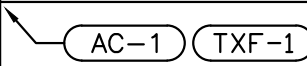

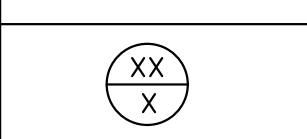
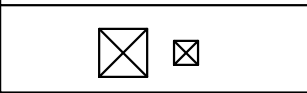


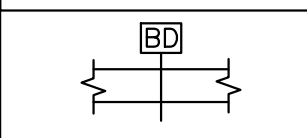
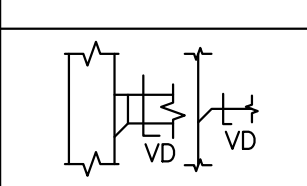
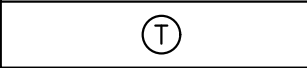
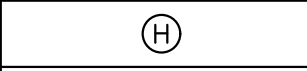
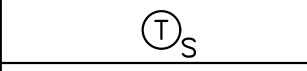
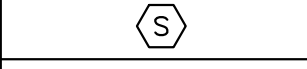
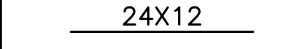
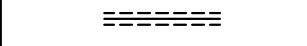
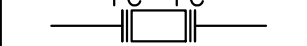
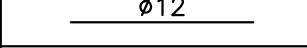

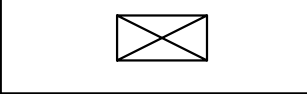
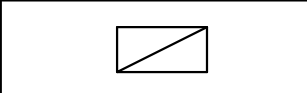


MECHANICAL SYMBOLS LIST

 	EQUIPMENT SYMBOL
	RISER SYMBOL
AIR DEVICES	
	CEILING DIFFUSER SUPPLY
	CEILING DIFFUSER RETURN
	CEILING ROUND DIFFUSER SUPPLY
DUCT ACCESSORIES	
	BACKDRAFT DAMPER
	VOLUME DAMPER W/ ACCESS DOOR
CONTROLS AND SENSORS	
	THERMOSTAT
	HUMIDISTAT
	TEMPERATURE SENSOR
	SMOKE DETECTOR
DUCTWORK	
	RECTANGULAR DUCT (WIDTH X DEPTH)
	AIR DUCT W/ 1.5" ACOUSTICAL LINING
	FLEXIBLE CONNECTION
	ROUND DUCT (DIAMETER)
	ROUND DUCT CROSS SECTION
	SUPPLY AIR RECTANGULAR DUCT GOING UP/DOWN
	RETURN AIR RECTANGULAR DUCT GOING UP/DOWN

MECHANICAL DRAWING LIST	
M-001.00	TITLE SHEET, SYMBOLS, ABBREVIATION & NOTES (1 OF 4)
M-002.00	MECHANICAL SPECIFICATIONS (2 OF 4)
M-003.00	MECHANICAL SPECIFICATIONS (3 OF 4)
M-004.00	MECHANICAL SPECIFICATIONS (4 OF 4)
M-100.00	MECHANICAL FLOOR PLAN
M-101.00	MECHANICAL ROOF PLAN
M-500.00	MECHANICAL DETAILS (1 OF 3)
M-501.00	MECHANICAL DETAILS (2 OF 3)
M-502.00	MECHANICAL DETAILS (3 OF 3)
M-600.00	MECHANICAL SCHEDULES
H-100.00	HOOD DETAILS (1 OF 4)
H-101.00	HOOD DETAILS (2 OF 4)
H-102.00	HOOD DETAILS (3 OF 4)
H-103.00	HOOD DETAILS (4 OF 4)

CODE COMPLIANCE

ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND AMENDED BY THE INSPECTING AUTHORITY. NOTHING IN THESE DRAWINGS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHERS APPLICABLE TO THESE PROJECT:

A. 2014 NYC – BUILDING CODE

B. 2014 NYC – PLUMBING CODE

C. 2014 NYC – MECHANICAL CODE

D. 2020 NYC – ENERGY CONSERVATION CODE

E. 2014 NYC – FUEL GAS CODE

NEW YORK BUILDING DEPARTMENT NOTES

- ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF THE CITY OF NEW YORK BUILDING CODE, EFFECTIVE JULY 1, 2014 AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.
- THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A PROFESSIONAL ENGINEER TO PROVIDE THE REQUIRED SPECIAL INSPECTIONS AND TESTS.
  - TESTS WILL BE CONDUCTED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS. THE TESTS WILL SHOW COMPLIANCE WITH 2014 BUILDING CODE REQUIREMENTS AS OUTLINES IN SECTION [BC 1704].
  - 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 SECTION MC 107 AND THE FOLLOWING SECTIONS OF THE 2014 NEW YORK CITY MECHANICAL CODE:
    - A. VENTILATION SYSTEM BALANCING MC 403.8
    - B. NYC NOISE CONTROL CODE: 24-227
    - C. REFRIGERATION SYSTEMS – MC 1108
    - D. GREASE DUCT TEST: MC 506.3.2.5
  - THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
    - A. STANDARDS OF HEATING – MC 309.1
    - B. NYC NOISE CONTROL CODE: 24-227
    - C. DUCT CONSTRUCTION AND INSTALLATION– MC 603
    - D. AIR INTAKES, EXHAUSTS AND RELIEFS – MC 401.5
    - E. AIR FILTERS – MC 605
    - F. SMOKE DETECTORS AND FIRE AND SMOKE DAMPERS – MC 606 & 607 RESPECTIVELY
  - MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
  - VENTILATION FOR ALL AREA SHALL COMPLY WITH MC 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 MC 403.3
  - ALL FIRE DAMPERS SHALL BE ACCEPTED FOR USE BY THE NEW YORK CITY DEPARTMENT OF BUILDINGS. FIRE DAMPERS SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH UL 555, STANDARDS FOR FIRE DAMPERS AND CEILING DAMPERS.
  - COMBINATION FIRE/SMOKE DAMPERS AND SMOKE DAMPERS SHALL BE ACCEPTED FOR USE BY NEW YORK CITY DEPARTMENT OF BUILDINGS AND SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH UL 555S.
  - SMOKE DETECTION SYSTEMS SHALL BE INSTALLED AND SEQUENCED TO FOLLOW CONTROLS OPERATIONS WITH THE REQUIREMENTS OF SECTION MC 606 TO CLOSE DAMPERS AND AUTOMATICALLY STOP THE FAN.
  - FIRE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS LOCATED WITHIN THE AIR DISTRIBUTION AND SMOKE CONTROL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION MC 607.
  - 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 EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
  - SMOKE DETECTOR SHALL MEET UL268A.
  - ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
  - CERTIFICATE OF COMPLIANCE SHALL BE OBTAINED FOR EQUIPMENT PER BC110.6.
  - THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
  - MECHANICAL SYSTEMS SHALL BE COMMISSIONED PER 2020 NYCECC C403.2.2, C408.2.1, C408.2.5.4. FINAL COMMISSIONING REPORT SHALL BE DUE WITHIN 90 DAYS OF RECEIPT OF CERTIFICATE OF OCCUPANCY.

ENERGY CONSERVATION CODE OF NEW YORK CITY COMPLIANCE

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND JUDGEMENT, THESE PLANS AND SPECIFICATION ARE IN COMPLIANCE WITH THE ENERGY CONSERVATION CODE OF NEW YORK CITY 2020

RCNY 5000 - TABLE 2 - COMMERCIAL BUILDINGS

MECHANICAL AND SERVICE WATER HEATING INSPECTIONS						
YES	NO	II	INSPECTION/TEST	FREQUENCY/MINIMUM	REFERENCE STANDARD (SEE ECC CHAPTER 6) OR OTHER CRITERIA	ECC OR OTHER CITATION
	X	IIB1	<b>FIREPLACES:</b> PROVISION OF COMBUSTION AIR AND TIGHT-FITTING FIREPLACE DOORS MUST BE VERIFIED BY VISUAL INSPECTION.	PRIOR TO FINAL CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS; UL 127	C402.2.8; BC 2111; MC CHAPTERS 7, 8, 9; FGC CHAPTER 6
X		IIB2	<b>SHUTOFF DAMPERS:</b> DAMPERS FOR STAIR AND ELEVATOR SHAFT VENTS AND OTHER OUTDOOR AIR INTAKES AND EXHAUST OPENINGS INTEGRAL TO THE BUILDING ENVELOPE MUST BE VISUALLY INSPECTED TO VERIFY THAT SUCH DAMPERS, EXCEPT WHERE PERMITTED TO BE GRAVITY DAMPERS, COMPLY WITH APPROVED CONSTRUCTION DRAWINGS. MANUFACTURER'S LITERATURE MUST BE REVIEWED TO VERIFY THAT THE PRODUCT HAS BEEN TESTED AND FOUND TO MEET THE STANDARD.	AS REQUIRED DURING INSTALLATION	APPROVED CONSTRUCTION DOCUMENTS; AMCA 500D	C402.5.5, C403.7.7; ASHRAE 90.1 – 6.4.3.4
X		IIB3	<b>HVAC-R EQUIPMENT:</b> EQUIPMENT SIZING, EFFICIENCIES AND OTHER PERFORMANCE FACTORS OF ALL MAJOR EQUIPMENT UNITS, AS DETERMINED BY THE APPLICANT OF RECORD, AND NO LESS THAN 15% OF MINOR EQUIPMENT UNITS, SHALL BE VERIFIED BY VISUAL INSPECTION AND, WHERE NECESSARY, REVIEW OF MANUFACTURER'S DATA. POOL HEATERS AND COVERS SHALL BE VERIFIED BY VISUAL INSPECTION.	PRIOR TO FINAL PLUMBING AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C403.1, C403.2, C403.3, C403.7.5, C404.9, C404.10, C406; ASHRAE 90.1 – 6.3, 6.4, 6.5, 6.7, 7.4, 7.5, 7.8, 10.4.6, APPENDIX I
X		IIB4	<b>HVAC-R SYSTEM CONTROLS:</b> NO LESS THAN 20% OF EACH TYPE OF REQUIRED CONTROLS MUST BE VERIFIED BY VISUAL INSPECTION AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION. SUCH CONTROLS MUST INCLUDE, BUT ARE NOT LIMITED TO: • THERMOSTATIC • OFF-HOUR • ZONES • FREEZE PROTECTION/SNOW- AND ICE-MELT SYSTEM • VENTILATION SYSTEM AND FAN CONTROLS • ENERGY RECOVERY SYSTEMS • KITCHEN/LAB EXHAUST SYSTEMS • FAN SYSTEMS SERVING SINGLE AND MULTIPLE ZONES • OUTDOOR HEATING SYSTEMS • HVAC CONTROL IN HOTEL/MOTEL GUEST ROOMS • AIR/WATER ECONOMIZERS & CONTROLS • HYDRONIC SYSTEMS • HEAT REJECTION SYSTEMS • HOT GAS BYPASS LIMITATION • REFRIGERATION SYSTEMS • DOOR SWITCHES • COMPUTER ROOM SYSTEMS • SERVICE WATER HEATING SYSTEMS • POOL HEATER AND TIME SWITCHES  <b>CONTROLS WITH SEASONALLY DEPENDENT FUNCTIONALITY:</b> CONTROLS WHOSE COMPLETE OPERATION CANNOT BE DEMONSTRATED DUE TO PREVAILING WEATHER CONDITIONS TYPICAL OF THE SEASON DURING WHICH PROGRESS INSPECTIONS WILL BE PERFORMED SHALL BE PERMITTED TO BE SIGNED OFF FOR THE PURPOSE OF A TEMPORARY	AFTER INSTALLATION AND PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION, EXCEPT THAT FOR CONTROLS WITH SEASONALLY DEPENDENT FUNCTIONALITY, SUCH TESTING MUST BE PERFORMED BEFORE SIGNOFF FOR ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY	APPROVED CONSTRUCTION DOCUMENTS, INCLUDING CONTROL SYSTEM NARRATIVES; ASHRAE GUIDELINE 1: THE HVAC COMMISSIONING PROCESS WHERE APPLICABLE	C403, C404, C406; ASHRAE 90.1 – 6.3, 6.4, 6.5, 6.6, 7.4, 7.5, APPENDIX I
X		IIB5	<b>HVAC-R PIPING DESIGN AND INSULATION:</b> INSTALLED PIPING INSULATION MUST BE VISUALLY INSPECTED TO VERIFY PROPER INSULATION PLACEMENT AND VALUES. <b>SERVICE HOT WATER DISTRIBUTION SYSTEMS MUST BE INSPECTED TO VERIFY THE SUPPLY OF HEATED WATER.</b>	AFTER INSTALLATION AND PRIOR TO CLOSING SHAFTS, CEILINGS AND WALLS	APPROVED CONSTRUCTION DOCUMENTS; SMACNA DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE	C403.11, C404.4, C404.5; MC 603.9; ASHRAE 90.1 – 6.3, 6.4.4, 6.8.2, 6.8.3; 7.4.3
X		IIB6	<b>DUCT LEAKAGE TESTING, INSULATION AND DESIGN:</b> FOR DUCT SYSTEMS DESIGNED TO OPERATE AT STATIC PRESSURES IN EXCESS OF 3 INCHES W.G. (747 PA), REPRESENTATIVE SECTIONS, AS DETERMINED BY THE PROGRESS INSPECTOR, TOTALING AT LEAST 25% OF THE DUCT AREA, MUST BE TESTED TO VERIFY THAT ACTUAL AIR LEAKAGE IS BELOW ALLOWABLE AMOUNTS. INSTALLED DUCT INSULATION MUST BE VISUALLY INSPECTED TO VERIFY PROPER INSULATION PLACEMENT AND VALUES. JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK MUST BE VISUALLY INSPECTED FOR PROPER SEALING.	AFTER INSTALLATION AND SEALING AND PRIOR TO CLOSING SHAFTS, CEILINGS AND WALLS	APPROVED CONSTRUCTION DOCUMENTS; SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL; SMACNA DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE	C403.11; ASHRAE 90.1 – 6.4.4.2.2
OTHER						
X		IID1	<b>MAINTENANCE INFORMATION:</b> MAINTENANCE MANUALS FOR MECHANICAL, SERVICE HOT WATER AND ELECTRICAL EQUIPMENT AND SYSTEMS REQUIRING PREVENTIVE MAINTENANCE MUST BE REVIEWED FOR APPLICABILITY TO INSTALLED EQUIPMENT AND SYSTEMS BEFORE SUCH MANUALS ARE PROVIDED TO THE OWNER. LABELS REQUIRED FOR SUCH EQUIPMENT OR SYSTEMS MUST BE INSPECTED FOR ACCURACY AND COMPLETENESS.	PRIOR TO SIGN-OFF OR ISSUANCE OF FINAL CERTIFICATE OF OCCUPANCY	APPROVED CONSTRUCTION DOCUMENTS, INCLUDING ELECTRICAL DRAWINGS WHERE APPLICABLE; ASHRAE GUIDELINE 4: PREPARATION OF OPERATING AND MAINTENANCE DOCUMENTATION FOR BUILDING SYSTEMS	C408.11, C408.2.5.2, C408.3.2; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 6.7.2.3.5.2, 8.7.2, 9.4.3.2.2, 9.7.2.2

TR1 Special Inspections (MECHANICAL)		
YES	NO	NYC BC 2014
X		MECHANICAL SYSTEMS BC 1704.16
X		FIRE RESISTANT PRENENTRATION AND JOINTS BC 1704.27
X		POST INSTALLED ANCHORS BC 1704.32

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

DRAWING TITLE:

TITLE SHEET, SYMBOLS, ABBREVIATION & NOTES (1 OF 4)

DRAWING NO.:

M-001.00



GENERAL NOTES

1. CONTRACTOR SHALL SURVEY THE AREA OF THIS WORK BEFORE SUBMITTING A BID AND SHALL BE RESPONSIBLE FOR NOTIFYING THE ARCHITECT OF ANY CONDITIONS WHICH WOULD PREVENT THE INSTALLATION OF THE WORK AS SHOWN ON DRAWINGS.
2. ALL APPLICABLE CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.
3. BEFORE PROCEEDING WITH ANY WORK IN OCCUPIED OR USED AREAS, THE CONTRACTOR SHALL APPLY TO OWNER FOR PERMISSION TO ENTER SUCH AREAS. THE CONTRACTOR IS OBLIGED TO PERFORM HIS WORK ONLY AT THE TIMES DESIGNATED BY OWNER. THERE WILL BE NO ADDITIONAL COMPENSATION FOR THE WORK PERFORMED AFTER HOURS OR ON OFF-DAYS WITHOUT PRIOR WRITTEN APPROVAL.

4. THE WORK IN THE BUILDING SHALL BE DONE WHEN AND AS DIRECTED, AND IN A MANNER SATISFACTORY TO THE OWNER. THE WORK SHALL BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE PRESENT OCCUPANTS.

5. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTANTLY WORK IN OVERTIME AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.

6. CONTRACTOR SHALL ASCERTAIN THE APPROPRIATE METHOD FOR BRINGING THE UNITS INTO AND THROUGH THE BUILDING TO POSITION UNIT IN LOCATION SHOWN ON THE PLANS. WHERE NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH RESTRICTIVE SPACES. COORDINATE WITH BUILDING OWNER APPROPRIATE TIMES OF DAY SUCH EQUIPMENT MAY BE MOVED THROUGH ALL AREAS.

7. DUCTWORK AND PIPING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL MAKE ALLOWANCE IN PRICING FOR ROUTING OF DUCTWORK AND PIPING TO AVOID OBSTRUCTIONS. EXACT LOCATIONS ARE SUBJECT TO APPROVAL OF ARCHITECT. COORDINATION WITH THE OTHER TRADES IS REQUIRED.

8. SUPPORT ALL DUCTWORK AND PIPING FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OR SUPPORTS FOR EQUIPMENT, FURNISH ADDITIONAL FRAMING. INSERTS SHALL BE STEEL, SLOTTED TYPE AND FACTORY PAINTED. SINGLE ROD SHALL BE SIMILAR TO GRINNELL FIG. 281. MULTI-ROD SHALL BE SIMILAR TO FEE & MASON SERIES 9000 WITH END CAPS AND CLOSURE STRIPS. MAXIMUM LOADING INCLUDING PIPES, DUCTWORK, CONTENTS AND COVERING SHALL NOT EXCEED 75% OF RATED INSERT CAPABILITY. WHEN SUPPORTING FROM BUILDING USE BEAM CLAMPS IN APPROVED MANNER.

9. PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DUNNAGE STEEL AS REQUIRED.

10. SEAL OPENINGS AROUND DUCTS AND PIPING THROUGH PARTITIONS, WALLS AND FLOORS (NOT IN SHAFTS) WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL (FIBERGLASS INSULATION IS NOT ACCEPTABLE).

11. WHERE PENETRATIONS THROUGH FIRE RATED WALLS ARE NOT FIRE PROOFED THIS CONTRACTOR SHALL BE RESPONSIBLE TO SEAL SAME TO MAINTAIN THE RATED INTEGRITY.

12. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.

13. ACCESS DOORS ARE REQUIRED FOR ALL BUILDING SERVICE VALVES THAT RUN THROUGH THE SPACE, AND ACCESS DOOR SHALL HAVE THE EQUAL RATED CAPACITY (1HR, 2HR, ETC.) AS WALL. COORDINATE ALL LOCATIONS OF ACCESS DOORS WITH THE ARCHITECT.

14. REMOVABLE ACCESS TILE AND/OR ACCESS DOOR ARE REQUIRED IN HUNG CEILINGS, SHAFTS AND WALLS FOR ALL VOLUME AND FIRE DAMPERS, AUTOMATIC DAMPERS AND ALL OTHER MECHANICAL EQUIPMENT AND DEVICES. HVAC CONTRACTOR TO FURNISH ACCESS LOCATION REQUIREMENTS TO GENERAL CONTRACTOR. ACCESS TILE IDENTIFICATION: PROVIDE BUTTONS, TABS, AND MARKERS TO IDENTIFY LOCATION OF CONCEALED VALVES, DAMPERS AND EQUIPMENT.

15. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.

16. MATERIALS AND WORKMANSHIP, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.

17. ALL EQUIPMENT SHALL BE PROVIDED WITH ONE YEAR WARRANTY PARTS AND LABOR AND FIVE YEARS ON COMPRESSORS. WARRANTY PERIOD BEGINS UPON PROJECT ACCEPTANCE

18. ALL MATERIAL AND EQUIPMENT TO BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.

19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK WITH ITS COMPLETION AND FINAL ACCEPTANCE AND SHALL REPLACE ANY OF THE SAME WHICH MAY BE DAMAGED, LOST, OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER.

20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FAILURE OF ANY DUCTWORK SYSTEM OR EQUIPMENT TO FUNCTION PROPERLY UPON COMPLETION OF HIS WORK UPON SAID SYSTEM OR EQUIPMENT.

21. SUBMIT SHOP DRAWING OF ALL WORK WHICH MUST BE APPROVED BY THE ARCHITECT AND ENGINEER BEFORE WORK COMMENCES.

22. INSURANCE: IN ACCORDANCE WITH BUILDING REQUIREMENTS THE CONTRACTOR SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.

23. THE FINAL ACCEPTANCE WILL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, BALANCED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.

24. SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES, WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL," "SHALL BE," "FURNISH," "PROVIDE," "A," "THE," AND "ALL" HAVE BEEN OMITTED FOR BREVITY.

25. WHERE A CONFLICT EXISTS BETWEEN THE DRAWINGS, THE SPECIFICATIONS OR ANY OTHER CONSTRUCTION DOCUMENT, THE ONE WITH THE MOST STRINGENT REQUIREMENT(S) SHALL APPLY.

DEFINITIONS:

- 1) "PROVIDE": TO SUPPLY, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
- 2) "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
- 3) "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.

SCOPE OF WORK

SCOPE OF WORK

1. THE WORK UNDER CONTRACT INCLUDES ALL LABOR, MATERIALS AND APPLIANCES NECESSARY FOR THE FURNISHING, INSTALLING AND TESTING, COMPLETE AND READY FOR SAFE OPERATION OF THE SYSTEMS AS DESCRIBED IN THE SPECIFICATIONS, FLOOR PLANS(S) DESIGN, DETAIL DRAWINGS, NOTES, RFIs, ETC. FOR THIS PROJECT WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.

2. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENT HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.

3. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OR ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES, BY OWNER, INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHEN DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.

GENERAL HVAC NOTES

1. PROVIDE ALL MATERIAL AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.

2. CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK (HVAC, PLUMBING, AND FIRE PROTECTION) ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.

3. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.

4. WHEN MECHANICAL WORK (HVAC, PLUMBING, SHEET METAL, FIRE PROTECTION, ETC.) IS SUBCONTRACTED, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE SUBCONTRACTORS AND THE ASSOCIATED CONTRACTS. WHEN DISCREPANCIES ARISE PERTAINING TO WHICH CONTRACTOR PROVIDES A PARTICULAR ITEM OF THE MECHANICAL CONTRACT OR WHICH CONTRACTOR PROVIDES FINAL CONNECTIONS FOR A PARTICULAR ITEM OF THE MECHANICAL CONTRACT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE MECHANICAL CONTRACTOR, WHOSE DECISION SHALL BE FINAL.

5. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.

6. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.

7. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.

8. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.

9. ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND ELECTRICAL DIVISION OF THE SPECIFICATION.

10. PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.

11. PROVIDE VIBRATION ISOLATORS FOR ALL PIPING SUPPORTS CONNECTED TO, AND WITHIN 50 FT. OF, ISOLATED EQUIPMENT (EXCEPT AT BASE ELBOW SUPPORTS AND ANCHOR POINTS).

12. LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH THE STRAIGHT SECTION OF PIPE OR DUCT UP- AND DOWNSTREAM AS RECOMMENDED BY THE MANUFACTURER FOR GOOD ACCURACY.

13. WHERE BEAMS ARE INDICATED TO BE PENETRATED WITH DUCTWORK OR PIPING, COORDINATE DUCTWORK AND PIPING LAYOUT WITH BEAM OPENING SIZE AND OPENING LOCATIONS. COORDINATION SHALL BE DONE PRIOR TO THE FABRICATION OF DUCTWORK, CUTTING OF PIPING, OR FABRICATION OF BEAMS.

14. ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN THE DETAILS FOR PIPING, DUCTWORK, AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.

15. PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE DAMPERS, VALVES, SMOKE DETECTORS, AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR FOR INSTALLATION. ACCESS PANELS SHALL HAVE THE EQUAL RATED CAPACITY (1HR, 2HR, ETC.) AS WALL.

16. MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHALL NOT BE SUPPORTED FROM A METAL DECK.

17. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS SPECIFIED AND REQUIRED TO PROVIDE A VIBRATION-FREE INSTALLATION.

18. ALL DUCTWORK, PIPING, AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. ALL ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS SHALL BE AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED. THE USE OF C-CLAMPS SHALL NOT BE PERMITTED.

19. ALL ROOF-MOUNTED EQUIPMENT CURBS/STEEL RAILS FOR EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.

20. LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.

21. ALL OPENINGS IN FIRE WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED WITH A PRODUCT SIMILAR TO 3M OR APPROVED EQUAL.

