROUGH-IN.
- CONVENIENCE RECEPTACLES. COORDINATE EXACT LOCATION IN FIELD.
- PROVIDE QUAD RECEPTACLE (ISOLATED GROUND) AND DATA PORTS MOUNTED TO UNDER SIDE OF POS SHELF.
- PROVIDE FINAL CONNECTION TO KITCHEN EXHAUST HOOD CONTROL. REFERENCE MANUFACTURER'S WIRING DIAGRAMS FOR CONNECTION TO:
 - HOOD
 - LIGHTS & CONTROLS
 - EXHAUST & SUPPLY FANS
 - GAS SOLENOID SHUTOFF
 - SHUNT TRIP CIRCUIT BREAKERS
 - ROOM TEMPERATURE SENSOR
 - HOOD FIRE SUPPRESSION SYSTEM
- POWER SUPPLY FOR ITEM #34 (LOAD CENTER). PROVIDE 1" CONDUIT STUB UP THROUGH THE FLOOR UNDERNEATH OF THE CENTERLINE NEAR THE LOAD CENTER. REFER TO LOAD CENTER SCHEDULE AND KITCHEN EQUIPMENT DRAWINGS FOR ELECTRICAL LOADS.
- NEW 400A, 120/208V, 3PH, 4W CT CABINET AND ELECTRICAL METER FOR THE PROJECT SPACE. E.C. SHALL COORDINATE WITH OWNER/UTILITY COMPANY FOR EXACT LOCATION OF INCOMING UTILITY POWER SUPPLY AND CT CABINET & METER IN FIELD. E.C. SHALL PROVIDE NEMA-3R ENCLOSURE FOR OUTDOOR EQUIPMENT.
- CONTRACTOR TO PROVIDE A 20A CIRCUIT FROM ABOVE TO SUPPLY RECEPTACLES IN WIRING CHASE FOR POS PRINTERS.
- ITEM TO BE POWERED THROUGH ITEM #34.
- J-BOX FOR HAND DRYER. E.C. TO COORDINATE EXACT LOCATION AND REQUIREMENT OF HAND DRYER WITH ARCHITECT/OWNER PER MANUFACTURER CUTSHEET AND PROVIDE ELECTRICAL CONNECTION ACCORDINGLY.
- E.C. SHALL PROVIDE 3 FEET CLEARANCE IN FRONT OF PANELS AS PER NEC 110.26(A).
- JUNCTION BOX FOR CCTV CONNECTIONS. G.C. SHALL CONFIRM ALL LOW VOLTAGE REQUIREMENTS WITH SITE SPECIFIC OWNER/TENANT AND COORDINATE WITH ELECTRICAL ENGINEER AND ARCHITECT OF RECORD. BASE BID ACCORDINGLY.

SINGLE PHASE LOAD PANEL 115-208V 60HZ					
DRAWING NUMBER: D311-01-02					
QTY	PART	VOLTS	AMPS	L1	L2
1	HOT FOOD WELL	208	6	6	6
1	HOT FOOD WELL	120	6.3	6.3	6.3
1	18" HEAT LAMP	120	3	3	
1	FOOD WARMERS GRFF, UGFF-5	120	4.2	4.2	
1	HEAT MATS	120	3.2	3.2	
1	TOASTER RECPT.	208	15.8	15.8	15.8
1	HOLDING CABINET	208	11	11	11
1	REFRIGERATOR	115	8	8	8
1	HOLDING CABINET	208	11	11	11
1	FOOD WARMER #GRFF 5P-120	120	3.1	3.1	
				57.3	58.1
MINIMUM CIRCUIT PROTECTION AMPERAGE:		72.625			
MAXIMUM OVER CURRENT PROTECTION:		80			
REFRIGERATION					
REFRIGERANT		COMPRESSOR		PRESSURE (PSIG)	
TYPE	RS13A	FLA	4.9A	MEASURED	
AMOUNT	36oz	LRA	28.5A	DESIGNED	331 174



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



NOTE: E.C. TO COORDINATE ALL RECEPTACLE / JUNCTION BOX HEIGHTS WITH EQUIPMENT SCHEDULE.

NOTATION	DESCRIPTION
+24	RECEPTACLE PLACED 24" A.F.F.

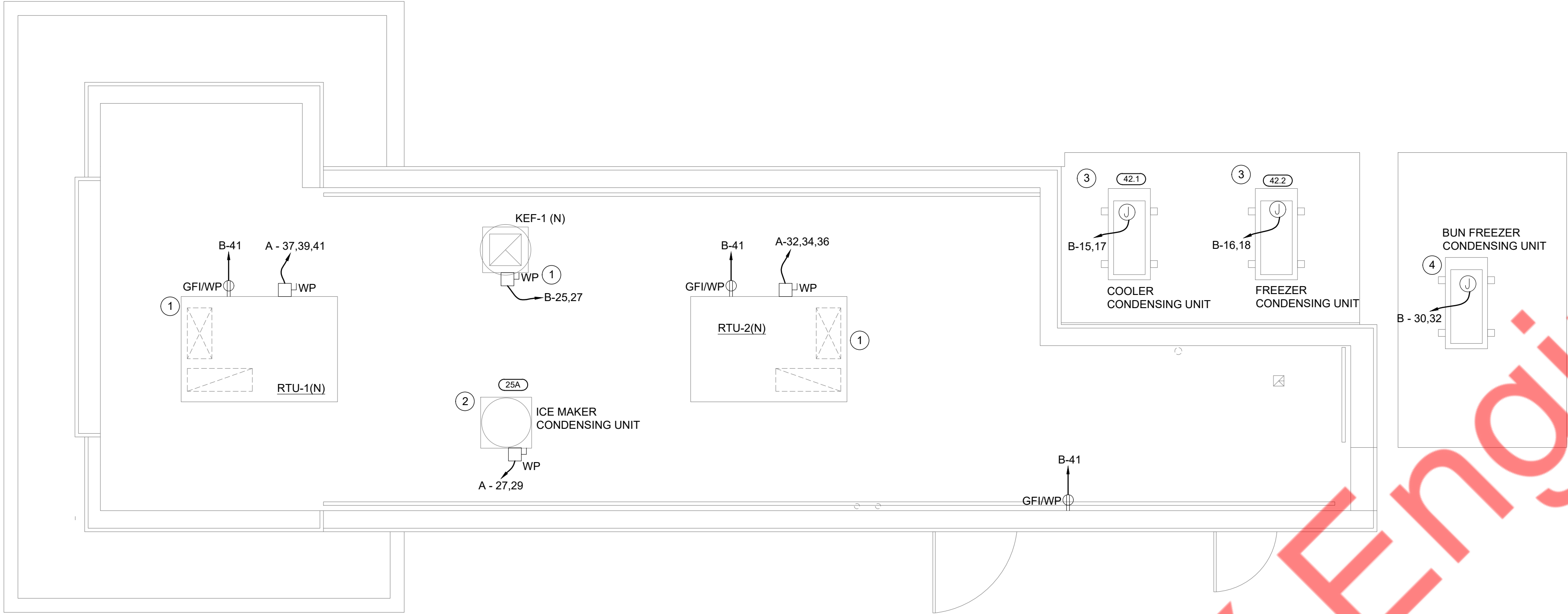
2 ELECTRICAL ROUGH IN PLAN
1/4"=1'-0"

ROOF POWER PLAN GENERAL NOTES

- A. NO CONDUIT IS ALLOWED ON ROOF EXCEPT FOR SHORT RUNS TO EQUIPMENT.
- B. RTU TO BE FURNISHED WITH DISCONNECT.
- C. RTU TO BE FURNISHED WITH UNPOWERED DUPLEX NEMA 5-20R GFCI RECEPTACLE.

ROOF POWER PLAN KEYED NOTES

- ① E.C. SHALL COORDINATE DISCONNECT AND FUSE REQUIREMENT FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. COORDINATE LOCATION OF DISCONNECT WITH MANUFACTURER AND MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES.
- ② #25A ITEM TO BE POWERED THROUGH #25 ICE MAKER.
- ③ G.C. TO COORDINATE WITH ARCHITECT/OWNER/EQUIPMENT MANUFACTURER FOR FINAL ELECTRICAL REQUIREMENT INCLUDING RECEPTACLE, PLUG, CORD, DIRECT CONNECTION, CABLE BREAKER, ETC AND EXACT LOCATION OF WALK-IN FREEZER & WALK-IN COOLER AND PROVIDE THE ELECTRICAL CONNECTION PER MANUFACTURER RECOMMENDATIONS IN FIELD.
- ④ G.C. TO COORDINATE WITH ARCHITECT/OWNER/EQUIPMENT MANUFACTURER FOR FINAL ELECTRICAL REQUIREMENT INCLUDING RECEPTACLE, PLUG, CORD, DIRECT CONNECTION, CABLE BREAKER, ETC AND EXACT LOCATION OF BUN FREEZER AND PROVIDE THE ELECTRICAL CONNECTION PER MANUFACTURER RECOMMENDATIONS IN FIELD.



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

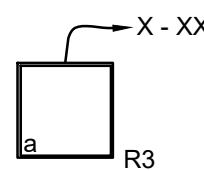
LIGHTING GENERAL NOTES

- A. REFER TO ARCHITECTURAL DRAWINGS AND ELEVATIONS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL LIGHT FIXTURES.
- B. PROVIDE AIMING OF ALL ADJUSTABLE LIGHT FIXTURES AFTER SETUP IS COMPLETE TO EVENLY ILLUMINATE TABLE SURFACES, SIGNAGE, DECOR AND EMERGENCY EGRESS PATHS. COORDINATE AIMING OF NORMAL FIXTURES WITH ARCHITECT. REFER TO ARCHITECTURAL EGRESS PATH PLAN FOR AIMING OF EMERGENCY LIGHT FIXTURES.
- C. REFER TO LIGHT FIXTURE SCHEDULE FOR LIGHT FIXTURE TYPES AND REQUIREMENTS.
- D. CONNECT ALL EXIT SIGNS, NIGHT LIGHTS AND EMERGENCY LIGHTS TO THE INDICATED CIRCUIT WITH A SEPARATE AND UN-SWITCHED CONDUCTOR BYPASSING ALL CONTROLS AND CONTACTORS. REFER TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS FOR PROPER INSTALLATION AND TESTING.
- E. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT COORDINATION AND CONFLICT ISSUES BE COORDINATED WITH THE ARCHITECT AND THE ENGINEER PRIOR TO INSTALLATION OF LIGHT FIXTURES. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR NOT COMPLYING WITH REQUEST THAT THE ARCHITECT AND ENGINEER BE CONTACTED IN CASE OF CONFLICT WITH LIGHTING POSITIONS AS INDICATED ON THIS SHEET AND WITH ANY OTHER TRADES.
- F. ROUTE ALL EXPOSED, RIGID CONDUIT TIGHT TO STRUCTURE, PARALLEL TO BUILDING LINES AND IN UNISTRUT CABLE/PIPR TRAY WHERE POSSIBLE. COORDINATE CONDUIT ROUTING AND INSTALLATION WITH OTHER TRADES PRIOR TO ROUGH-IN. SUPPORT CONDUIT FROM STRUCTURE NOT ROOF DECK. MAINTAIN 2" MIN SPACING FROM BOTTOM OF ROOF DECK TO PREVENT ROOFING SCREWS FROM PENETRATING CONDUITS. DO NOT ROUTE CONDUIT/RACEWAY ACROSS SKYLIGHTS.
- G. THROUGH WIRING OF RECESSED LIGHT FIXTURES, IN SUSPENDED CEILINGS, IS NOT PERMITTED. CONNECT EACH LIGHT FIXTURE BY A WHIP TO A JUNCTION BOX. PROVIDE CABLE WHIPS OF SUFFICIENT LENGTHS TO ALLOW FOR RELOCATING EACH LIGHT FIXTURE WITHIN A 5-FOOT RADIUS OF INSTALLED LOCATION. BUT NOT EXCEEDING 6 FEET IN SUPPORTED LENGTHS.
- H. ALL LIGHT FIXTURES OVER KITCHEN AND FOOD PREP AREAS SHALL BE PROVIDED WITH PROTECT-A-LAMP COVERS OR EQUIVALENT SHIELDED OR SHATTERPROOF LAMPS. CONTRACTOR SHALL VERIFY THAT ALL AREAS ARE PROPERLY PROTECTED AFTER STORE SET-UP IS COMPLETE.
- I. ALL WIRING SHALL BE IN EMT.
- J. FINAL FLEX CONNECTION WHIPS TO EQUIPMENT/FIXTURES SHALL NOT EXCEED 6'-0" IN LENGTH.
- K. WHEN APPLICABLE, ALL WIRING IN DEMISING WALLS MUST BE IN EMT.
- L. NO CONDUIT TO BE SUPPORTED FROM THE ROOF/CEILING DECK.

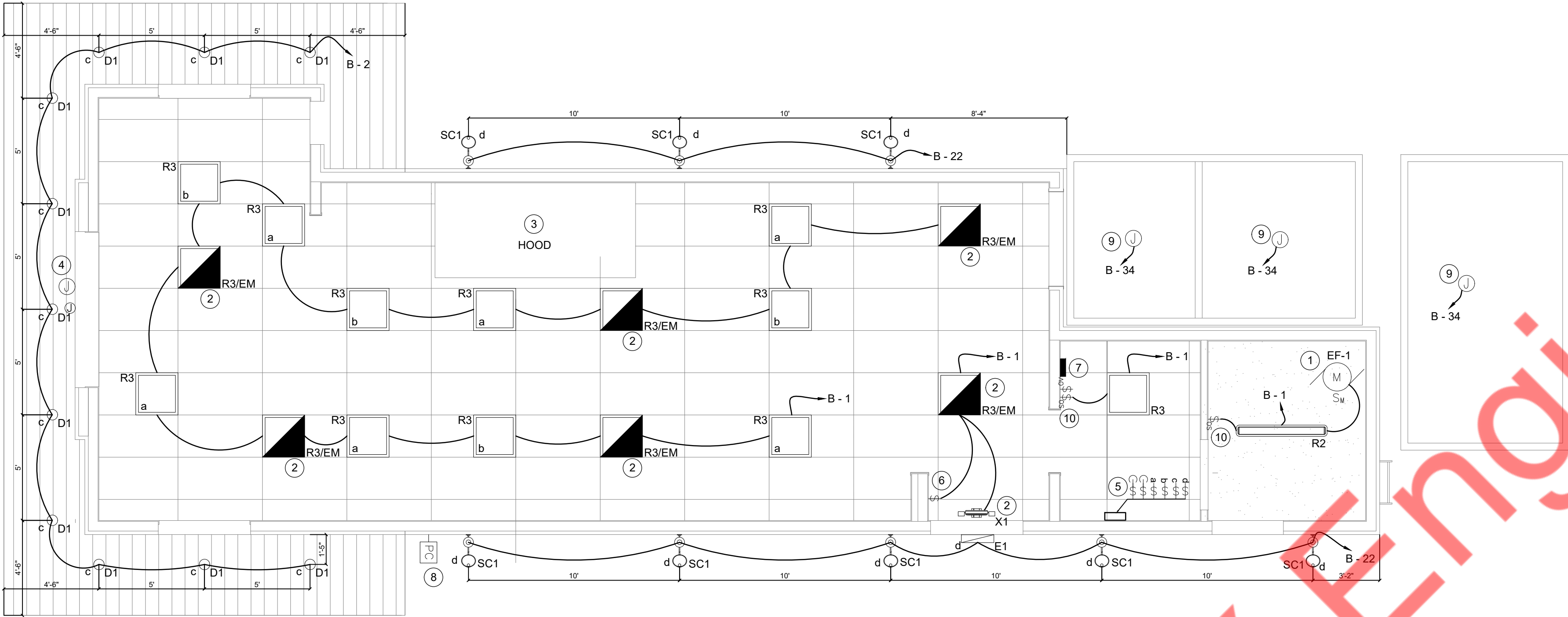
LIGHTING KEYED NOTES

- 1 PROVIDE FINAL CONNECTION FOR CEILING MOUNTED EXHAUST FAN. FAN TO BE CONTROLLED BY ROOM LIGHT CONTROL.
- 2 WIRE ALL EXIT LIGHTS AND EMERGENCY LIGHTS AHEAD OF LOCAL SWITCHES AS SHOWN.
- 3 HOOD MOUNTED SWITCHES BY HOOD MANUFACTURER. ELECTRICAL CONTRACTOR SHALL INSTALL WIRING AS NECESSARY TO SWITCHES AND HOOD LIGHTING TO MAKE FULLY FUNCTIONAL.
- 4 SEE SITE ELECTRICAL PLAN FOR LOCATION OF DRIVE THRU MENU BOARD AND SIGN.
- 5 DIMMER SWITCH BANK COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER. DIMMER SWITCHES SHALL BE RATED FOR TOTAL LOAD OF SWITCHED CIRCUIT AND LAMP TYPE AS REQUIRED. DIMMERS SHALL BE PROVIDED WITH AN ON/OFF SWITCH.
- 6 LIGHTING NEAR ELECTRICAL PANELS SHALL NOT BE CONTROLLED BY ANY AUTOMATIC MEANS ONLY AND SHALL BE COMPILED AS PER NEC 110.26(D)
- 7 TIME CLOCK / CONTROL RELAY PANEL AND OVERRIDE SWITCH TO CONTROL LIGHTING. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- 8 EXTERIOR/ROOF MOUNTED WEATHER-PROOF PHOTOCELL. ROUTE ALL EXTERIOR LIGHTING CIRCUIT/BUILDING SIGNAGE VIA PHOTOCELL/TIME CLOCK. COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION IN FIELD.
- 9 LIGHT BY COOLER / FREEZER MANUFACTURER. ALL CONNECTIONS BY ELECTRICAL CONTRACTOR. E.C. SEAL CONDUITS AT BOTH ENDS AND SEAL ALL PENETRATIONS THRU BOX.
- 10 WALL MOUNTED OCCUPANCY SENSOR. SET OFF TIME AS PER AHJ REQUIREMENT.

LIGHTING TAGS, CIRCUIT & CONTROLLING REPRESENTATION



a - REPRESENTS THE DIMMER SWITCH WITH WHICH THE LIGHT IS CONTROLLED.
R3 - REPRESENTS THE LIGHTING FIXTURE TAG.
X - XX - REPRESENTS THE CIRCUIT WITH WHICH LIGHT IS POWERED.



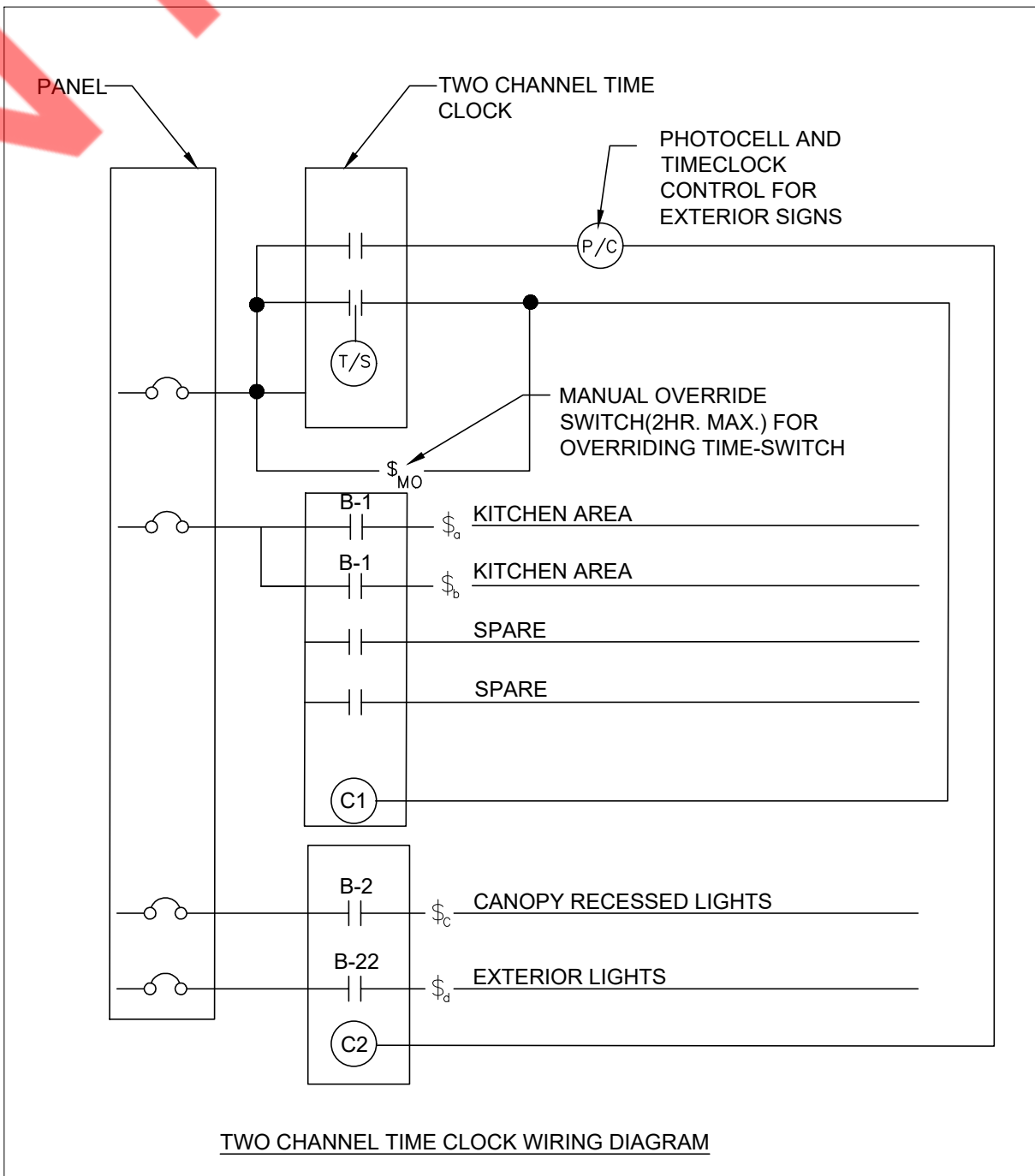
1 LIGHTING PLAN
1/4"=1'-0"