22. ALL AIR CONDITIONING CONDENSATE DRAIN LINES FROM EACH AIR HANDLING UNIT SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET, WITH "P" TRAP, AND PIPED TO THE NEAREST DRAIN. SEE THE DETAILS SHOWN IN THE DRAWINGS OR THE CONTRACT SPECIFICATIONS FOR THE DEPTH OF THE AIR CONDITIONING CONDENSATE TRAP.

23. REFER TO TYPICAL DETAILS FOR DUCTWORK, PIPING, AND EQUIPMENT INSTALLATION.

24. REINFORCEMENT, DETAILING, AND PLACEMENT OF CONCRETE SHALL CONFORM TO ASTM 315 AND ACI 318. CONCRETE SHALL CONFORM TO ASTM C94. CONCRETE WORK SHALL CONFORM TO ACI 318 PART ENTITLED "CONSTRUCTION REQUIREMENTS". COMPRESSIVE STRENGTH IN 28 DAYS SHALL BE 3,000 PSI. TOTAL AIR CONTENT OR EXTERIOR CONCRETE SHALL BE BETWEEN 5 AND 7 PERCENT BY VOLUME. SLUMP SHALL BE BETWEEN 6 AND 8 IN. CONCRETE SHALL BE CURED FOR 7 DAY AFTER PLACEMENT.

25. CONCRETE HOUSEKEEPING PADS TO SUIT MECHANICAL EQUIPMENT SHALL BE SIZED AND LOCATED BY THE MECHANICAL CONTRACTOR. MINIMUM CONCRETE PAD THICKNESS SHALL BE 6 IN. PAD SHALL EXTEND BEYOND THE EQUIPMENT A MINIMUM OF 6 IN. ON EACH SIDE. CONCRETE HOUSEKEEPING PADS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE THE SIZE AND LOCATION OF CONCRETE HOUSEKEEPING PADS WITH THE GENERAL CONTRACTOR.

26. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED.

27. TESTING, ADJUSTING, AND BALANCING AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). TESTING, ADJUSTING, AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THE AABC STANDARDS.

HVAC DUCTWORK -- SHEET METAL

1. CERTAIN ITEMS SUCH AS RISES AND DROPS IN DUCTWORK, ACCESS DOORS, VOLUME DAMPERS, ETC., ARE INDICATED ON THE CONTRACT DOCUMENT DRAWINGS FOR CLARITY FOR A SPECIFIC LOCATION REQUIREMENT AND SHALL NOT BE INTERPRETED AS THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS.

2. ALL NEW DUCTWORK WILL COMPLY WITH THE LATEST SMACNA GUIDELINES AND CONFORM WITH REQUIREMENTS OF THE LATEST HANDBOOKS PUBLISHED BY ASHRAE.

3. PROVIDE VOLUME DAMPER AT EACH TAP TO MAIN DUCT AND WHERE NECESSARY TO PROPERLY BALANCE SYSTEM.

4. SUPPLY AND RETURN DUCTWORK OF ALL AC UNITS SHALL BE LINED WITH 1.5" INSULATION HAVING ACOUSTIC AND THERMAL PROPERTIES.

5. CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY SUPPLY DIFFUSERS AND RETURN AIR REGISTERS WHERE INDICATED ON THE DRAWING. COORDINATE LOCATION OF DIFFUSERS AND REGISTERS WITH REFLECTED CEILING PLAN.

6. IN CORRIDORS WHERE CEILING SPEAKERS AND AIR DIFFUSERS ARE INDICATED BETWEEN THE SAME LIGHT FIXTURES, INSTALL BOTH DEVICES AT THE QUARTER POINTS BETWEEN THE FIXTURES.

7. UNLESS OTHERWISE SHOWN, LOCATE ALL ROOM THERMOSTATS (CENTER LINE) ABOVE THE FINISHED FLOOR. NOTIFY THE ENGINEER OF ANY ROOMS WHERE THE PRECEDING LOCATION CANNOT BE MAINTAINED OR WHERE THERE IS A QUESTION ON LOCATION.

8. ALL DUCTWORK SHALL CLEAR DOORS AND WINDOWS.

9. ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS.

10. PROVIDE ALL 90-DEGREE SQUARE ELBOWS WITH DOUBLE RADIUS TURNING VANES UNLESS OTHERWISE INDICATED. ELBOWS IN KITCHEN, AND LAUNDRY EXHAUSTS SHALL BE OF UN-VANED SMOOTH RADIUS CONSTRUCTION WITH A RADIUS EQUAL TO 1-1/2 TIMES THE WIDTH OF THE DUCT. PROVIDE ACCESS DOORS UPSTREAM OF ALL ELBOWS WITH TURNING VANES.

11. COORDINATE DIFFUSER AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS, LIGHTING, AND OTHER CEILING ITEMS AND MAKE MINOR DUCT MODIFICATIONS TO SUIT.

12. FIELD-ERECTED AND FACTORY-ASSEMBLED AIR HANDLING UNIT COILS SHALL BE ARRANGED FOR REMOVAL FROM THE UPSTREAM SIDE WITHOUT DISMANTLING SUPPORTS. PROVIDE GALVANIZED STRUCTURAL STEEL SUPPORTS FOR ALL COILS (EXCEPT THE LOWEST COIL) IN BANKS OVER TWO COILS HIGH TO PERMIT THE INDEPENDENT REMOVAL OF ANY COIL.

13. ALL AIR HANDLING UNITS SHALL OPERATE WITHOUT MOISTURE CARRYOVER.

14. LOCATE ALL MECHANICAL EQUIPMENT (SINGLE DUCT, CONSTANT VOLUME, ETC.) FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, CONTROLS, AND VALVING.

15. PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS (SUPPLY, RETURN, AND EXHAUST) CONNECTED TO AIR HANDLING UNITS, FANS, AND OTHER EQUIPMENT THAT REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.

16. UNLESS OTHERWISE NOTED, ALL DUCTWORK IS OVERHEAD, TIGHT TO THE UNDERSIDE OF THE STRUCTURE, WITH SPACE FOR INSULATION IF NEEDED.

17. ALL DUCTWORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN DUCTS, INCLUDING DIVIDED DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

18. PROVIDE ACCESS DOORS IN DUCTWORK TO PROVIDE ACCESS FOR ALL SMOKE DETECTORS, FIRE DAMPERS, SMOKE DAMPERS, VOLUME DAMPERS, AND OTHER ITEMS LOCATED IN THE DUCTWORK THAT REQUIRE SERVICE AND/OR INSPECTION.

19. PROVIDE ACCESS DOORS IN DUCTWORK FOR THE OPERATION, ADJUSTMENT, AND MAINTENANCE OF ALL FANS, VALVES, AND MECHANICAL EQUIPMENT.

20. ALL DUCTS SHALL BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER GROUNDING STRAPS. GROUNDING STRAPS SHALL BE BOLTED OR SOLDERED TO BOTH THE EQUIPMENT AND THE DUCT.

21. SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING THE SMOKE DETECTOR IN DUCTWORK AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

22. SEE SPECIFICATIONS FOR DUCTWORK GAUGES, BRACING, HANGERS, AND OTHER REQUIREMENTS.

23. EXCEPT AS OTHERWISE SHOWN OR NOTED, ALL DUCTWORK AND OTHER SHEET METAL WORK SHALL BE GALVANIZED SHEET STEEL AND SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. DUCT CONSTRUCTION STANDARDS, PRESSURE CLASSIFICATION 2 IN. W.G.

DUCTWORK STATIC PRESSURE CLASSIFICATION:

a.2 IN OF W.G. UP TO 2 IN OF W.G.  
b.6 IN OF W.G. ABOVE 2 IN & UP TO 6 IN WG

24. SEALING OF DUCTWORK SHALL COMPLY WITH SECTION 603.9 OF THE MECHANICAL CODE OF INDIANA STATE OR THE NEW YORK STATE CONSTRUCTION CODES.

25. VOLUME DAMPERS: GALVANIZED STEEL, PER SMACNA "LOW VELOCITY MANUAL," EXCEPT PROVIDE BEARING AT ONE END OF DAMPER ROD AND QUADRANT, WITH LEVER AND LOCKSCREW AT OTHER END. FOR INSULATED DUCTS, QUADRANTS MOUNTED ON COLLAR TO CLEAR INSULATION. INSTALL WITH LEVERS ACCESSIBLE.

26. ACCESS DOORS: INSULATED OR UNINSULATED, SAME AS DUCT.

- 1) PROVIDE MINIMUM 20 IN. X 20 IN. (OR EQUIVALENT) ON ALL DUCTS, UNLESS OTHERWISE APPROVED, AT FIRE DAMPERS, AND AT ALL DUCT ACCESSORIES SUCH AS

AIR OUTLETS

GENERAL:

- 1) MARGIN TYPES, COLORS, FINISH AND METHODS OF ATTACHMENT FOR ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE COORDINATED WITH ARCHITECTURAL CEILING AND WALL DETAILS AND SPECIFICATIONS.

- 2) FRAME TYPE SUITABLE FOR MOUNTING IN CEILING OR WALL CONSTRUCTION AS INDICATED ON ARCHITECTURAL PLANS.

- 3) EXACT LOCATION OF ALL AIR OUTLETS AS PER ARCHITECTURAL PLANS.

- 4) SUITABLE FOR OPERATION AT 20% EXCESS AND 20% LESS THAN NOTED CAPACITY FOR CONSTANT VOLUME SYSTEMS AND AT 20% EXCESS AND 60% LESS THAN NOTED CAPACITY FOR VARIABLE VOLUME SYSTEMS. MANUFACTURER RESPONSIBLE FOR EXAMINING APPLICATION OF EACH OUTLET AND GUARANTEE THAT EACH WILL PROVIDE REQUIRED NC LEVELS AND COMFORT SPACE CONDITIONS WITHOUT DRAFTS THROUGHOUT OPERATING RANGE.

- 5) ALL DIFFUSERS SHALL BE PROVIDED WITH OPPOSED BLADE VOLUME DAMPERS. DAMPER OPERATING LEVERS SHALL BE ACCESSIBLE AT THE FACE OF AIR OUTLETS.

- A. SQUARE DIFFUSERS: DIFFUSERS SHALL BE STEEL CONSTRUCTION PAINTED WHITE SIMILAR TO ANEMOSTAT

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 A2.5-1963). FLAMESPREAD: MAXIMUM 25. FUEL CONTRIBUTED AND SMOKE DEVELOPED: MAXIMUM 50. FLAMEPROOFING TREATMENTS SUBJECT TO DETERIORATION FROM MOISTURE OR HUMIDITY ARE NOT ACCEPTABLE.

B. DEFINITIONS:

- 1) 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.

- 2) CONCEALED: INDOOR DUCTS, PIPING OR EQUIPMENT WHICH IS NOT EXPOSED.

- 3) OUTDOOR: 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"		3M FIRE MASTER DUCT WRAP
		(2 LAYERS)		
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:

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

- 2) 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:

- 1) TYPE D-1: MINIMUM 1-LB DENSITY FIBERGLASS BLANKET, MAXIMUM 0.28 K-FACTOR AT 75 ADEG F MEAN TEMPERATURE WITH FACTORY-APPLIED FOIL-SKRIM-KRAFT FACING SIMILAR TO MANVILLE MICROLITE.

- 2) 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.

- 3) 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:

- 1) TYPE F-1: FITTING COVER, MOLDED WHITE PVC JACKET, UL CLASS 1, MAXIMUM PERMEANCE 0.05 SIMILAR TO MANVILLE ZESTRON.

- 2) TYPE F-2: WHITE VAPOR BARRIER COATING WITH 10X10 DUCH WHITE GLASS, POLYESTER OR NYLON CLOTH REINFORCING MEMBRANE, MINIMUM 31 MIL DRY FILM THICKNESS, SIMILAR TO FOSTER TITE-FIT, UL LABEL.

- 3) TYPE F-4: ALUMINUM JACKETING WITH MINIMUM 0.016 IN. WALL THICKNESS AND LONGITUDINAL JOINTS WITH LOCK SEAMS.

- 4) TYPE F-6: WHITE FINISHING AND INSULATING CEMENT APPLIED OVER HEXAGONAL WIRE MESH. CEMENT SIMILAR TO KEENE SUPERSLUICK.

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

DRAWING TITLE:

MECHANICAL SPECIFICATIONS  
(2 OF 4)

DRAWING NO.:

M-002.00



F. INSTALLATION:

- a. 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.
- b. 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.

VIBRATION ISOLATION

A. GENERAL:

- 1) PROVIDE ISOLATION FOR EQUIPMENT, PIPING AND DUCTWORK.
- 2) INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- 3) PROVIDE LEVELING DEVICES AND APPROVED RESILIENT RESTRAINING DEVICES AS REQUIRED TO LIMIT EQUIPMENT AND PIPING MOTION IN EXCESS OF 1/4".
- 4) ACCEPTABLE MANUFACTURERS:

a.MASON INDUSTRIES, INC.

b.VIBRATION ELIMINATOR CO.

c.KORFUND DYNAMICS CORP.

B. CEILING-HUNG FANS AND EQUIPMENT:

- 1) PROVIDE SPRING HANGER ROD ISOLATORS. STEEL COMPRESSION SPRING AND NEOPRENE SOUND PAD WITHIN A STEEL RETAINER BOX. SIMILAR TO MASON TYPE PCHS.
- 2) 1 IN. MINIMUM STATIC DEFLECTION. 1/2 IN. MINIMUM RESERVE DEFLECTION. FACTORY-PRELOADED TO 75% OF RATED LOAD.
- 3) PROVIDE SUPPLEMENTAL STEEL AS REQUIRED WHERE EQUIPMENT OR STRUCTURE CANNOT SUPPORT POINT LOADS.

C. FLOOR MOUNTED EQUIPMENT HAVING INTERNAL ISOLATION:

- 1) PROVIDE 5/16 IN.-THICK NEOPRENE ACOUSTICAL BASE PADS OF RIB.

SPECIFICATIONS

SECTION 0001 – NOTICE TO BIDDERS

1.1 BIDDERS REPRESENTATIONS

- A. THE BIDDER BY MAKING A BID REPRESENTS THAT: THE BIDDER HAS READ AND UNDERSTANDS THE BIDDING DOCUMENTS, TO THE EXTENT THAT SUCH DOCUMENTATION RELATES TO THE WORK FOR WHICH THE BID IS SUBMITTED, AND FOR OTHER PORTIONS OF THE PROJECT, IF ANY, BEING BID CONCURRENTLY OR PRESENTLY UNDER CONSTRUCTION.
- B. THE BID IS MADE IN COMPLIANCE WITH THE BIDDING DOCUMENTS.
- C. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO SERVE JOINTLY AS A BASIS FOR THE BIDDER TO SUBMIT A CONTRACT PRICE FOR THE MATERIAL AND LABOR.
- D. SHOULD CONFLICTS OR DISCREPANCIES OCCUR WITHIN THE BIDDING DOCUMENTS, THE ITEM OR ITEMS IN DISPUTE THAT REPRESENT THE GREATER COST SHALL PREVAIL IN THE FINAL BID.
- E. THE BID IS BASED UPON THE MATERIALS, EQUIPMENT AND SYSTEMS REQUIRED BY THE BIDDING DOCUMENTS WITHOUT EXCEPTION.

1.2 EXISTING CONDITIONS AND COORDINATION

- A. THE BIDDER HAS VISITED THE SITE, BECOME FAMILIAR WITH LOCAL CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND HAS CORRELATED THE BIDDER'S PERSONAL OBSERVATIONS WITH THE REQUIREMENTS OF THE PROPOSED BIDDING DOCUMENTS.
- B. THE BIDDER SHALL PROPOSE COORDINATION OF WORK SUCH THAT CONFLICTS WITH OTHER TRADES AND SPACE ALLOCATIONS ARE AVOIDED.

1.3 RESPONSIBILITIES

- A. THE BIDDER UNDERSTANDS THAT ANY CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE TIMELY COMPLETION AND ACCEPTANCE OF THEIR WORK AND THAT ANY ITEMS DAMAGED, LOST OR STOLEN DURING TIME OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED WITHOUT ANY ADDITIONAL COST TO THE OWNER.
- B. THE BIDDER UNDERSTANDS THAT ANY PROPOSED WORK IN OCCUPIED TENANT SPACES SHALL BE PERFORMED DURING TIMES OF NON-TENANT OCCUPANCY OR AS SCHEDULED OR DIRECTED BY THE BUILDING MANAGER.
- C. THE BIDDER UNDERSTANDS THAT ANY PROPOSED SHUT-DOWN OF EXISTING SYSTEMS DURING CONSTRUCTION SHALL BE PRE-ARRANGED WITH THE BUILDING MANAGER AND THAT SUCH SHUT-DOWNS ARE TO BE KEPT TO A MINIMUM.

END OF SECTION 0001

SECTION 0101 – QUALITY OF WORK

1.1 WORKMANSHIP

- A. ALL WORK SHALL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
- B. ALL DEFECTS WHICH DEVELOP OR ARE DISCOVERED WITHIN THIS PERIOD SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT OR BUILDING MANAGER AT NO ADDITIONAL COST TO THE OWNER.
- C. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE FROM THE SITE, ALL TOOLS, DEMOLISHED APPLIANCES AND ANY SURPLUS MATERIAL.

1.2 CODE COMPLIANCE

- A. ALL WORK SHALL MEET ALL STATE AND LOCAL CODES HAVING JURISDICTION.

END OF SECTION 0101

SECTION 0102 –REQUIRED DOCUMENTS

1.1 SHOP DRAWINGS

- A. A SET OF PRINTS FOR ANY MECHANICAL WORK INCLUDING BUT NOT LIMITED TO, DUCTWORK AND PIPING LAYOUT SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER PRIOR TO CONSTRUCTION OR PURCHASE OF MATERIALS.

1.2 SUBMITTALS

- A. EQUIPMENT SUBMITTALS OF ALL PROPOSED MECHANICAL AND ANCILLARY EQUIPMENT INCLUDING ALL ACCESSORIES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. ALL PERTINENT MODELS, SIZES, ACCESSORIES, AND CHOICES SHALL BE CLEARLY CHECKED, PRINTED OR OTHERWISE INDICATED ON THE SUBMITTALS.

1.3 RECORD DRAWINGS

- A. UPON COMPLETION OF THE WORK, A RECORD DRAWING SHALL BE SUBMITTED TO THE OWNER DEPICTING ALL SUBSEQUENT CHANGES, ADDITIONS AND OR CORRECTIONS TO THE CONTRACT DRAWINGS AND OR CONTRACT SCOPE MADE DURING CONSTRUCTION. THIS DRAWING SHALL REPRESENT A COMPLETE RECORD OF THE WORK INSTALLED.

1.4 EQUIPMENT OPERATING INSTRUCTIONS

- A. ON COMPLETION AND ACCEPTANCE OF WORK, THIS CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS,EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.
- B. THESE INSTRUCTIONS SHALL BE TYPED ON 8-1/2 IN. X 11 IN. PAPER AND BOUND IN THREE-RING BINDERS WITH CLEAR ACETATE COVERS. THE CONTRACTOR SHALL GIVE THREE COPIES OF THE INSTRUCTIONS TO THE OWNER AND ONE ELECTRONIC COPY TO THE ENGINEER.
- C. THE INSTRUCTION BOOKLET SHALL BE ORGANIZED IN SECTIONS, WITH ONE SECTION PER SYSTEM. THE COVER OF THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND PHONE NUMBER OF THE PROJECT, ARCHITECT, ENGINEER, MECHANICAL CONTRACTOR AND SUBCONTRACTORS.

END OF SECTION 0102

SECTION 078413-PENETRATION FIRE-STOPPING

1.1 QUALITY ASSURANCE

- A. INSTALLER QUALIFICATIONS: AN FM GLOBAL-APPROVED FIRE-STOP CONTRACTOR OR A UL-QUALIFIED FIRE-STOP CONTRACTOR.

- B. FIRE-TEST-RESPONSE CHARACTERISTICS: UL, INTERTEK ETL SEMKO OR FM GLOBAL

1.2 PENETRATION FIRESTOPPING

- A. PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS: F-RATINGS PER ASTM E 814 OR UL 1479.
- B. PENETRATIONS IN HORIZONTAL ASSEMBLIES: F- AND T-RATINGS PER ASTM E 814 OR UL 1479:
- C. PENETRATIONS IN SMOKE BARRIERS: L-RATINGS PER UL 1479.
- D. W-RATINGS: PER UL 1479.

1.3 INSTALLATION

- A. IDENTIFICATION: PREPRINTED METAL OR PLASTIC LABELS.

1.4 FIELD QUALITY CONTROL

- A. INSPECTION OF INSTALLED FIRE-STOPPING: BY OWNER-ENGAGED AGENCY ACCORDING TO ASTM E 2174.

1.5 THROUGH-PENETRATION FIRESTOP SYSTEM SCHEDULE

WHERE UL-CLASSIFIED SYSTEMS ARE INDICATED, THEY REFER TO SYSTEM NUMBERS IN UL'S "FIRE RESISTANCE DIRECTORY" UNDER PRODUCT CATEGORY XHEZ.

FOR THE FOLLOWING SYSTEMS:

METALLIC AND NON-METALLIC PIPES, CONDUIT, OR TUBING, ELECTRICAL CABLES, CABLE TRAYS WITH ELECTRIC CABLES, MISCELLANEOUS ELECTRICAL PENETRANTS, INSULATED PIPES, GROUPINGS OF PENETRANTS, USE ON OR MORE THE FOLLOWING MATERIALS:

- a. LATEX SEALANT
- b. SILICONE SEALANT
- c. INTUMESCENT PUTTY
- d. MORTAR
- h. SILICONE FOAM
- i. PILLOWS/BAGS
- j. INTUMESCENT WRAP STRIPS
- k. INTUMESCENT COMPOSITE SHEET

1.6 MANUFACTURERS

1. HILTI CONSTRUCTION CHEMICAL, INC
2. TREMCO INC.
3. 3M FIRE PROTECTION PRODUCTS

END OF SECTION 078413

SECTION 230517 – SLEEVES AND SLEEVE SEALS FOR HVAC PIPING

1.1 SLEEVE-SEAL SYSTEMS

- A. FIELD-ASSEMBLED, MODULAR SEALING-ELEMENT UNIT FOR FILLING ANNULAR SPACE BETWEEN PIPING AND SLEEVE.

1. SEALING ELEMENTS: EPDM RUBBER OR NBR.
2. PRESSURE PLATES: CARBON STEEL, PLASTIC, STAINLESS STEEL.
3. CONNECTING BOLTS AND NUTS: CARBON STEEL WITH CORROSION-RESISTANT COATING, STAINLESS STEEL.
- B. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
1. ADVANCE PRODUCTS & SYSTEMS, INC.
2. CALPICO, INC.
3. METRAFLEX COMPANY (THE).
4. PIPELINE SEAL AND INSULATOR, INC.
5. PROCO PRODUCTS, INC.

1.2 SLEEVE-SEAL FITTINGS

- A. MANUFACTURED PLASTIC, SLEEVE-TYPE, PLASTIC OR RUBBER WATER-STOP ASSEMBLY MADE FOR IMBEDDING IN CONCRETE SLAB OR WALL.

1.3 GROUT

- A. NON-SHRINK, FACTORY PACKAGED.

1.4 SLEEVE AND SLEEVE-SEAL SCHEDULE

- A. USE SLEEVES AND SLEEVE SEALS FOR THE FOLLOWING PIPING-PENETRATION APPLICATIONS:

1. INTERIOR PARTITIONS:
- a. PIPING SMALLER THAN NPS 6 (DN 150): GALVANIZED-STEEL-PIPE SLEEVES, PVC-PIPE SLEEVES.
- b. PIPING NPS 6 (DN 150) AND LARGER: GALVANIZED-STEEL-SHEET SLEEVES.

END OF SECTION 230517

SECTION 230529 – HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

1.1 PERFORMANCE REQUIREMENTS

- A. DELEGATED DESIGN: DESIGN TRAPEZE PIPE HANGERS AND EQUIPMENT SUPPORTS, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED.

- B. STRUCTURAL PERFORMANCE: HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS INDICATED ACCORDING TO ASCE/SEI 7.

1. DESIGN SUPPORTS FOR MULTIPLE PIPES CAPABLE OF SUPPORTING COMBINED WEIGHT OF SUPPORTED SYSTEMS, SYSTEM CONTENTS, AND TEST WATER.

2. DESIGN EQUIPMENT SUPPORTS CAPABLE OF SUPPORTING COMBINED OPERATING WEIGHT OF SUPPORTED EQUIPMENT AND CONNECTED SYSTEMS AND COMPONENTS.

1.2 SUBMITTALS

- A. SHOP DRAWINGS: SIGNED AND SEALED BY A PROFESSIONAL ENGINEER

1.3 QUALITY ASSURANCE

- A. AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE – STEEL."

1.4 COMPONENTS

- A. METAL PIPE HANGERS AND SUPPORTS: CARBON OR STAINLESS STEEL
- B. TRAPEZE PIPE HANGERS: CARBON OR STAINLESS STEEL
- C. FIBERGLASS PIPE HANGERS: –CLEVIS, CENTURY COMPOSITES, COOPER B-LINE
- D. METAL FRAMING SYSTEMS: MFMA MANUFACTURER
- E. FIBERGLASS STRUT SYSTEMS: COOPER B-LINE
- F. THERMAL-HANGER SHIELD INSERTS:
- G. FASTENER SYSTEMS: POWDER-ACTUATED FASTENERS OR MECHANICAL-EXPANSION ANCHORS
- H. PIPE STANDS: COMPACT, LOW TYPE, SINGLE PIPE, HIGH TYPE, SINGLE PIPE, HIGH TYPE, MULTIPLE PIPES, CURB-MOUNTED TYPE
- I. EQUIPMENT SUPPORTS.

END OF SECTION 230529

SECTION 230548 – VIBRATION CONTROLS FOR HVAC EQUIPMENT

PART 1 – GENERAL

1.1 PERFORMANCE REQUIREMENTS

- A. SEISMIC-RESTRAINT LOADING:

1. SITE CLASS AS DEFINED IN THE IBC: A, B
2. ASSIGNED SEISMIC USE GROUP OR BUILDING CATEGORY AS DEFINED IN THE IBC: I II III
- a. COMPONENT IMPORTANCE FACTOR: 1.0
- b. COMPONENT RESPONSE MODIFICATION FACTOR: 2.5
- c. COMPONENT AMPLIFICATION FACTOR: 2.5.
3. DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS (0.2 SECOND) 18%
4. DESIGN SPECTRAL RESPONSE ACCELERATION AT 1-SECOND PERIOD: 8%

1.2 COMPONENTS

- A. VIBRATION ISOLATORS:

1. ISOLATOR PADS: NEOPRENE, RUBBER, HERMETICALLY AND/OR SEALED COMPRESSED FIBERGLASS
2. MOUNTS: DOUBLE-DEFLECTION TYPE.
3. RESTRAINED MOUNTS: ALL DIRECTIONAL MOUNTINGS WITH SEISMIC RESTRAINT; CAST-DUCTILE-IRON HOUSING.
4. SPRING ISOLATORS: FREESTANDING, Laterally STABLE, OPEN-SPRING TYPE.
5. RESTRAINED SPRING ISOLATORS: FREESTANDING, STEEL, OPEN-SPRING TYPE WITH SEISMIC RESTRAINT.
6. HOUSED SPRING MOUNTS: DUCTILE-IRON OR STEEL HOUSING, WITH INTEGRAL, VERTICALLY ADJUSTABLE SEISMIC SNUBBERS.
7. ELASTOMERIC HANGERS: DOUBLE-DEFLECTION TYPE.
8. SPRING HANGERS: COMBINATION COIL-SPRING AND ELASTOMERIC-INSERT HANGERS WITH SPRING AND INSERT IN COMPRESSION.
9. SPRING HANGERS WITH VERTICAL-LIMIT STOP: COMBINATION COIL-SPRING AND ELASTOMERIC-INSERT HANGERS WITH SPRING AND INSERT IN COMPRESSION AND WITH VERTICAL-LIMIT STOP.
- 10.PIPE RISER RESILIENT SUPPORT: ALL-DIRECTIONAL, ACOUSTICAL PIPE ANCHOR.
- 11.RESILIENT PIPE GUIDES.

B. AIR-MOUNTING SYSTEMS:

1. AIR MOUNTS: FREESTANDING, SINGLE OR MULTIPLE, COMPRESSED-AIR BELLOWES.
2. RESTRAINED AIR MOUNTS: HOUSED COMPRESSED-AIR BELLOWES.
- C. RESTRAINED VIBRATION ISOLATION ROOF-CURB RAILS: FACTORY-ASSEMBLED, FULLY ENCLOSED, INSULATED, AIR- AND WATERTIGHT CURB RAIL; WITH SPRING ISOLATORS MOUNTED ON ELASTOMERIC ISOLATION PADS, AND SNUBBER BUSHINGS.
- D. VIBRATION ISOLATION EQUIPMENT BASES:

1. STEEL BASE: FACTORY-FABRICATED, WELDED, STRUCTURAL-STEEL BASES AND RAILS.
2. INERTIA BASE: FACTORY-FABRICATED, WELDED, STRUCTURAL-STEEL BASES AND RAILS READY FOR FIELD-APPLIED, CAST-IN-PLACE CONCRETE

1.3 FIELD QUALITY CONTROL

- A. TESTING: BY EITHER: OWNER-ENGAGED AGENCY, CONTRACTOR-ENGAGED AGENCY, OR CONTRACTOR.

B.

PART-2 PRODUCTS

1.4 VIBRATION ISOLATORS & SEISMIC-RESTRAINT DEVICES

- A. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
- B. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. ACE MOUNTINGS CO., INC.
2. AMBER/BOOTH COMPANY, INC.
3. CALIFORNIA DYNAMICS CORPORATION.
4. COOPER B-LINE, INC.; A DIVISION OF COOPER INDUSTRIES.
5. HILTI, INC.
6. ISOLATION TECHNOLOGY, INC.
7. KINETICS NOISE CONTROL
8. LOOS & CO.; CABLEWARE DIVISION.
9. MASON INDUSTRIES.
10. TOLCO INCORPORATED; A BRAND OF NIBCO INC.
11. UNISTRUT; TYCO INTERNATIONAL, LTD.
12. VIBRATION ELIMINATOR CO., INC.
13. VIBRATION ISOLATION.
14. VIBRATION MOUNTINGS & CONTROLS, INC.

END OF SECTION 230548

SECTION 230593 – TESTING, ADJUSTING, AND BALANCING FOR HVAC

1.1 SUMMARY

- A. TESTING, ADJUSTING, AND BALANCING FOR THE FOLLOWING:

1. MOTORS.
2. AIR SYSTEM: CONSTANT VOLUME

1.2 QUALITY ASSURANCE

- A. THE CONTRACTOR SHALL PROCURE THE SERVICES OF A TESTING, ADJUSTING AND BALANCING (TAB) SPECIALIST WHO SPECIALIZES IN HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS. THE TAB AGENT SHALL HAVE THE FOLLOWING QUALIFICATIONS: AABC, NEBB OR TABB CERTIFIED.

1.3 EXECUTION

- A. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL EXISTING AIR AND HYDRONIC SYSTEMS THAT ARE TO REMAIN OR TO BE INCORPORATED INTO NEW WORK PRIOR TO THE STARTING OF WORK IN THE PROJECT SCOPE. A REPORT OF THESE MEASUREMENTS, INDICATING ANY AND ALL DEFICIENCIES SHALL BE SUBMITTED FOR OWNER REVIEW.
- B. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL NEW AIR AND HYDRONIC SYSTEMS AS LISTED ABOVE IN THE PROJECT SCOPE. A REPORT OF THESE MEASUREMENTS, INDICATING ANY AND ALL DEFICIENCIES SHALL BE SUBMITTED FOR OWNER REVIEW.

- C. THE REPORT SHALL INDICATE A SCHEMATIC DIAGRAM INDICATING LOCATIONS OF ALL EQUIPMENT TESTED AND MEASUREMENT LOCATIONS.
- D. PRIOR TO FINAL INSPECTION OF THE WORK, THE TAB SPECIALIST SHALL BALANCE ALL SYSTEMS AS INDICATED ABOVE TO THE REQUIREMENTS OF THE DESIGN.
- E. THE CONTRACTOR SHALL HAVE FURNISH AND INSTALL ALL ADDITIONAL BALANCING EQUIPMENT, PRESSURE TAPS, GAUGES AND OTHER EQUIPMENT AS REQUIRED FOR A PROPERLY BALANCED SYSTEM AT NO ADDITIONAL COST TO THE OWNER. SUCH ADDITIONAL EQUIPMENT SHALL ADHERE IN STRICT ACCORDANCE WITH THE RESPECTIVE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.

- F. THE CONTRACTOR SHALL HAVE THE TESTING AND BALANCING SPECIALIST COORDINATE ALL WORK OF THIS SECTION WITH THE BUILDING MANAGER. BALANCING WORK SHALL NOT CONFLICT WITH OTHER WORK SO AS TO MAINTAIN COMPLETION WITHIN THE SPECIFIED TIME.

- G. ALL INSTRUMENTS USED FOR TAB SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND ACCURATELY CALIBRATED.

- H. TOLERANCES: PLUS OR MINUS 5 PERCENT OF DESIGN VALUES.

- I. INSPECTIONS: RANDOM CHECKS BY OWNER OR ARCHITECT TO VERIFY FINAL TESTING, ADJUSTING, AND BALANCING REPORT.

- J. ADDITIONAL TESTS: RANDOM TESTS WITHIN 90 DAYS OF COMPLETING TAB TO VERIFY BALANCE CONDITIONS AND SEASONAL TESTS.

END OF SECTION 230593

SECTION 230713 – DUCT INSULATION

1.1 QUALITY ASSURANCE

SURFACE-BURNING CHARACTERISTICS: ALL INSULATION SHALL HAVE COMPOSITE (INSULATION JACKET OR FACING AND ADHESIVE USED TO ADHERE THE FACING OR JACKET TO THE INSULATION) A FLAME-SPREAD INDEX OF 25, AND SMOKE-DEVELOPED INDEX OF 50 FOR INSULATION INSTALLED INDOOR, 75, AND SMOKE-DEVELOPED INDEX OF 150 FOR INSULATION INSTALLED OUTDOORS; ACCORDING TO ASTM E 84.

1.2 FIELD QUALITY CONTROL

- A. FIELD INSPECTIONS: BY OWNER-ENGAGED AGENCY.

1.3 INDOOR DUCT AND PLENUM INSULATION SCHEDULE;

- A. CONCEALED, RECTANGULAR, ROUND AND FLAT-OVAL, SUPPLY-RETURN, OUTDOOR-AND EXHAUST-AIR DUCT AND AIR PLENUM INSULATION:

- B. FLEXIBLE ELASTOMERIC, MINERAL-FIBER BLANKET, MINERAL-FIBER BOARD OR POLYOLEFIN WITH MINIMUM

INSTALLED THERMAL RESISTANCE AS FOLLOWS:  
UNCONDITIONED SPACES WITHIN BUILDING: R-6  
WITHIN BUILDING ENVELOPE ASSEMBLY: R-8  
OUTSIDE OF BUILDING: R-8

1.4 ITEMS NOT INSULATED:

1. FIBROUS-GLASS DUCTS.
2. METAL DUCTS WITH DUCT LINER OR SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE ANDASHRAE/ESNA 90.1.
3. FACTORY-INSULATED FLEXIBLE DUCTS.
4. FACTORY-INSULATED PLENUMS AND CASINGS.
5. FLEXIBLE CONNECTORS.
6. VIBRATION-CONTROL DEVICES.
7. FACTORY-INSULATED ACCESS PANELS AND DOORS.
8. DUCTS THAT HAVE INTERNAL ACOUSTICAL LINING.

1.5 PRODUCTS

- A. THE FOLLOWING INSULATION MANUFACTURERS WILL BE ACCEPTABLE:
1. JOHNS-MANVILLE
2. OWENS-CORNING

1.6 ACOUSTICAL TREATMENT

1. WHERE SHOWN ON THE DRAWINGS, LOW PRESSURE DUCTWORK SHALL BE LINED WITH 1.5" THICK R-6 AS MANUFACTURED BY DUCTMATE, 1-1/2 POUND MINIMUM DENSITY, NEOPRENE COATED, FLEXIBLE FIBERGLASS DUCT LINER LINING SHALL COMPLY WITH NFPA 90A AND SHALL HAVE A FLAME SPREAD CLASSIFICATION OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING NOT MORE THAN 50. DUCT SIZES WHERE LINING IS INDICATED ON PLANS ARE MINIMUM INSIDE CLEAR DIMENSIONS REQUIRED,

END OF SECTION 230713

SECTION 233113 – METAL DUCTS

1.1 CONSTRUCTION

- A. EACH DUCT SYSTEM SHALL BE CONSTRUCTED FOR THE SPECIFIC SMACNA DUCT PRESSURE CLASSIFICATIONS SHOWN ON THE CONTRACT DRAWINGS. WHERE NO PRESSURE CLASSES ARE SPECIFIED BY THE DESIGNER, THE SMACNA 2-1/2 INCH WG PRESSURE CLASS IS THE BASIS OF COMPLIANCE WITH THESE STANDARDS, REGARDLESS OF THE VELOCITY IN THE DUCT.

- B. ALL DUCTWORK SHALL BE CONSTRUCTED TO SMACNA 2" WG DESIGN AND NOT LESS THAN THE FOLLOWING STANDARDS:

1. DUCTWORK SHALL BE TRANSVERSELY JOINTED BY CONNECTING SEAMS OF COMPANION ANGLES, FORMED FROM 1-1/2"x1-1/2"x1/8" GALVANIZED ANGLES, TACK-WELDED OR RIVETED TO THE DUCT. THE ANGLE FRAME SHALL BE CONTINUOUSLY FLANGED UP INTO UPRIGHT OF ANGLE AND EACH CORNER SHALL BE FILLED IN AND GROUND SMOOTH. JOINTS SHALL BE GASKETED WITH 1/8" THICK REINFORCED GASKET, OVERLAPPED AT CORNERS. GASKET SIMILAR TO 3M-1202 OR APPROVED EQUAL.
2. RECTANGULAR FITTINGS AND ALL TRANSITION PIECES FROM RECTANGULAR TO ROUND SHALL BE NO. 16 GAUGE ALL WELDED CONSTRUCTION.
3. HORIZONTAL DUCTS SHALL BE SUPPORTED ON NOT MORE THAN 6' CENTERS. VERTICAL RISERS SHALL BE SUPPORTED AT EACH FLOOR.
4. LONGITUDINAL SEAMS FOR RECTANGULAR DUCTWORK SHALL BE PITTSBURGH LOCK SEAMS WITH SEALING COMPOUND, EQUAL TO BENJAMIN FOSTER NO. 30-03 INSERTED INTO SEAM. ALL SEAMS SHALL BE BRUSHED WITH NO. 30-02 AND COVERED WITH APPROVED SEALING TAPE.
5. RECTANGULAR DUCTWORK 18 GAUGE AND HEAVIER, FILLER RODS SHALL BE IN ACCORDANCE WITH SPECIFICATIONS FOR IRON AND STEEL GAS WELDING RODS, ASTM 215; AWG A5.2.
6. ALL FITTINGS SUCH AS ELBOWS, TEES, ETC., SHALL BE NO. 20 GAUGE ZINC COATED STEEL. ELBOWS SHALL BE OF FIVE (5) PIECE WELDED AIRTIGHT CONSTRUCTION.

- C. WHERE LATEST EDITION OF SMACNA DOES NOT CLEARLY STATE GAUGES AND/OR STIFFENERS TO BE USED OR, WHERE SMACNA STANDARDS REQUIRE INTERPRETATION, THE FOLLOWING MINIMUM METAL GAUGES AND BRACING SHALL BE USED:

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MECHANICAL SPECIFICATIONS  
(3 OF 4)

DRAWING NO.:

M-003.00



- USG

MAX. SIDE INCHES

TRANSVERSE JOINTS AND BRACING
- 22

UP TO 12

S SLIP, DRIVE SLIP, ONE INCH POCKET LOCK ON 8 FOOT CENTERS
- 22

13 TO 24

1"x1"x1/8" ANGLES ON 4 FOOT CENTERS
- 20

25 TO 35

1"x1"x1/8" ANGLES ON 2 FOOT CENTERS
- D. PROVIDE TAPPING IN DUCTS FOR THERMOMETERS WHERE SPECIFIED. IN ADDITION, PROVIDE AN AIRTIGHT PLUGGED TAPPING LOCATED AS FOLLOWS:

1. UPSTREAM OF EACH REHEAT COIL AND VAV BOX.

2. DOWNSTREAM OF EACH REHEAT COIL AND VAV BOX.
- E. FLAT OVAL OR ROUND DUCTWORK MAY BE PROVIDED IN LIEU RECTANGULAR DUCTWORK WITH THE REINFORCEMENT FOR FLAT SIDES SAME AS SPECIFIED FOR THE RECTANGULAR DUCTWORK, AND AS PER SMACNA FLAT OVAL DUCT CONSTRUCTION STANDARDS SHOWN IN FIG. 3-6 AND AS SHOWN IN FIG. 3-1 AND 3-2 FOR ROUND DUCTWORK.
- F. ALL DUCTWORK SHALL BE SEALED TO CLASS "A" AND LEAK TESTED TO MEAT SMACNA CLASS 6 FOR RECTANGULAR AND CLASS 3 FOR ROUND DUCTS.
- 1.2 MATERIALS

A. SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS.

B. DOUBLE-WALL RECTANGULAR DUCTS AND FITTINGS.

1. FIBROUS-GLASS OR FLEXIBLE ELASTOMERIC DUCT LINER FOR INTERSTITIAL INSULATION.

2. PERFORATED INNER DUCT.

C. SINGLE-WALL ROUND AND FLAT-OVAL DUCTS AND FITTINGS.

D. DOUBLE-WALL ROUND AND FLAT-OVAL DUCTS AND FITTINGS.

1. FIBROUS-GLASS OR FLEXIBLE ELASTOMERIC DUCT LINER FOR INTERSTITIAL INSULATION.

2. PERFORATED INNER DUCT.

E. SHEET METAL MATERIALS:

1. GALVANIZED SHEET STEEL.

2. PVC-COATED, GALVANIZED SHEET STEEL.

3. CARBON-STEEL SHEETS.

4. STAINLESS-STEEL SHEETS.

5. ALUMINUM SHEETS.

6. FACTORY-APPLIED ANTI-MICROBIAL COATING.

F. DUCT LINER:

1. FIBROUS GLASS, TYPE I, FLEXIBLE.

a. WITH ANTI-MICROBIAL EROSION-RESISTANT COATING.

2. FLEXIBLE ELASTOMERIC.

3. NATURAL FIBER.

G. SEALANT MATERIALS:

1. TWO-PART TAPE SEALING SYSTEM.

2. WATER-BASED JOINT AND SEAM SEALANT.

3. SOLVENT-BASED JOINT AND SEAM SEALANT.

4. FLANGED JOINT SEALANT.

5. FLANGE GASKETS.

6. ROUND DUCT JOINT O-RING SEALS.

1.3 SEISMIC-RESTRAINT DEVICES

A. CHANNEL SUPPORT SYSTEM.

B. STAINLESS-STEEL RESTRAINT CABLES.

C. HANGER ROD STIFFENER: STEEL TUBE OR STEEL SLOTTED-SUPPORT-SYSTEM SLEEVE WITH INTERNALLY BOLTED CONNECTIONS OR REINFORCING STEEL ANGLE CLAMPED TO HANGER ROD.

1.4 DUCT CLEANING

A. CLEAN EXISTING DUCT SYSTEM(S) BEFORE TESTING, ADJUSTING, AND BALANCING.

B. CLEAN THE FOLLOWING ITEMS:

1. AIR OUTLETS AND INLETS.

2. SUPPLY, RETURN, AND EXHAUST FANS.

3. AIR-HANDLING UNITS.

4. COILS AND RELATED COMPONENTS.

5. RETURN-AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.

6. SUPPLY-AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.

7. DEDICATED EXHAUST AND VENTILATION COMPONENTS AND MAKEUP AIR SYSTEMS.

1.5 DUCT SCHEDULE

A. ALL DUCTS SHALL BE GALVANIZED STEEL EXCEPT AS FOLLOWS:

1. MOIST ENVIRONMENT DUCT MATERIAL: ALUMINUM.

SECTION 233713 – GRILLES AND DIFFUSERS

1.1 PRODUCTS

A. GRILLES AND DIFFUSERS SHALL BE FURNISHED AND INSTALLED FOR CAPACITIES AND IN LOCATIONS INDICATED ON DRAWINGS. ALL REGISTERS AND DIFFUSERS SHALL BE PRIME COATED STEEL OR EXTRUDED ALUMINUM FINISHED UNLESS OTHERWISE NOTED IN BAKED WHITE ENAMEL.

B. MANUFACTURERS: TITUS

1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT BY ONE OF THE FOLLOWING:

a. CARNES.

b. HART & COOLEY INC.

c. KRUEGER.

d. METALAIRE, INC.

e. NAILOR INDUSTRIES INC.

C. ALL DUCTED RETURN REGISTERS SHALL HAVE AN OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

END OF SECTION 233713

THERMOSTATIC CONTROLS:

A. 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 SECTION 6.4.3.1, A DWELLING UNIT SHALL BE PERMITTED TO BE CONSIDERED A SINGLE ZONE.

B. DEAD BAND:

WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING 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:

THERMOSTATS THAT REQUIRE MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.

C. SETBACK CONTROLS:

HEATING SYSTEMS LOCATED IN CLIMATE ZONES 2-8 SHALL BE EQUIPPED WITH CONTROLS THAT HAVE THE CAPABILITY TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES ABOVE A HEATING SETPOINT ADJUSTABLE DOWN TO 55°F OR LOWER. COOLING SYSTEMS LOCATED IN CLIMATE ZONES 1B, 2B, AND 3B SHALL BE EQUIPPED WITH CONTROLS THAT HAVE THE CAPABILITY TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES BELOW A COOLING SETPOINT ADJUSTABLE UP TO 90°F OR HIGHER OR TO PREVENT HIGH SPACE HUMIDITY LEVELS.

D. 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.

E. SETPOINT 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 SETPOINT FROM EXCEEDING THE COOLING SETPOINT MINUS ANY APPLICABLE PROPORTIONAL BAND.

F. HEAT PUMP SUPPLEMENTARY HEAT :

HEAT PUMPS HAVING SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTARY HEAT OPERATION WHERE THE HEAT PUMP CAN PROVIDE THE HEATING LOAD.

NOISE CONTROL

A. ALL ROOM NC LEVELS SHALL BE 35 OR LESS.

B. PROVIDE SOUND LINING FOR THE FOLLOWING DUCTWORK:

1) ALL DUCTWORK WITHIN NOT LESS THAN 20 FT ON EACH SIDE OF ALL FANS AND AC UNITS.

2) AIR TRANSFER DUCTS.

3) DOWNSTREAM OF ALL CONSTANT VOLUME BOXES FOR A MINIMUM OF 15 FT.

4) ALL MIXED AIR PLENUMS.

5) FULL EXTENT OF SUPPLY DUCTS SERVING CONFERENCE ROOMS.

6) ALL EXPOSED INTERIOR SUPPLY DUCTWORK.

7) ALSO WHERE NOTED ON A DRAWING.

C. SOUND LINING IN DUCTWORK: FIBROUS GLASS, MINIMUM 3 LB DENSITY, 1 IN. THICKNESS, MAXIMUM 0.25 K FACTOR AT 75 DEG F MEAN TEMPERATURE WITH ACRYLIC COATED FINISH FACTORY APPLIED EDGE COATING AND STENCILED IN ACCORDANCE WITH NFPA 90. FLAMESPREAD SHALL BE A MAXIMUM OF 25. LINING SHALL NOT SUPPORT MICROBIAL GROWTH AND SHALL BE TESTED IN ACCORDANCE WITH ASTM C 1071 AND ASTM G21/G22. SIMILAR TO MANVILLE PERMACOTE LINA COUSTIC.

D. ALL SOUND LINING, ADHESIVES, FACES AND ACCESSORIES TO BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, EXCEPT AS OTHERWISE NOTED.