LIGHTING FIXTURE SCHEDULE

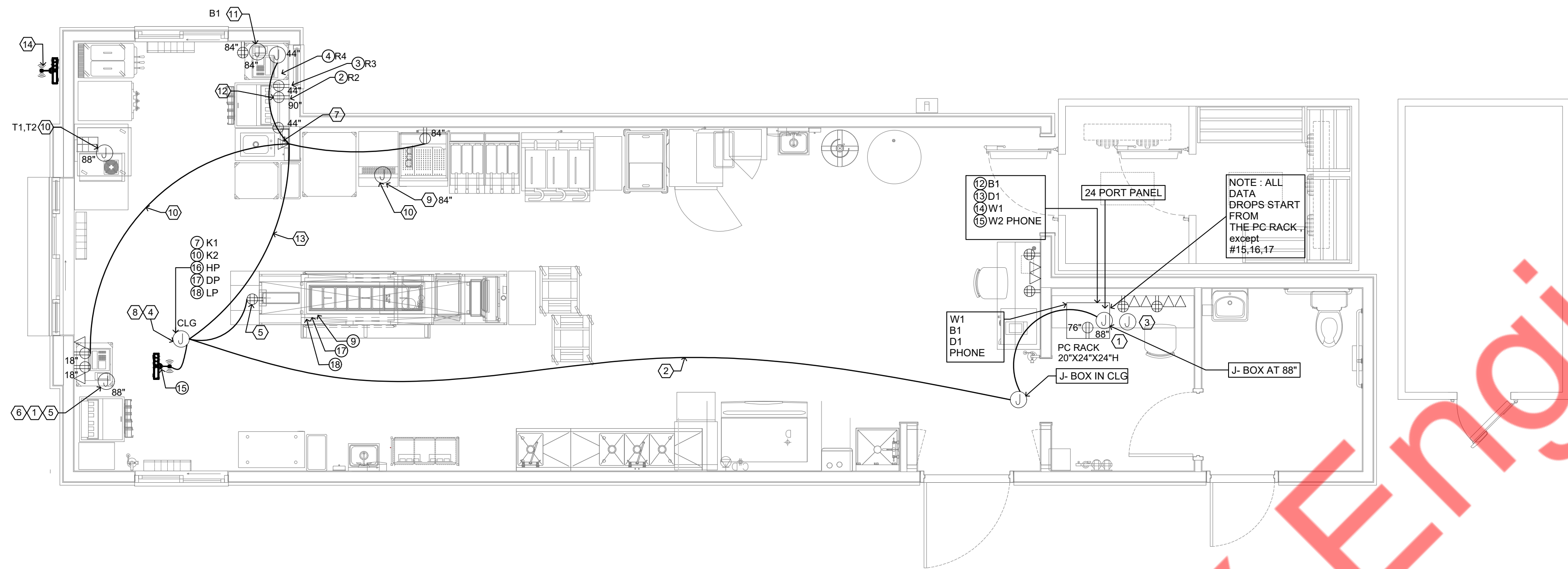
TAG	COUNT	TYPE	WATTS	MANUFACTURER	MODEL	ADDITIONAL INFORMATION
D1	11	6" RECESSED LED CAN	12	NORA	NHIC-17QAT, BRK-LED56-BW-4K-ECO	FACTORY LABEL TO USE ONLY WITH 12 WATT LED LAMPS
R2	1	1'X4' LAY-IN ULTRA-THIN LED PANEL	35	BEST LIGHTING	LEDPNL1X4-40W	FIXTURE INSTALLED IS TO BE 4K LED COLOR AND SURFACE MOUNTED
R3	10	2'X2' LAY-IN ULTRA-THIN LED PANEL	35	BEST LIGHTING	LEDPNL2X2-40W	FIXTURE INSTALLED IS TO BE 4K LED COLOR
R3/EM	7	2'X2' LAY-IN ULTRA-THIN LED PANEL	35	BEST LIGHTING	LEDPNL2X2-40W BLEDEM-CP-800	FIXTURE INSTALLED IS TO BE 4K LED COLOR
SC1	8	GOOSE NECK FIXTURE	26	MILLENIUM LIGHTING	RAS10-SB/RGN22-SB	FIXTURE TO BE MOUNTED AT 12'-0" AFG
ST1	6	SITE LIGHTS	150	ENVISION LIGHTING	LED-ARL3-5P-150-TRI-UNV MOUNTED AT 22'	
SP1	11	PATHWAY BOLLARD	22	ENVISION LIGHTING	LED-BLD-3P22-RD-UNV-44	
E1	1	ENTRANCE WALL PACK	40	LITHONIA	WPX1 LED P1 40K MVOLT DWHXD	WITH EMERGENCY BATTERY BACK UP
X1	1	LED EXIT/EMERGENCY LIGHT COMBINATION WITH HIGH OUTPUT-90 MINUTE EMERGENCY BATTERY BACK-UP TO POWER REMOTE HEAD	3.6	BEST LIGHTING	LEDCXTEU-1-R-W-RC	WHITE POLYCARBONATE HOUSING

NOTE:

E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR THE FINAL LIGHT FIXTURE SELECTION, WATTAGE, FINISH AND COLOR IN FIELD. AND ACCORDINGLY SELECT THE LIGHT FIXTURE.



TWO CHANNEL TIME CLOCK WIRING DIAGRAM



1 CABLING DIAGRAM
1/4"=1'-0"

GENERAL NOTES

- A. ALL KITCHEN POS TO HAVE GFCI.
- B. ALL KITCHEN POS TO HAVE ADDITIONAL GROUND WIRE CONNECTION TO GFCI OUTLETS.
- C. GENERAL CONTRACTOR TO ROUTE LO-VOLT WIRE THRU 2" GALV. CONDUIT AT THE SAME TIME AS INSTALL, NOT AFTER
- D. NUMBER EACH END OF THE CABLES WHEN PULLING TO TRACK THE RUNS
- E. J-BOX'S TO BE 6"X6". ALL CONDUITS FOR CABLE TO ALLOW 90 DEGREE BEND AT DEDICATED J-BOX WHERE SHOWN. CONDUIT NOT TO BE BENT IN FIELD. ALL KVS TO BE ROUTED BACK ON ONE CIRCUIT.
- F. EACH KVS TO BE POWERED BY GFCI OUTLET, OUTLET TO BE ORANGE IN COLOR.
- G. INCOMING DATA LINES BEGIN AT PC RACK
- H. THE LEADS REQ'D ARE NOT TO BE FINAL CONNECTION. POS INSTALLER MUST ADD FINAL PATCH CABLES AT END OF LEAD RUNS.
- I. CAMERA RUNS ARE BY SECURITY VENDOR AND NOT SHOWN ON THIS DRAWING
- J. GENERAL CONTRACTOR PROVIDES AND PULLS/INSTALLS THE CABLING. THE POS INSTALLATION CONTRACTOR WILL PROVIDE THE TERMINATIONS & DATA JACK
- K. AT END OF LEADS PULLS SHOULD BE HANGING OUT OF THE J-BOX FOR THE INSTALLER TO ADD FINAL TERMINATIONS
- L. ALL OUTLETS FOR DATA AND THROUGHOUT KITCHEN TO HAVE GFCI FAULT PROTECTION
- M. RUN #8 THHN CU GREEN GROUND WIRE FROM THE MAIN PANEL TO THE NETWORK CABINET, INSTALL NETWORK SURGE PROTECTOR AND TERMINATE TO #8 GROUND.

KEYED NOTES

- 1 PC RACK. SIZED 20"X24"X18" H. BY VENDOR. MOUNTS 6-12" CLEAR OF CEILING. B/UNIT 36" BELOW CLG HEIGHT OF 96"
- 2 RUN A 1" FLEX CONDUIT FROM RACK TO END TERMINATION.
- 3 LO-VOLT, DP, HDMI, USB, PHONE CABLE IS RUN FORM PC RACK TO MGR DESK
- 4 #16, 17, 18 DO NOT HAVE HOME RUN TERMINATION. ONE END STARTS AT MAKE LINE RISER EXIT #16,17 CONNECTS TO #2,3. #18 GOES TO #1, 5.
- 5 1 QUAD AT TABLE, 1 QUAD NEAR CEILING FOR KVS
- 6 BRING LEAD TO FUTURE LOCATION
- 7 6-PORT TO HOUSE PORTS #1-5, #9
- 8 J-BOX STEP-DOWN CONNECTION ADD DISTRO-BOX FOR 3/4" FLEX CONNECTIONS
- 9 ARTICULATING ARM FOR 21" LED TV AT POS MONITOR
MDL: ACRR 2105 21.5" LED MONITOR, VZ26
HQL
ARM: 7FLEX-CN-1041
- 10 RUN WHIPS 1-5
- 11 MONITOR WITH ARTICULATING ARM @ 78" A.F.F.
- 12 DUPLEX FOR HME
- 13 3/4" FLEX, TYP
- 14 U-CHANNEL SPOT WELDED TO ANSUL BOX, TO ALLOW FLEX CABLE FOR TV

RALLY'S RESTAURANT 2024
VERSION 2024.2

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

ORIGINAL ISSUE DATE: 10/21/2024
BUILDING TYPE: NEW BUILD
PROTOTYPE: 2024
VERSION: 2024.1
STORE NUMBER: XXXX
PROJECT NUMBER: 24112

CABLING DIAGRAM

PANEL: PANEL A (NEW)										MOUNTING: SURFACE				
208Y/120		VOLTS,	3	PHASE,	4	WIRE	PANEL LOCATION: CREW AREA							
MAIN CB:		400A	MLO:	NA	BUS:	400 A	MIN,	FED FROM: NEW EL SERVICE						
NOTE:														
CKT NO	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO
						A	B	C						
1	20	SPARE				0.18			2#12, #12G, 3/4"	0.18	E	#41 TANKLESS WATER HEATER (1)	20	2
3	20	#28A CO2 DETECTION MONITOR	E	0.12	2#12, #12G, 3/4"		2.04		2#12, #12G, 3/4"	1.92	E	#34A OVERSHELF ASSY.	20	4
5	15	#29 HEATED HOLDING SHELVES	E	1.74	2#12, #12G, 3/4"			2.03	2#12, #12G, 3/4"	0.29	E	#12 UNDERCOUNTER REFRIGERATOR (1)	15	6
7	15	#4A DRINK DISPENSER-LO-SIDE (1)	E	0.36	2#12, #12G, 3/4"	2.28				1.92	E			8
9			E	2.28			4.20		3#12, #12G, 3/4"	1.92	E	#6 SHAKE MACHINE (1)	3P-20	10
11	3P-30	#7 SOFT SERVE FREEZER (1)	E	2.28	3#10, #10G, 3/4"			4.20		1.92	E			12
13			E	2.28		3.18			2#12, #12G, 3/4"	0.90	E	#8A ICEE	2P-20	14
15	15	#4 DRINK DISPENSER-HI-SIDE (1)	E	0.36	2#12, #12G, 3/4"		1.26			0.90	E			16
17	15	#12A U.C. REACH IN FREEZER (1)	E	0.31	2#12, #12G, 3/4"			1.03	2#12, #12G, 3/4"	0.72	E	#2 POS & #3POS PRINTER	20	18
19		SHUNT TRIP				1.44				1.44	E	#9 FRY DUMP STATION (1,4)	2P-20	20
21	20	#16 2 VAT FULL GAS FRYER (1)	E	0.17	2#12, #12G, 3/4"		1.60		2#12, #12G, 3/4"	1.44	E		2P-20	22
23		SHUNT TRIP						0.00				SHUNT TRIP		24
25	15	#15 UPRIGHT MEAT FREEZER (1)	E	1.16	2#12, #12G, 3/4"	2.17			2#12, #12G, 3/4"	1.01	E	#19A HOOD SYSTEM	20	26
27	2P-30	#25 ICE MAKER, CUBE-STYLE (1)	E	1.92	2#10, #10G, 3/4"		2.10		2#12, #12G, 3/4"	0.18	E	#27A CARBONATOR (1)	15	28
29			E	1.92				2.10	2#12, #12G, 3/4"	0.18	E	#36C SMARTSAFE	15	30
31	20	#32 MEAT FREEZER	E	1.44	2#12, #12G, 3/4"	6.12				4.68	H			32
33			E	7.55	3#8, #8G, 1"		12.24		3#8, #10G, 3/4"	4.68	H	RTU-2 (N)	3P-50	34
35	2P-100	#34 CENTERLINE COUNTER (1)	E	7.55				12.24		4.68	H			36
37			H	4.68		19.16				14.47	O			38
39	3P-50	RTU-1 (N)	H	4.68	3#8, #10G, 3/4"		19.16		4#3/0, #6G, 2"	14.47	O	PANEL B	3P-200	40
41			H	4.68			19.16			14.47	O			42
						TOTAL CONNECTED LOAD (KVA)		34.53	42.60	40.76				
L-LIGHTING, R-RECEPTACLE, H-HVAC, M-MOTOR, E-EQUIPMENTS, O-OTHER/MISSC														
LOAD CLASSIFICATION				CONNECTED LOAD (KVA)		DEMAND FACTOR		DEMAND LOAD (KVA)						
TOTAL LIGHTING				L	0.00		125%		0.00	PANEL TOTAL LOAD				
TOTAL REFRIGERATION				C	0.00		100%		0.00					
RECEPTACLE UPTO 10KVA				R	0.00		100%		0.00					
REMAINING RECEPTACLE				R	0.00		100%		0.00					
TOTAL HVAC				H	28.10		100%		28.10	TOTAL CONNECTED LOAD		117.89	KVA	
TOTAL MOTOR				M	0.00		100%		0.00	TOTAL DEMAND LOAD		101.66	KVA	
LARGEST MOTOR				LM	0.00		100%		0.00	TOTAL CONNECTED CURRENT		327.61	AMP	
TOTAL KITCHEN/EQUIPMENTS				E	46.37		65%		30.14	TOTAL DEMAND CURRENT		282.51	AMP	
TOTAL OTHER/MISCELLANEOUS				O	43.42		100%		43.42					

NOTE: THE CIRCUIT BREAKER FOR THE KITCHEN EQUIPMENT UNDER THE TYPE-1 HOOD SHOULD BE PROVIDED WITH SHUNT TRIP. E.C. SHALL ENSURE TO PROVIDE SHUNT TRIP TO ALL SUCH KITCHEN EQUIPMENT CIRCUIT BREAKER WHICH ARE UNDER TYPE-1 HOOD. BASE BID ACCORDINGLY.

NOTE: " * * " SIGN INDICATES THE CIRCUIT BREAKER FOR SITE SPECIFIC EQUIPMENT. VERIFY IF THE EQUIPMENT IS USED IN THE SITE WITH ARCHITECT/OWNER AND PROVIDE ELECTRICAL CONNECTIONS ACCORDINGLY.

PANEL:		PANEL B (NEW)										MOUNTING:		SURFACE			
208Y/120		VOLTS,		3		PHASE,		4		WIRE		PANEL LOCATION: CREW AREA					
MAIN CB:		NA		MLO:		200A		BUS:		225 A		MIN,		FED FROM: PANEL A			
NOTE:																	
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.			
						A	B	C									
1	20	LIGHTING (INTERIOR)	L	0.70	2#12, #12G, 3/4"	1.40			2#12, #12G, 3/4"	0.70	L	EXTERIOR DOWNLIGHTS	20	2			
3	20	FUTURE POS	R	0.36	2#12, #12G, 3/4"		0.54		2#12, #12G, 3/4"	0.18	R	#41 TANKLESS WATER HEATER (2)	20	4			
5	20	#18-ALT GRIDDLE (1,4)	E	0.24	2#12, #12G, 3/4"			0.96	2#12, #12G, 3/4"	0.72	R	PROVISION FOR CCTV CAMERAS	20	6			
7		SHUNT TRIP				1.92			2#12, #12G, 3/4"	1.92	E	#49 OIL RECOVERY TANK	20	8			
9	20	SPARE					3.38		2#8, #10G, 3/4"	3.38	E	#39I DISHWASHER	2P-30	10			
11	20	SPARE						3.38	2#12, #12G, 3/4"	0.96	E	#98 FROZEN FRZ DISPENSER (1)	15	14			
13	20	SPARE				0.96			2#10, #10G, 3/4"	3.12	C	#42.2 FREEZER CONDENSING UNIT	2P-30	16			
15			C	1.66	2#12, #12G, 3/4"		4.78		2#12, #12G, 3/4"	0.36	R	GENERAL RECEPTACLE	20	20			
17	2P-20	#42.1 COOLER CONDENSING UNIT	C	1.66				4.78	2#12, #12G, 3/4"	0.24	L	LIGHTING (EXTERIOR WALL)	20	22			
19	20	#53 SECURITY BOX DVR	E	0.18	2#12, #12G, 3/4"	0.54			2#12, #12G, 3/4"	0.36	R	SPARE	20	24			
21	20	LIGHTING (RESTROOM)+EF-1(N)	L	0.50	2#12, #12G, 3/4"		0.74		2#12, #12G, 3/4"	0.24	L	STAFF AREA COMPUTER RECEPTACLE	20	26			
23		SPARE						0.00	2#12, #12G, 3/4"	0.72	R	CONVENIENCE RECEPTACLE	20	28			
25			M	0.79	2#12, #12G, 3/4"	1.51			2#12, #12G, 3/4"	0.72	R	BUN FREEZER CONDENSER	2P-30	30			
27	2P-20	KEF-1 (N)	M	0.79			1.51		2#10, #10G, 3/4"	3.12	C	WALK IN LIGHTS	20	32			
29	20	WALK-UP MENU BOARD	R	0.18	2#12, #12G, 3/4"			3.30	2#12, #12G, 3/4"	0.40	L	1-BOX FOR HAND DRYER	20	34			
31	20	SIGNAGE	L	1.20	2#12, #12G, 3/4"	4.32			2#12, #12G, 3/4"	0.50	O	SPARE	20	36			
33	20	#36 DESK POWER	R	0.72	2#12, #12G, 3/4"		1.12		2#12, #12G, 3/4"	0.36	R	#58 & #52 HEADPHONE/COMM SYSTEM & ZOOM TIMER MONITOR	20	40			
35	20	EMPLOYEE & UNISEX RECEPTACLE	R	0.18	2#12, #12G, 3/4"			0.68	2#12, #12G, 3/4"	0.36	R	SPARE	20	42			
37	15	#22 MICROWAVE OVEN	E	1.61	2#12, #12G, 3/4"	1.61			2#12, #12G, 3/4"	0.50	O	SITE SPEAKER	20	44			
39	20	EXTERIOR RECEPTACLE	R	0.18	2#12, #12G, 3/4"		0.54		2#12, #12G, 3/4"	1.20	L	SITE LED LIGHT POST	20	46			
41	20	ROOF RECEPTACLES	R	0.54	2#12, #12G, 3/4"			0.54	2#12, #12G, 3/4"	1.00	L	SPARE	20	48			
43	20	SITE LIGHT	L	1.00	2#12, #12G, 3/4"	1.50			2#12, #12G, 3/4"	1.00	L	SPARE	20	50			
45	20	PYLON SIGN	L	1.00	2#12, #12G, 3/4"		2.20		2#12, #12G, 3/4"	1.00	L	SPARE	20	52			
47	20	SITE ROTATING DIRECTIONAL SIGN	L	1.00	2#12, #12G, 3/4"			1.00	2#12, #12G, 3/4"	1.00	L	SPARE	20	54			
49	20	RCP-1	M	0.20	2#12, #12G, 3/4"	0.20			2#12, #12G, 3/4"	0.00		SPARE	20	56			
51		SPACE						0.00	2#12, #12G, 3/4"	0.00		SPARE	20	58			
53		SPACE						0.00	2#12, #12G, 3/4"	0.00		SPARE	20	60			
						TOTAL CONNECTED LOAD (KVA)		13.96	14.81	14.64							
L-LIGHTING, R-RECEPTACLE, H-HVAC, M-MOTOR, E-EQUIPMENTS, O-OTHER/MISSC																	
LOAD CLASSIFICATION				CONNECTED LOAD (KVA)		DEMAND FACTOR		DEMAND LOAD (KVA)		PANEL TOTAL LOAD							
TOTAL LIGHTING				L		7.94		125%		9.93		TOTAL CONNECTED LOAD 43.42 KVA					
TOTAL REFRIGERATION				C		15.81		100%		15.81							
RECEPTACLE UPTO 10KVA				R		5.22		100%		5.22		TOTAL DEMAND LOAD 41.32 KVA					
REMAINING RECEPTACLE				R		0.00		100%		0.00							
TOTAL HVAC				H		0.00		100%		0.00		TOTAL CONNECTED CURRENT 120.66 AMP					
TOTAL MOTOR				M		1.78		100%		1.78							
LARGEST MOTOR				LM		0.00		100%		0.00		TOTAL DEMAND CURRENT 114.82 AMP					
TOTAL KITCHEN/EQUIPMENTS				E		11.67		65%		7.58							
TOTAL OTHER/MISCELLANEOUS				O		1.00		100%		1.00							

1 PANEL SCHEDULE

E300

SECTION 16000 - ELECTRICAL SPECIFICATIONS

GENERAL

1. GENERAL CONDITIONS:

- A. The General Conditions, Supplementary Conditions and Special Conditions are a part of this contract and apply to this section as fully as if repeated herein.

2. SCOPE:

- A. This section of specifications includes, but is not limited to:
- B. All labor, tools, appliances, materials and equipment required to furnish and install the complete installation shown on the drawings for this section of the work and/or in the following specifications, including that which is reasonably inferred.

3. CODES AND REGULATIONS:

- A. All work and materials shall be in accordance with applicable requirements of public authorities having jurisdiction and utilities furnishing services.
- B. Codes governing this work include but are not limited to the latest approved edition of the following:
- C. National Fire Protection Association's National Electrical Code (NEC), most current edition being enforced. Local Ordinances and Regulations.

4. STANDARDS:

- A. Electrical material and equipment shall have been tested and listed or labeled as conforming to approved published standards by Underwriters Laboratories where such listing or labeling service is available for the class of materials or equipment. Where applicable, listing or labeling shall apply to the complete assembled equipment and not to the components alone.
5. SUBMITTALS:
- A. Three copies of materials list, shop drawings and data sheets shall be submitted to CHECKERS Inc. Construction Manager for review. Submittals shall be made and favorable review secured before material and equipment is installed.
- B. Materials list shall include fixtures, switchgear, panels, devices, wireways, disconnects, lamps and all other specified or unspecified standard cataloged materials to be used. The list shall include manufacturer, type and such other descriptive data as may be required to determine the acceptability of each item.
- C. Shop drawings and data sheets for equipment and systems shall be submitted where required in the specification for those items. The specifications and acceptability of the equipment or system, dimensions and sufficient other data to establish compliance with

6. PERMITS AND DRAWINGS:

- A. Permits and inspections shall be by the General Contractor.

7. AS-BUILT DRAWINGS:

- A. On a set of contract drawings, kept at the site during construction, mark all work that is installed differently from that shown, including any revised circuitry, material or equipment. Upon conclusion of work, deliver to CHECKERS Inc. Construction Manager a set of signed and dated "as-built" drawings.

8. GUARANTEE:

- A. All work shall be guaranteed for a minimum period of one year from the date of acceptance by the Owner. The guarantee period for certain items shall be longer, as indicated in the specification for those items.
- B. Should any malfunction develop during the guarantee time period due to defective material, faulty workmanship, or non-compliance with plans, specifications, codes or directions of the Owner, Architect, Engineer or Inspector, the Contractor shall furnish all necessary labor and materials to correct the malfunction without additional charges.

PRODUCTS

1. METERING AND SERVICE EQUIPMENT:

- A. Metering and main service equipment shall be Square-D and shall include all required metering and main disconnect equipment such as power company meter socket and ring, current transformer space and connections, test block, gutters, main switches and all other equipment required by the serving utility. Applicable codes shall apply to all service equipment and installation whether or not shown on the drawings or described.
- B. The underground service Pull Section/CT Cabinet shall be furnished and installed by the Contractor as shown on drawings and shall comply with the requirements of the serving utility.
- C. Construction and installation shall conform to the specification for "Distribution Switchboards". Location shall be as shown on the drawings.
- D. Special construction or features shall be as shown on the plans. For switches and other items included refer to the paragraph where those items are specified.
- E. Submit shop drawings as required under "Submittals".
- F. All conductor terminals and equipment enclosures shall be U.L. listed for use with minimum 75° C. rated conductors.