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CHECKED BY: NYE

SCALE: AS NOTED

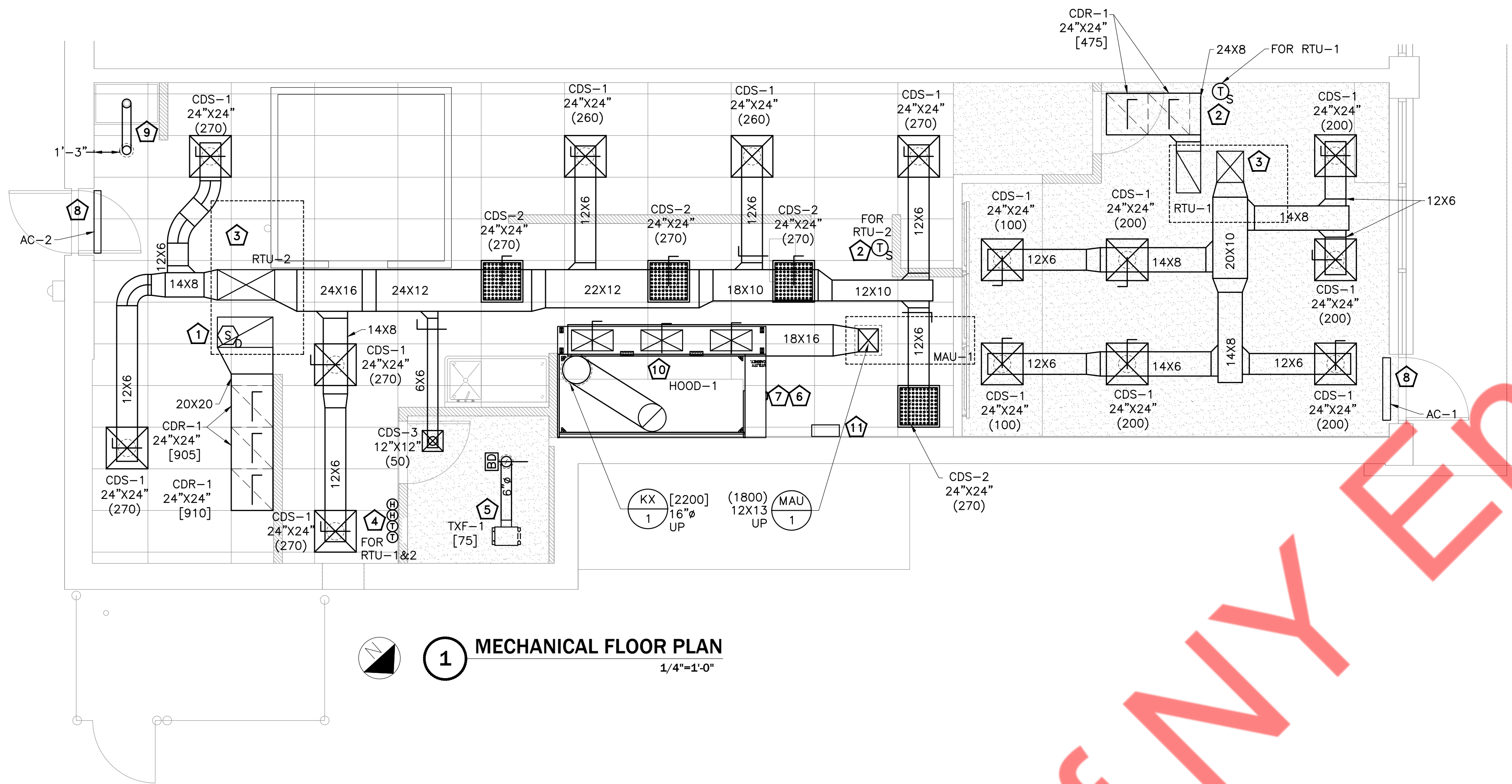
DRAWING TITLE:

MECHANICAL SPECIFICATIONS  
(4 OF 4)

DRAWING NO.:

M-004.00





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

#### MECHANICAL GENERAL NOTES

- CONTRACTOR SHALL BALANCE EACH DEVICE WITH THE CFM SHOWN ON PLAN.
- NEW DUCTWORK SHOWN ON PLAN ARE SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR PIPING AND DUCTWORK ROUTING, OFFSET AND RUN PIPING, DUCTWORK INSIDE THE STRUCTURE IF REQUIRED, PROVIDE ANY EXTRA PIPING, DUCTWORK, FITTINGS, INSULATIONS AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATION.
- 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.
- CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
- CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON ACTUAL EQUIPMENT SELECTED.
- COORDINATE WITH ALL TRADES FOR MATERIALS IN RATED AND PLENUM SPACES.
- MOUNT DUCTWORK AS HIGH AS POSSIBLE.
- TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO G.C AND OWNER.
- PROVIDE R-6 INSULATION FOR SUPPLY AND RETURN DUCT.
- COORDINATE ALL EQUIPMENT WITH STRUCTURAL.
- PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/ BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS.
- PROVIDE CORD-OPERATED DAMPERS IN INACCESSIBLE CEILINGS.
- PROVIDE 1.5" FIRE WRAP (TWO LAYERS) TO KITCHEN EXHAUST DUCT AS PER MANUFACTURERS RECOMMENDATIONS.

#### KEY NOTES:

- SMOKE DETECTOR SHALL BE FURNISHED/INSTALLED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR TO SHUT DOWN CORRESPONDING RTU UNDER ALARM CONDITIONS. ALL WIRING SHALL BE IN CONDUIT PER N.E.C. SMOKE DETECTOR SHALL BE SYSTEM SENSOR MODEL DH100ACDCLP OR EQUAL.
- TEMPERATURE SENSOR TIED TO DESIGNATED ROOF TOP UNITS.
- EXTEND FULL SIZE SUPPLY & RETURN DUCTWORK FROM ROOFTOP UNITS TO SPACE. EXTEND AS SHOWN. ACOUSTICALLY LINE THE FIRST 10'-0" OF BOTH SUPPLY AND RETURN MAIN DUCTS.
- LOCATION OF DIGITAL THERMOSTAT CONTROL. INSTALL AND WIRE NEW 7-DAY PROGRAMMABLE THERMOSTAT. COORDINATE EXACT LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN. PROVIDE LOCKABLE COVER.
- CEILING MOUNTED EXHAUST FAN. INTERCONNECT EXHAUST FAN WITH LIGHTS IN THIS ROOM. REFER TO ELECTRICAL LIGHTING PLAN. FAN SHALL BE SUSPENDED FROM STRUCTURE ABOVE. VERIFY EXACT LOCATION OF STRUCTURAL MEMBERS PRIOR TO INSTALLATION.
- TYPE-1 HOOD. RUN SHEET METAL DUCT FROM CONNECTION ON HOOD TO RESPECTIVE EXHAUST FAN. OFFSET AND TRANSITION AT CONNECTIONS AS NEEDED. VERIFY DIMENSIONS PRIOR TO FABRICATION OR INSTALLATION. USE FACTORY-MANUFACTURED PIPE AND FITTINGS ONLY. VERIFY LOCATION ON SITE WITH MOST RECENT KITCHEN PLANS.
- DUCT SHALL BE SLOPED 1/4" UNIT VERTICAL IN 12" UNIT HORIZONTAL TOWARD HOOD.
- PROVIDE AIR CURTAIN. MOUNT UNIT ON WALL DIRECTLY ABOVE DOOR PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- ø3"/ø5" PVC WATER HEATER CONCENTRIC FLUE/VENT UP TO ROOF. TERMINATE VENT AT LEAST 36" ABOVE ROOF. INSTALL AS PER MANUFACTURES RECOMMENDATIONS.
- 24X12 SUPPLY AIR DUCT HOOD COLLAR.
- LOCATION OF ANSUL SYSTEM REMOTE MANUAL PULL STATION. VERIFY EXACT LOCATION WITH KITCHEN EQUIPMENT SUPPLIER.

#### PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

#### DOB APPROVAL STAMP:

#### DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

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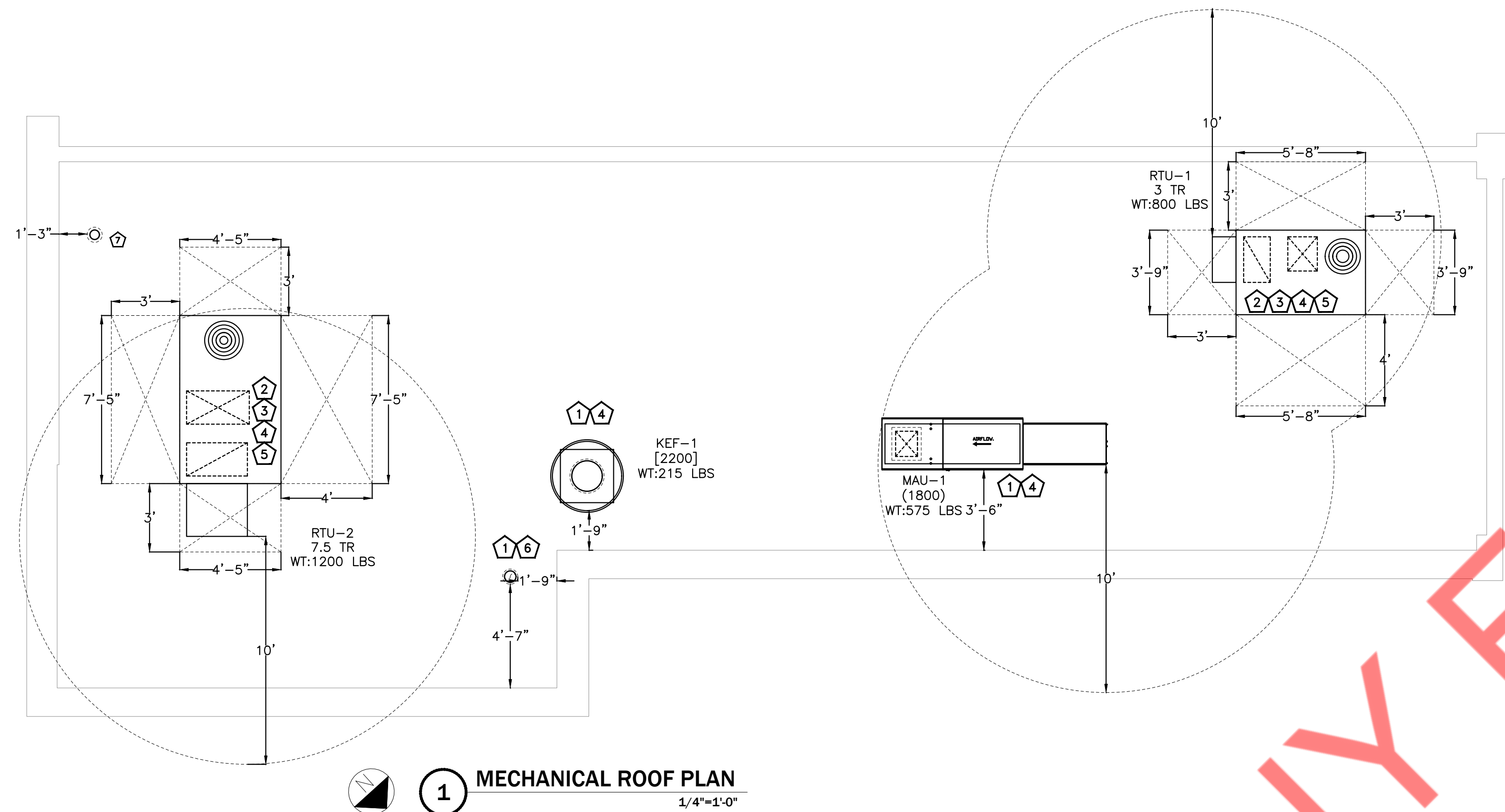
#### DRAWING TITLE:

MECHANICAL FLOOR PLAN

#### DRAWING NO.:

M-100.00





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

#### MECHANICAL GENERAL NOTES

- 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.
- CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
- CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON ACTUAL EQUIPMENT SELECTED.
- COORDINATE WITH ALL TRADES FOR MATERIALS IN RATED AND PLENUM SPACES.
- TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO G.C AND OWNER.
- COORDINATE ALL EQUIPMENT WITH STRUCTURAL.
- MAINTAIN ALL CODE AND MANUFACTURERS RECOMMENDED CLEARANCE AROUND ALL ROOF EQUIPMENT.
- PROVIDE WEATHER PROOF COATING FOR ALL EXTERIOR DUCT INSULATION.

#### KEY NOTES:

- ALL EXHAUST AIR SOURCES ON THE ROOF SHALL BE MINIMUM 10 FT. AWAY FROM OUTSIDE AIR INTAKES.
- CONTRACTOR TO CONNECT CONDENSATE DRAIN FROM ALL RTUs TO NEAREST ROOF DRAIN OR DOWN SPOUTS.
- CONTRACTOR TO FIELD VERIFY THAT THE LOCATION OF ANY EXHAUST SOURCE FROM ADJACENT TENANTS SHOULD BE AT LEAST 10' AWAY FROM THE RTUs.
- COORDINATE FINAL LOCATION OF EQUIPMENT WITH STRUCTURAL DRAWINGS.
- ALL OUTSIDE AIR INTAKE ON THE ROOF SHALL BE MINIMUM 10 FEET AWAY FROM ANY EXHAUST SOURCE.
- 6" EXHAUST DUCT UP THROUGH ROOF WITH WITH GOOSENECK, WEATHER SKIRT, AND BIRD SCREEN. MAINTAIN A MINIMUM OF 10'-0" FROM ALL OUTSIDE AR INTAKES AND TERMINATE 36" ABOVE ROOF.
- 3"x5/8" WATER HEATER CONCENTRIC PIPE UP THROUGH ROOF WITH VENT CAP. TERMINATE AS PER MANUFACTURER RECOMMENDATION.

#### PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

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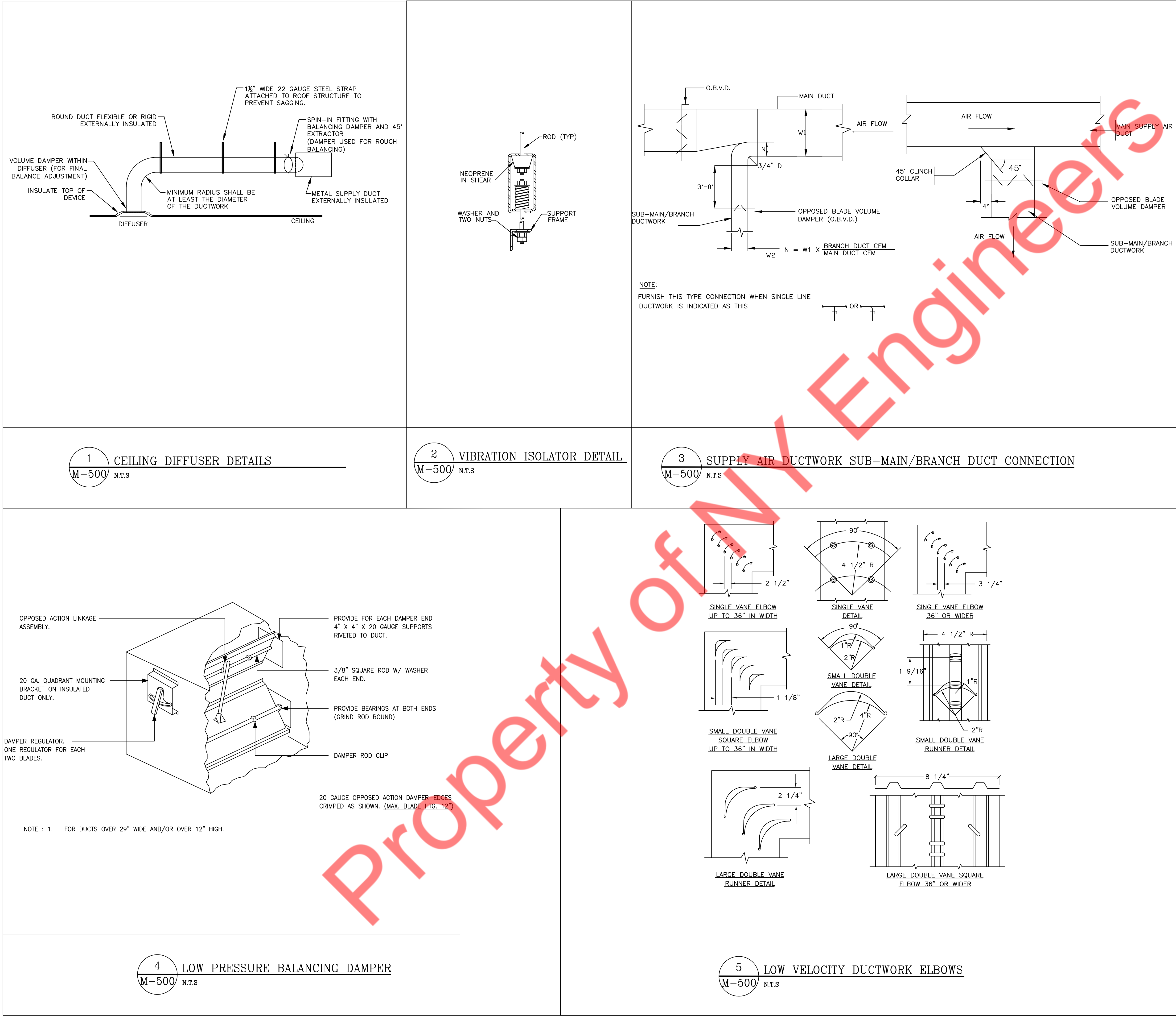
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MECHANICAL ROOF PLAN

#### DRAWING NO.:

M-101.00





PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

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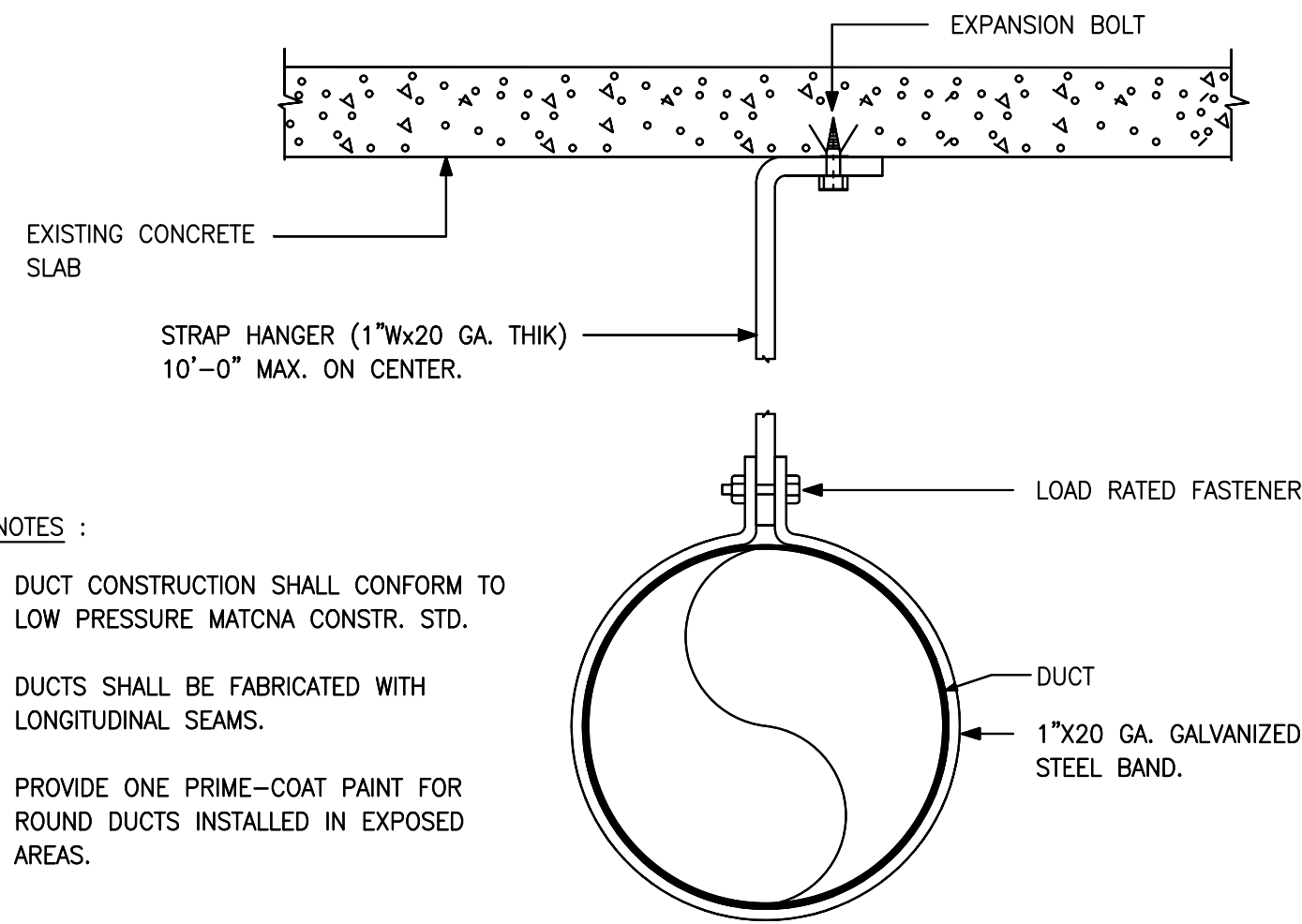
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MECHANICAL DETAILS  
(1 OF 3)

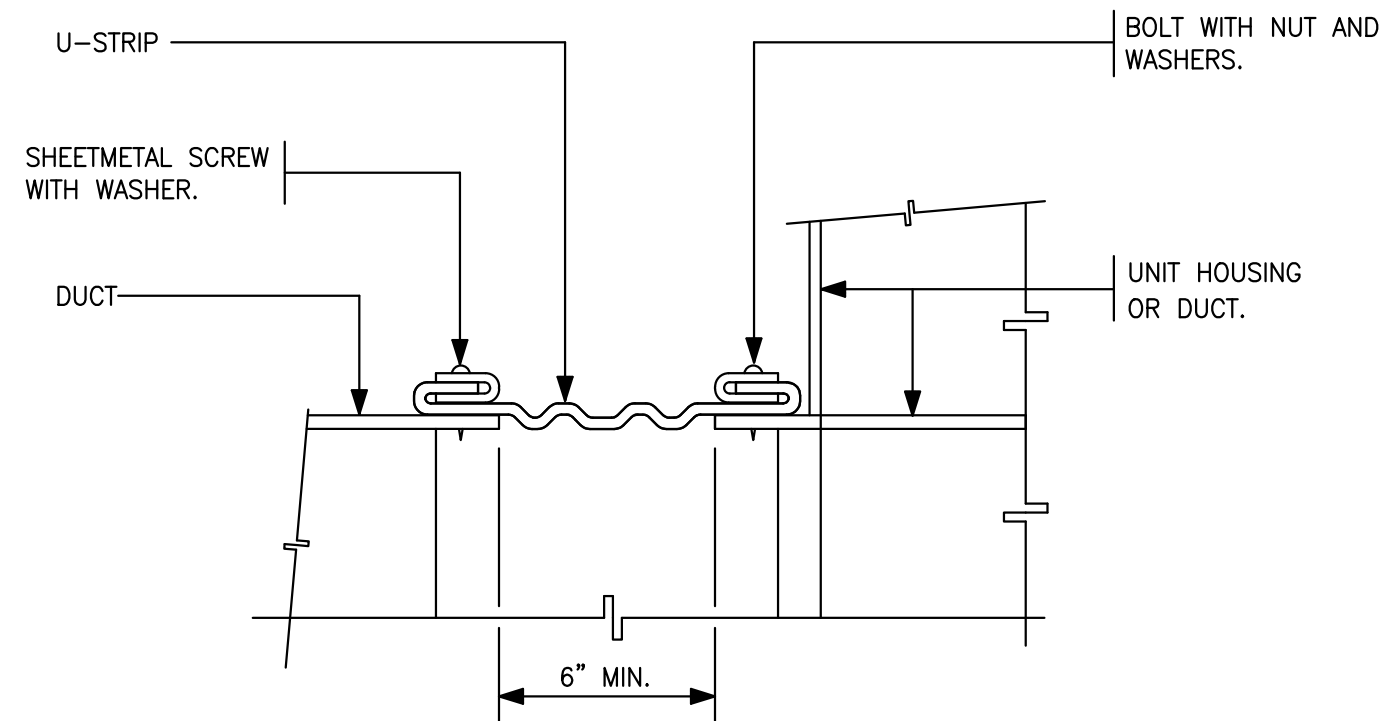
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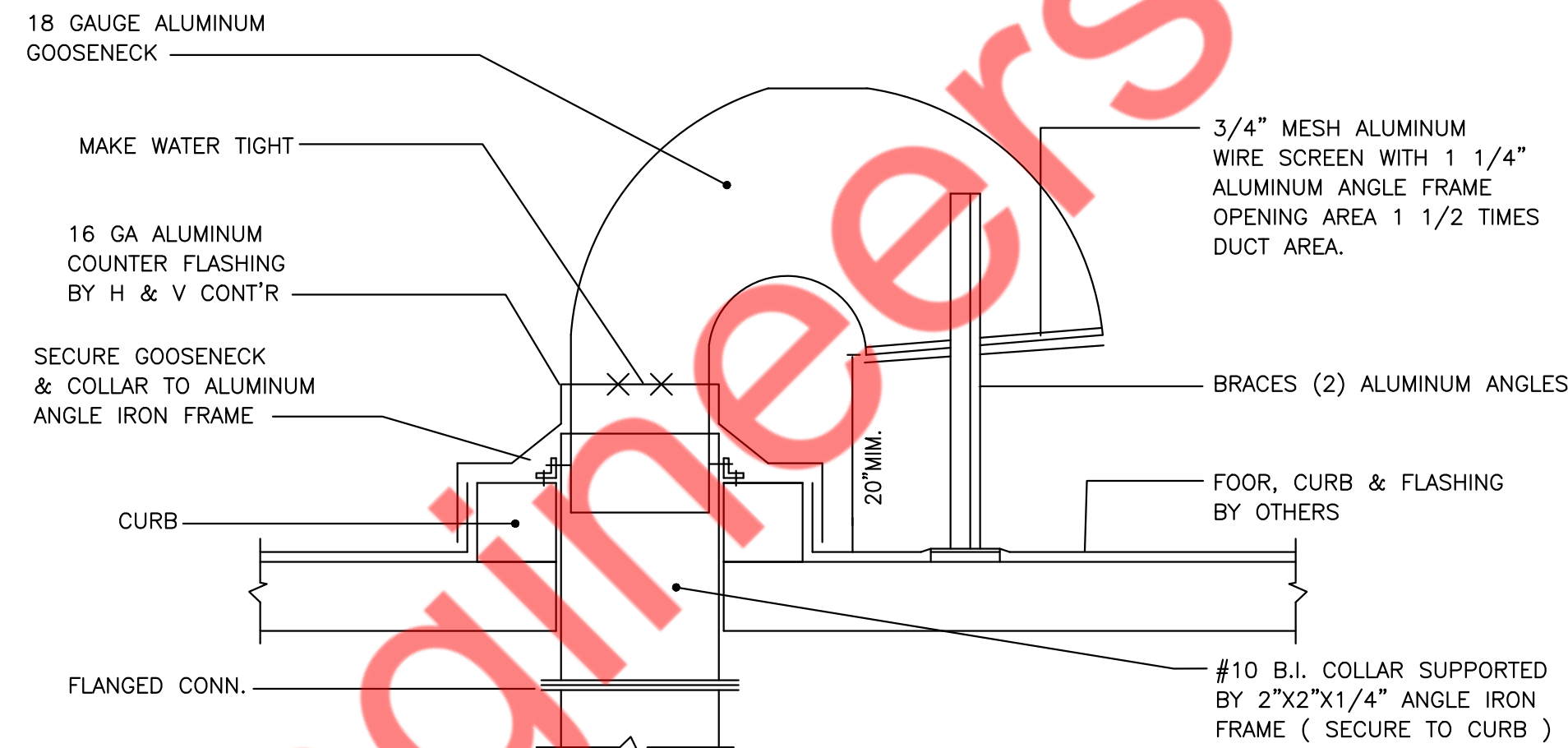