2. DISTRIBUTION SWITCHBOARDS:

- A. Approved Manufacturers:
1. Basis of Design: Square D "Modular Panelboard System".
 2. Eaton "Integrated Facilities Switchboard" (IFS).
 3. Siemens "Integrated Power Systems Switchboard" (IPS).
 4. General Electric "Spectra Integrated Switchboard Solutions".

- B. Integrated switchboards shall be factory assembled type by the same manufacturer that furnishes the main service equipment. Voltage, phase, wire, rating, location, arrangement and components shall be as shown on the drawings.
- C. Switchboards shall be shop finished in ANSI 61 gray enamel. All front plates shall be baked to obtain maximum finish hardness.
- D. Bussing shall be tin plated electrical grade aluminum. Dimensions of buss bars shall be based upon the ampacity shown on the plans. Bussing shall extend the full height of distribution sections. buss bars shall be rigidly supported, braced for 65,000 amps symmetrical and spaced according to the UL and NEC standards for bare buss bar.
- E. Provide a nameplate for each switchboard item on the face of the switchboard as specified in section "Nameplates".
- F. Circuit breakers, switches and other equipment to be included as an assembled part of a switchboard shall comply with the sub-section or paragraph where those items are specified.
- G. All conductor terminals and equipment enclosures shall be U.L. listed for use with minimum 75° C. rated conductors.

3. PANELBOARDS:

- A. Panelboards shall be factory assembled circuit breaker type and shall be part of the integrated switchboard. The number of poles, type, voltage and ampere ratings shall be as indicated on the drawings. Bussing shall be aluminum.
- B. Neutral wires shall be connected to a common neutral bus with binding screws or lugs. The neutral bus shall be insulated from the cabinet. Ground wires shall be connected to a common equipment ground bus with binding screws or lugs. The ground bus shall be bonded to the cabinet.
- C. Cabinets shall be surface mounted. Cabinets shall be constructed of galvanized steel conforming to UL and NEC standards.
- D. Fronts of cabinets shall be not less than 12 gauge steel fastened with screws in countersunk washers, or with approved concealed spring clamps. Cabinet fronts shall have hinged lockable doors with milled keys (all panels shall be keyed alike) and circuit schedule holders with clear plastic windows. Provide typewritten schedules in holders and submit copies for record purposes. Doors shall be fastened to trim with full length flush hinges. Panel fronts shall be shop painted with 2 coats of primer and a finish coat of gray enamel.
- E. Special panelboard construction or features shall be as shown on drawings. For circuit breakers, contactors and other equipment to be included as an assembled part of the panelboard, refer to the paragraph where those items are specified.
- F. All conductor terminals and equipment enclosures shall be U.L. listed for use with minimum 75° C. rated conductors.
- G. Panelboard directory for each panel shall be neatly typed indicating actual load for each branch circuit.

4. CIRCUIT BREAKERS:

- A. Breakers shall be molded case bolt-on type. Clamp-on, push-on, or plug-in types are not acceptable. Removable handle ties and dual, quad or tandem breakers are not acceptable. Mounting hardware, accessories, faceplates and enclosures shall be provided as necessary for the intended use.
- B. Short circuit interrupting capacity shall be as indicated on the plans and shall in no case be less than 10,000 rms symmetrical amps at the applied voltage.

5. DISCONNECT SWITCHES:

- A. Switches shall be by Square-D, Eaton, Siemens or General Electric.
- B. Switches and enclosures shall be heavy duty. They shall be externally operated, quick-make, blade type, of numbers of poles and rating indicated or required.
- C. Enclosures shall be NEMA 1 for dry, interior locations and NEMA 3R for damp, wet or exterior locations. Finish shall be ANSI 61. Covers shall have a defeatable interlock. Operating handles shall be padlockable.
- D. Short circuit withstand ratings shall be 200,000 rms symmetrical amps.
- E. Switches shall accept fuses of the rating and UL or NEMA class indicated.
- F. Submit data sheets of the disconnect switches as required under "Submittals".
- G. All conductor terminals and equipment enclosures shall be U.L. listed for use with minimum 75° C. rated conductors.

6. MANUAL MOTOR STARTERS:

- A. Where shown on the plans, fractional horsepower motors shall toggle type manual starters with thermal overload protection in each phase. Where the motor is out of sight of the switch provide a pilot light in the cover to indicate switch is closed.
- B. Submit data on starters as required under "Submittals".

7. SNAP SWITCHES:

- A. AC general use snap switches shall be toggle handle, quiet operating, premium or heavy duty specification grade, UL listed and verified to meet Federal Specification W-S-896-d and NEMA heavy duty tests. Color shall be white.
- B. All switches shall be rated 120/277 volts. For the 20 amp size, HP ratings shall be 1 for 120V and 2 for 240V.

C. Switches shall be as listed below:

1. 20A SPST - Hubbell 1221, Leviton 1221 or P & S 521

- D. Switches required but not listed shall have equivalent quality as those listed above.

8. RECEPTACLE OUTLETS:

- A. Receptacle outlets shall be standard NEMA configuration, grounding type.
- B. General convenience outlets shall be 20 amp, 125 volt, 2 pole, 3 wire grounding. Outlets shall be UL listed and verified to meet Federal Specification W-C-596-c and NEMA heavy duty performance tests.
- C. Convenience outlet fronts shall be white.
- D. Outlets shall be as listed below: (numbers do not include color designation or options).
1. 20A Convenience - Hubbell 5352, Leviton 5362, or P & S 5362
2. 20A Combination single receptacle w/(2) USB Charging Ports - Leviton 57830 or P & S TR5361USB. Color shall be white.
- E. Receptacle outlets for the P.O.S. system shall be Type NEMA 5-15R single or duplex isolated ground as indicated on plans. Single receptacle for OCS unit in Drive-Thru speaker board shall be NEMA L5-15R.
- F. Special outlets, not listed above, shall be standard NEMA configuration for the application shown and shall be of equivalent grade and quality to those listed above. An approved cord cap or plug shall be furnished with each receptacle outlet except general convenience type. Plug shall be of the same grade, quality and manufacturer as the outlet.

9. DEVICE & BOX COVER PLATES:

- A. Provide a plate for each outlet, receptacle, switch, device and box.
- B. All plates for interior use shall be stainless steel.
- C. All plates for exterior use shall be metallic with gaskets and shall have weatherproof covers for devices.
- D. Ganged devices shall have gang plates exactly matching the arrangement and quantity of devices.
- E. Special plates, engraving or application shall be as indicated on the drawings or otherwise specified.

10. OUTLET AND JUNCTION BOXES:

- A. The size of each outlet or junction box shall be determined by the number and sizes of wires and conduits entering the box, per NEC, but shall be not less than 4-inch square and 1-1/2 inches deep unless otherwise noted.
- B. Outlet and junction boxes for interior use shall be galvanized, one-piece pressed or welded steel, knockout type, except where other types of boxes are indicated or specified. In masonry or concrete construction waterproof boxes manufactured for that purpose shall be used. Plastic, fiber or composition boxes will not be permitted except where furnished with millwork and allowed by local codes.
- C. Outlet and junction boxes for surface exterior use shall be cast boxes, Crouse-Hinds FS type, or approved equivalent.

11. CONDUITS AND FITTINGS:

- A. Standard weight rigid metal conduit shall be hot dipped galvanized. All fittings shall be of the screw thread type. Couplings, locknuts, bushings, etc., shall be hot dipped galvanized.
- B. Electrical metallic tubing (EMT) shall be galvanized. Couplings and connectors shall be galvanized. Fittings shall be compression type with gland sealing rings or set screw type.
- C. Flexible conduit is permitted to be used only where hard-wiring of equipment is required and shall be of the liquid-tight type with outer neoprene jacket and suitable liquid-tight fittings.
- D. Rigid non-metallic conduit shall be PVC Schedule 40, U.L. approved. All couplings, fittings, solvent cement, etc.,

12. WIRE AND CABLE:

- A. Wire and cable for use on systems of 50 volts to 600 volts shall be 600 volt rated type THW or THHN for branch circuits. Feeders shall be THHN.
- B. Wire and cable for use on systems of below 50 volts shall be 300 volt PVC insulated and suitable for the class of wiring except as otherwise indicated or specified.
- C. All conductors shall be copper.

13. LIGHTING FIXTURES AND LAMPS:

- A. Fixtures shall be complete with all required accessories and equipment, including lamps, necessary for a complete installation. Contractor shall receive, unpack, assemble and install fixtures indicated as being furnished by others.
- B. Verify the ceiling or wall construction, voltage and the mounting requirements of each fixture and provide plaster frames, special flanges, concrete pour housings, boxes, brackets, adapters, hangers, stems, canopies, special ballasts or lenses and other materials necessary to properly purchase and mount the fixture.

- C. Submit shop drawings on all fixtures as required under Submittals". "Shop Drawings" may be catalog data sheets if complete information including mounting hardware is shown and identified. Shop drawings shall include mounting details and show compatibility with the ceiling or other equipment.

14. NAMEPLATES AND LABELS:

- A. Nameplates shall be provided for circuit breakers in the main switchboard, switches, and to identify each panelboard and similar items which are furnished or installed under this section.
- B. Nameplates shall be engraved laminated plastic with characters cut through the black top layer to white layer below.

15. PHOTO ELECTRIC SWITCHES:

- A. Photo electric switches and photo controllers shall be as specified on the drawings. Type of mounting, poles, voltage, wattage rating and arrangement shall be as shown on plans.
- B. Submit shop drawings as required under "Submittals". Catalog sheets will be adequate if all information is shown.

16. TIME SWITCHES:

- A. Time switches shall be electronic as specified on the drawings. Type of mounting, poles, voltage, ampacity and arrangement shall be as shown on drawings or required by conditions. Time switches controlling lighting shall have non-volatile memory and any other features shown on the plans or required for proper operation.
- B. Enclosures shall be NEMA 1 for interior dry locations.

17. MAGNETIC MOTOR STARTERS:

- A. Motor starters shall be horsepower rated non-reversing, full voltage of type required by motor with overload thermal protection.
- B. Submit shop drawings as required under "Submittals".

18. RELAYS:

- A. Relays for motor control shall be heavy-duty industrial type, magnetically held, with both normally open and closed contacts.
- B. Submit shop drawings as required under "Submittals".

EXECUTION

1. INSTALLATION AND CONNECTION OF ELECTRICAL EQUIPMENT:

- A. Equipment furnished by others shall be completely connected to the electrical system except as noted on the drawings. All fuses, breakers and disconnects shall be provided as necessary for proper protection. Provide all flexible conduit, boxes, fittings, receptacles, cords, plugs and other material required for proper installation. Refer to manufacturer's directions where applicable.

2. WORK ON HVAC AND PLUMBING SYSTEMS:

- A. Complete power circuits, including breakers, switches, disconnects, wire and conduit, outlets and connections to HVAC and plumbing equipment shall be provided under this section.
- B. Starters and controllers shall be provided under this section except where part of a package unit or panel specified in Division 15.
- C. HVAC and plumbing control and interlock wiring regardless of voltage, and conduits for same, will be wired and connected under this section.

3. INSTALLATION OF CONDUIT:

- A. Standard weight steel rigid metal conduit (RMC) shall be used where exposed to the weather, placed underground below concrete slab, in concrete or masonry construction in contact with earth, and where shown on the plans.
- B. Galvanized steel electrical metallic tubing (EMT) shall be used in above ground, interior, dry locations protected from weather and physical damage, and may be used in concrete or masonry construction not in contact with earth.
- C. Flexible metallic conduit (FMC) shall be used where shown on the plans and to connect conduit systems to motors, direct wired and vibrating equipment, as a final connection to lighting fixtures (6" max) in accessible ceilings, and where protected from physical damage. It may be used as a wiring system instead of EMT in interior walls only (dry frame or stud construction).
- D. Liquidtight flexible metal conduit (LMC) or "Liqui-Flex" shall be used for final electrical connections to roof top or other equipment exposed to the outdoor environment.
- E. Rigid non metallic conduit (RNC) may be used for all underslab or underground work in place of standard weight rigid metal conduit and where specifically specified. All runs of rigid non metallic conduit shall contain a separate green ground wire adequately sized for service intended. Where required to continue above slab, stub rigid non metallic conduit 6" above slab then make proper transition to metal conduit as required.
- F. All steel rigid metal conduit installed in the ground shall be wrapped with Hunt's Process No. 3, PVC coated or encased in 3" concrete on all sides.
- G. The minimum sizes of conduit per the NEC or local code (which ever is more stringent) for the number and size of conductors, unless a larger size is shown, in which case such larger size shall be used.

- H. All final connections to motors shall be flexible conduit either FMC or LFMC as required for the application, and as shown on drawings.

- I. Where portions of raceways or sleeves enter areas such as cold storage or where passing from the interior to the exterior of a building, the raceway or sleeve shall be filled with an approved material to prevent the circulation of warm air to a cooler section of the raceway or sleeve.

4. INSTALLATION AND CONNECTION OF WIRING:

- A. All wiring shall be installed in conduit, wireways, or gutters, except where other raceway systems or methods are specifically shown. MC (metal-clad cable), or rigid or flexible non-metallic conduit (RNC conduit or "Smurf" tube) shall not be permitted except where furnished with millwork. Non-Metallic sheathed cable (Romex) is not permitted for any work. MC (metal-clad cable) type conductor/flex conduit shall be allowed only as whips to lighting fixtures.
- B. Clean out and dry all conduit and wireways before pulling any wires. Use no lubricant except as recommended by the wire or cable manufacturer.
- C. Make all connections and splices necessary to properly complete the electrical wiring. Connections and splices shall be made only in pull, junction or outlet boxes, or in switchboards, wireways or panels having sufficient code sized gutter space. Connections and splices in wires smaller than No. 6 AWG shall be made with spring type connectors, and in wires No. 6 AWG and larger shall be made with compression, vice type, or split bolt solderless connectors, insulated and taped.
- D. Connections for the power wiring of the P.O.S. system shall be soldered only, no solderless connections will be allowed. Wire nut connections after soldering.

5. TELEPHONE SYSTEM:

- A. Furnish and install complete conduit and terminal system for telephone services as indicated on drawings.
- B. Install a 1/8-inch polyethylene pull-in wire in each conduit run.
- C. Telephone wall outlets shall be 4-11/16 inch square by 2-1/8 inch deep metal boxes, with plaster ring and single bushed outlet flush telephone plate.
- D. Furnish and install 3/4-inch conduit from the telephone equipment room main telephone backboard to nearest accessible cold water ground. This conduit should be terminated in such a manner that access to grounding device may be had at any time in the future.

*Per NEC 250 & NEC 800

6. GROUNDING:

- A. Make good mechanical and electrical contact at all poles, panelboards, switchboards, outlet boxes, junction boxes, and wherever the conduit run is connected. Permanently and effectively ground all conduit, fixtures, motors and other equipment as required by all applicable codes, regulations and standards.

7. CLEANING AND PROTECTION OF PRODUCTS & PREMISES:

- A. At frequent intervals during the time of construction, the Contractor shall clean up after his work and remove his debris from the premises, leaving the building and grounds clean to the Owner's satisfaction.
- B. The Contractor shall take all necessary precautions to protect all materials, equipment and property, whether electrical or not, from damage as a result of his work.

8. CHECKING AND TESTING OF EQUIPMENT & SYSTEMS:

- A. Panels, disconnects, starters and other equipment installed under this section shall be inspected for defects and tested for proper operation.
- B. Systems shall be tested for short circuits, open circuits and wrong connections and shall be free from mechanical and electrical defects. Circuits shall be tested for proper neutral and ground connections.

9. TEMPORARY CONSTRUCTION POWER & TELEPHONE:

- A. Electrical Contractor shall provide all labor, cost and materials required for installation and maintenance of temporary construction power and telephone. Construction power shall be minimum of 100A, 120/208V /1 phase, 4W, with provisions for one 50A, 208V, 2P, 4W grounding receptacle and four 120V, 20A, 1P receptacles.

10. SUBSTITUTIONS:

- A. Alternative manufacturer's will be considered for electrical devices, switches, outlets, etc. not provided by owner.
- B. Catalogs, data sheets or shop drawings shall be submitted to the construction manager for all alternative manufactured equipment as required under "Submittals".

RALLY'S RESTAURANT 2024
VERSION 2024.2

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

ORIGINAL ISSUE DATE: 10/21/2024
BUILDING TYPE: NEW BUILD
PROTOTYPE: 2024
VERSION: 2024.1
STORE NUMBER: XXXX
PROJECT NUMBER: 24112

ELECTRICAL
SPECIFICATIONS

E-400

MANUAL MODE OPERATION:

1. PUSHBUTTON PRESS IS REQUIRED TO TURN LOAD ON.
2. LOAD TURNS OFF WHEN SENSOR TIMES OUT OR BY PRESSING PUSH BUTTON.
3. IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SETPOINT, LOAD WILL NOT TURN ON.

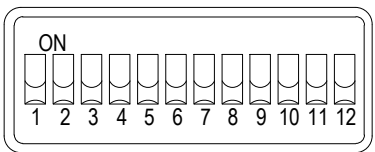
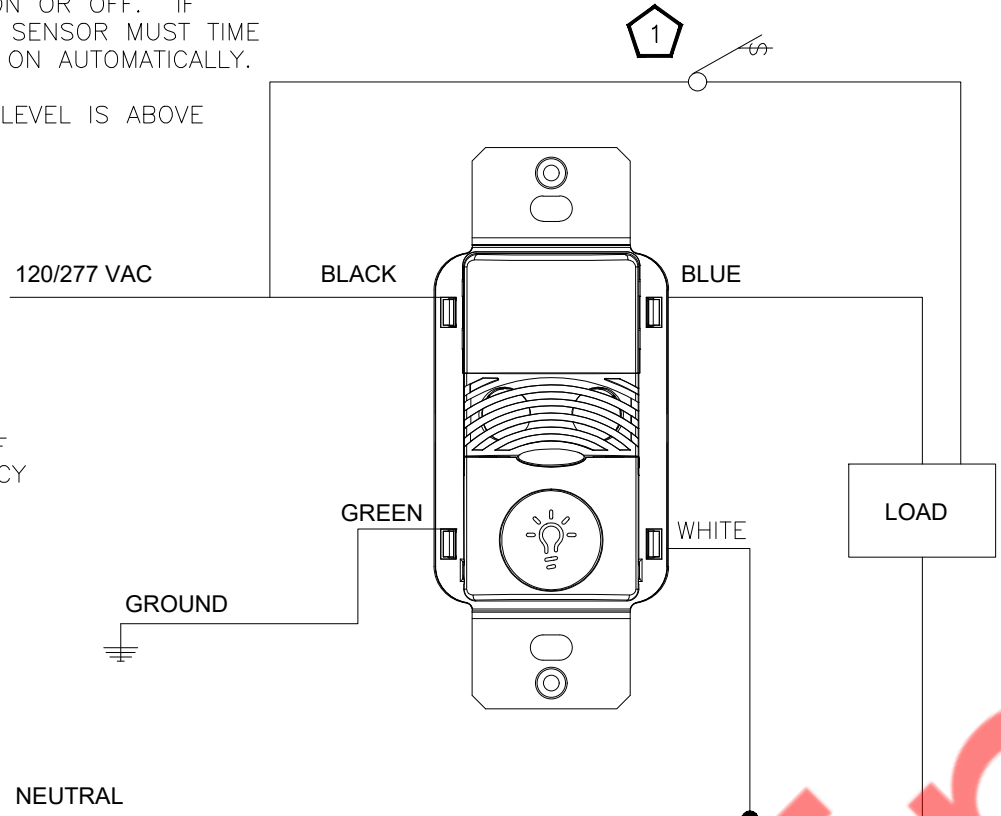
AUTOMATIC MODE OPERATION:

1. WHEN SENSOR ACTIVATES LOAD TURNS ON.
2. PUSHBUTTON CAN BE USED TO TURN LOAD ON OR OFF. IF PUSHBUTTON IS USED TO TURN LOAD OFF, SENSOR MUST TIME OUT FIRST, BEFORE LOAD CAN TURN BACK ON AUTOMATICALLY.
3. IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SETPOINT, LOAD WILL NOT TURN ON.

SENSOR TYPES INCLUDE:

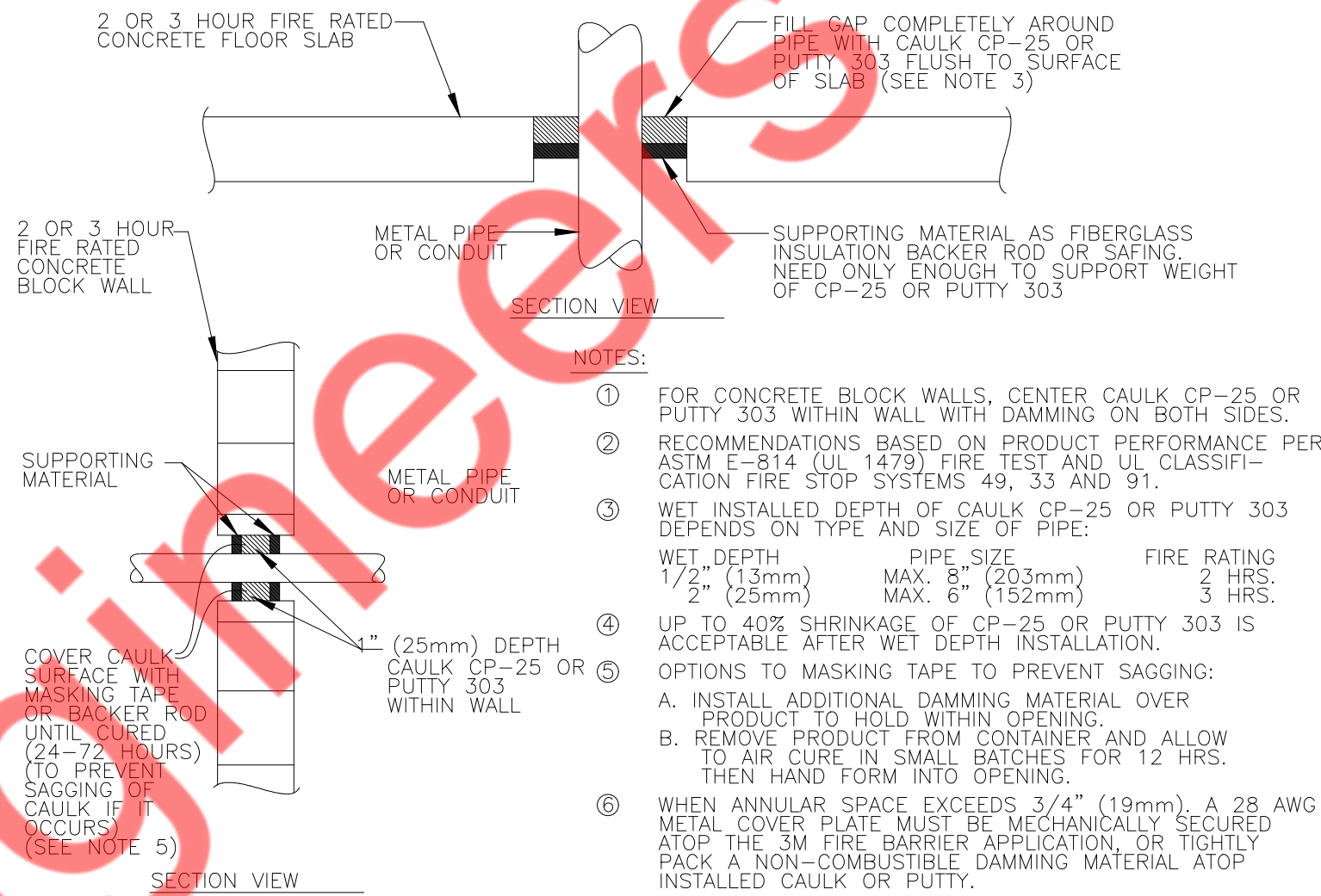
ONW-D-1001-MV-N

- 1 PROVIDE SENSING CONDUCTOR TAPPED AHEAD OF ANY SWITCHES WHERE SWITCH SERVES EMERGENCY FIXTURES.



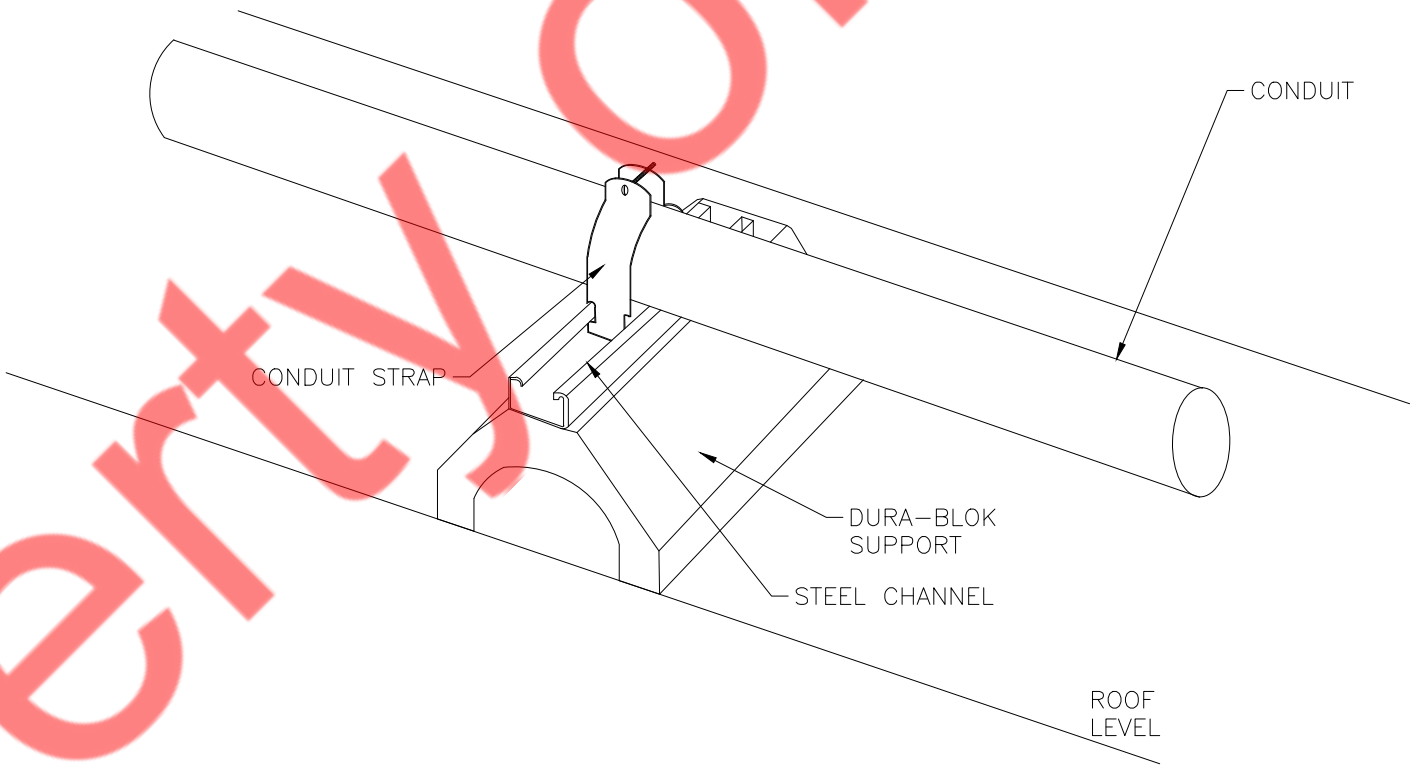
(ONW-D-1001-MV-N
SENSORS)
ON (UP) =
MANUAL ON
OFF (DOWN) =
AUTO ON

4 OCCUPANCY/VACANCY-SINGLE LEVEL WIRING DIAGRAM
LOW VOLTAGE WALL SWITCH SENSOR(NEUTRAL CONNECTION)
E-301 N.T.S



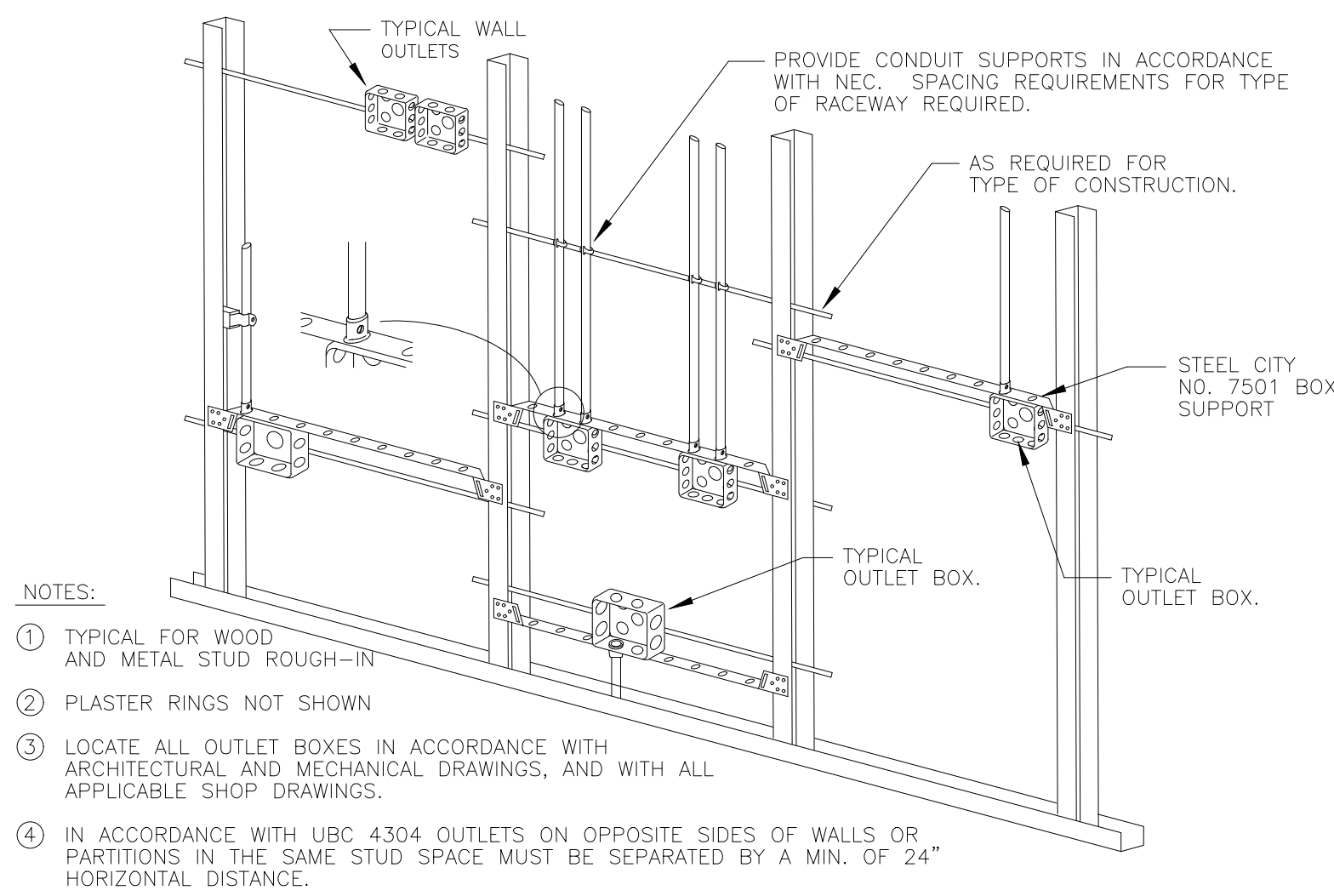
- NOTES:
1. FOR CONCRETE BLOCK WALLS, CENTER CAULK CP-25 OR PUTTY 303 WITHIN WALL WITH DAMMING ON BOTH SIDES.
 2. RECOMMENDATIONS BASED ON PRODUCT PERFORMANCE PER ASTM E-814 (UL 1479) FIRE TEST AND UL CLASSIFICATION FIRE STOP SYSTEMS 49, 33 AND 91.
 3. WET INSTALLED DEPTH OF CAULK CP-25 OR PUTTY 303 DEPENDS ON TYPE AND SIZE OF PIPE:
WET DEPTH PIPE SIZE FIRE RATING
1/2" (13mm) MAX. 8" (203mm) 2 HRS.
2" (25mm) MAX. 6" (152mm) 3 HRS.
 4. UP TO 40% SHRINKAGE OF CP-25 OR PUTTY 303 IS ACCEPTABLE AFTER WET DEPTH INSTALLATION.
 5. OPTIONS TO MASKING TAPE TO PREVENT SAGGING:
A. INSTALL ADDITIONAL DAMMING MATERIAL OVER PRODUCT TO HOLD WITHIN OPENING.
B. REMOVE PRODUCT FROM CONTAINER AND ALLOW TO AIR CURE IN SMALL BATCHES FOR 12 HRS. THEN HAND FORM INTO OPENING.
 6. WHEN ANNULAR SPACE EXCEEDS 3/4" (19mm), A 28 AWG METAL COVER PLATE MUST BE MECHANICALLY SECURED ATOP THE 3M FIRE BARRIER APPLICATION, OR TIGHTLY PACK A NON-COMBUSTIBLE DAMMING MATERIAL ATOP INSTALLED CAULK OR PUTTY.

2 FIRE STOP DETAIL
E-401 N.T.S



- NOTES:
1. ALL CONDUIT MAY BE COMBINED ON SAME SUPPORT CHANNEL WHERE PRACTICAL.
 2. SUPPORT CHANNEL LENGTH SHALL NOT BE DETERMINED UNTIL ALL PIPING, CONDUIT, ETC. TO BE SUPPORTED IS COORDINATED.
 3. SUPPORT CHANNEL SPACING SHALL BE NO MORE THAN 10'-0".

3 CONDUIT SUPPORT DETAIL ON ROOF
E-401 N.T.S



- NOTES:
1. TYPICAL FOR WOOD AND METAL STUD ROUGH-IN
 2. PLASTER RINGS NOT SHOWN
 3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS, AND WITH ALL APPLICABLE SHOP DRAWINGS.
 4. IN ACCORDANCE WITH UBC 4304 OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE MUST BE SEPARATED BY A MIN. OF 24" HORIZONTAL DISTANCE.

1 DETAIL TYPICAL ROUGH-IN REQUIREMENTS
E-401 N.T.S

RALLYS RESTAURANT 2024
VERSION 2024.2

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

ORIGINAL ISSUE DATE: 10/21/2024
BUILDING TYPE: NEW BUILD
PROTOTYPE: 2024
VERSION: 2024.1
STORE NUMBER: XXXX
PROJECT NUMBER: 24112

ELECTRICAL
DETAILS

E-401

COMcheck Software Version COMcheckWeb
Interior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2019) Standard
Project Title: RALLYS RESTAURANT
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:
MICHAEL TOBIAS
NY ENGINEERS
382 NE 191ST STREET SUITE 49674
MIAMI, Florida 33179

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Dining: Cafeteria/Fast Food	1488	0.76	1131
Total Allowed Watts = 1131			

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Watt. (C X D)	E
1-Dining: Cafeteria/Fast Food				
LED: R2: 6" RECESSED LED CAN: Other:	1	1	35	35
LED: R3: 2'X2' LAY-IN ULTRA-THIN LED PAN: Other:	1	17	35	595
Total Proposed Watts = 630				

Interior Lighting PASSES: Design 44% better than code

Interior Lighting Compliance

Statement
Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 90.1 (2019) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

MICHAEL TOBIAS
Name - Title Signature Date 10/21/24



Project Title: RALLYS RESTAURANT, NEWPORT NEWS, VIRGINIA Report date: 10/21/24
Page 1 of 5

COMcheck Software Version COMcheckWeb
Exterior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2019) Standard
Project Title: RALLYS RESTAURANT
Project Type: New Construction
Exterior Lighting Zone: 3 (Other (LZ3))

Construction Site: Owner/Agent: Designer/Contractor:
MICHAEL TOBIAS
NY ENGINEERS
382 NE 191ST STREET SUITE 49674
MIAMI, Florida 33179

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Fixture	D Tradable Wattage	E Allowed Watts (B X C)
Free standing/attached sales canopy	250 ft2	0.6	Yes	150
Illuminated area of facade wall or surface	80 ft2	0.15	No	12
Total Tradable Watts (a) = 150				
Total Allowed Watts = 162				
Total Allowed Supplemental Watts (b) = 500				

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 500 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

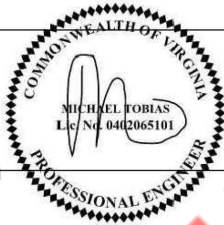
A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
Free standing/attached sales canopy (250 ft2): Tradable Wattage				
LED: D1: ENTRANCE WALL PACK: Other:	1	11	12	132
Illuminated area of facade wall or surface (80 ft2): Non-tradable Wattage				
LED: SC1: GOOSE NECK FIXTURE: Other:	1	8	26	208
LED: E1: ENTRANCE WALL PACK: Other:	1	1	40	40
Total Tradable Proposed Watts = 132				

Exterior Lighting PASSES: Design 68% better than code

Exterior Lighting Compliance

Statement
Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 90.1 (2019) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

MICHAEL TOBIAS
Name - Title Signature Date 10/21/24



Project Title: RALLYS RESTAURANT, NEWPORT NEWS, VIRGINIA Report date: 10/21/24
Page 2 of 5

COMcheck Software Version COMcheckWeb
Inspection Checklist

Energy Code: 90.1 (2019) Standard

Requirements: 100.0% were addressed directly in the COMcheck software
Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 8.4.1.1, 8.4.1.2, 8.7.1, [PR6] ²	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 9.4.3, 9.7 [PR4] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.7 [PR8] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) 2 | Medium Impact (Tier 2) 3 | Low Impact (Tier 3)

Project Title: RALLYS RESTAURANT, NEWPORT NEWS, VIRGINIA Report date: 10/21/24
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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10] ²	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
8.4.3 [EL11] ²	New buildings have electrical energy use measurement devices installed. Where tenant spaces exist, each tenant is monitored separately. In buildings with a digital control system the energy use is transmitted to to control system and displayed graphically.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.1.1 [EL1] ²	Automatic control requirements prescribed in Table 9.6.1, for the appropriate space type, are installed. Mandatory lighting controls (labeled as "REQ") and optional choice controls (labeled as "ADD1" and "ADD2") are implemented.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.1.1 [EL2] ²	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.1.1f [EL13] ¹	Daylight areas under skylights and roof monitors that have more than 150 W combined input power for general lighting are controlled by photocontrols.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
9.4.1.4 [EL3] ²	Automatic lighting controls for exterior lighting installed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.1.3 [EL4] ¹	Separate lighting control devices for specific uses installed per approved lighting plans.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.6.2 [EL8] ¹	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) 2 | Medium Impact (Tier 2) 3 | Low Impact (Tier 3)

Project Title: RALLYS RESTAURANT, NEWPORT NEWS, VIRGINIA Report date: 10/21/24
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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
8.7.1 [F16] ¹	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
8.7.2 [F17] ¹	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.2.2.3 [F18] ¹	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Interior Lighting fixture schedule for values.
9.4.2 [F19] ¹	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Exterior Lighting fixture schedule for values.
9.4.4 [F20] ¹	At least 75% of all permanently installed lighting fixtures in dwelling units have >= 55 lm/W efficacy or a >= 45 lm/W total luminaire efficacy.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) 2 | Medium Impact (Tier 2) 3 | Low Impact (Tier 3)

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RALLYS RESTAURANT 2024
VERSION 2024.2

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

ORIGINAL ISSUE DATE: 10/21/2024
BUILDING TYPE: NEW BUILD
PROTOTYPE: 2024
VERSION: 2024.1
STORE NUMBER: XXXX
PROJECT NUMBER: 24112

ENERGY
COMPLIANCE

E-500

PLUMBING SYMBOLS

	DOMESTIC COLD WATER
	DOMESTIC FILTERED COLD WATER
	DOMESTIC HOT WATER
	RECIRCULATED DOMESTIC HOT WATER
	NATURAL GAS
	SANITARY WASTE
	GREASE WASTE
	SANITARY VENT
	OIL RECOVERY PIPE FOR FRYER
	CONDENSATE DRAIN

PLAN NOTES: SEE PLAN NOTES LISTED ON THE SAME SHEET FOR NOTE MEANING

CONNECT TO EXISTING

EQUIPMENT TAG

VALVE

SOLENOID-OPERATED VALVE

BACKFLOW PREVENTION

FLOOR SINK

FLOOR DRAIN

CLEANOUT

CIRCULATION PUMP

PLUMBING ABBREVIATIONS

(E)	EXISTING
(R)	RELOCATED
ABV	ABOVE
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
BEL	BELOW
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BFP	BACK FLOW PREVENTER
BOH	BACK OF HOUSE
CLO	CEILING
CONT	CONTINUE
CTE	CONNECT TO EXISTING
CW	DOMESTIC COLD WATER
DN	DOWN
EXT'G	EXISTING
FLR	FLOOR
FOH	FRONT OF HOUSE
FW	DOMESTIC FILTERED COLD WATER
G	NATURAL GAS
GW	GREASE WASTE
HW	DOMESTIC HOT WATER
NTS	NOT TO SCALE
OH	OVERHEAD
S	SANITARY WASTE
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
W	WITH
WIC	WALK IN COOLER
WIF	WALK IN FREEZER
GC	GENERAL CONTRACTOR
KES	KITCHEN EQUIPMENT SUPPLIER
LS	LIGHTING SUPPLIER
FCO	FLOOR CLEAN OUT
YCO	YARD CLEAN OUT
IW	INDIRECT WASTE
DW	DIRECT WASTE

PLUMBING DRAWING LIST

P001	PLUMBING NOTES & LEGEND
P101	PLUMBING SANITARY FLOOR PLAN & RISER
P111	PLUMBING WATER FLOOR PLAN & RISER
P121	PLUMBING FLOOR PENETRATION PLAN
P131	PLUMBING GAS FLOOR PLAN & RISER
P200	PLUMBING DETAILS
P300	PLUMBING SCHEDULES
P400	PLUMBING SPECS

PLUMBING GENERAL NOTES

1. VERIFY EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF UTILITIES AND PIPING BEFORE COMMENCEMENT OF WORK, AND IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
2. OBTAIN EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES AND KITCHEN EQUIPMENT FROM ARCHITECTURAL AND KITCHEN EQUIPMENT DRAWINGS.
3. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH UTILITY COMPANIES FOR SERVICE AND CONNECTIONS AND SHALL PAY FOR ALL PERMITS.
4. TERMINATE ALL VENT AND FLUE OUTLETS AT 10'-0" MIN. FROM ANY FRESH AIR INTAKES OR PER LOCAL JURISDICTION.
5. INSTALL ALL PLUMBING TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING. NO WATER OR DRAIN LINES PERMITTED OVER OR UNDER ELECTRICAL PANELS.
6. PROVIDE FAUCETS UNLESS OTHERWISE NOTED. TRAPS, STOPS, GATE VALVES, GAS COCKS, WATER HAMMER ARRESTERS, WALL CLEANOUTS, CLEANOUT COVERS, FLEX CONNECTIONS, SHUT-OFF VALVES AND INDIRECT WASTE TO AN APPROVED RECEPTOR AND ALL NECESSARY TRIM FOR A COMPLETELY INSTALLED & CONNECTED PLUMBING SYSTEM.
7. RECORD ON AS-BUILT DRAWINGS, ALL SIZES, LOCATIONS, INVERTS AND MATERIALS OF EXISTING PIPES THAT ARE ENCOUNTERED AND NEW PIPES INSTALLED DURING THE COURSE OF THE PROJECT. DELIVER AS-BUILTS TO CONSTRUCTION MANAGER AT THE END OF THE PROJECT.
8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL LOCAL AND FEDERAL CODES, RULES AND REGULATIONS GOVERNING THIS PROJECT.
9. UPON COMPLETION OF JOB, INSPECT ALL EXPOSED PORTIONS OF THE PLUMBING INSTALLATIONS AND COMPLETELY REMOVE ALL EXPOSED LABELS, SOIL, MARKINGS, AND FOREIGN MATERIAL EXCEPT PRODUCT LABELS AND THOSE REQUIRED BY LAW.
10. INDIRECT WASTE TERMINATIONS:
 - 10.a. TERMINATE ALL POTABLE CLEAR WATER THROUGH AN INDIRECT WASTE PIPE BY MEANS OF AN AIR GAP.
 - 10.b. TERMINATE ALL NON-POTABLE CLEAR WATER THROUGH AN INDIRECT WASTE PIPE BY MEANS OF AND AIR GAP OR AIR BREAK.
 - 10.c. FOOD UTENSILS, DISHES, POTS AND PANS SINK (3-COMPARTMENT SINK) SHALL BE THROUGH AN INDIRECT WASTE PIPE THROUGH AN AIR GAP OR AN AIR BREAK OR DIRECTLY INTO THE DRAINAGE SYSTEM.
11. PROVIDE FLEXIBLE GAS CONNECTIONS TO GAS EQUIPMENT. RIGID GAS CONNECTIONS TO EQUIPMENT, OTHER THAN COOKING EQUIPMENT, WHERE LOCAL JURISDICTION PROHIBITS THE USE OF FLEXIBLE CONNECTIONS.
12. VERIFY ALL EQUIPMENT AND APPLIANCE CONNECTION SIZES PRIOR TO MAKING FINAL CONNECTION. REDUCE BRANCH PIPE SIZING JUST PRIOR TO CONNECTION TO UNIT.
13. DISINFECTION OF POTABLE WATER SYSTEM:
 - 13.1. THE PIPE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT THE POINTS OF OUTLET.
 - 13.2. THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER/CHLORINE SOLUTION CONTAINING AT LEAST 50 PARTS PER MILLION OF CHLORINE, AND THE SYSTEM OR PART THEREOF SHALL BE VALVED OFF AND ALLOWED TO STAND FOR 24 HOURS; OR THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER/CHLORINE SOLUTION CONTAINING AT LEAST 200 PARTS PER MILLION OF CHLORINE AND ALLOWED TO STAND FOR 3 HOURS.
 - 13.3. FOLLOWING THE REQUIRED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH CLEAN POTABLE WATER UNTIL THE CHLORINE IS PURGED FROM THE SYSTEM.
 - 13.4. THE PROCEDURE SHALL BE REPEATED WHERE SHOWN BY A BACTERIAOLOGICAL EXAMINATION THAT CONTAMINATION REMAINS PRESENT IN THE SYSTEM.
14. ALL EXPOSED DRAIN LINES FROM KITCHEN EQUIPMENT TO FLOOR DRAINS AND FLOOR SINKS SHALL BE COPPER.