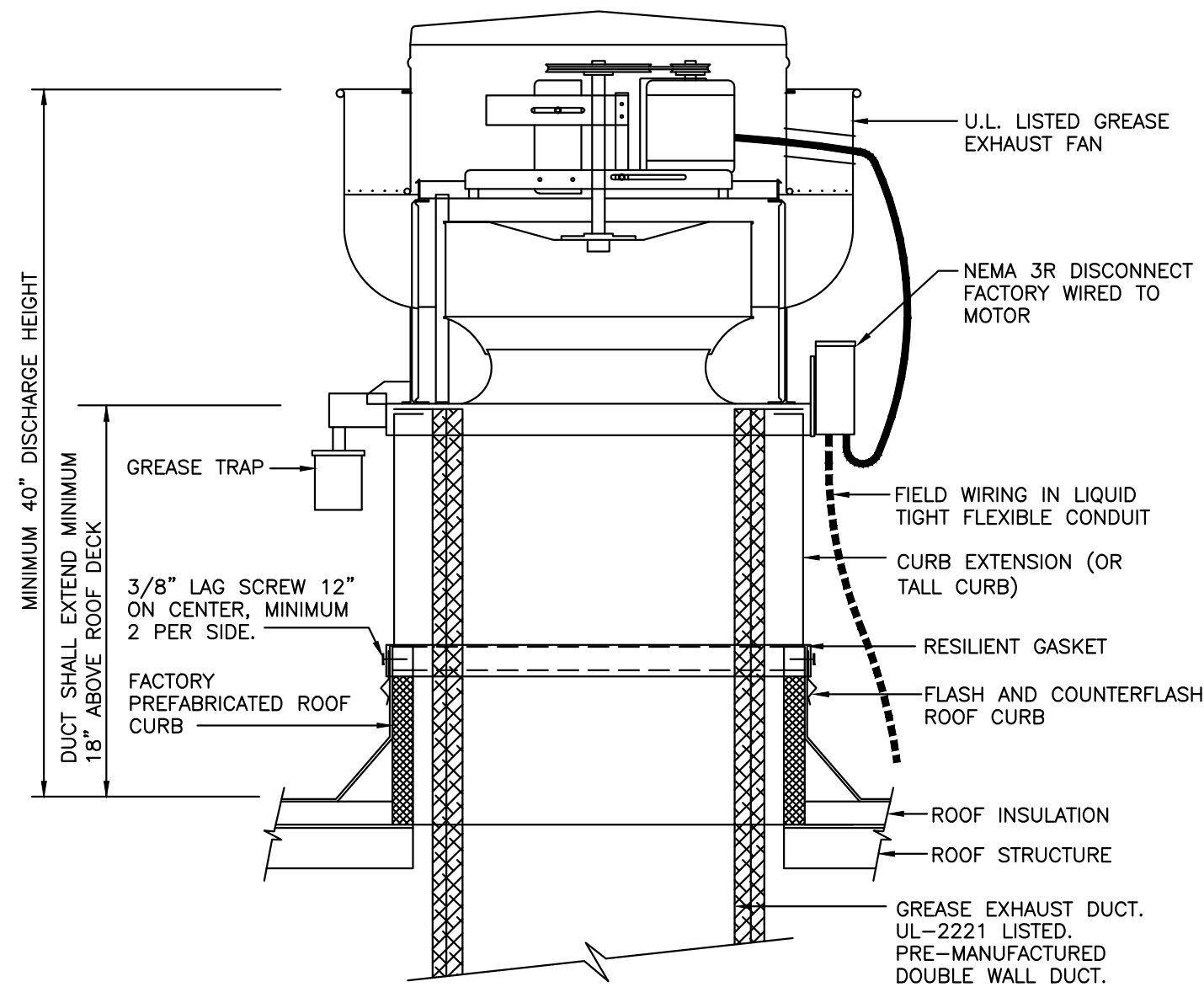
1 METHOD OF HANGING DUCTWORK  
M-501 N.T.S



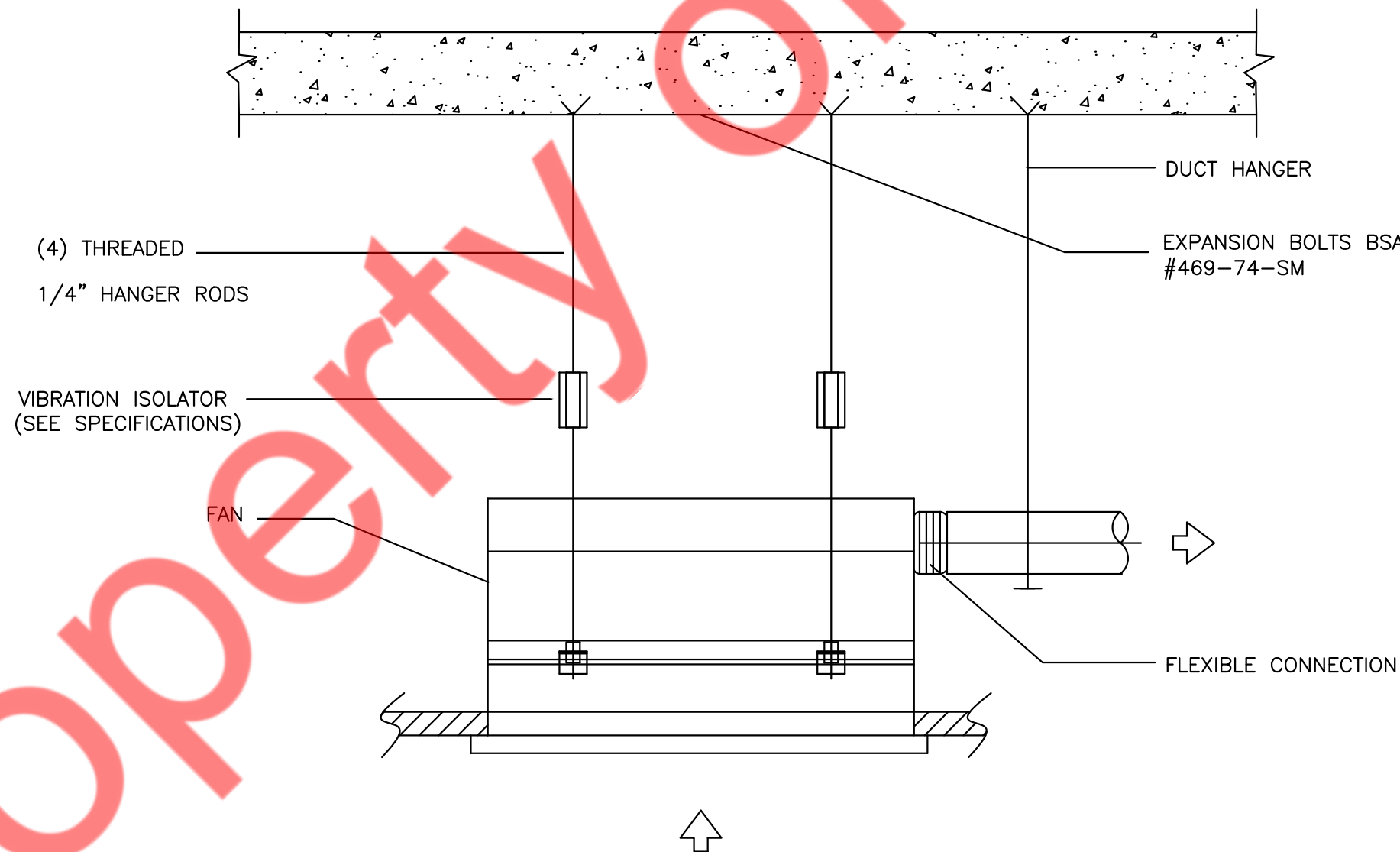
2 FLEXIBLE CONNECTION (DUCT-EQUIPMENT)  
M-501 N.T.S



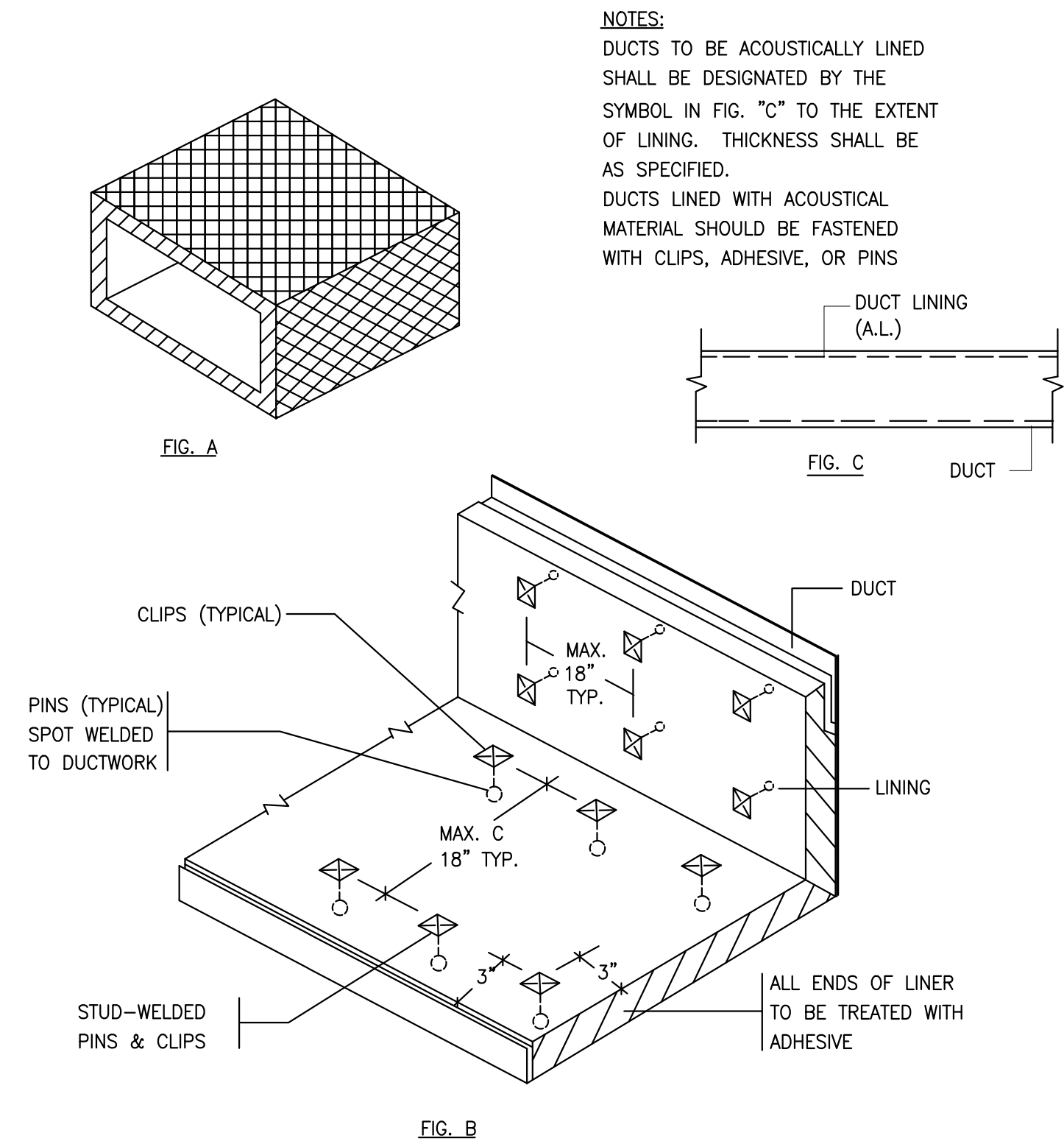
3 TYPICAL DETAIL OF ROOF GOOSENECK  
M-501 N.T.S



4 ROOF MOUNTED GREASE EXHAUST FAN DETAIL  
M-501 N.T.S



5 CEILING FAN HANGING SUPPORT DETAIL  
M-501 N.T.S



6 ACOUSTICAL TREATMENT DUCT LINING  
M-501 N.T.S

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

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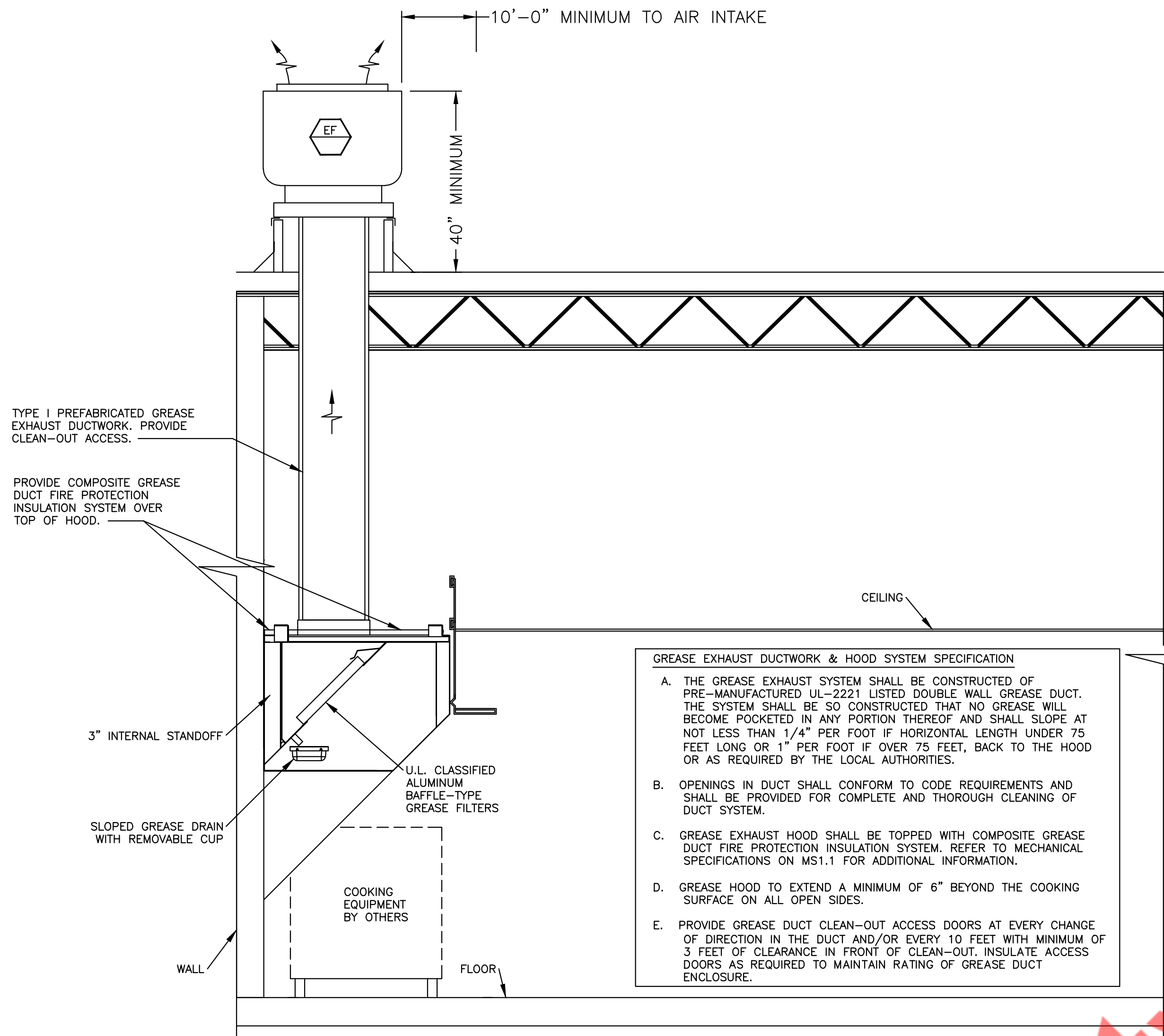
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MECHANICAL DETAILS  
(2 OF 3)

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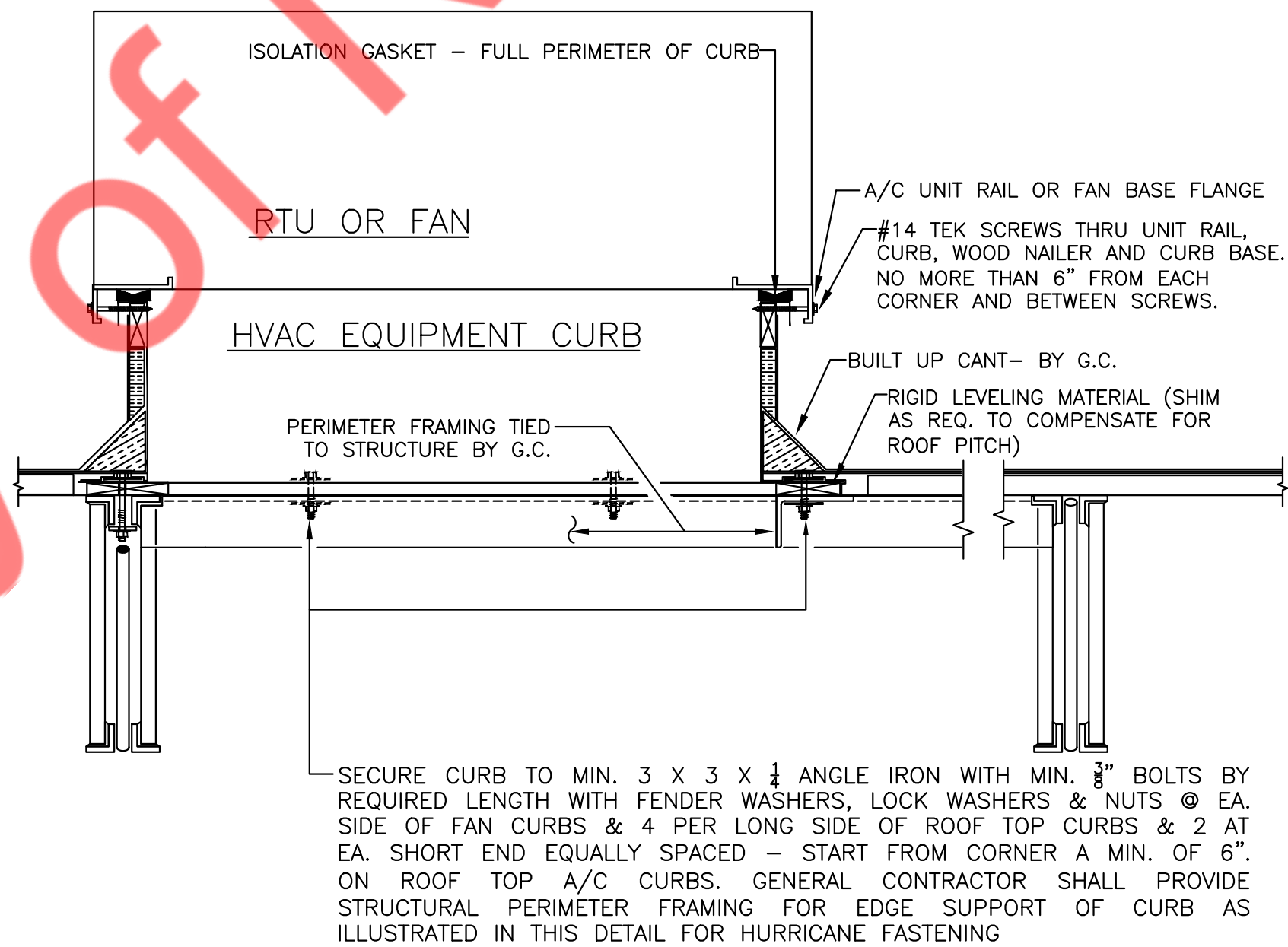
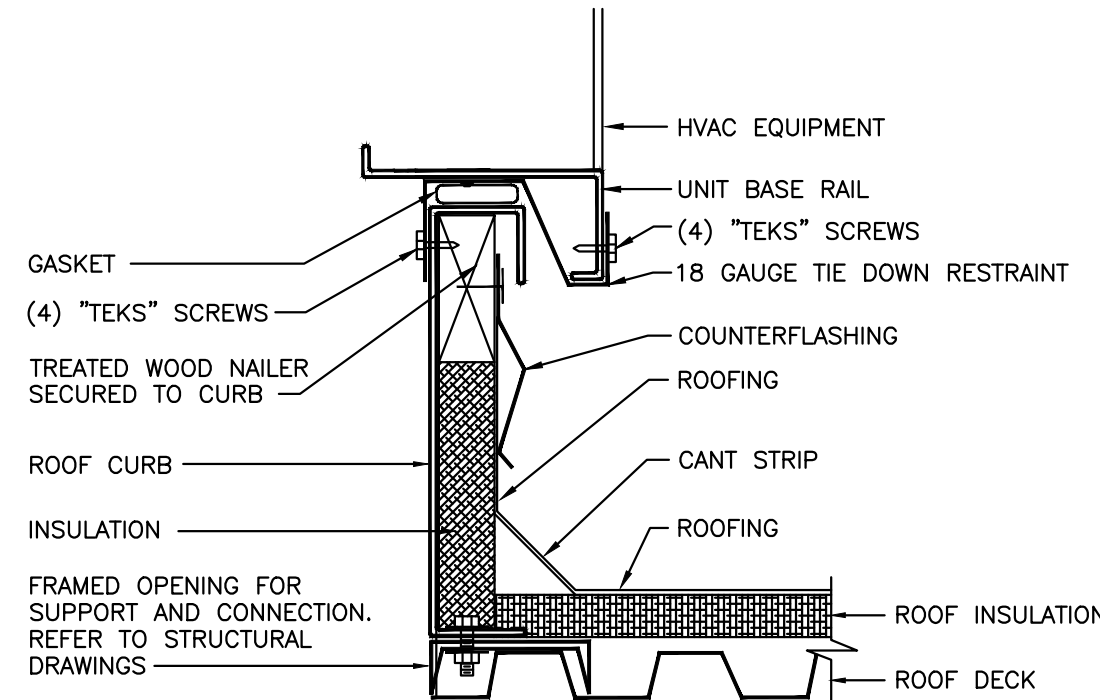
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- GREASE EXHAUST DUCTWORK & HOOD SYSTEM SPECIFICATION**
- A. THE GREASE EXHAUST SYSTEM SHALL BE CONSTRUCTED OF PRE-MANUFACTURED UL-2221 LISTED DOUBLE WALL GREASE DUCT. THE SYSTEM SHALL BE SO CONSTRUCTED THAT NO GREASE WILL BECOME POCKETED IN ANY PORTION THEREOF AND SHALL SLOPE AT NOT LESS THAN 1/4" PER FOOT IF HORIZONTAL LENGTH UNDER 75 FEET LONG OR 1" PER FOOT IF OVER 75 FEET, BACK TO THE HOOD OR AS REQUIRED BY THE LOCAL AUTHORITIES.
- B. OPENINGS IN DUCT SHALL CONFORM TO CODE REQUIREMENTS AND SHALL BE PROVIDED FOR COMPLETE AND THOROUGH CLEANING OF DUCT SYSTEM.
- C. GREASE EXHAUST HOOD SHALL BE TOPPED WITH COMPOSITE GREASE DUCT FIRE PROTECTION INSULATION SYSTEM. REFER TO MECHANICAL SPECIFICATIONS ON MS1.1 FOR ADDITIONAL INFORMATION.
- D. GREASE HOOD TO EXTEND A MINIMUM OF 6" BEYOND THE COOKING SURFACE ON ALL OPEN SIDES.
- E. PROVIDE GREASE DUCT CLEAN-OUT ACCESS DOORS AT EVERY CHANGE OF DIRECTION IN THE DUCT AND/OR EVERY 10 FEET WITH MINIMUM OF 3 FEET OF CLEARANCE IN FRONT OF CLEAN-OUT. INSULATE ACCESS DOORS AS REQUIRED TO MAINTAIN RATING OF GREASE DUCT ENCLOSURE.

- NOTES:**
1. PROVIDE UL LISTED TYPE 1 EXHAUST HOOD.
  2. GREASE HOOD SHALL MEET THE REQUIREMENTS OF MECHANICAL CODE, NSF AND NFPA FOR A TYPE I HOOD.
  3. FIRE DEPARTMENT APPROVAL SHALL BE REQUIRED ON FIRE PROTECTION SYSTEM FOR GREASE HOODS AND DUCTS AS REQUIRED BY MECHANICAL AND FIRE CODES.
  4. PROVIDE CHEMICAL FIRE SUPPRESSION SYSTEM AS REQUIRED BY NFPA 17A.
  5. PERFORM SMOKE TEST ON GREASE EXHAUST DUCTWORK AFTER DUCTWORK INSTALLATION IS COMPLETE BUT PRIOR TO DUCTWORK CONCEALMENT PER REQUIREMENTS OF LOCAL CODE AUTHORITIES.



ACCEPTABLE FOR 170 MPH ZONE  
VERIFY ON SITE WITH GENERAL CONTRACTOR

**PROJECT INFORMATION:**

**TEXAS CHICKEN & BURGERS**

**DOB APPROVAL STAMP:**

**DOB NOW JOB NO.:**

**DATE:** 05/19/2022

**PROJECT NO.:** Z325-21

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**SCALE:** AS NOTED

**DRAWING TITLE:**

**MECHANICAL DETAILS  
(3 OF 3)**

**DRAWING NO.:**

**M-502.00**



ROOF TOP UNIT SCHEDULE																							
UNIT ID	MANUFACTURER	MODEL	AREA SERVED	NOMINAL TONS	SUPPLY FAN			HEATING CAPACITY			COOLING CAPACITY				ELECTRICAL				EER/SEER	STEADY STATE EFFICIENCY (%)	WEIGHT (LBS.)	POWER EXHUAUST	REMARKS
					SUPPLY CFM	OUTSIDE AIR CFM	ESP (IN. OF W.G.)	INPUT MBH	OUTPUT MBH	STAGES	TOTAL MBH	SENSIBLE MBH	AMBIENT TEMP. DB (°F)	ENTERING TEMP. DB / WB (°F)	VOLTS	PHASE	MCA (A)	MOCP (A)					
RTU-1	TRANE	YHC036	DINING	3	1200	250	0.5	120	96	1	35.7	27.3	92	75/63	208-230	3	21	30	15 (SEER)	80	800	NO	NEW
RTU-2	TRANE	YHC092	KITCHEN	7.5	3000	280	0.5	200	160	2	94	89	95	80/67	208-230	3	39	50	11.2(EER)	80	1200	NO	NEW
NOTES:																							
1. ALL EQUIPMENT MUST BE HIGH EFFICIENT, MEETING OR EXCEEDING THE BRANDS MINIMUM REQUIREMENTS.																							
2. ELECTRICAL CONNECTION TO BE SINGLE POINT AND TO BE THROUGH THE BOTTOM OF THE UNIT																							
3. PROVIDE DISCONNECT SWITCH AND AN UNPOWERED GFIC RECEPTACLE.																							
4. 14"ROOF CURB - CONTRACTOR SHALL FIELD INSULATE. SHIP ASAP AHEAD OF THE UNIT.																							
5. CONDENSATE DRAIN WITH 2" DEEP VENTED TRAP DISCHARGE TO SPLASH BLOCK ON ROOF.																							
6. CABINET WITH 1/2" FIBERGLASS INSULATION.																							
7. UNIT SHALL BE COMPLETE WITH GAS HEATING SECTION. GAS REGULATOR TO RECEIVE 4.5-14" GAS PRESSURE FROM MAIN.																							
8. DRY BULB & ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF / 100% MANUAL OUTSIDE AIR DAMPER ASSEMBLY WITH HOOD (ONLY FOR RTU-2).																							
9. PROVIDE 8-WIRE, 24 VAC, AUTOMATIC CHANGEOVER, 2-STAGE HEAT / COOL, REMOTELY PROGRAMMABLE THERMOSTAT																							
10. REMOTE SENSORS SHALL BE PROVIDED IN SPACE WIRED BACK TO PROGRAMMABLE, 24 HOUR, 7 DAY, THERMOSTATS.																							
11. ANTI SHORT CYCLE TIMER.																							
12. THROWAWAY 2" FILTERS (MERV 8).																							
13. WHERE REQUIRED, PROVIDE LOW AMBIENT COOLING CAPABILITY DOWN TO 0 DEGREES F.																							
14.PROVIDE ALL COMPRESSORS WITH 5 YEAR WARRANTY.																							
15.PROVIDE SMOKE DETECTOR ON RETURN DUCT FOR RTU-2.																							
16.HOT GAS REHEAT OPTION AND ECONOMIZER FAULT DETECTION AND DIAGNOSTICS (FDD).																							

FANS SCHEDULE									
TAG	SERVICE	MODEL	E.S.P (IN. W.G.)	CFM	ELEC (V/Hz/Ph.)	POWER	AMPS	WEIGHT(LBS)	MAKE
KEF-1	KITCHEN	DU180HFA	1.50	2200	208/60/3	1.5 (HP)	6.6 (FLA)	215	CAPTIVEAIRE
TXF-1	TOILET EXHAUST	SP-A90	0.25	75	115/60/1	16 (W)	0.17	15	GREENHECK
NOTES :-									
1) INTERCONNECT TXF-1 WITH LIGHT IN RESTROOM. REFER TO ELECTRICAL LIGHTING PLAN.									
2) ALL DIRECT DRIVE FANS SHALL BE FURNISHED WITH VARI-GREEN MOTOR CONTROL.									
3) FAN SPEED SHALL BE EASILY FIELD ADJUSTABLE.									
4) REFER TO DETAILS, FAN SHALL BE MOUNTED W/SUPPORT FRAMING BY OTHERS.									
5) PROVIDE MOTOR STARTERS, DISCONNECTS . ALL EQUIPMENT NORMAL POWER WIRING BY ELECTRICAL CONTRACTOR. COORDINATE POWER REQUIREMENTS.									
6) PROVIDE RUBBER IN SHEAR ISOLATION AND ALL-THREAD HANGING RODS FOR INLINE FANS.									
7) COORDINATE WITH ARCH./G.C. ACCESS DOORS FOR SERVICING ALL FANS WITHIN CEILINGS.									

MAKEUP AIR FAN SCHEDULE														
TAG	SERVICE	MODEL	E.S.P (IN. W.G.)	CFM (MAX.)	ELEC (V/Hz/Ph.)	POWER	MCA (A)	MOCP (A)	HEATING CAPACITY		REQUIRED INPUT GAS PRESSURE	EFFICIENCY	WEIGHT (LBS)	MAKE
									INPUT (MBH)	OUTPUT (MBH)				
MAU-1	KITCHEN	A1-D.500-15D	0.500	1600	208/60/3	1.5 (HP)	5.5	15	123.1	113.3	7 IN. W.C - 14 IN. W.C.	92%	575	CAPTIVEAIRE
NOTES :-														
1) FAN SPEED SHALL BE EASILY FIELD ADJUSTABLE.														
2) REFER TO DETAILS, FAN SHALL BE MOUNTED W/SUPPORT FRAMING BY OTHERS.														
3) PROVIDE MOTOR STARTERS, DISCONNECTS . ALL EQUIPMENT NORMAL POWER WIRING BY ELECTRICAL CONTRACTOR. COORDINATE POWER REQUIREMENTS.														
4) FANS SHALL BE UL-705 LISTED.														

VENTILATION CALCULATION													
ROOM NAME	AREA (SQ.FT.)	NUMBER OF PEOPLE/1000sq.ft AS PER NYCMC 2014	NUMBER OF PEOPLE AS PER NYCMC 2014	NUMBER OF CHAIR	FINAL PEOPLE NO.	MIN OUTSIDE AIR AS PER NYCMC 2014		REQ. OA (CFM)	Provided OA (CFM)	EXHAUST AIRFLOW RATE (CFM/SQ.FT. OR /FIXT.)	TOTAL EXHAUST (CFM)	PROVIDED EXHAUST (CFM)	
DINING	235	70	17	6	17	7.5	0.18	170	2330	0	0	0	
KITCHEN	810	0	0	0	4	7.5	0.12	127		0.7	567	2200	
POS	82	15	2	0	2	7.5	0.12	25		0	0	0	
REST ROOM	50	0	0	0	0	7.5	0	0		0	75	75	
TOTAL								322		-	Total	2275	

AIR BALANCE					
UNIT	AREA SERVED	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	RETURN AIR (CFM)	EXHAUST AIR(CFM)
RTU-1	SEE PLAN	1200	250	950	0
RTU-2	SEE PLAN	3000	280	2720	0
MAU-1	SEE PLAN	1800	1800	0	0
KEF-1	SEE PLAN	0	0	0	2200
TXF-1	SEE PLAN	0	0	0	75
TOTAL:		6000	2330	3670	2275
BUILDING PRESSURE:		55		POSITIVE	
NOTES:					
1. CONTRACTOR TO ADJUST MOTORIZED DAMPER ON FRESH AIR TAP TO PROVIDE OUTSIDE AIR AS MENTIONED IN ABOVE TABLE.					

AIR TERMINAL SCHEDULE					BASIS OF DESIGN: TITUS	
TAG	TYPE	CFM RANGE	DIMENSION (IN)	MODEL NO.	MAX NC	dba
CDS-1	SUPPLY	176-275	24X24	TMS	20	
CDS-2	SUPPLY	176-275	24X24	PAS	21	
CDS-3	SUPPLY	45-70	12X12	TMS	20	
CDR-1	RETURN	650-1310	24X24	350RL	25	
NOTES FOR DIFFUSERS						
1. ALL GRILLES : CONTRACTOR SHALL COORDINATE WITH LATEST ARCHITECTURAL REFLECTED CEILING PLANS TO ENSURE PROPER AIR DEVICE BORDER SELECTION.						
2. COORDINATE COLOR/FINISH WITH ARCHITECT.						

PROJECT INFORMATION:
TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:


DOB NOW JOB NO.:

DATE: 05/19/2022
PROJECT NO.: Z325-21
DRAWN BY: NYE
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SCALE: AS NOTED

DRAWING TITLE:
MECHANICAL SCHEDULES

DRAWING NO.:
M-600.00



HOOD INFORMATION - JOB#5527635

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)							TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP			END TO END	ROW
1		4824 ND-2-PSP-F	CAPTIVEAIRE	8' 11"	600 DEG	I	HEAVY	247	2200			4"	16"	2200	1576	-0.786"	1800	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S)					LIGHT(S)					UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY		
1		CAPTRATE SOLO FILTER	6	20"	16"	85% SEE FILTER SPEC	4	RECESSED ROUND	NO	LEFT	12"x48"x24"	TANK FS	4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	970 LBS

HOOD OPTIONS

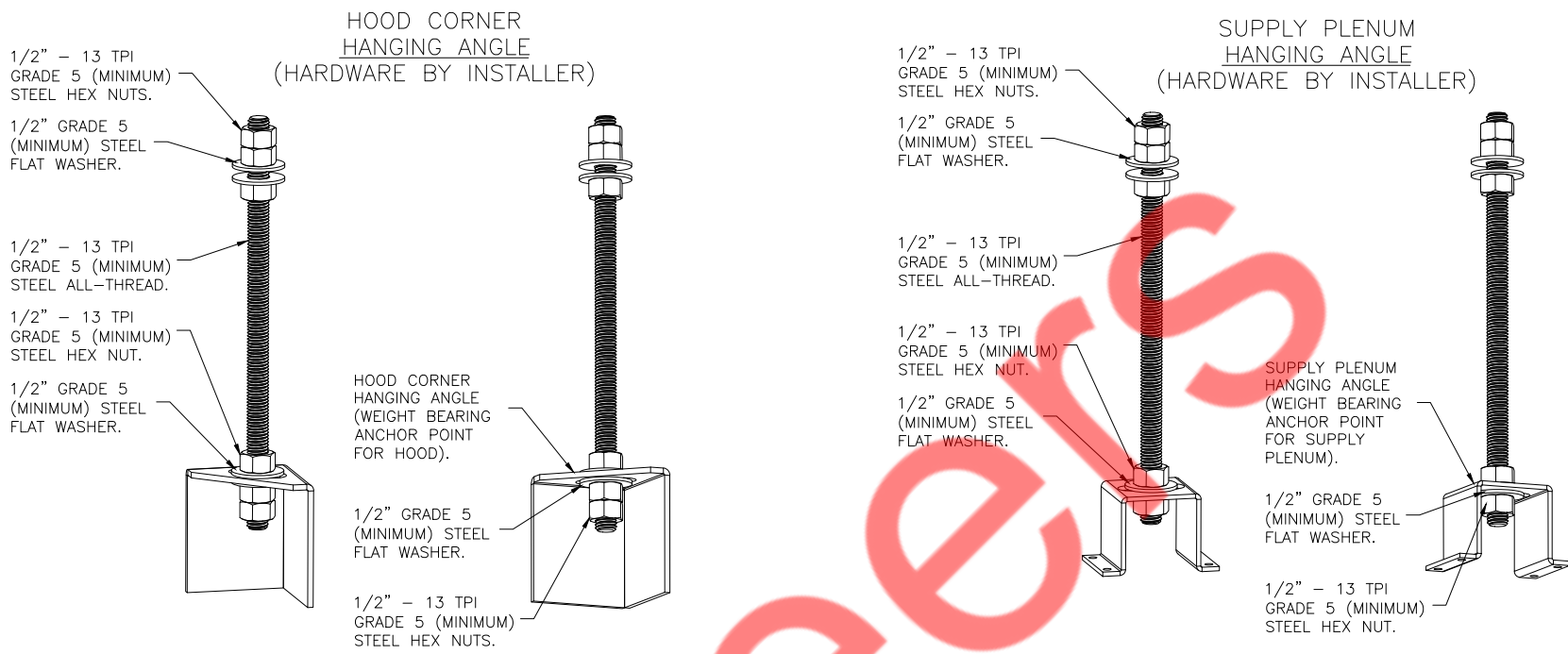
HOOD NO	TAG	OPTION
1		FIELD WRAPPER 18.00" HIGH FRONT, LEFT, RIGHT.
		BACKSPLASH 80.00" HIGH X 120.00" LONG 430 SS VERTICAL.
		BACKSPLASH 120.00" HIGH X 18.00" LONG 430 SS VERTICAL.
		RIGHT SIDESPLASH 80.00" HIGH X 48.00" LONG 430 SS VERTICAL.
		RIGHT END STANDOFF (FINISHED) 1" WIDE 48" LONG INSULATED.
		INSULATION FOR TOP OF HOOD.
		INSULATION FOR BACK OF HOOD.
		NYC CONSTRUCTION.
		LEFT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
		RIGHT WALL AS END PANEL.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1		Front	120"	16"	6"	MUA	12"	24"		600	0.162"
						MUA	12"	24"		600	0.162"
						MUA	12"	24"		600	0.162"

AIR BALANCE NOTE:

NET EXHAUST = HOOD EXHAUST - HOOD SUPPLY  
NET EXHAUST = 2,200 CFM - 1,800 CFM  
NET EXHAUST = 400 CFM NEEDED VIA HVAC



ASSEMBLY INSTRUCTIONS

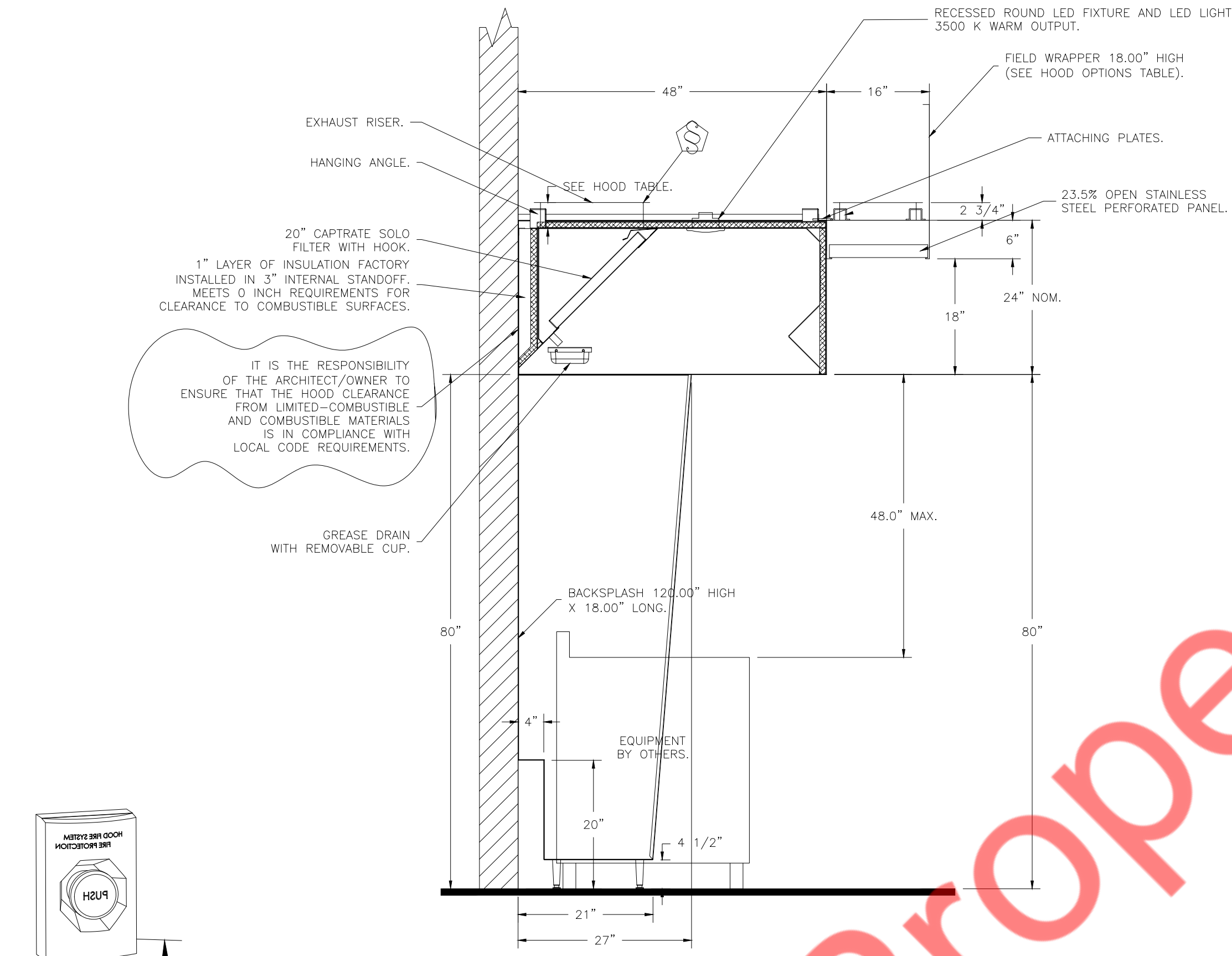
HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND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

ASSEMBLY INSTRUCTIONS

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

VERIFY CEILING HEIGHT

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



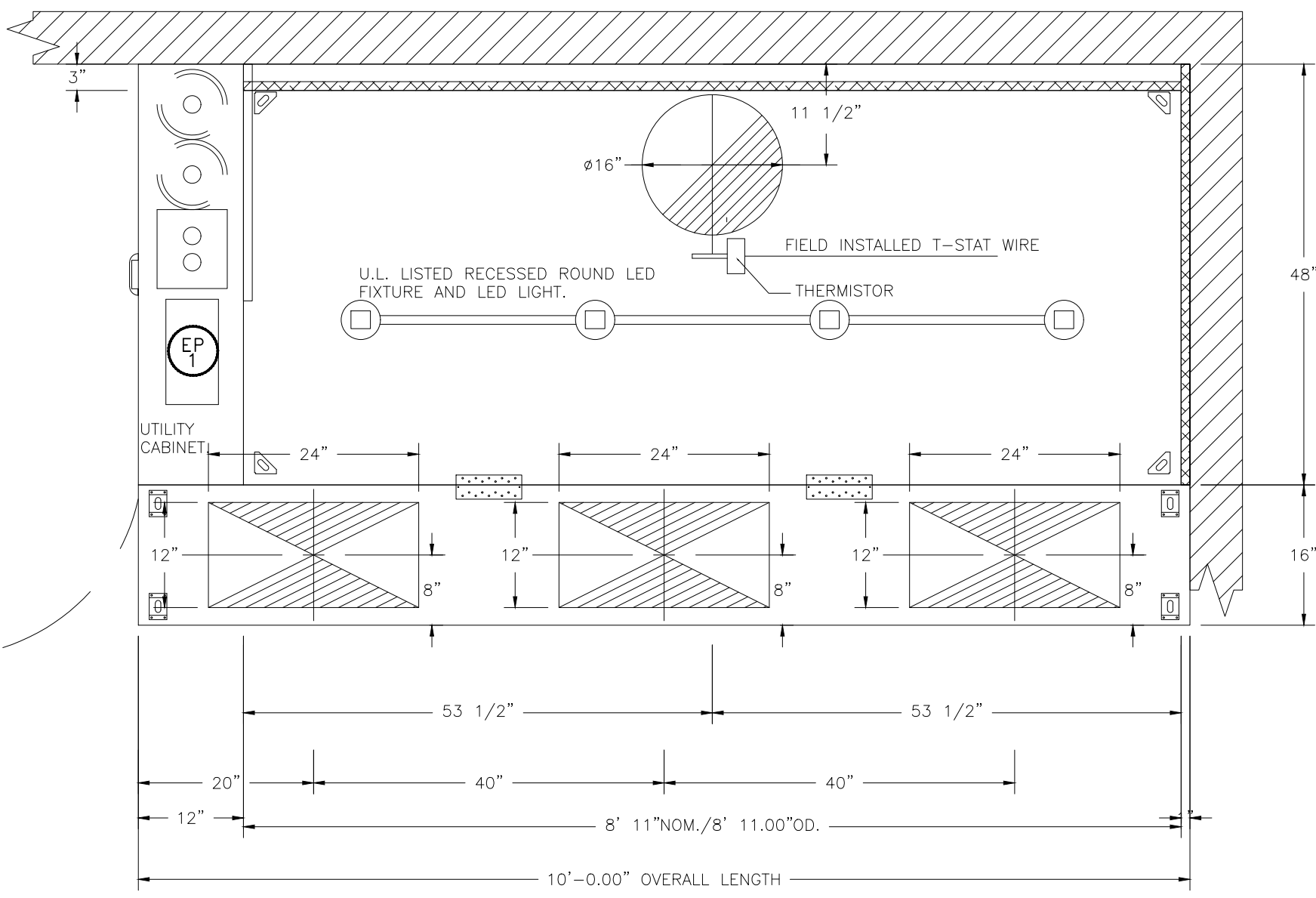
SECTION VIEW - MODEL 4824ND-2-PSP-F  
HOOD - #1

ROOM TEMPERATURE SENSOR

Provides room override based on temperature differential between the room and duct. Installed by electrician on a wall, 5'-6" off the finished floor, in the space but not directly under the hood or close to an appliance (including the electrical control box) so the reading is accurate for space.

HOOD CONTROL INTERFACE

The LCD interface provides user control and hood status. The faceplate is connected to the hood control panel through CAT-5 cable. A faceplate has 2 RJ-45 connectors. One connects to port J4 or J5 in the hood control panel and the other will typically be occupied by a RJ-45 end-of-line terminator.



PLAN VIEW - HOOD #1  
8' 11.00" LONG 4824ND-2-PSP-F

Texas Chicken & Burger

6/22/2022

5527635

celso.soenz

3/4" = 1'-0"

MASTER DRAWING

1

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

DRAWING TITLE:

HOOD DETAILS  
(1 OF 4)

DRAWING NO.:

H-100.00



FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF-1	1	DU180HFA	CAPTIVEAIRE	2200	1,500	1190	ODP,PREMIUM	1,500	1,1520	3	208	6.6	508 FPM	181	15.1

Technical drawing of a hood and fan assembly. The drawing shows a top-down view of the hood with a central fan unit. Dimensions are provided in feet and inches:

- Overall width: 37 3/8
- Overall height: 33 3/4
- Height from base to top of hood: 22 5/8
- Width of the base: 16 1/2
- Width of the base (lower section): 26
- Width of the base (lower section): 28
- Label: GREASE DRAIN.
- Label: DUCTWORK BETWEEN EXHAUST RISER ON HOOD AND FAN (BY OTHERS).