BUILDING DEPARTMENT PLUMBING NOTES

1. ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT, WATER) AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF 2021 VIRGINIA PLUMBING CODE AND LOCAL CODE REQUIREMENTS.
2. INSTALLATION OF UNDERGROUND PIPING SHALL BE IN ACCORDANCE WITH 2021 VIRGINIA PLUMBING CODE SECTION 306.
3. PROTECTION OF PIPING AND PLUMBING SYSTEM COMPONENTS AS PER 2021 VIRGINIA PLUMBING CODE SECTION 305.
4. TRENCHING, EXCAVATION AND BACKFILL AS PER 2021 VIRGINIA PLUMBING CODE SECTION 306.
5. RODENT PROOFING AS PER 2021 VIRGINIA PLUMBING CODE SECTION 304.
6. MATERIALS USED IN PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH 2021 VIRGINIA PLUMBING CODE SECTION 303.
7. EQUIPMENT CONNECTIONS AND JOINING OF PIPING SHALL BE IN ACCORDANCE WITH 2021 VIRGINIA PLUMBING CODE SECTION 605 & 706.
8. DEEP SEAL TRAPS FOR FLOOR DRAINS AND CLEAN-OUTS SHALL BE INSTALLED IN ACCORDANCE WITH 2021 VIRGINIA PLUMBING CODE SECTION 1002.
9. DRAINAGE PIPE CLEANOUTS AS PER 2021 VIRGINIA PLUMBING CODE 708.
10. VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH 2021 VIRGINIA PLUMBING CODE 308.
11. WATER SUPPLY SYSTEMS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH 2021 VIRGINIA PLUMBING CODE CHAPTER 6.
12. THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH 2021 VIRGINIA PLUMBING CODE CHAPTER 7.
13. VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH 2021 VIRGINIA PLUMBING CODE CHAPTER 9.
14. INSPECTION AND TESTING OF PLUMBING PIPING SYSTEMS SHALL BE IN ACCORDANCE WITH 2021 VIRGINIA PLUMBING CODE SECTION 312.

ENERGY CONSERVATION NOTES

1. ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE-RETARDANT, FACTORY-APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY WITH ASHRAE 90.1 2019 SECTION ENERGY CONSERVATION CODE 7.4.3 REFER BELOW TABLE.

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 ASHRAE 90.1 2019 SECTION 7.4.4.1 TEMPERATURE CONTROLS SHALL BE PROVIDED THAT ALLOW FOR STORAGE TEMPERATURE ADJUSTMENT FROM 120° OR LOWER TO A MAXIMUM TEMPERATURE COMPATIBLE WITH INTENDED USE.
3. AS PER ASHRAE 90.1 2019 SECTION 7.4.4.2, SYSTEM DESIGNED TO MAINTAIN USAGE TEMPERATURE IN HOT WATER PIPES, SUCH AS RE-CIRCULATING HOT WATER SYSTEMS OR HEAT TRACE, SHALL BE EQUIPPED WITH AUTOMATIC TIME SWITCHES OR OTHER CONTROLS THAT CAN BE USED TO SWITCH THE USAGE TEMPERATURE MAINTENANCE SYSTEM DURING EXTENDED PERIOD WHEN HOT WATER IS NOT REQUIRED.
4. AS PER ASHRAE 90.1 2019 SECTION 7.4.4.3, TEMPERATURE CONTROLLING MEANS SHALL BE PROVIDED TO LIMIT THE MAXIMUM TEMPERATURE OF WATER DELIVERED FROM LAVATORY FAUCETS IN PUBLIC FACILITY RESTROOMS TO 110°F.
5. AS PER ASHRAE 90.1 2019 SECTION 7.4.4.4, WHEN USED TO MAINTAIN STORAGE TANK WATER TEMPERATURE, RECIRCULATING PUMPS SHALL BE EQUIPPED WITH CONTROLS LIMITING OPERATION TO A PERIOD FROM THE START OF THE HEATING CYCLE TO A MAXIMUM OF FIVE MINUTES AFTER THE END OF THE HEATING CYCLE.

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SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

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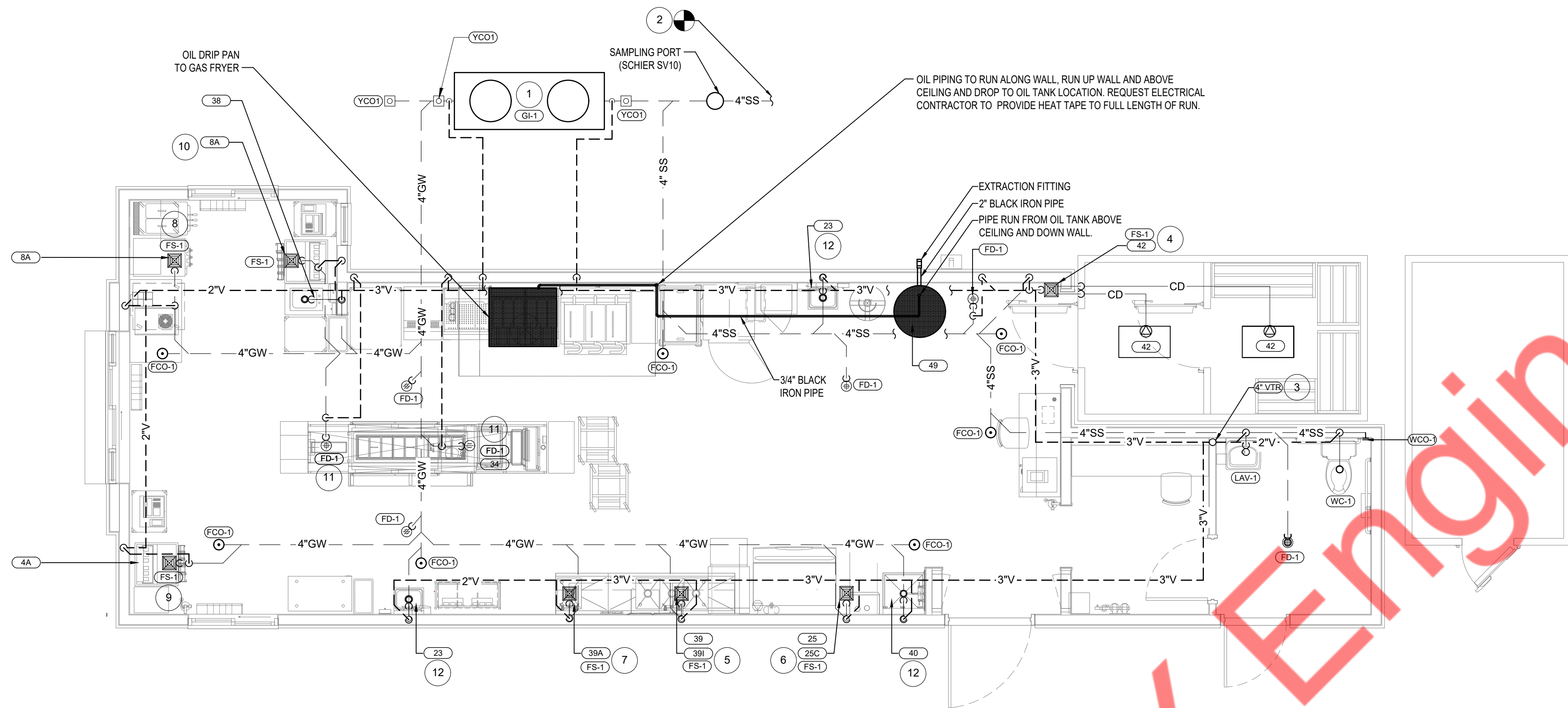
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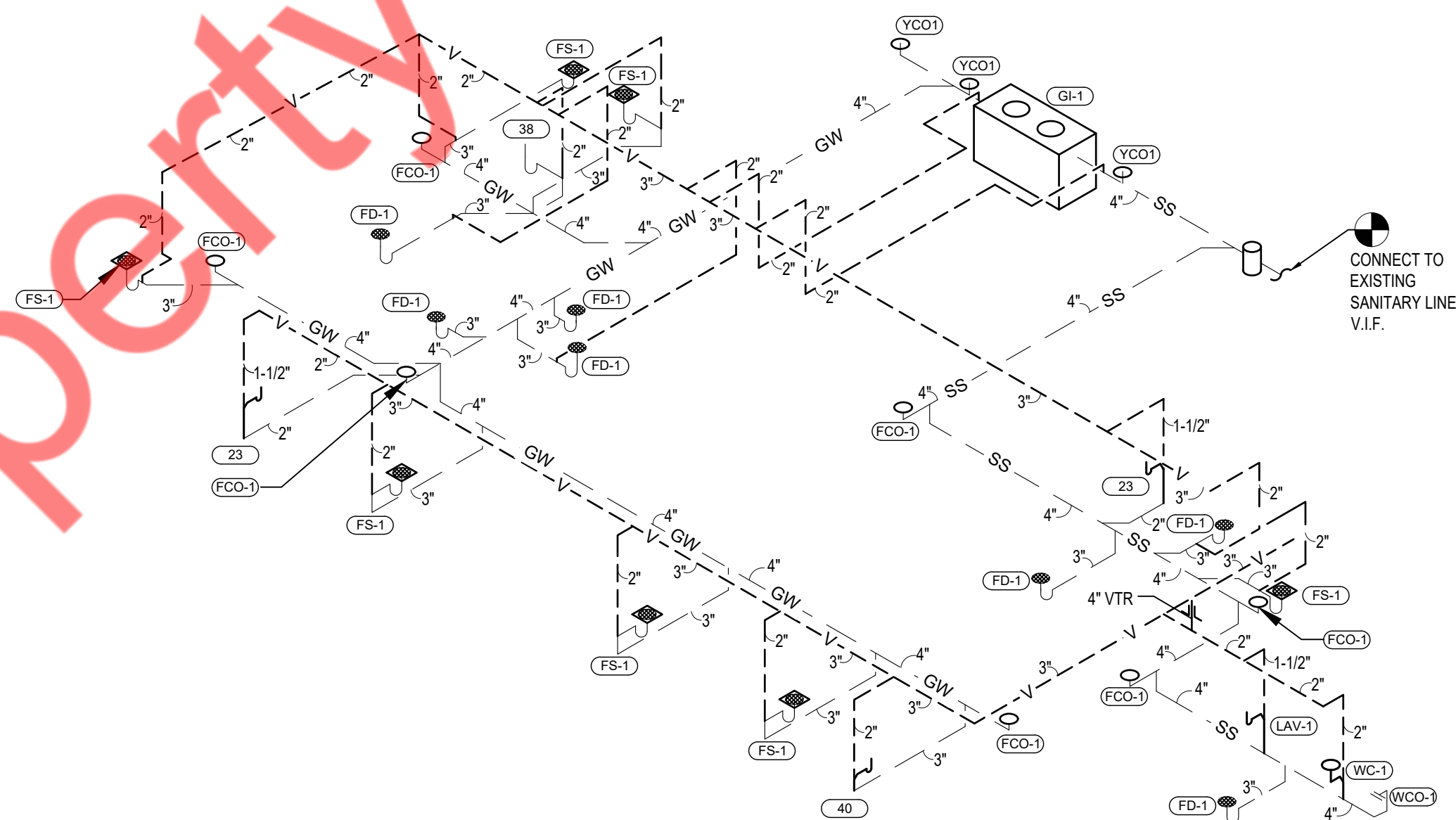
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PLUMBING NOTES &
LEGEND

P-001



1 PLUMBING SANITARY FLOOR PLAN
1/4"=1'-0"



2 PLUMBING SANITARY RISER
N.T.S.

KEY NOTES

- 1 PROVIDE SCHIER GB-250 GREASE TRAP. SEE SHEET P-300 FOR EQUIPMENT SCHEDULE & P-200 FOR INSTALLATION DETAILS. CONTRACTOR TO FIELD VERIFY THE SANITARY MAIN LINE LOCATION AND INVERT AND INSTALL NEW GREASE INTERCEPTOR ACCORDINGLY. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH CITY/COUNTY REGULATIONS AND MANUFACTURER'S RECOMMENDATIONS.
- 2 CONNECT NEW 4" SANITARY WASTE PIPE TO EXISTING SANITARY LINE. CONTRACTOR TO VERIFY IN FIELD EXACT SIZE, INVERT AND LOCATION ON SITE.
- 3 PROVIDE NEW 4" VENT THROUGH ROOF. CONTRACTOR TO COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR. LOCATE VTR AT LEAST 10' AWAY FROM ANY HVAC FRESH AIR INTAKE UNIT.
- 4 ROUTE INDIRECT WASTE FROM WALK-IN COOLER AND FREEZER TO FLOOR SINK WITH APPROVED AIR GAP.
- 5 ROUTE INDIRECT WASTE FROM 3-COMP SINK & DISHWASHER TO FLOOR SINK WITH APPROVED AIR GAP.
- 6 ROUTE INDIRECT WASTE FROM ICE MAKER/BIN TO FLOOR SINK WITH APPROVED AIR GAP.
- 7 ROUTE INDIRECT WASTE FROM 1-COMP PREP SINK TO FLOOR SINK WITH APPROVED AIR GAP.
- 8 ROUTE INDIRECT WASTE FROM FROZEN BEVERAGE DISPENSER TO FLOOR SINK WITH APPROVED AIR GAP.
- 9 ROUTE INDIRECT WASTE FROM DRINK DISPENSER TO FLOOR SINK WITH APPROVED AIR GAP.
- 10 ROUTE INDIRECT WASTE FROM DRINK DISPENSER TO FLOOR SINK WITH APPROVED AIR GAP.
- 11 ROUTE INDIRECT WASTE FROM CENTRELINE TO FLOOR DRAIN WITH APPROVED AIR GAP. CONTRACTOR TO COORDINATE LOCATION WITH LOCAL HEALTH DEPARTMENT FOR ANY ADDITIONAL REQUIREMENTS.
- 12 PROVIDE FUR OUT WALL ON THE INSIDE OF THE EXTERNAL WALL. ROUTE SANITARY PIPE THROUGH THE FUR-OUT WALL TO AVOID FREEZING CONDITIONS.

GENERAL NOTES

1. FOR ROUGH-IN AND KITCHEN EQUIPMENT CONNECTIONS, SEE KITCHEN EQUIPMENT DRAWINGS.
2. COORDINATE FIXTURE ROUGH-IN LOCATIONS WITH ARCHITECTURAL PLAN.
3. REFER TO ISOMETRIC DIAGRAM FOR PIPE SIZING.
4. VENT SIZES ARE IN ACCORDANCE WITH LOCAL PLUMBING CODES.
5. SANITARY SEWER PIPES SIZED PER LOCAL PLUMBING CODES AT 2% SLOPE (1/4"PER/FT.).
6. PLUMBING VENTS SHALL TERMINATE NOT LESS THAN 10' FROM, OR 3' ABOVE, ANY WINDOW, DOOR, AIR INTAKE, OR VENT SHAFT.

GREASE TRAP CALCULATIONS

Step 1: Flow rate to grease interceptor

Fixture flow rate: (cu in / 231) = gal x 0.75 / 2 min = 2 min flow rate

NAME	TYPE	DIMENSIONS	QTY	CU IN	FLOW RATE
3 Compartment Sink	3 Compartment Sink	18" x 14" x 14" (3)	1	10,584	17.18 GPM
Floor Drain	Floor Drain	N/A	2	N/A	0 GPM
Floor Drain Emergency	Floor Drain Emergency	N/A	2	N/A	0 GPM
Floor Sink	Floor Sink	N/A	3	N/A	4.5 GPM
Hand Sink	Hand Sink	10" x 14" x 5"	2	1,400	2.28 GPM
Ice Machine (with drain)	Ice Machine (with drain)	N/A	1	N/A	0.5 GPM
Mop Basin	Mop Basin	22" x 22" x 10"	1	4,840	7.86 GPM
Prep Sink One Bowl	Prep Sink One Bowl	18" x 14" x 14"	1	3,528	5.73 GPM

Total 38.04 GPM

Step 2: Grease Production

Servings per day x Grease production value x Days between pump-outs = Grease output

Servings per day: 400

Grease production value: 0.025 lbs per serving (Fast Food - Limited Prep: Medium / No flatware)

Days between pump-outs: 90 days

400 x 0.025 x 90 = 900 lbs of FOG

SCHIER MODEL

GB-250

Description: GREASE INTERCEPTOR 100 GPM / 200 GPM, 4" PLAIN/FPT CONNECTIONS, H-20 RATED PICKABLE CAST IRON COVERS

Dimensions: Length: 87", Width: 33", Height: 44"
Flow Rate/Grease Capacity: 100 GPM / 1895 lbs
Liquid Capacity: 277 gal

GREASE TRAP SELECTED PER 2021 VIRGINIA PLUMBING CODE WITH HAMPTON ROADS SANITATION DISTRICT SEWER REQUIREMENTS & REGULATIONS.

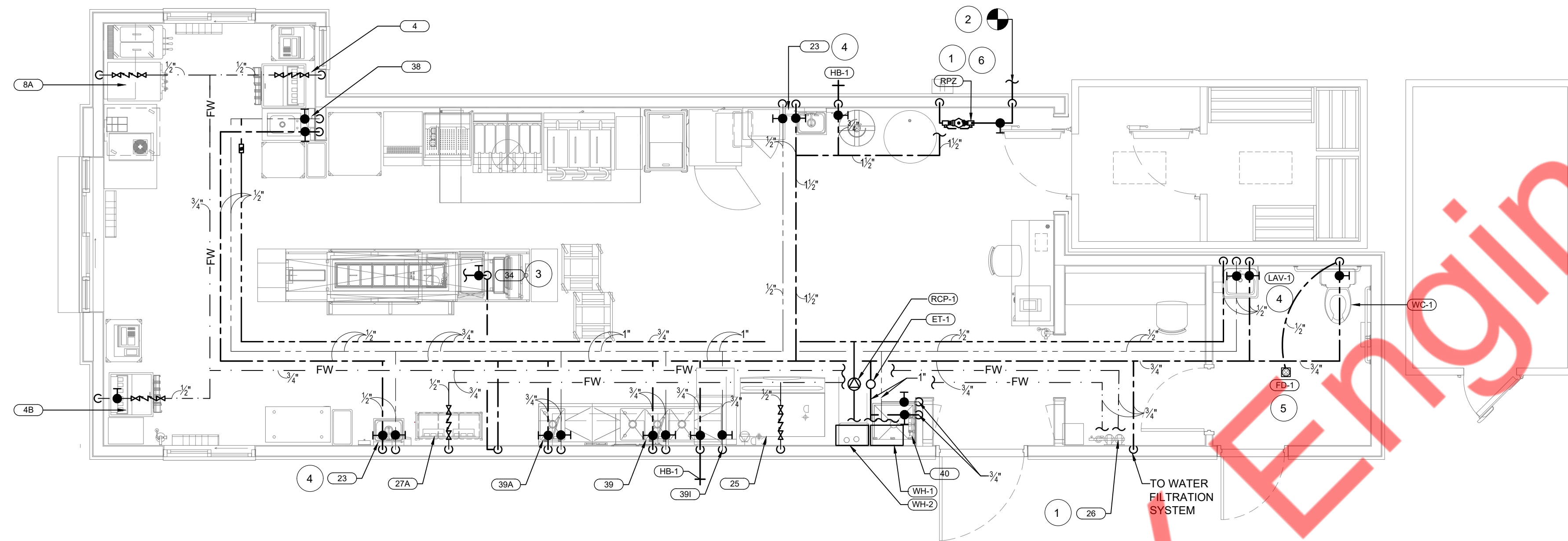
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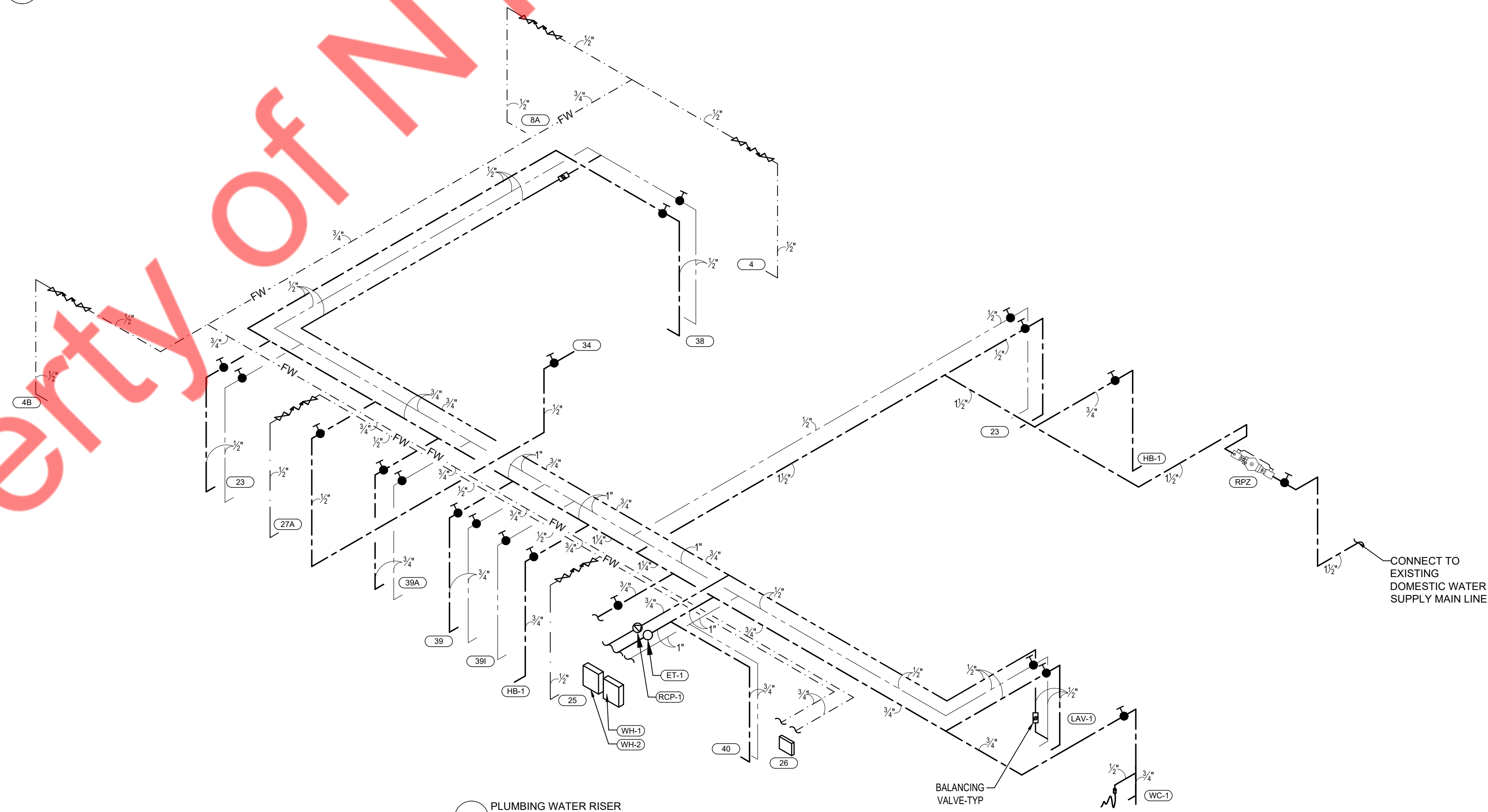
ORIGINAL ISSUE DATE: 10/21/2024
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PLUMBING SANITARY
FLOOR PLAN & RISER

P-101



1 PLUMBING WATER FLOOR PLAN
1/4"=1'-0"



2 PLUMBING WATER RISER
1/4"=1'-0"

KEY NOTES

- 1 CONTRACTOR TO CONFIRM THE REQUIREMENT OF THE WATER METER WITH THE LANDLORD/CIVIL CONTRACTOR. IF THE WATER METER IS NOT ALREADY PROVIDED TO SPACE, INFORM THE OWNER & ADD A NEW WATER METER.
- 2 CONNECT NEW 1-1/2" DOMESTIC DISTRIBUTION LINE WITH NEW BACKFLOW PREVENTER. CONTRACTOR TO CO-ORDINATE WITH UTILITY DEPARTMENT FOR WATER SERVICE LOCATION AND SIZE.
- 3 1/2" CW PIPE DROP BELOW AND RUN BELOW THE SLAB. STUB UP WATER LINE AT LEAST 4" FROM EDGE OF THE CENTERLINE EQUIPMENT AND PROVIDE SHUTOFF VALVE AND ASSE 1022 APPROVED DUAL CHECK WITH ATMOSPHERIC VENT BFP FOR STEAM WELL.
- 4 PROVIDE THERMOSTATIC MIXING VALVE (TMV) BELOW FIXTURE.
- 5 TRAP PRIMER LINES DOWN TO BELOW FLOOR TO CONNECTIONS TO FD-1.
- 6 RPZ TO BE INSTALLED 1' BELOW THE FALSE CEILING TO AVOID CLASH WITH WALK-IN BOX DOOR. LEAVE CLEARANCES OF 8" BEHIND & 30" FRONT

GENERAL NOTES

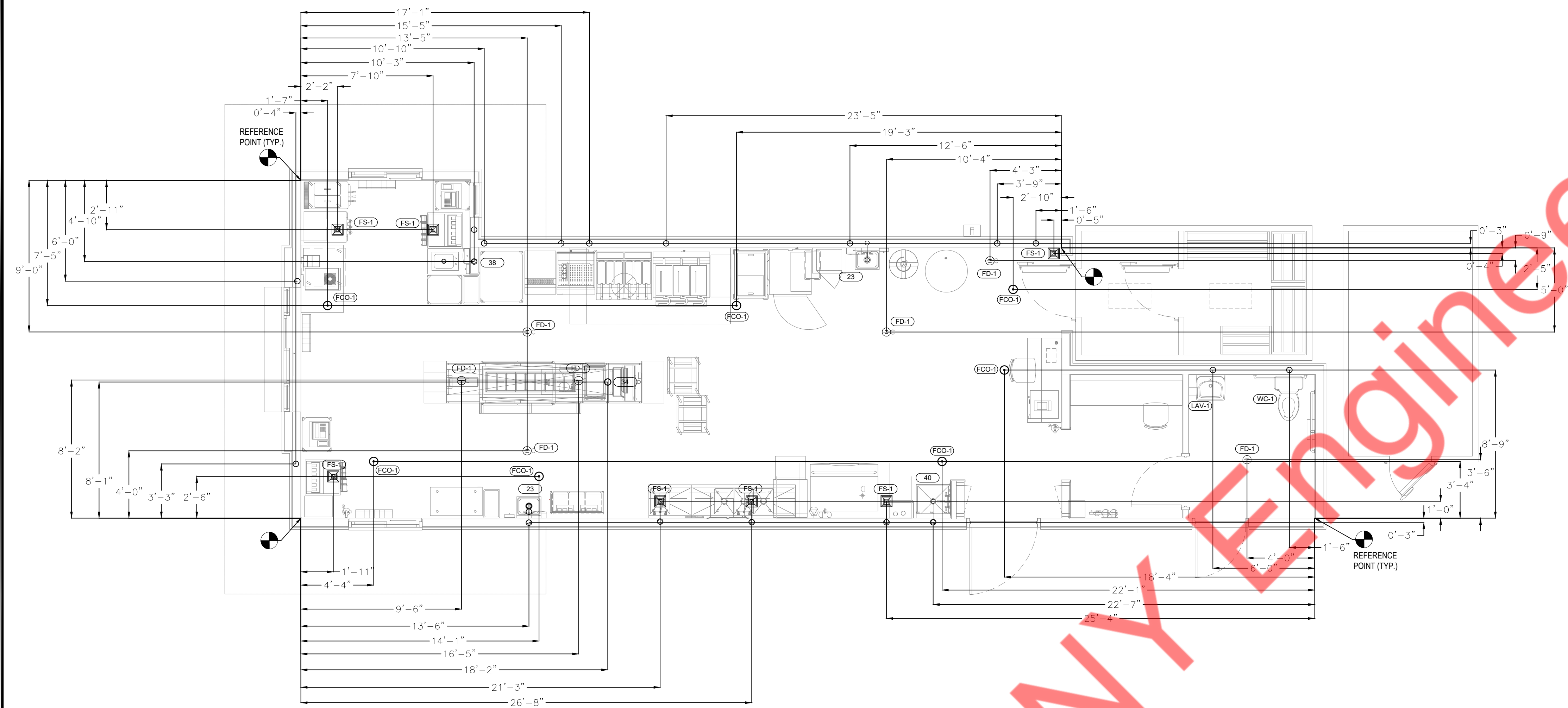
1. FOR ROUGH-IN AND KITCHEN EQUIPMENT CONNECTIONS SEE KITCHEN EQUIPMENT DRAWINGS.
2. COORDINATE FIXTURE ROUGH-IN LOCATIONS WITH ARCHITECTURAL PLAN.
3. ALL GAS PIPING JOINTS AND FITTINGS SHALL BE MADE UP W/LOC-TITE #567 COMPOUND. PIPING BEHIND COOKING EQUIPMENT SHALL NOT EXTEND MORE THAN 4" BEYOND WALL SURFACE.
4. PROVIDE ENGRAVED LABEL ADJACENT TO CW SOV ON WALL - "MAIN C.W. SHUT-OFF VALVE".
5. PROVIDE ENGRAVED LABEL AT PRESSURE REDUCING VALVE "PRESSURE REDUCING VALVE". PROVIDE AND INSTALL SOV'S AT ALL HOT AND COLD WATER STUB-OUTS OR PER LOCAL CODES.
6. FLUSH VALVES AND FAUCETS SHALL COMPLY WITH ADA AND LOCAL CODES FOR REQUIRED OPERATING FORCE
7. COORDINATE WITH ARCHITECTURAL CEILING PLAN AND PROVIDE ENGRAVED LABEL AT ANY GAS OR WATER VALVES ABOVE CEILING.

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PH-914.257.3455
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PLUMBING WATER
FLOOR PLAN & RISER



GENERAL NOTES

1. DIMENSIONS FOR EQUIPMENT ROUGH-IN PLACEMENT ARE SHOWN AS A COURTESY AND ARE TO BE CONSIDERED FOR REFERENCE ONLY. ACTUAL DIMENSIONS FOR EQUIPMENT ROUGH-IN PLACEMENT FOR ROUGH-IN SHALL BE VERIFIED AND COORDINATED WITH ARCHITECTURAL DRAWINGS, EQUIPMENT VENDORS AND ALL OTHER TRADES PRIOR TO ROUGH-IN. ENGINEER IS NOT RESPONSIBLE FOR KITCHEN EQUIPMENT PLACEMENT.

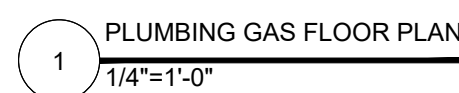
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PLUMBING FLOOR
PENETRATION PLAN

P-121

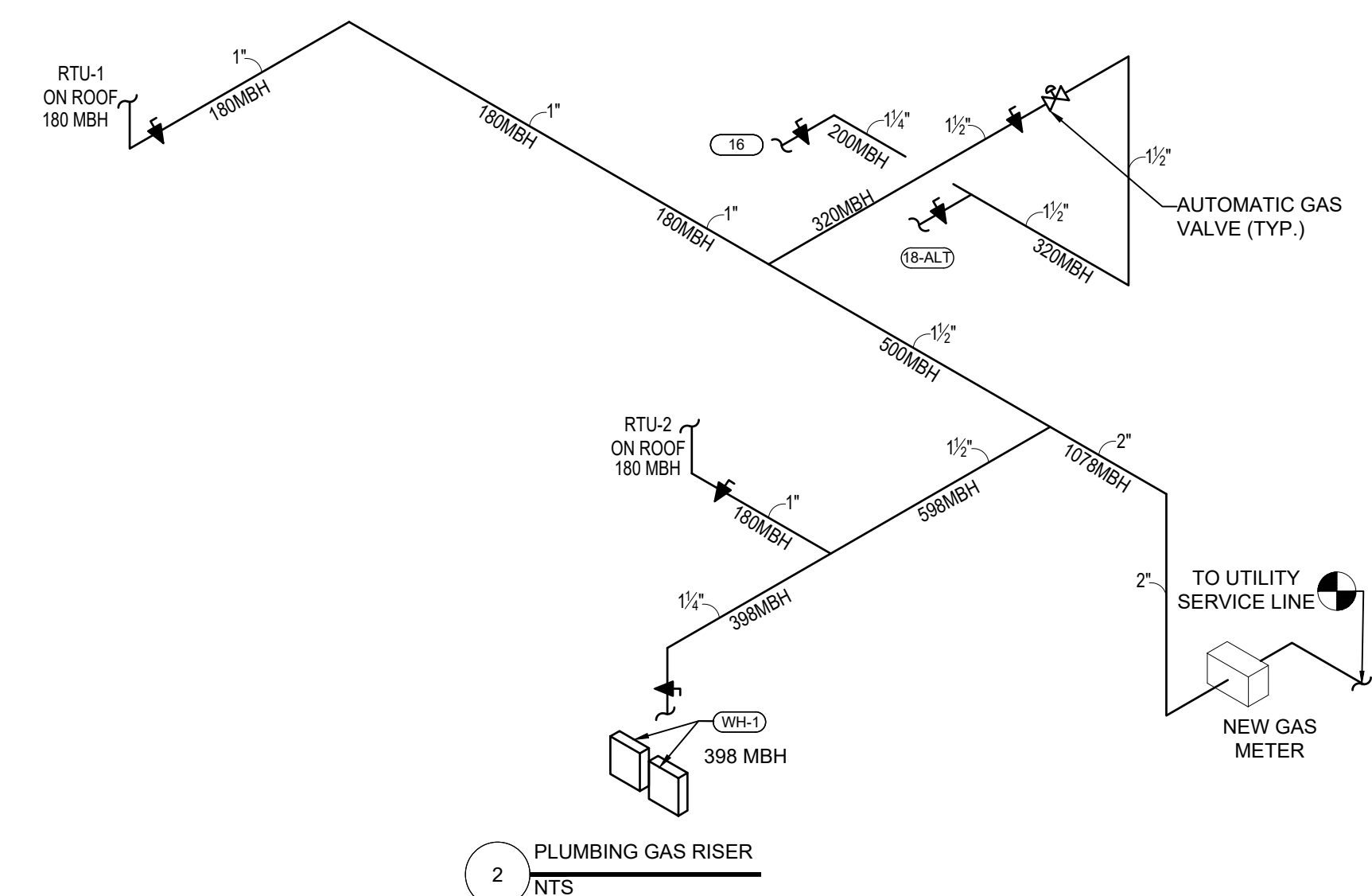


GAS SCHEDULE			
ITEM	QTY.	DESCRIPTION	MBH
41	2	WH-1, WATER HEATER	398
18-ALT	1	GAS GRIDDLE	120
16	1	GAS FRYER	200
-	1	RTU-1	180
-	1	RTU-2	180
TOTAL LOAD			1078

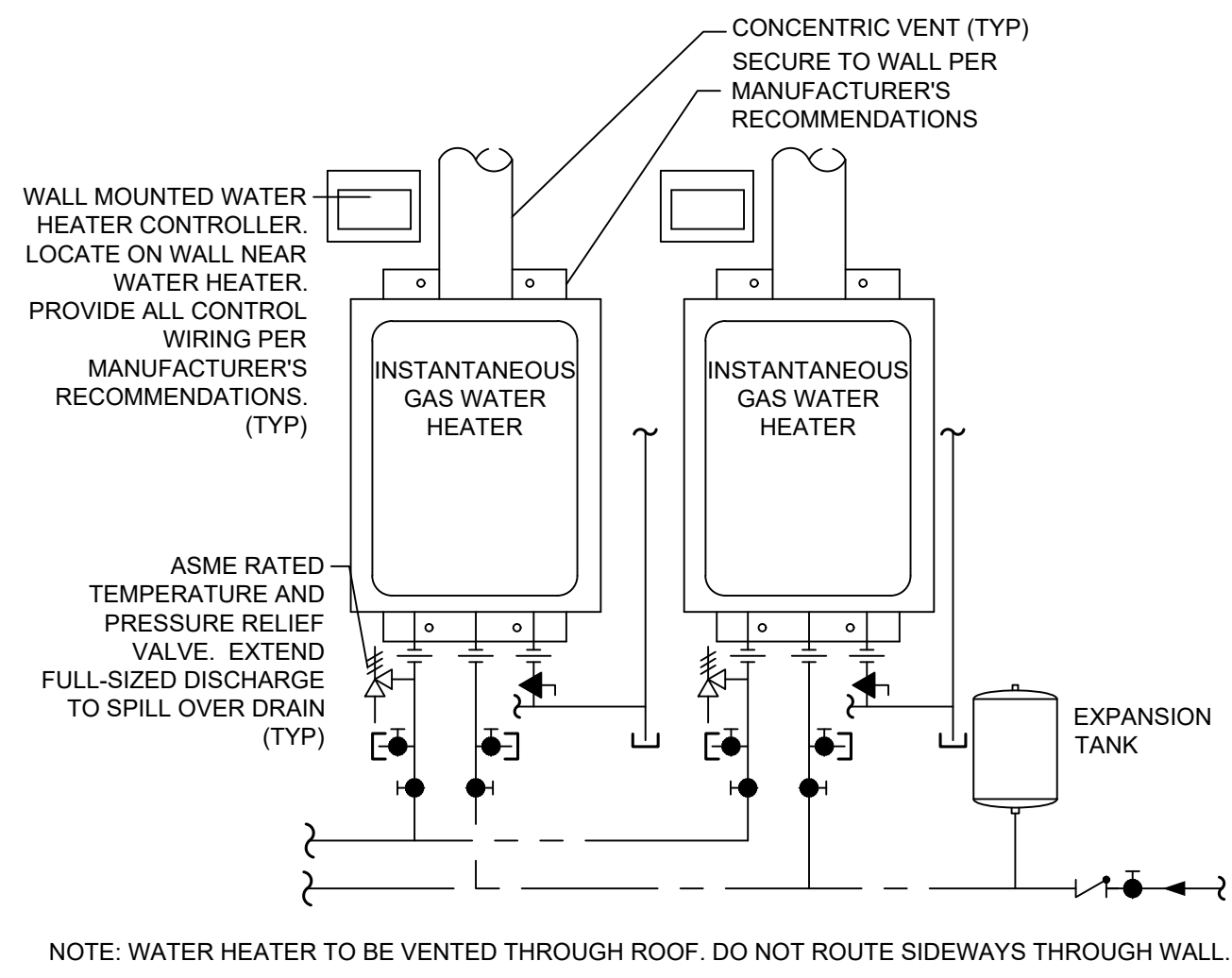
NOTES:

1. GAS PIPING TO BE SCHEDULE 40 STEEL PIPE W/125 CAST IRON SCREWD FITTINGS
2. GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR.
3. VERIFY ALL EQUIPMENT BTUS PRIOR TO INSTALLATION. ADJUST PIPE SIZE ACCORDING VIRGINIA FUEL GAS CODE, 2021, TABLE 402.4(2)

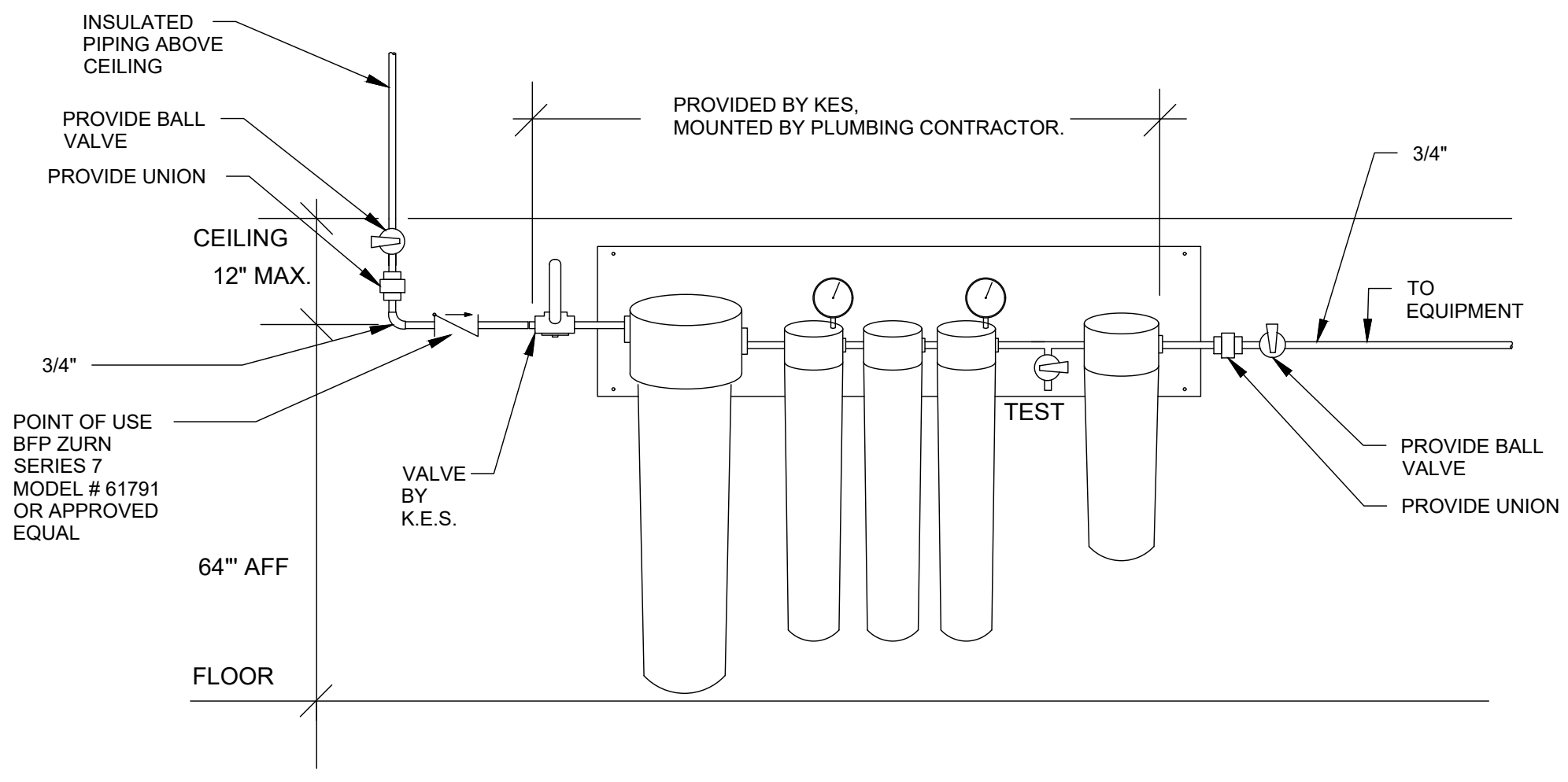
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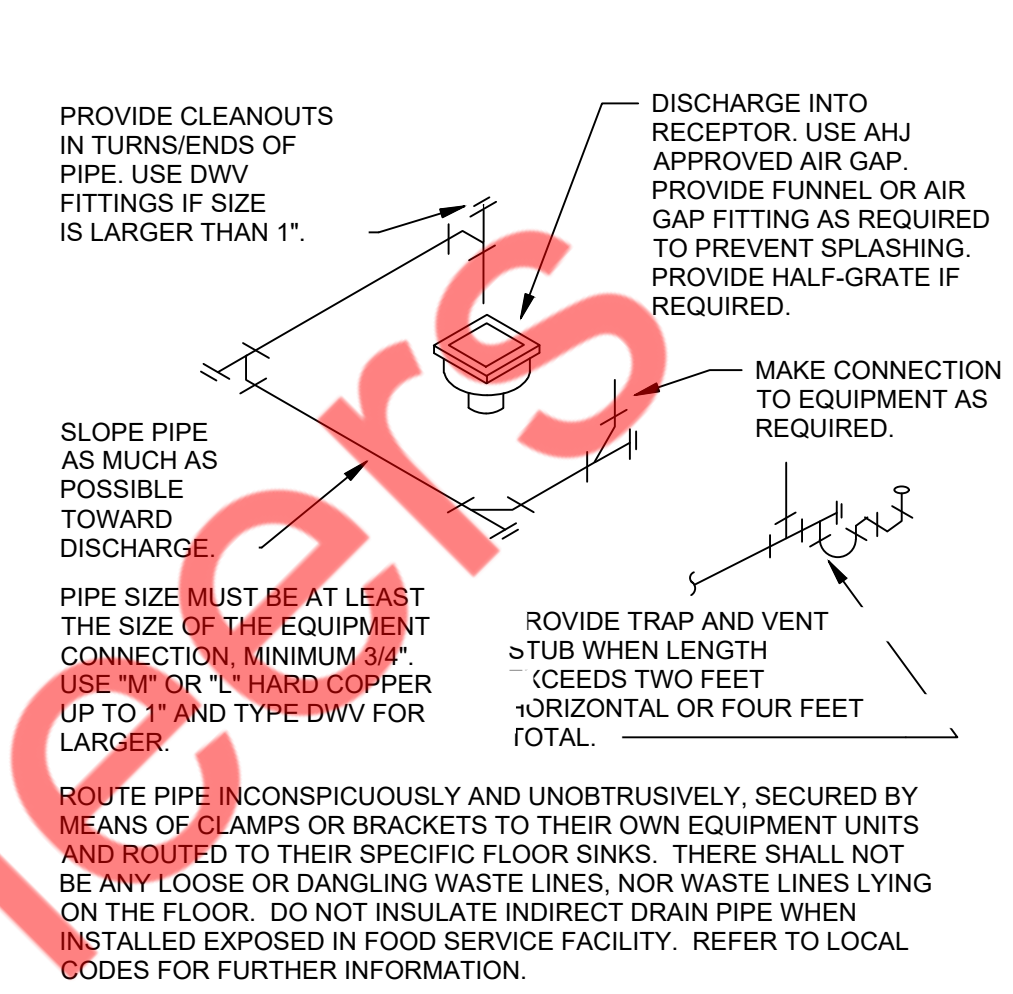
P-131