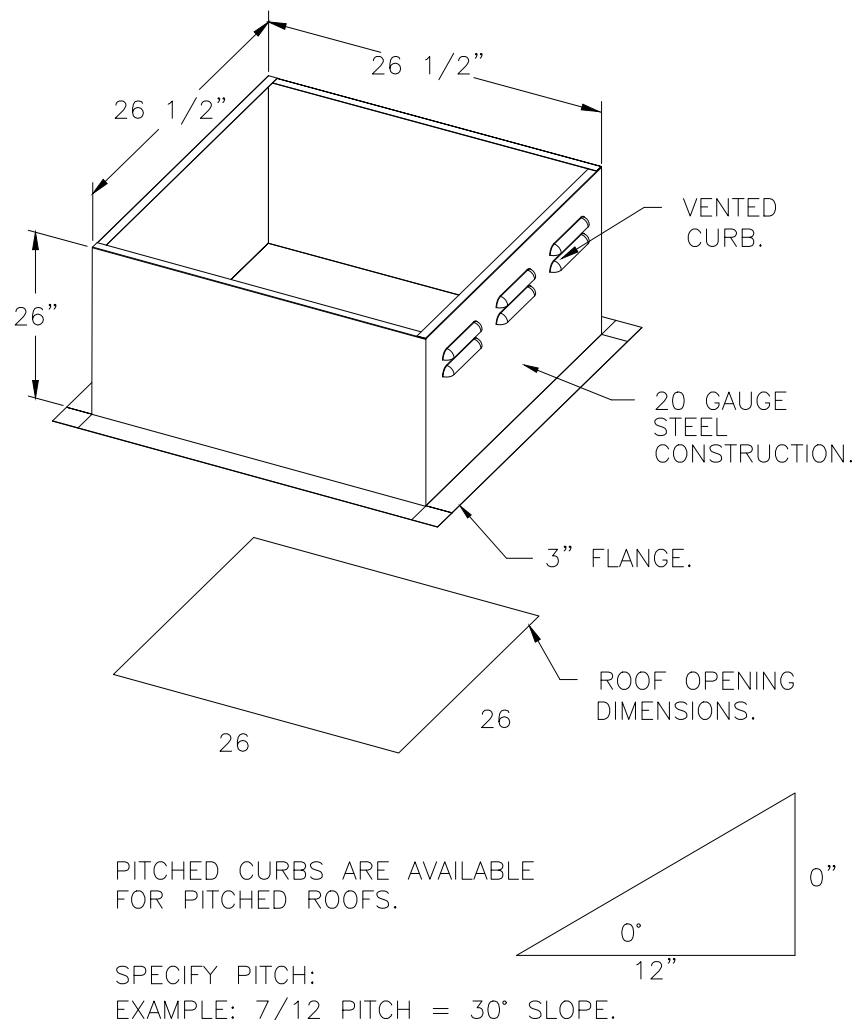
TOP VIEW

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

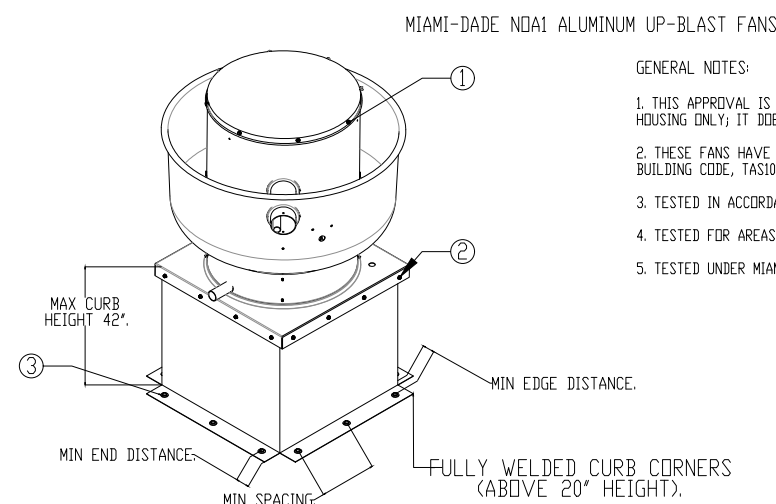
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

GREASE BOX.  
FAN BASE CERAMIC SEAL - INSTALLED AT  
PLANT - FOR GREASE DUCTS.  
2 YEAR PARTS WARRANTY.



NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1		34 LBS	CURB	26.500"W X 26.500"L X 26.000"H ALONG LENGTH, RIGHT VENTED HINGED.
2	# 2	MAU-1	65 LBS	CURB	21.000"W X 71.000"L X 20.000"H ALONG WIDTH, RIGHT INSULATED.



1. THIS APPROVAL IS FOR THE STRUCTURAL CAPACITY AND IMPACT RATING OF THE EXTERIOR HOUSING ONLY; IT DOES NOT INCLUDE ANY INTERIOR MECHANISM OR ELECTRICAL PART.
2. THESE FANS HAVE NOT BEEN WIND TESTED FOR WIND PROVEN RAIN TEST PER FLORIDA BUILDING CODE, TAS201 (A)-(S).
3. TESTED IN ACCORDANCE TO FLORIDA BUILDING CODE TEST PROTOCOL, TAS201, TAS202, TAS203
4. TESTED FOR AREAS INCLUDING HIGH VELOCITY HURRICANE ZONES.
5. TESTED UNDER MIAMI-DADE COUNTY NOTIFICATION NUMBER AT1-08003.

**INSTALLATION INSTRUCTIONS:**

1. SECURE LID TO FAN USING (8) 1/4"-14 x 1" ZINC PLATED STEEL SELF DRILLING SHEET METAL SCREWS WITH RUBBER WASHER SPACED EVENLY AROUND LID.
2. SECURE FAN BASE TO CURB USING 1/4"-14 x 2" GALVANIZED SELF DRILLING SCREWS (A307 OR BETTER) THROUGH PRE-PUNCHED HOLES IN THE FAN BASE. (SEE TABLE BELOW FOR QTY).
3. SECURE CURB TO ROOF OR WALL BY DRILLING 1/4" DIA PILOT HOLES IN THE CURB FLANGE AT LOCATIONS SHOWN IN THE DIAGRAM. SEE TABLE BELOW FOR FASTENER TYPE. USE TABLE BELOW FOR FASTENER QTY

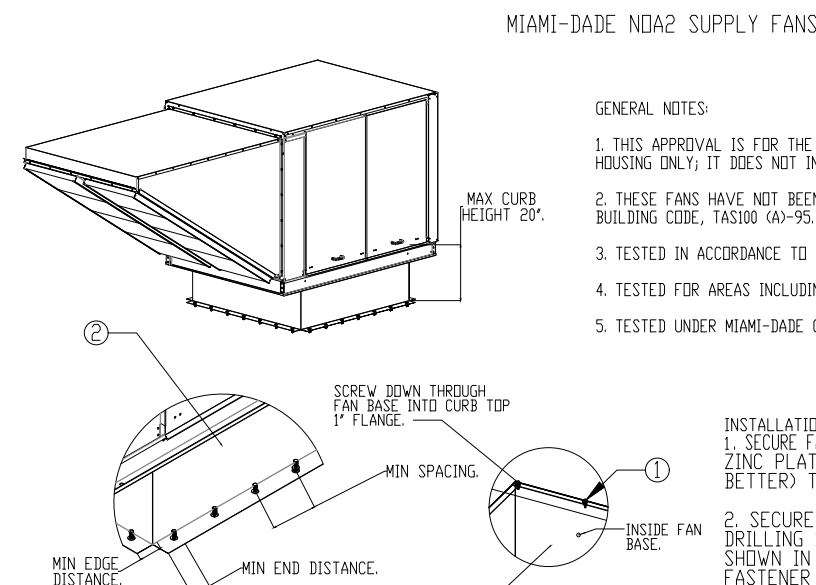
CURB MATERIAL:  
20' HIGH & LESS = 20 GA. STEEL.  
ABOVE 20' THRU 42' = 16 GA. STEEL.

DESIGN PRESSURE: +1500 / -1500 PSF

LARGE MISSILE IMPACT RESISTANT.

INSTALLATION FASTENER TYPES				
	FAN TO CURB	WOOD (SG = 0.42 MIN)	STEEL (12 GAUGE MIN.)	CONCRETE (2500 PSI MIN. CRACKED CONCRETES)
FASTENER	5/16" x 1/2" SELF DRILLING SCREW (ELCO DRILL EX OR BETTER)	3/8" DIA. ZINC PLATED LAG BOLT	1/4" x 1/4" DR. FLEX SELF DRILLING SCREW	3/8" DIA. SS HILTI KWIK BOLT T2 EXPANSION ANCHOR
MINIMUM THREAD PENETRATION	N/A	2-1/2"	12 GAUGE	2"
MINIMUM EDGE DISTANCE	N/A	1-1/2"	3/8"	3"
MINIMUM END DISTANCE	N/A	2-5/8"	3/8"	3"
MINIMUM SPACING	N/A	1-1/2"	3/4"	5-1/2"

INSTALLATION FASTENER QTY																
FAN MODEL	CURB TO FAN (ROOF)		CURB TO FAN (WALL)		WOOD (ROOF)		WOOD (WALL)		STEEL (ROOF)		STEEL (WALL)		CONCRETE (ROOF)		CONCRETE (WALL)	
	PER SIDE	TOTAL	PER SIDE	TOTAL	PER SIDE	TOTAL	PER SIDE	TOTAL	PER SIDE	TOTAL	PER SIDE	TOTAL	PER SIDE	TOTAL	PER SIDE	TOTAL
DU180	3	12	3	12	5	20	5	20	6	24	6	24	5	20	5	20



1. THIS APPLICANT IS FOR THE STRUCTURAL CAPACITY AND IMPACT RATING OF THE EXTERIOR HOUSING ONLY; IT DOES NOT INCLUDE ANY INTERIOR MECHANISM OR ELECTRICAL PART.

2. THESE FANS HAVE NOT BEEN WIND TESTED FOR WIND DRIVEN RAIN TEST PER FLORIDA BUILDING CODE, TAS200 (A)-95.

3. TESTED IN ACCORDANCE TO FLORIDA BUILDING CODE TEST PROTOCOL TAS200, TAS202, TAS203

4. TESTED FOR AREAS INCLUDING HIGH VELOCITY HURRICANE ZONES.

5. TESTED UNDER FLORIDA-STATE COUNTY NOTIFICATION NUMBER ATL-00024

INSTALLATION INSTRUCTIONS:

1. SECURE FAN BASE TO STEEL OF CURB USING 1/4-14 X 1" ZINC PLATED SELF DRILLING SCREWS (#A307 OR BETTER) THROUGH FAN BASE. SEE TABLE BELOW FOR QTY.

2. SECURE CURB TO ROOF FRAMING MEMBERS BY DRILLING 1/4" DIA PILOT HOLES IN CURB AT LOCATION SHOWN IN BOTTOM LEFT DIAGRAM. SEE TABLE BELOW FOR FASTENER TYPE AND QTY.

DESIGN PRESSURE: +30.0 / -130.0 PSF  
LARGE MISSILE IMPACT RESISTANT.

#### INSTALLATION FASTENER TYPES

INSTALLATION FASTENER TYPES				
	FAN TO CURB	WOOD (5D x 0.42 MIN.)	STEEL (12 GAUGE MIN.)	CONCRETE (2600 PSI MIN. CRACKED CONCRETE)
FASTENER	1/4"x1-1/4"x1/8" SELF DRILLING SCREW (A307 OR BETTER)	3/8" DIA. ZINC PLATED LAG BOLT	1/4"x1-1/4" 106L FLEX SELF DRILLING SCREW	3/8" DIA. SS HILTI KWIK BOLT T2 EXPANSION ANCHOR
MINIMUM THREAD PENETRATION	N/A	2"	12 GAUGE	2-5/16"
MINIMUM EDGE DISTANCE	N/A	1-1/2"	3"	3"
MINIMUM END DISTANCE	N/A	2-5/8"	3/4"	4"
MINIMUM SPACING	N/A	1-1/2"	3/8"	7"

INSTALLATION FASTENER QTY												
	CURB TO FAN			WOOD			STEEL			CONCRETE		
FAN MODEL	LONG SIDE	SHORT SIDE	TOTAL	LONG SIDE	SHORT SIDE	TOTAL	LONG SIDE	PER SIDE	TOTAL	LONG SIDE	SHORT SIDE	TOTAL
MODULAR 2	3	2	10	5	4	18	4	3	14	4	3	14

**Exhaust Fan Wiring**

DRAWING NUMBER: Exh557635-1      JOB: 5527635 - Texas Chicken & Burger      SHIP DATE: 6/22/2022      MODEL: D018007A

**Installed Options**

**Component Identification**

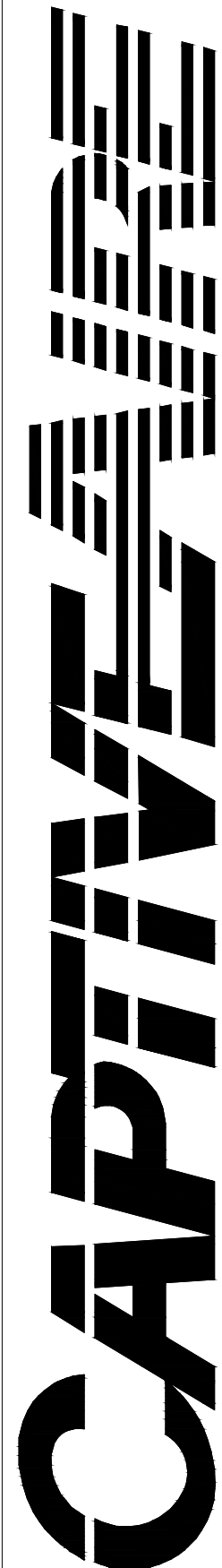
Label	Description	Location
MT-01	Fan Motor	[3]
SW-01	Main disconnect switch	[3]

**EXHAUST MOTOR INFO**  
1.0HP/208V/3P-6.6FLA

**ELECTRICAL INFORMATION**  
MOTOR P/N: 405-100-000  
MT-01/CTR. MOP: T5A

**NOTES**  
— DENOTES FIELD WIRING  
— DENOTES INTERNAL WIRING

**WIRE COLOR**  
BK - BLACK    YW - YELLOW  
BL - BLUE    GR - GREEN  
BR - BROWN    GV - GRAY  
CU - COPPER    PB - PURPLE  
RD - RED    PK - PINK  
WH - WHITE



**Florida Gulf Coast Office**

4519 George Road, Suite 150, Tampa, FL, 33634 PHONE: (813) 435-3388 FAX: (919) 747-5642 EMAIL: [reg62@captiveaire.com](mailto:reg62@captiveaire.com)

Texas Chicken & Burger

6/22/2022

5527635

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$$3/4'' = 1'-0''$$

## MASTER DRAWING

2

## TEXAS CHICKEN & BURGERS

## DOB NOW JOB NO.

DATE: 05/19/2022

DRAWN BY: NYE

CHECKED BY: NYE

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**DRAWING TITLE:**

HOOD DETAILS  
(2 OF 4)

**DRAWING NO.:**

**H-101.00**



MUA FAN INFORMATION – JOB#5527635

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCp	WEIGHT (LBS)	SONES
2	MAU-1	1	A1-D.500-15D	5MF-1-MOD	A1-D.500	1000	1800	0.500	1919	ODP,PREMIUM	1.500	1.1250	3	208	4.4	5.5A	15A	510	19

GAS FIRED MAKE-UP AIR UNIT(S)

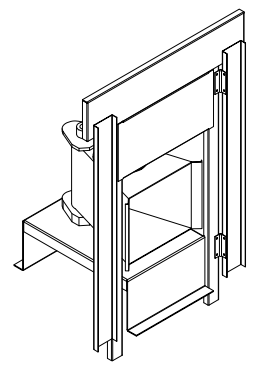
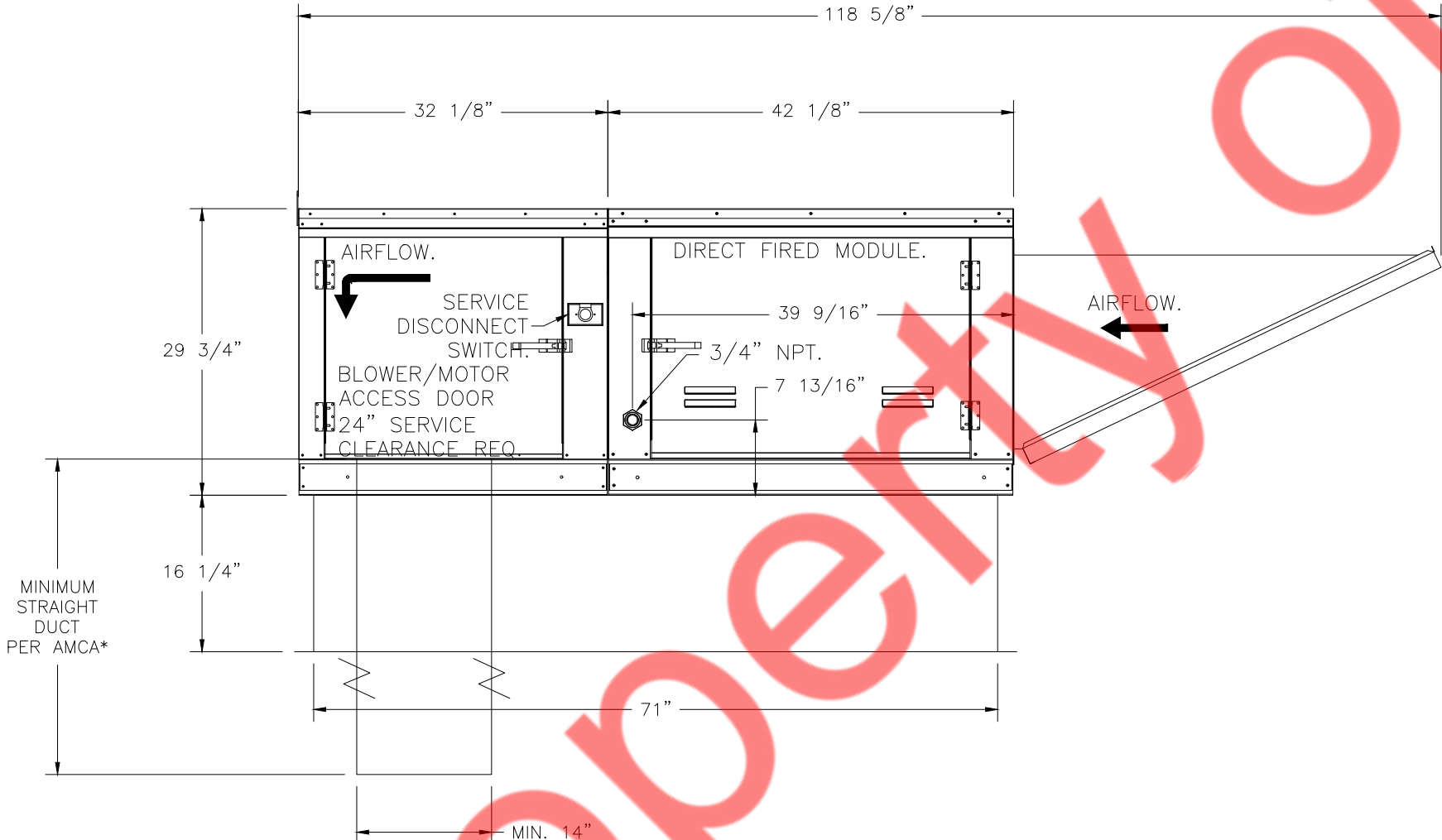
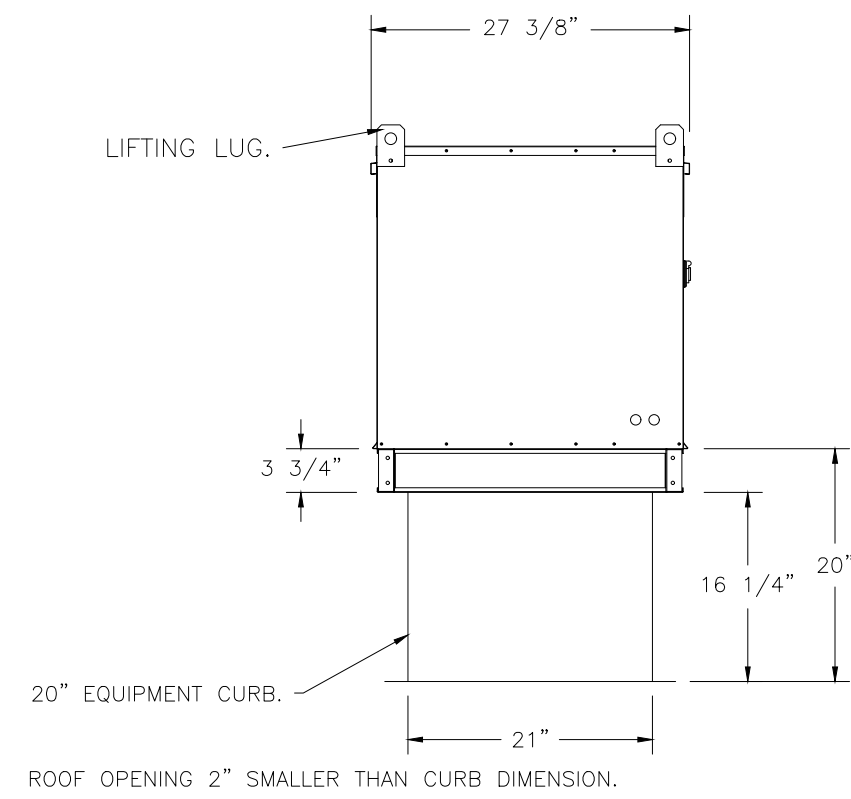
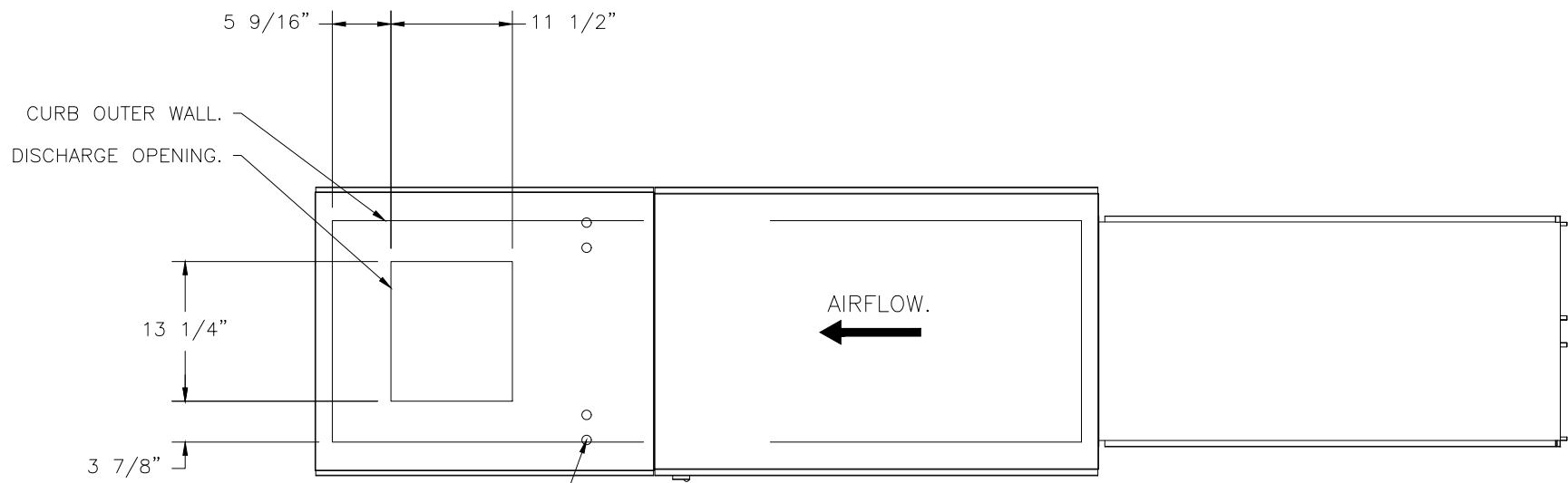
FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
2	MAU-1	123190	113335	59°F	7 IN. W.C. – 14 IN. W.C.	NATURAL	92

- FAN #2 A1-D.500-15D – HEATER (MAU-1)
- DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 15" MIXED FLOW DIRECT DRIVE FAN.
  - INTAKE HOOD WITH EZ FILTERS.
  - DOWN DISCHARGE – AIR FLOW RIGHT -> LEFT.
  - DOWN DISCHARGE CONSTRUCTION FOR SIZE 1 DIRECT DRIVE AHUS.
  - GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
  - GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE.
  - LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
  - SHIP LOOSE GAS STRAINER. TO BE INSTALLED UPSTREAM OF UNIT CONNECTION, 3/4" CONNECTION.
  - COOLING INTERLOCK RELAY, 24VAC COIL, 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
  - MOTORIZED BACK DRAFT DAMPER 16" X 18" FOR SIZE 1 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, TFB120S ACTUATOR INCLUDED.
  - CURB DUCT HANGER – 1-1/4" ANGLE IRON FRAME WELDED TO CURB TO SUPPORT STANDARD SIZE DUCTWORK. PRICED PER CURB. ONLY AVAILABLE WHEN CURB ASSEMBLY IS ORDERED.
  - SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
  - HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER SECTION).
  - 2 YEAR PARTS WARRANTY

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

SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 16°F. TEMP. RISE = 59°F.  
BTUs CALCULATED OFF ACTUAL AIR DENSITY.  
OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 113458.  
INPUT BTUs AT ALTITUDE OF 0.0 FT. = 123324.  
OUTPUT BTUs AT ALTITUDE OF 30 FT. = 113335.  
INPUT BTUs AT ALTITUDE OF 30 FT. = 123190.