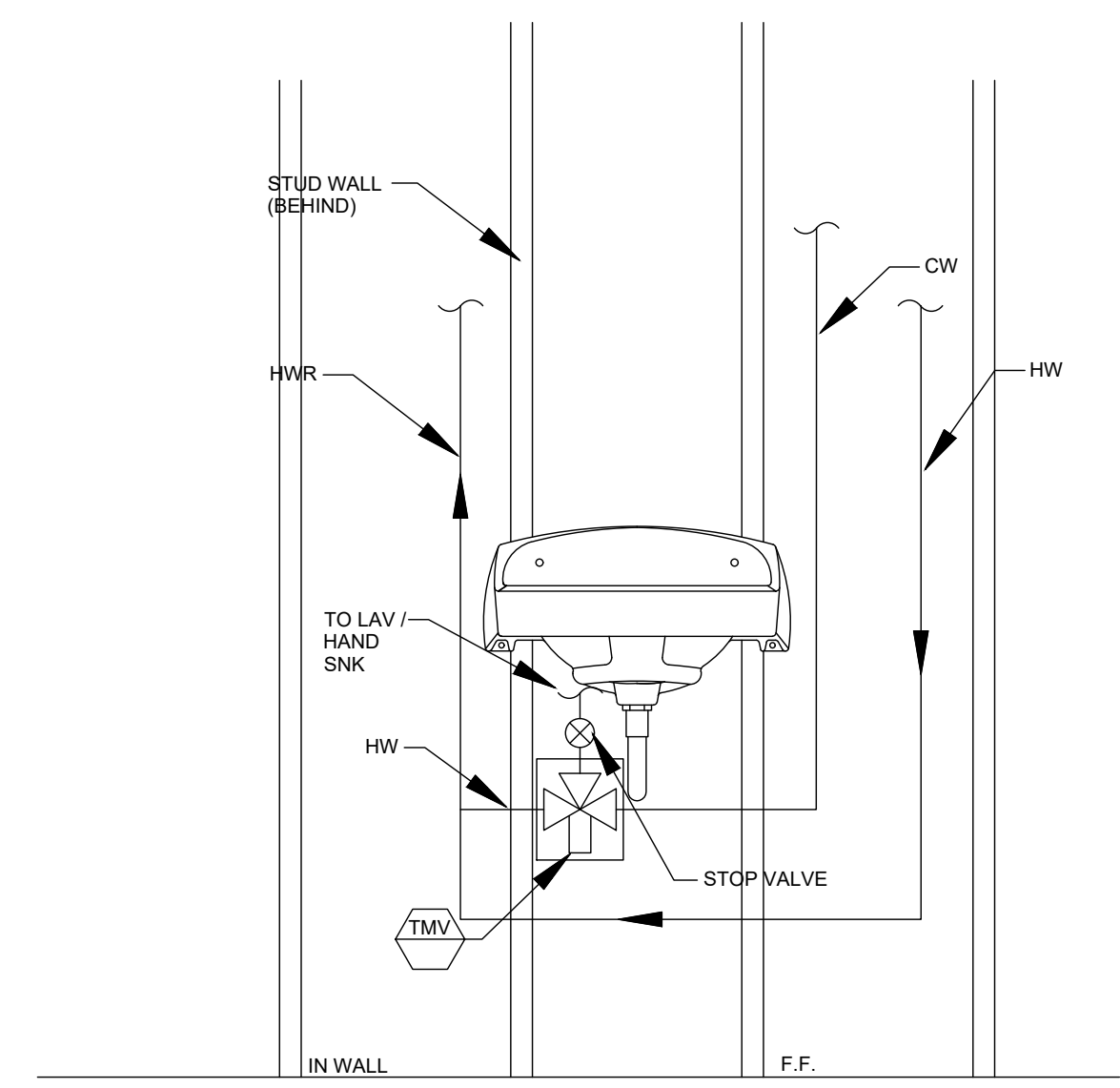
1 TANKLESS HOT WATER HEATER
NTS



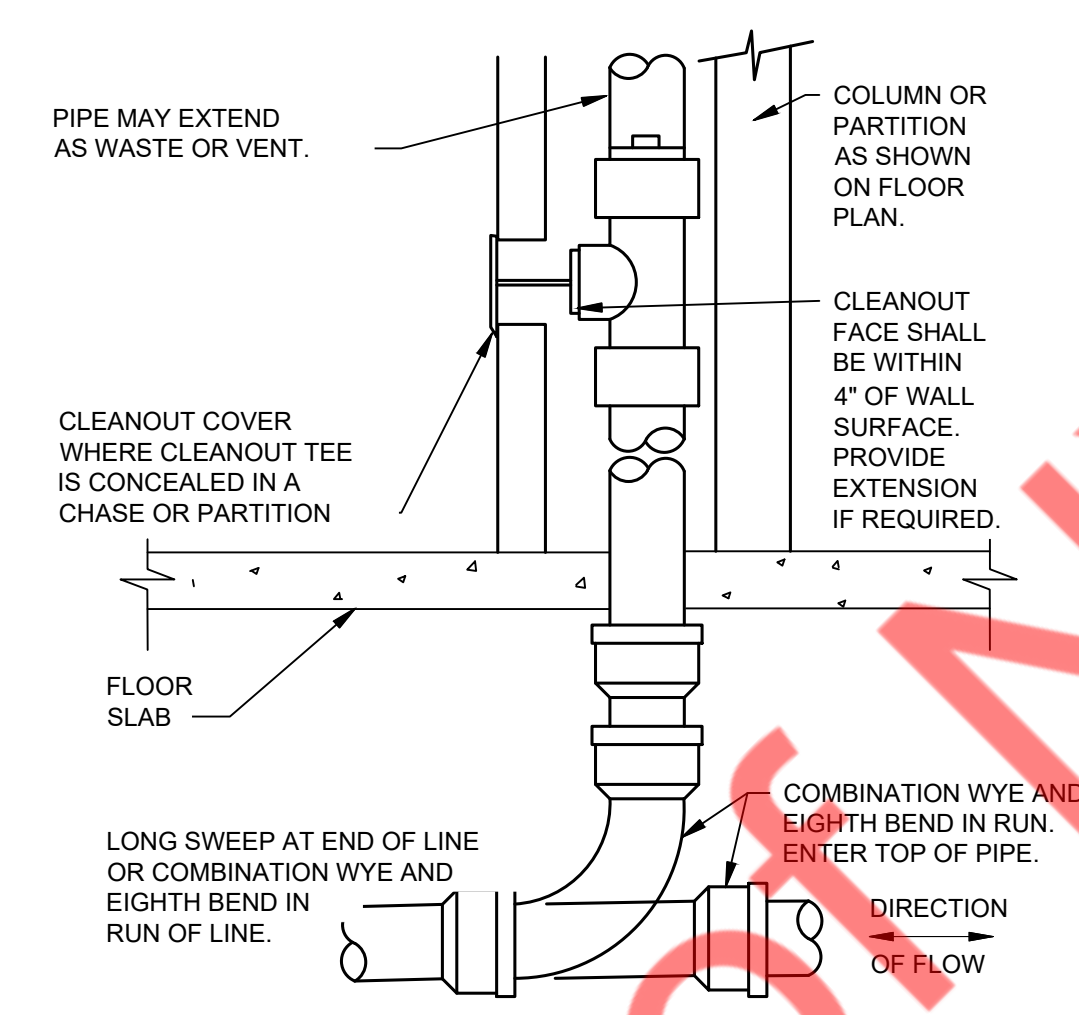
2 CENTRAL WATER FILTER SYSTEM
NTS



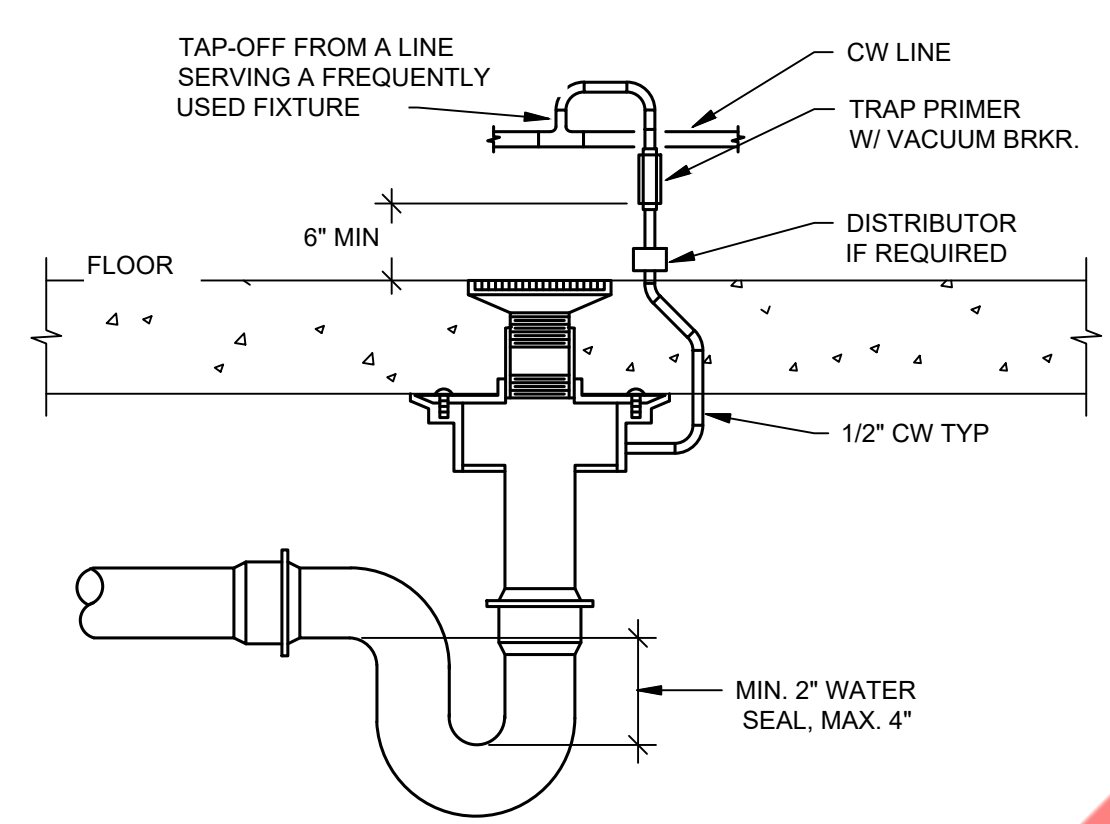
3 EQUIPMENT INDIRECT DRAIN
NTS



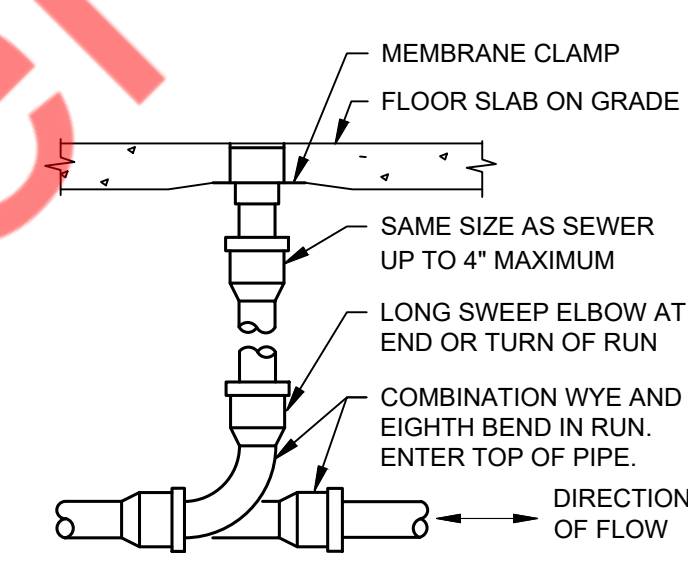
4 LAVATORY & HAND SINKS
NTS



5 WALL CLEANOUT
NTS



6 WATER SUPPLIED TRAP PRIMER
NTS



7 FLOOR CLEANOUT
NTS

Quote: 42821DBB

	<p>B1 6" minimum compacted base (clean aggregate 3/4" in size or smaller)</p> <p>BL Backfill (clean aggregate 3/4" in size or smaller) - DO NOT COMPACT BACKFILL MECHANICALLY</p> <p>CH H-20 load rated cast iron cover</p> <p>IN 4" diameter inlet pipe</p> <p>OT 4" diameter outlet pipe</p> <p>PA Minimum 8" thick concrete pad with rebar required for vehicular traffic. Concrete to be 28 day compressive strength to 4,000 PSI.</p> <p>PE Pad to extend 18" minimum beyond edge of tank on all sides.</p> <p>RE No. 4 rebar, grade 60 steel</p> <p>RO FCR2 field cut riser to grade</p> <p>RS FCR10 field cut riser to grade</p> <p>SC 12" clear all sides</p>
<p>DETAIL Rally & Checkers - 1</p> <p>Outdoors, Below Grade</p> <p>GB-250 GREASE INTERCEPTOR 100 GPM / 200 GPM, 4" PLAIN/FPT CONNECTIONS, H-20 RATED PICKABLE CAST IRON COVERS</p> <p>SV10 SEWER VIEWER SAMPLING PORT, 4" CONNECTIONS (FIELD MODIFIABLE TO 6"), POLYETHYLENE COVER</p> <p><small>Disclaimer: this Detail represents manufacturer directed guidance regarding the grease interceptor system. The contents of this document are not a substitute for local jurisdiction requirements and plumbing code standards. Please follow all local ordinances when installing.</small></p>	<p>SCHIER</p> <p>LIFETIME GUARANTEED GREASE INTERCEPTORS</p> <p>schierproducts.com</p>

GREASE TRAP INSTALLATION DETAILS
NTS

RALLYS RESTAURANT 2024
VERSION 2024.2

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

ORIGINAL ISSUE DATE: 10/21/2024
BUILDING TYPE: NEW BUILD
PROTOTYPE: 2024
VERSION: 2024.1
STORE NUMBER: XXXX
PROJECT NUMBER: 24112

PLUMBING DETAILS

KITCHEN PLUMBING SCHEDULE											
ITEM NO	QTY	CATEGORY	CW	HW	FW	IW	DW	GAS	GAS MBTU	PLUMBING REMARKS	
4	1	DRINK DISPENSER- HI-SIDE			1/2"	1"				CW SUPPLIED FROM #26 WATER FILTER	
4B	1	DRINK DISPENSER- LO-SIDE			1/2"	1"				CW SUPPLIED FROM #26 WATER FILTER	
8A	1	FBD372 MFLV-CHECKERS- FROZEN BEVERAGE MACHINE			3/8"	1"				CW SUPPLIED FROM #26 WATER FILTER	
16	1	FRYER BATTERY, GAS						1"	200.0	PROVIDE WITH DRIP PAN AND PUMP FOR OIL RECOVERY SYSTEM.	
18-ALT	1	GRIDDLE, GAS, COUNTERTOP						3/4"	120	WHEN ITEM 18-ALT IS SPECIFIED/ APPROVED	
23	2	S.S. WALL MOUNT HAND SINK W/ FAUCET AND SIDE SPLASH GUARDS	1/2"	1/2"			1-1/2"				
25	1	ICE MAKER, CUBE-STYLE			3/8"	1/2"				CW SUPPLIED FROM #26 WATER FILTER	
25C	1	ICE BIN FOR ICE MACHINES				3/4"					
26	1	WATER FILTRATION SYSTEM	3/4"							WATER FILTER HAS ONE CW INLET, #2 3/4" FW OUTLETS.	
27A	1	CARBONATOR			1/2"					CW SUPPLIED FROM #26 WATER FILTER	
34	1	CENTERLINE COUNTER	1/2"			1/2"					
38	1	HAND SINK TABLE									
	1	DROP-IN SINK WITH FAUCET	1/2"	1/2"			1-1/2"				
39	1	FOUR COMPARTMENT SINK W/ DRAINBOARDS				(3)1-1/2"				PLUMBER MANIFOLD DRAINS AND EXTEND TO CONNECTION	
	1	PRE-RINSE FAUCET ASSEMBLY	1/2"	1/2"							
	1	FAUCET WALL / SPLASH MOUNT	1/2"	1/2"							
39A	1	ONE (1) COMPARTMENT VEGETABLE PREP SINK				1-1/2"					
39I	1	DISHWASHER, UNDERCOUNTER	3/4"			5/8"					
40	1	FIBERGLASS MOP SINK	1/2"	1/2"			2"			CONFIRM DRAIN SIZE W/ CONTRACTOR SUPPLIED SINK	
41	2	TANKLESS WATER HEATER (WH-1)		3/4"		1"		1"	199.0	REFER EQUIPMENT SCHEDULE FOR MORE DETAILS	
42	1	WALK IN COMBINATION COOLER FREEZER, REMOTE				1"				PC EXTEND DRAIN TO FLOOR SINK LOCATION	
49	1	OIL RECOVERY STORAGE TANK								HAS 2" EXTRACTION POINT GOING OUT THROUGH WALL.	

PLUMBING FIXTURE SCHEDULE							
ITEM	QTY	CATEGORY	CW	HW	DW	V	PLUMBING REMARKS
LAV-1	1	LAVATORY (AMERICAN STANDARD 0356.421).	1/2"	1/2"	1-1/2"	1-1/2"	PROVIDE WITH P-TRAP & THERMOSTATIC MIXING VALVE
WC-1	1	ZURN Z5560		3/4"			-
FD-1	7	ZURN FD-2340-PV3			3"	2"	-
FS-1	7	ZURN FD-2370-PV3			3"	2"	-

EQUIPMENT SCHEDULE			
ITEM	QTY	MANUFACTURER / MODEL	DESCRIPTION
RCP-1	1	GRUNDFOS / 98126826	GRUNDFOS; MAGNA 3 SERIES, MODEL #98126826 INLINE CIRCULATOR PUMP. CANNED ROTOR TYPE PUMP, WITH STAINLESS STEEL HOUSING, INTEGRATED CONTROLLER AND PERMANENT MAGNET MOTOR. 115V/60HZ, 180 WATTS AND 12 GPM FLOW RATE @34" HEAD. PROVIDE WITH PROGRAMMABLE DIGITAL TIMER.
ET-1	1	AMTROL / ST-5	AMTROL "THERM-X-TROL" #ST-5 DIAPHRAGM TYPE EXPANSION TANK, FACTORY PRE-PRESSURIZED W/ AIR - 2.0 GAL. CAPACITY.
GI-1	1	SCHIER/GB-250	SIZE: 87" X 33" X 44", GPM CAPACITY=100 GPM, GREASE CAPACITY=1895 LBS. PROVIDE WITH SAMPLING PORT SV10.
WH-1&2	2	RINNAI / RU-199	TANKLESS GAS WATER HEATER, 199 MBH CAPACITY, PROVIDES 3.8 GPM @ 100°F. THERMAL EFFICIENCY 97%. GAS TYPE - NATURAL GAS OR PROPANE. PROVIDE DIRECT VENT FOR INTERIOR MOUNTING AS PER MANUFACTURER'S RECOMMENDATION. CONDENSATE TO NEUTRALIZED AND DRAINED AS PER LOCAL CODES. ELECTRICAL SUPPLY - 84W, STANDBY - 1.3W, FREEZE PROTECTION - 148W, MAX CURRENT - 4 AMPS, FUSE - 10 AMPS

CLEANOUT SCHEDULE			
MARK	QTY	MANUFACTURER / MODEL	DESCRIPTION
FCO1	6	ZURN / CO-B4-CR5	PVC BODY WITH SCORIATED BRONZE COVER
YCO	3	WADE / W-6000 / W-8300-MF WATTS / CO-300-MF / CO-380 JOSAM / 58850 JAY R. SMITH / 4250 MIFAB / C1230 / C1300-MF ZURN / Z1449 / Z1474	CAST IRON FERRULE AND PLUG, DURA-COATED CAST IRON, DOUBLE-FLANGED HOUSING, AND EXTRA HEAVY DUTY SCORIATED CAST IRON COVER WITH LIFTING DEVICE, VANDAL-PROOF SCREWS.

PIPE ACCESSORY SCHEDULE		
MARK	MANUFACTURER / MODEL	DESCRIPTION
BFP-1	WATTS / LF007QT OR LF709 BEECO / FDC-LF FEBCO / LF850 WILKINS / 350XL OR 950XLT2	LEAD FREE, INCLUDE TWO INDEPENDENT-ACTING CHECK VALVES, TWO SHUT-OFF VAVLES AND REQUIRED MEANS FOR TESTING FOR EACH ASSEMBLY. MINIMUM 175 PSI WORKING PRESSURE.
MBV-1	WATTS / LFB6001	SHUTOFF VALVE (LOCKABLE)
RPZ-1	WATTS / LF009-QT	TWO IN-LINE INDEPENDENT CHECK VALVES, CAPTURED SPRINGS AND REPLACEABLE CHECK SEATS WITH AN INTERMEDIATE RELIEF VALVE.
TMV	LAWLER / 570 LEONARD / 370-LF ZURN / ZW3870XLT	LEAD FREE HEAVY CAST BRONZE BODY VALVE, ROUGH BRONZE FINISH, BIMETAL THERMOSTAT OR THERMAL MOTOR, INTEGRAL CHECK VALVES, LIMIT STOP SET AT 105°F UNLESS NOTED OTHERWISE. MINIMUM FLOW RATE 0.5 GPM. CONFORM TO ASSE 1017/1070.
TP-1	PRECISION PLUMBING PRODUCTS / PRIME-RITE OR OREGON #1 SIOUX CHIEF / 695	LEAD FREE, PROVIDE ALL BRONZE PRIMER VALVE WITH REMOVABLE OPERATING PARTS, INTEGRAL VACUUM BREAKER, AND GASKETED ACCESS COVER.
Y-1	WATTS / LF777SI APOLLO / 59-004-06	CAST BRONZE Y-STRAINER WITH BALL VALVE

RALLYS RESTAURANT 2024
VERSION 2024.2

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674,
MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

ORIGINAL ISSUE DATE: 10/21/2024
BUILDING TYPE: NEW BUILD
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STORE NUMBER: XXXX
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SECTION 15410 - PLUMBING SYSTEMS PIPING

PART 1 - GENERAL

1.1 PRINCIPAL ITEMS OF WORK INCLUDED

- A. SOIL PIPING.
- B. DRAIN, WASTE AND VENT PIPING. (DWV)
- C. INDIRECT WASTE PIPING.
- D. HOT AND COLD DOMESTIC WATER SYSTEM.
- E. FUEL GAS SYSTEM.
- F. GAS WATER HEATER VENTS (AS APPLICABLE).
- G. ROOF AND OVERFLOW DRAINS, ROOF LEADERS AND RAIN WATER DRAINAGE PIPING.
- H. GREASE INTERCEPTOR (AS APPLICABLE).
- I. VALVES AND ACCESSORIES.
- J. UTILITY CONNECTION REQUIREMENTS.
- K. POTABLE WATER SYSTEM DISINFECTION.
- L. PLUMBING FIXTURES AND WATER HEATER PER DRAWINGS.
- M. BACKFLOW PREVENTER.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. TRENCHING AND BACKFILL: SECTION EARTHWORK.
- B. FIXTURES AND EQUIPMENT: SEE PLUMBING FIXTURE SCHEDULE ON DRAWINGS.
- C. PAINTING: SECTION PAINTING.

1.3 REQUIREMENTS

- A. CODES:
 - 2021 VIRGINIA MECHANICAL CODE
 - 2021 VIRGINIA PLUMBING CODE
 - 2021 VIRGINIA ENERGY CONSERVATION CODE
 - 2020 NATIONAL ELECTRICAL CODE (NEC)
 - 2021 VIRGINIA FUEL GAS CODE
 - 2021 VIRGINIA CONSTRUCTION CODE
 - AMERICANS WITH DISABILITIES ACT (ADA)
- B. STANDARDS:
 - 1. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI):
 - A-53 STEEL, BLACK AND HOT DIPPED, ZINC COATED WELDED AND SEAMLESS PIPE.
 - B16.18 CAST BRONZE SOLDER-JOINT PRESSURE FITTINGS.
 - B16.22 WROUGHT COPPER AND BRONZE SOLDER-JOINT PRESSURE FITTINGS.
 - B16.23 CAST COPPER ALLOY SOLDER - JOINT DRAINAGE FITTINGS - DWV.
 - B16.26 CAST COPPER ALLOY FITTINGS FOR FLARED COPPER TUBES.
 - B16.29 WROUGHT COPPER AND WROUGHT ALLOY SOLDER-JOINT DRAINING FITTINGS - DWV.
 - B306.86 COPPER DRAINAGE TUBE (DWV).
 - 2. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
 - A-53 STEEL, BLACK AND HOT DIPPED, ZINC COATED WELDED AND SEAMLESS PIPE.
 - A74 CAST IRON SOIL PIPE AND FITTINGS
 - B32 SOLDER METAL
 - B88 SEAMLESS COPPER WATER TUBE
 - B306 COPPER DRAINAGE TUBE (DWV)
 - D1785 POLYVINYL CHLORIDE (PVC) PLASTIC PIPE, SCHEDULES 40 AND 80
 - D2146 PROPYLENE PLASTIC MOLDING AND EXTRUDING MATERIALS
 - D2466 SOCKET-TYPE PVC PLASTIC PIPE FITTINGS
 - D2564 SOLVENT CEMENTS FOR PVC PLASTIC PIPE AND FITTINGS
 - D2661 ABS SCHEDULE 40 PLASTIC DRAIN, WASTE AND VENT PIPE.
 - D2665 PVC PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS.
 - D2751 ABS SEWER PIPE AND FITTINGS.

C. SUBMITTALS

- THREE (3) COPIES OF CATALOG DATA SHEETS SHALL BE SUBMITTED TO THE CONSTRUCTION MANAGER FOR REVIEW. SUBMITTALS SHALL BE MADE AND FAVORABLE REVIEW SECURED BEFORE MATERIALS AND EQUIPMENT ARE INSTALLED.
- SUBMIT CATALOG DATA SHEETS FOR:
 - 1. VALVES AND ACCESSORIES.
 - 2. HANGERS AND SUPPORTS.
 - 3. CLEAN OUTS
 - 4. DIELECTRIC CONNECTIONS.
 - 5. WATER HAMMER ARRESTERS.
 - 6. FLOOR SINKS AND FLOOR DRAINS.
 - 7. WATER HEATER AND ACCESSORIES.
 - 8. PLUMBING FIXTURES.
 - 9. BACK FLOW PREVENTER.
 - 10. GREASE INTERCEPTOR AND SAMPLE BOX.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. CAST IRON DWV PIPING SYSTEM: ASTM A74
- B. COPPER DWV PIPING SYSTEM: TYPE DWV COPPER PER ASTM B306
- C. COPPER PRESSURE PIPING SYSTEM:
 - 1. PIPING: TYPE "L" COPPER PER ASTM B88.
 - 2. FITTINGS: SOLDER-JOINT CAST BRONZE PER ANSI B16.18 OR WROUGHT COPPER PER ANSI B16.22.
 - 3. FLANGES: CLASS 150 POUND BRONZE: NIBCO, CHASE, OR APPROVED ALTERNATIVE.
 - 4. UNIONS: SOLDER-END BRONZE: NIBCO, CHASE, OR APPROVED ALTERNATIVE.

2.1 MATERIALS (CONT.)

- 5. WATER VALVES:
 - A. BALL, 2-INCH AND SMALLER: 125 PSI WSP BRASS, SWEAT JOINTS: WATTS #WBVS OR APPROVED ALTERNATIVE.
 - B. CHECK VALVES: 150 PSI WSP, BRONZE BODY, SWEAT OR THREADED JOINTS: WATTS #CV OR CVS OR APPROVED ALTERNATIVE.
- 6. AIR VALVES: BRONZE, SCREWED END, 150 SWP, CRANE #431-UB, STOCKHAM #120, OR APPROVED ALTERNATIVE.
- 7. QUICK CONNECT COUPLING: 1/2-INCH SIZE BRASS CONSTRUCTION, PARKER HANNFIN, AMFLO, OR APPROVED ALTERNATIVE.
- D. PVC PIPING SYSTEMS:
 - 1. PIPING: SCHEDULE 40 PVC PER ASTM D1785 OR SCHEDULE 80 PVC PER ASTM 1785.
 - 2. FITTINGS AND FLANGES: PVC SCHEDULE 80 SOCKET WELD PER ASTM D2467.
 - 3. WATER VALVES: SAME AS FOR COPPER PIPING.
- E. JOINTS IN PIPING:
 - 1. COPPER: SOLDER-JOINT.
 - 2. PLASTIC: SOCKET WELD AND FUSION WELD.
 - 3. CAST IRON: COMPRESSION, OR NO-HUB JOINT.
- F. GAS WATER HEATER VENT (AS APPLICABLE):
 - 1. GAS WATER HEATER GRAVITY VENT SHALL BE TYPE "B" VENT PER UMC CHAPTER 9.
 - 2. POWER VENTED WATER HEATED VENT SHALL BE PER MANUFACTURER AND BE NATIONALLY LISTED (UL, IAPMO, ETC.)
- G. PEX PIPING SYSTEMS
 - 1. PEX PIPING: ASTM F 877, SDR 9 TUBING.
 - 2. FITTINGS: ASTM F 1807, METAL-INSERT TYPE WITH COPPER OR STAINLESS-STEEL CRIMPS RINGS.
 - 3. MANIFOLD: MULTIPLE-OUTLET, PLASTIC OR CORROSION-RESISTANT -METAL ASSEMBLY COMPLYING WITH ASTM F 877.

2.2 FIXTURES

SEE PLUMBING FIXTURE SCHEDULE ON PLANS.

2.3 EQUIPMENT

A. HANGERS AND SUPPORTS:

- 1. SPLIT-RING TYPE, GALVANIZED: GRINNELL, SUPERSTRUT, OR APPROVED ALTERNATIVE.
- 2. TRAPEZE TYPE, GALVANIZED: UNISTRUT, KINDORF, OR APPROVED ALTERNATIVE.
- 3. BOLTED STEEL CLAMPS, GALVANIZED: GRINNELL, SUPERSTRUT, OR APPROVED ALTERNATIVE.
- 4. VERTICAL STRUT TYPE: UNISTRUT, KINDORF, OR APPROVED ALTERNATIVE.
- B. PIPING ISOLATORS: METAL-CLAD FELT TYPE SPECIFICALLY MADE FOR ISOLATING PIPE FROM HANGER: SEMCO TRISOLATORS, SUPERSTRUT TYPE C715 ISOLATOR, OR APPROVED ALTERNATIVE.
- C. WATER HAMMER ARRESTORS: J.R. SMITH HYDROTROL, ZURN SHOCKTROL, OR APPROVED ALTERNATIVE.
- D. BACK FLOW PREVENTER: REDUCED PRESSURE TYPE, BRONZE CONSTRUCTION, THREE-YEAR APPROVAL BY THE FOUNDATION FOR CROSS-CONNECTION CONTROL RESEARCH, UNIVERSITY OF SOUTHERN CALIFORNIA: FEBCO MODEL 835, BECO, OR APPROVED ALTERNATIVE.
- E. DIELECTRIC CONNECTIONS, INSULATING UNIONS: CAPITOL, CLAYTON-MARK (PETRO), OR APPROVED ALTERNATIVE. FOR COLD WATER ONLY, SCHEDULE 80 PENTON , OR CPVC NIPPLES, 4-INCH LONG, MAY BE USED.

2.4 MISCELLANEOUS MATERIALS

- A. FLASHING FOR PIPING PROTRUDING THROUGH EXTERIOR WALLS OR ROOF: 16-OUNCE PER SQUARE FOOT COPPER, OR 4-POUND PER SQUARE FOOT LEAD.
- B. SOLDER: 95/5 (TIN ANTIMONY) PER ASTM B32.
- C. CAULKING LEAD: 99.7 PERCENT PURE LEAD.
- D. PIPE SLEEVES: STEEL, CAST IRON, OR PLASTIC.
- E. ESCUTCHEONS: CAST IRON, MALLEABLE IRON, PAINTED OR CHROME PLATED.

2.5 SUBSTITUTIONS

- A. SUBSTITUTIONS MAY BE CONSIDERED IN LIEU OF SPECIFIED FIXTURES AS FOLLOWS:
 - FLOOR INSTALLED FIXTURES AND CLEAN OUTS - J.R. SMITH, JOSAM
 - WATER CLOSETS, LAVATORIES, URINALS - KOHLER, AMERICAN STD., CRANE
 - ROOF DRAINS - TECH SPECIALTIES
 - WATER HEATER - STATE, A.O. SMITH
- THESE AND OTHER EQUIVALENT ALTERNATIVES SHALL BE PRESENTED TO THE CONSTRUCTION MANAGER FOR CONSIDERATION PER THE 'SUBMITTALS' SECTION.

PART 3 - EXECUTION

3.1 INSTALLATION - GENERAL

- A. PIPING SHALL INCLUDE ALL PIPING FITTINGS AND VALVES: CONNECT TO EXISTING PIPING UTILITIES AS INDICATED ON DRAWINGS.
- B. CONCEAL ALL INTERIOR PIPING IN WALLS OR ABOVE CEILINGS, EXCEPT WHERE SHOWN TO BE EXPOSED.
- C. PROVIDE FOR EXPANSION AND CONTRACTION OF ALL PIPES.
- D. PROVIDE REDUCING FITTINGS FOR ALL CHANGES IN PIPE SIZES - DO NOT USE BUSHINGS.
- E. PROVIDE DIELECTRIC ISOLATION BETWEEN DISSIMILAR METALS AND WHERE REQUIRED AT EQUIPMENT CONNECTIONS.
- F. PROVIDE FITTINGS FOR ALL CHANGES IN PIPE DIRECTION.
- G. CONTAMINATION PRECAUTIONS: DO NOT CROSS-CONNECT OR INTERCONNECT BETWEEN POTABLE WATER PIPING AND DRAIN, SOIL, OR WASTE PIPING.

3.2 INSTALLATION - SYSTEMS

- A. WATER PIPING:
 - 1. COPPER TYPE "L".
 - 2. PROVIDE SHUTOFF VALVES AS INDICATED OR REQUIRED.
 - 3. PROVIDE DRAIN VALVES WHERE REQUIRED FOR COMPLETE SYSTEM DRAINAGE.
 - 4. PROVIDE WATER HAMMER ARRESTERS SIZED AND LOCATED PER TABLE V, WH-201, OR AS SHOWN.
 - 5. PROVIDE BACK FLOW PREVENTER WHERE SHOWN.
 - 6. PROVIDE 1" INSULATION FOR HOT WATER PIPES <= 1-1/2" AND 2" INSULATION FOR HOT WATER PIPES > 1-1/2".
- B. SANITARY PIPING:
 - 1. SOIL, WASTE AND VENT PIPING UNDERGROUND: SCHEDULE 40 PVC, ABS OR CAST IRON - REFER TO DRAWINGS
 - 2. SOIL, WASTE AND VENT PIPING ABOVEGROUND: CAST IRON OR COPPER DWV PIPING.
 - 3. GRADING: SLOPE HORIZONTAL SOIL AND WASTE PIPING 1/4-INCH PER FOOT WHERE POSSIBLE, BUT IN NO CASE LESS THAN 1/8-INCH PER FOOT.
 - 4. CLEANOUTS: PROVIDE A CLEANOUT FOR EVERY 80 FT OF HORIZONTAL SOIL & WASTE PIPE AND FOR EACH AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135°.

3.3 INSTALLATION - TESTING

- ALL HOT AND COLD WATER SUPPLY, DRAINAGE, VENT AND GAS PIPING SHALL BE TESTED AS INDICATED BELOW OR AS REQUIRED BY THE LOCAL JURISDICTION, WHICHEVER IS MORE STRINGENT. NO PIPING SYSTEM SHALL BE COVERED UP OR BURIED UNTIL SUCCESSFULLY TESTED AND APPROVED BY THE OWNER AND THE LOCAL PLUMBING INSPECTOR.
- A. WATER PIPING:
 - UPON COMPLETION OF A SECTION, OR OF THE ENTIRE HOT AND COLD WATER SUPPLY SYSTEM, IT SHALL BE TESTED AND PROVED WATER-TIGHT UNDER A WATER PRESSURE NOT LESS THAN THE WORKING PRESSURE UNDER WHICH IT IS TO BE USED, OR EIGHTY (80) PSIG, WHICHEVER IS HIGHER (VERIFY WITH THE LOCAL WATER COMPANY). THE WATER USED FOR TESTING SHALL BE OBTAINED FROM A POTABLE SOURCE OF SUPPLY. THE PIPING UNDER TEST SHALL WITHSTAND THE TEST WITHOUT LEAKING FOR A PERIOD OF NOT LESS THAN FIFTEEN (15) MINUTES.
 - ANY SECTION OF PIPING FAILING THE TEST SHALL BE REPAIRED AND RETESTED, AS INDICATED ABOVE UNTIL SUCCESSFUL, HOLDING THE AP-PLIED PRESSURE FOR AT LEAST THE SPECIFIED TIME PERIOD.
- B. DRAINAGE PIPING:
 - UPON COMPLETION OF A SECTION, OR OF THE ENTIRE DRAINAGE AND VENTING SYSTEMS, THEY SHALL BE TESTED AND PROVED WATERTIGHT UNDER A WATER PRESSURE NOT LESS THAN A TEN (10) FOOT HEAD. IF THE SYSTEM IS TESTED IN SECTIONS, EACH OPENING SHALL BE TIGHTLY PLUGGED EXCEPT AT THE HIGHEST OPENING OF THE SECTION UNDER TEST, AND EACH SECTION SHALL BE FILLED WITH WATER TO A TEN (10) FOOT HEAD. IN TESTING SUCCESSIVE SECTIONS AT LEAST THE UPPER TEN (10) FEET OF THE NEXT PROCEEDING SECTION SHALL BE TESTED, SO THAT NO JOINT OR PIPE IN THE BUILDING SHALL HAVE BEEN TESTED TO LESS THAN TEN (10) FOOT HEAD OF WATER. THE WATER SHALL BE KEPT IN THE SYSTEM, OR IN THE SECTION UNDER TEST, FOR AT LEAST THIRTY (30) MINUTES AND MAINTAIN THE APPLIED PRESSURE WITHOUT LEAKING.
 - ANY SECTION OF THE DRAINAGE OR VENT PIPING FAILING THE TEST SHALL BE REPAIRED AND RETESTED AS INDICATED ABOVE UNTIL SUC-CESSFULLY HOLDING THE APPLIED PRESSURE FOR AT LEAST THE SPECI-FIED TIME PERIOD.
- C. GAS PIPING:
 - UPON COMPLETION OF THE ENTIRE GAS PIPING SYSTEM, IT SHALL BE TESTED TO A PRESSURE OF AT LEAST TEN (10) POUNDS PER SQUARE INCH GAUGE WITH AIR. THE TEST PRESSURE SHALL BE MAINTAINED FOR AT LEAST FIFTEEN (15) MINUTES, WITH NO PERCEPTIBLE DROP IN PRESSURE.
 - IF THE SYSTEM FAILS THE TEST, THE PIPING AND JOINTS SHALL BE CHECKED AND REPAIRED WHERE REQUIRED, AND THE SYSTEM RE-TESTED AS INDICATED ABOVE UNTIL SUCCESSFULLY HOLDING THE APPLIED PRESSURE FOR AT LEAST THE SPECIFIED TIME PERIOD.

3.4 GUARANTEE

- A. ALL WORK SHALL BE GUARANTEED FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. THE GUARANTEE PERIOD FOR CERTAIN ITEMS SHALL BE LONGER, AS INDICATED IN THE SPECIFICATIONS FOR THOSE ITEMS.
- B. SHOULD ANY MALFUNCTION DEVELOP DURING THE GUARANTEE TIME PERIOD DUE TO DEFECTIVE MATERIAL, FAULTY WORKMANSHIP, OR NONCOMPLIANCE WITH PLANS, SPECIFICATIONS, CODES OR DIRECTIONS OF THE OWNER, ARCHITECT, ENGINEER OR INSPECTOR, THE CONTRACTOR SHALL FURNISH ALL NECES-SARY LABOR AND MATERIALS TO CORRECT THE MALFUNCTION WITHOUT AD-DITIONAL CHARGES.

3.5 CLEANING

- A. THE PLUMBING CONTRACTOR SHALL REMOVE ALL WASTE GENERATED BY THE PLUMBING WORKS ON A DAILY BASIS, AND KEEP THE JOB SITE CLEAR AND SAFE FROM ANY DEBRIS AND/OR ITEMS THAT FALL UNDER HIS RESPONSIBILITY. UPON COMPLETION OF THE PROJECT, THE PLUMBING WORKS SHALL BE CLEANED INCLUDING PLUMBING FIXTURES, WASTE LINES, WATER HEATERS AND ANY OTHER PLUMBING DEVICES. THIS SHALL BE PERFORMED TO THE SATISFACTION OF THE OWNER OR THE OWNER'S REPRESENTATIVE AND SHALL OCCUR BEFORE FINAL ACCEPTANCE OF THE PROJECT. ALL DEBRIS AND WASTE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A SAFE MANNER AS REQUIRED BY LOCAL AND STATE AUTHORITIES.

3.6 MATERIALS SPECIFICATION

- A. SANITARY SOIL, WASTE AND VENT SYSTEMS : SOIL, WASTE & VENT PIPING SHALL BE SCHEDULE 40 PVC OR ABS. BEFORE COMMENCEMENT OF WORK, CONTRACTOR SHALL VERIFY THAT PIPE TO BE INSTALLED COMPLIES WITH LOCAL CODES & WILL BE ACCEPTABLE TO LOCAL BLDG. INSPECTORS. CONTRACTOR SHALL BEAR ALL COSTS FOR REMOVAL AND REPLACEMENT OF ANY UNACCEPTABLE PIPE. WHERE PVC & ABS ARE UNACCEPTABLE, SOIL & WASTE PIPING BELOW SLAB & INCL. YARD PIPING SHALL BE STD. WT. CAST IRON SOIL PIPE & FITTINGS (NO HUB). THE COUPLINGS SHALL BE STAINLESS STEEL SHIELDS & CLAMPS W/ NEOPRENE GASKETS. VENT PIPING ABOVE FLOOR SHALL BE SCH. 40 GALV. STEEL W/ C.I. DRAINAGE PATTERN SCREW FITTINGS. INSTALL SCH. 40 PVC FOR ACIDIC WASTE AS INDICATED ON DRAWINGS. IF NOT ACCEPTABLE TO LOCAL AUTHORITIES INSTALL FUSEAL OR DURIRON.
 - B. WATER PIPING ABOVE SLAB
 - 1. TYPE "L", HARD DRAWN COPPER TUBING WITH 95-5 TIN/ANTIMONY SOLDER OR APPROVED "LEAD-LESS" JOINT FITTINGS.
 - 2. PEX PIPING SYSTEM.
 - C. WATER PIPING BELOW GRADE OUTSIDE BUILDING : SCHEDULE 40 PVC, IF PVC IS UNACCERTABLE TO LOCAL AUTHORITIES OR IF SOIL IS CONTAMINATED USE TYPE "K" HARD DRAWN COPPER TUBING WITH 95-5 TIN/ANTIMONY SOLDER OR APPROVED "LEAD-LESS" JOINT FITTINGS. WHERE STREET PRESSURE EXCEEDS 80 PSI, PROVIDE PRESSURE REDUCING VALVE ASSEMBLY COMPLETE WITH RELIEF VALVE. NO JOINTS WILL BE ALLOWED UNDER BUILDING SLAB.
 - D. GAS PIPING : SCH-40 BLACK STEEL PIPE WITH MALLEABLE IRON FITTINGS. APPLY LOCAL CODES COMPOUND ON PIPE THREADS - USE PER MANUFACTURER'S INSTRUCTIONS.
 - E. INDIRECT & CONDENSATE DRAINS : COPPER, TYPE "M" WITH 95-5 TIN/ANTIMONY SOLDER JOINT FITTINGS.
 - F. PIPE INSULATION :
 - 1. ALL PIPING SHALL BE INSULATED WITH A PREFORMED FIBER GLASS PIPE INSULATION, COMPLYING WITH ASTM C 547, CLASS 3 (TO 850°F [454°C]), RIGID, MOLDED PIPE INSULATION, NONCOMBUSTIBLE.
 - a. ALL COLD WATER LINES WITHIN THE BUILDING (IN AREAS WITH HIGH OUTDOOR HUMIDITY AND/OR TEMPERATURE OR LOW OUTDOOR TEMPERATURE ONLY) SHALL BE INSULATED WITH JOHNS MANVILLE MICRO-LOK PIPE INSULATION OR EQUAL.
 - b. ALL HOT WATER LINES WITHIN THE BUILDING SHALL BE INSULATED WITH JOHNS MANVILLE MICRO-LOK HP HIGH PERFORMANCE FIBER GLASS PIPE INSULATION OR EQUAL. ®
 - c. HOT AND COLD WATER INSULATION SHALL BE 1" THICK OR PER APPLICABLE CODES.
 - d. EXPOSED HOT AND COLD WATER PIPES, SUPPLIES AND TRAPS BELOW RESTROOM LAVATORIES SHALL BE INSULATED WITH TRUEBRO LAV GUARD INSULATION KIT, SEE SHEET P1.0.
 - e. ALL CONDENSATE DRAINS INCLUDING WASTE LINES FROM EVAPORATIVE COOLERS SHALL BE INSULATED WITH JOHNS MANVILLE MICRO-LOK GLASS PIPE INSULATION OR EQUAL.
 - 2. ALL FITTINGS, VALVES, TEES, FLANGES, CONNECTIONS, ETC. SHALL BE INSULATED AND COVERED WITH THE APPROPRIATE ZESTON 2000 PVC INSULATED FITTING COVER.
- G. WATER HAMMER ARRESTERS: ALL STAINLESS STEEL CONSTRUCTION, BELLOWS-TYPE, PDI APPROVED & CERTIFIED SIZING & PLACEMENT CONFORMING TO PLUMBING & DRAINAGE INSTITUTE STANDARD 201 LATEST EDITION & AS MANUFACTURED BY J.R. SMITH, ZURN OR PFF, INC.
- H. GREASE INTERCEPTOR : SEE SPECIFIED GREASE INTERCEPTOR ON PLUMBING SCHEDULE.