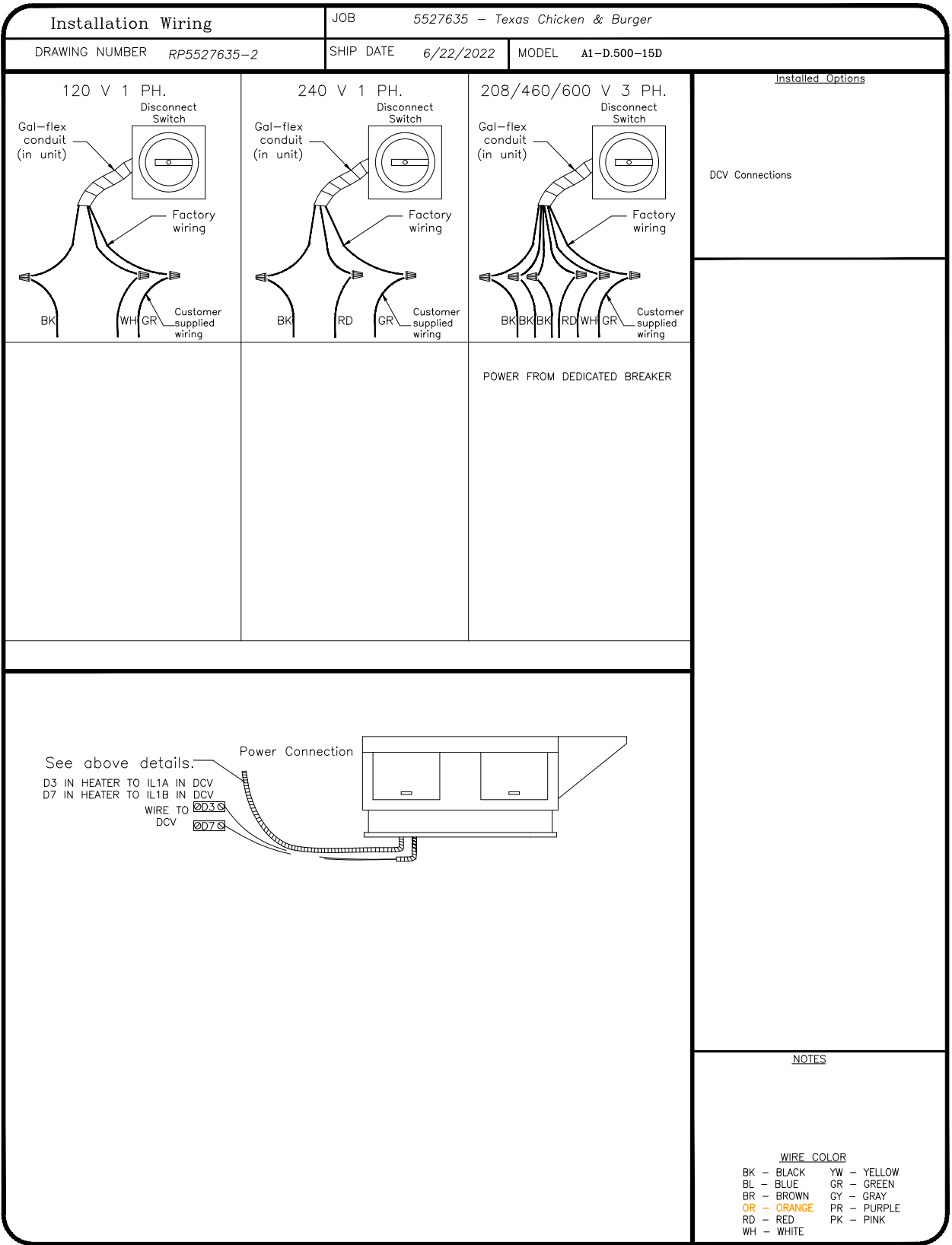
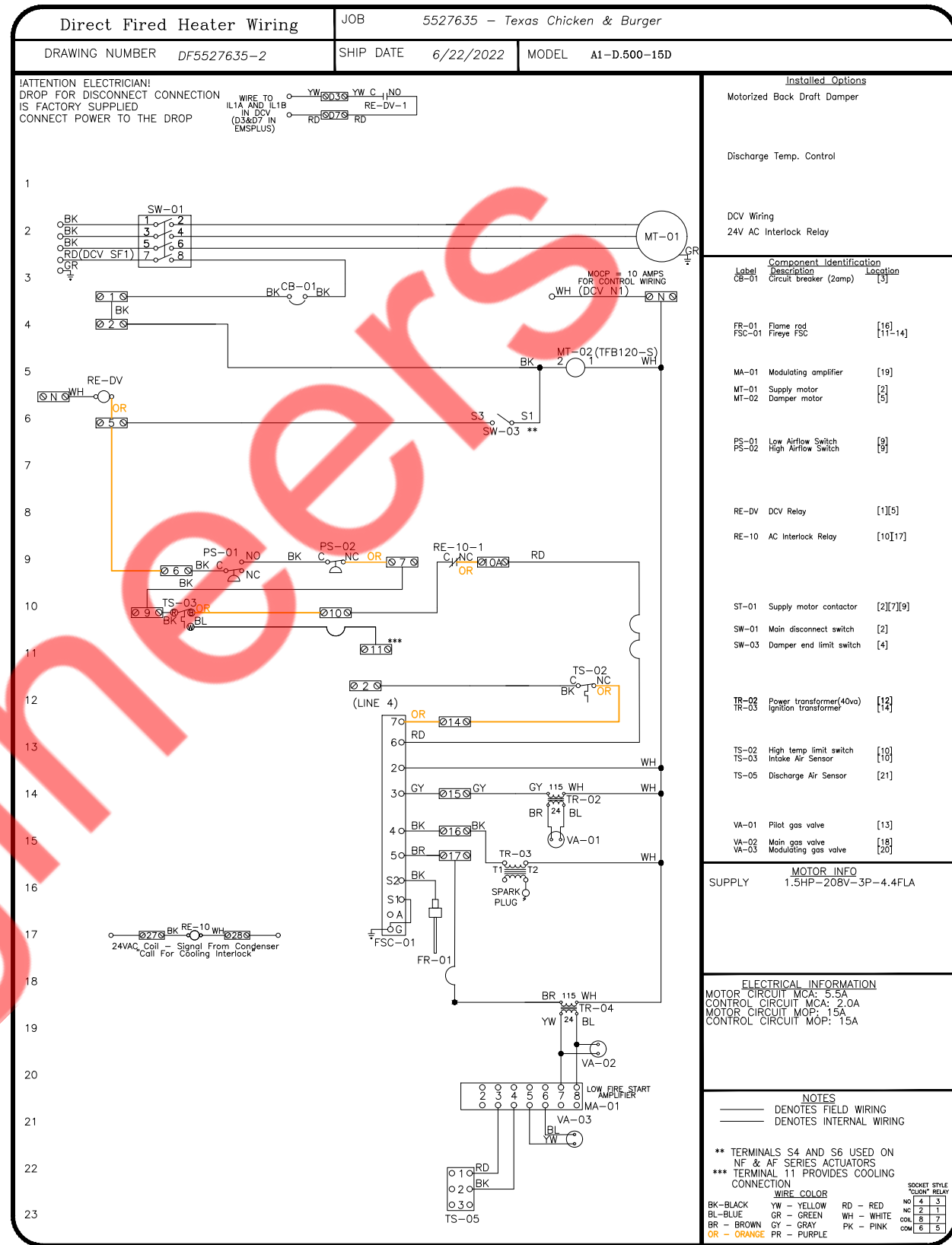
**DIRECT FIRED PROFILE PLATE SPECIFICATIONS:**

**DESCRIPTION:**  
DIRECT FIRED BURNERS SHALL HAVE PATENTED (US PATENT NO.: US62952362), SELF-ADJUSTING PROFILE PLATES DESIGNED TO ENSURE PROPER AIR VELOCITY AND PRESSURE DROP ACROSS THE BURNER. PROFILE PLATES SHALL ALLOW BURNERS TO ACHIEVE CLEAN COMBUSTION BY LIMITING BY-PRODUCT LEVELS TO A MAXIMUM OF 50PPM OF CARBON MONOXIDE (CO) AND 0.5PPM OF NITROGEN DIOXIDE (NO2). DIRECT FIRED UNITS SHALL BE CONFIGURED WITH THE BURNER MOUNTED DOWNSTREAM OF THE BURNER. THIS ARRANGEMENT WILL ENSURE A CONSISTENT AIRFLOW, REGARDLESS OF INLET AIR TEMPERATURE.

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

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

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



DESCRIPTION

DATE:

6/22/2022

5527635

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3/4" = 1'-0"

MASTER DRAWING

TEXAS CHICKEN & BURGER

6/22/2022

5527635

celso.saenz

3/4" = 1'-0"

MASTER DRAWING

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

DRAWING TITLE:

HOOD DETAILS  
(3 OF 4)

DRAWING NO.:

H-102.00

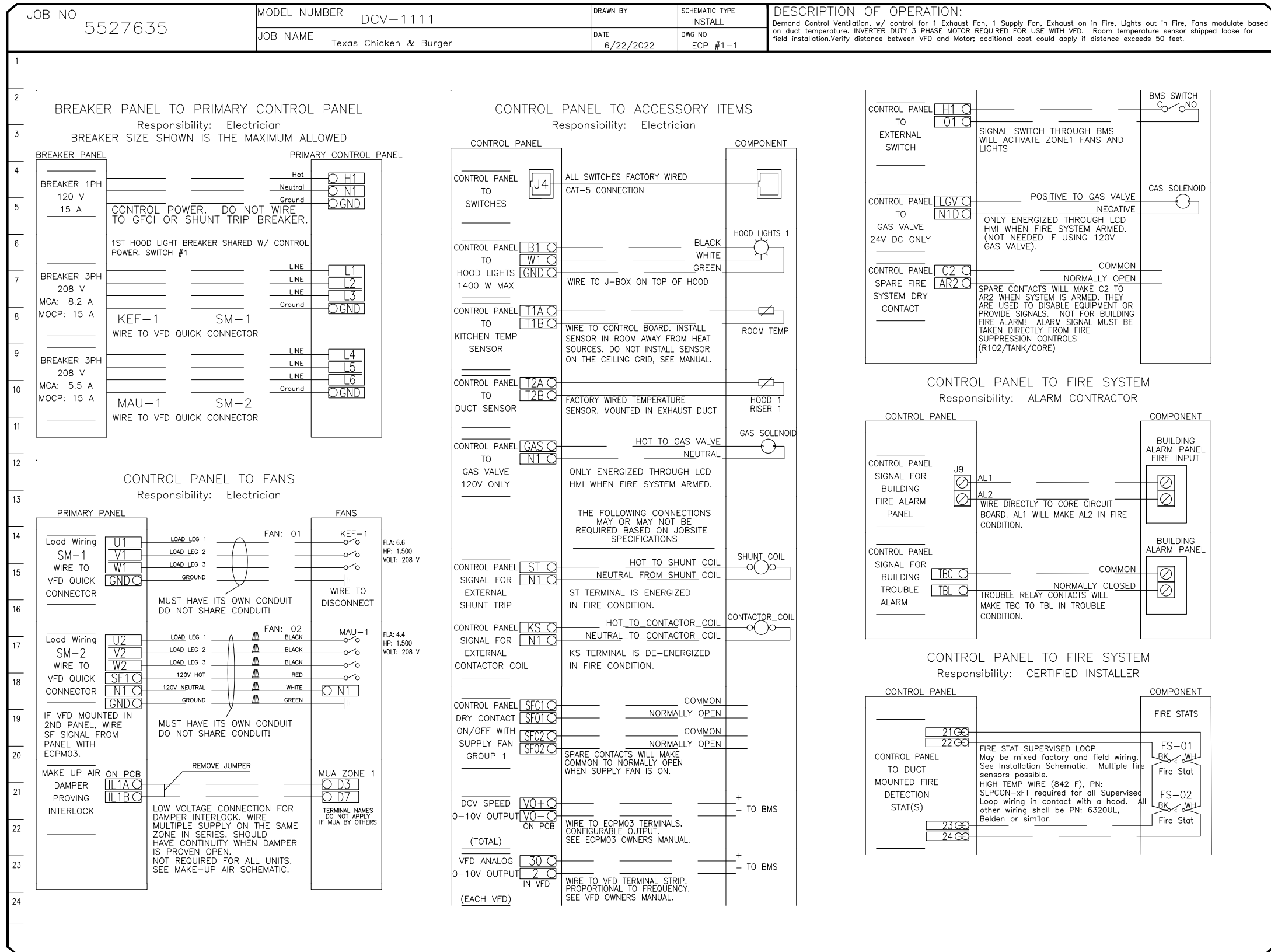
TEXAS CHICKEN & BURGER

Florida Gulf Coast Office  
4519 George Road, Suite 150, Tampa, FL 33634 PHONE: (813) 435-3868 FAX: (919) 747-5642 EMAIL: reg52@captivair.com



ELECTRICAL PACKAGE – JOB#5527635

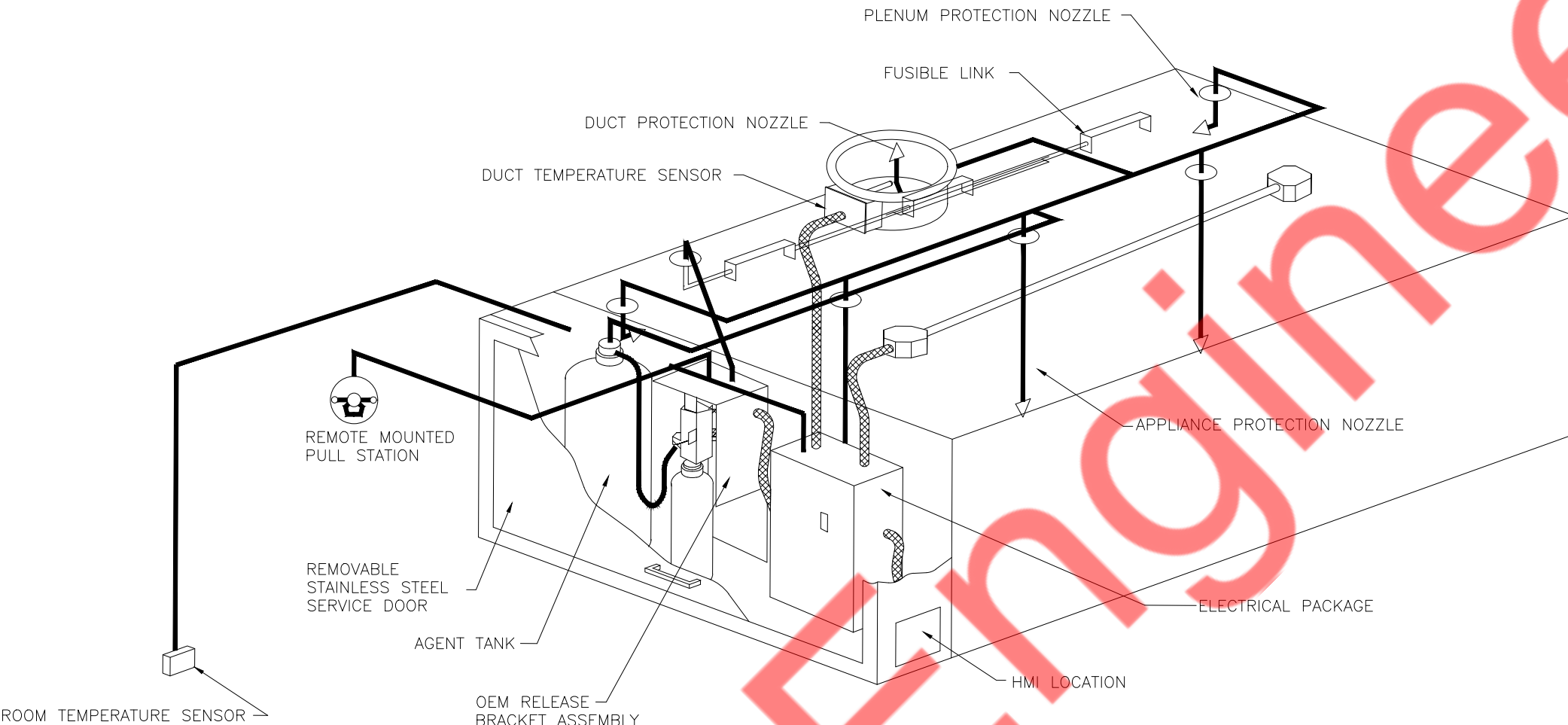
NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		FAN TAG	TYPE	Φ	HP	VOLT FLA
1		DCV-1111	UTILITY CABINET LEFT	03 – UTILITY CABINET LEFT HOOD # 1	1 LIGHT 1 FAN	SMART CONTROLS DCV	KEF-1	EXHAUST	3	1.500	208 6.6
							MAU-1	SUPPLY	3	1.500	208 4.4



FIRE SYSTEM INFORMATION – JOB#5527635

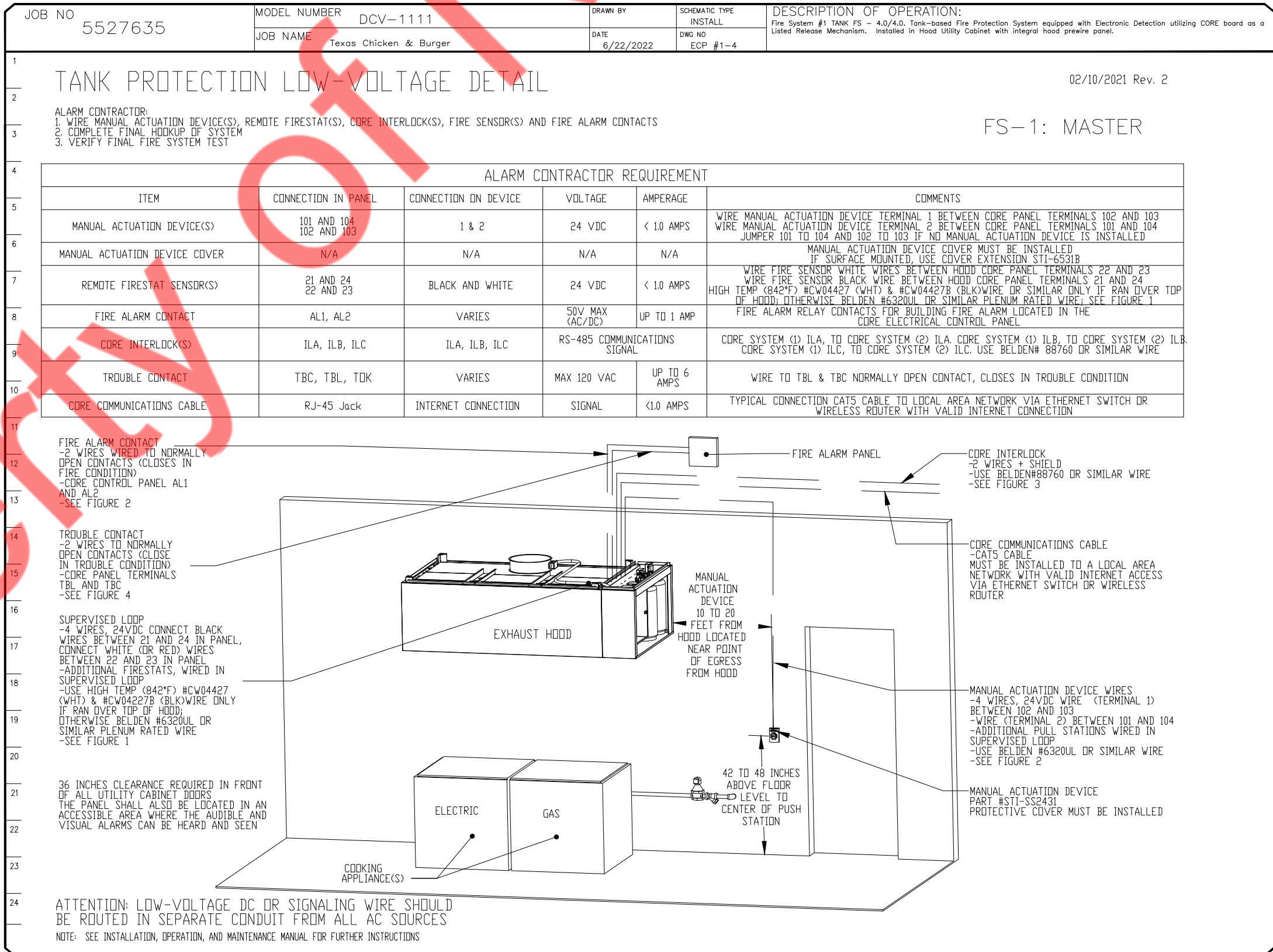
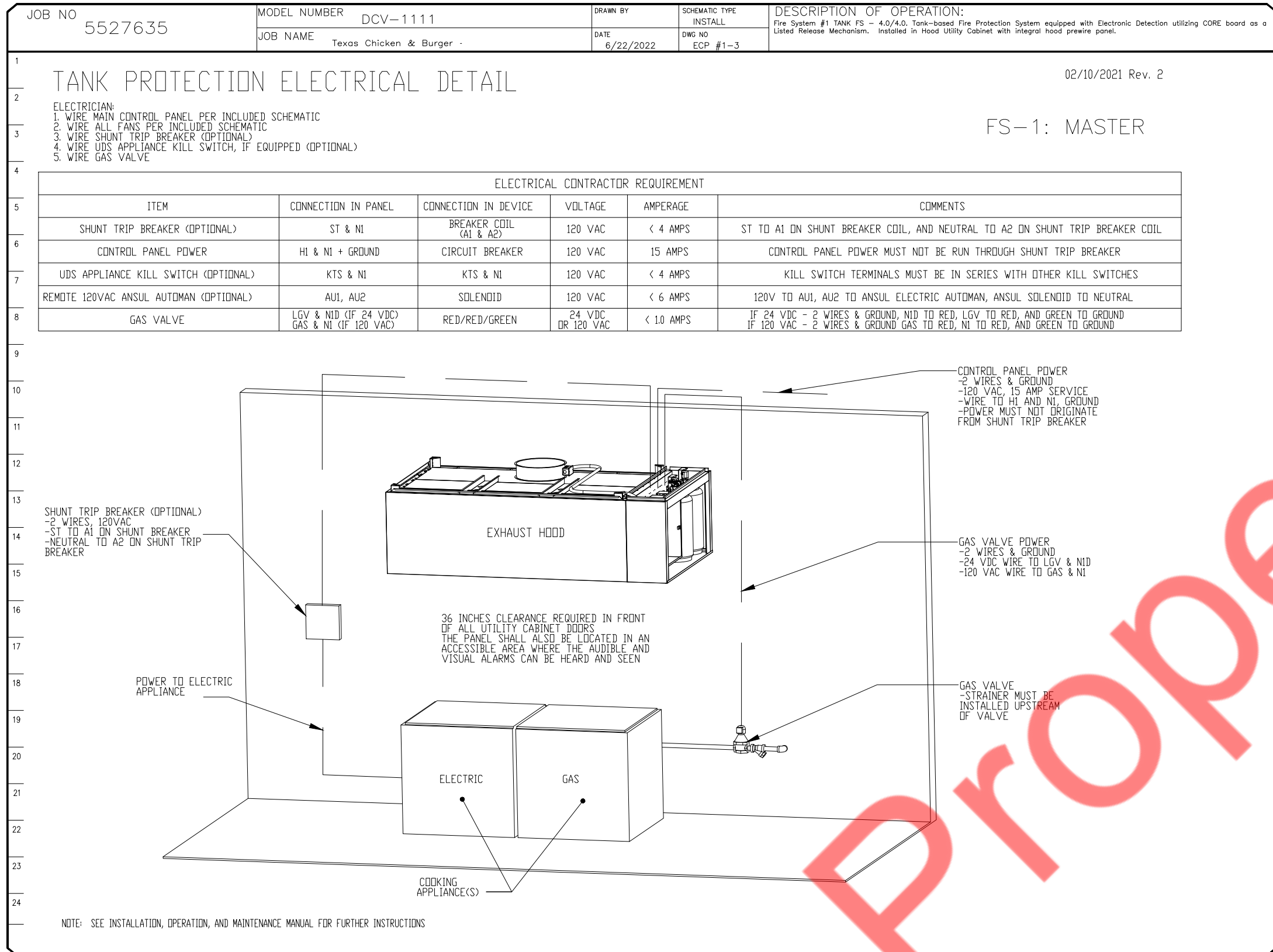
FIRE SYSTEM NO	TAG	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	8	FIRE CABINET LEFT	LEFT, HOOD 1

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



TYPICAL INTEGRATED COMPONENT LAYOUT DETAIL

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



GENERAL NOTES :

- ELECTRICAL HOOD-UP TO GAS MOTOR CONTROLS (MOTOR STARTERS, FAN SWITCHES, FAN DISCONNECTS, RELAYS, ETC.) BY OTHERS.
- FIRE CHASE BY OTHERS, IF REQUIRED.
- ALL PHASES OF INSTALLATION SHALL COMPLY WITH NFPA 96.
- WRITTEN MEASUREMENTS HAVE PRECEDENCE OVER SCALE.
- PROVIDE CLEANDUTS IN EXHAUST AIR DUCTS AS INDICATED TO ALLOW CLEANING AT ALL BENDS AND HORIZONTAL RUNS.
- UNLISTED EXHAUST DUCT TO BE 16 GA. GAV STEEL ALL SEAMS AND JOINTS TO HAVE A LIQUID TIGHT CONTINUOUS EXTERNAL WELD.
- FAN TO HAVE A MINIMUM OF 10 FT. OF CLEARANCE FROM THE OUTLET TO ADJACENT BUILDINGS, PROPERTY LINES, AIR INTAKES OR 3 FT. VERTICAL CLEARANCE PER NFPA96.
- HORIZONTAL EXHAUST DUCT TO SLOPE NOT LESS THAN 1/4" PER FOOT TOWARD HOOD FOR DUCT LESS THAN 75' LONG.
- 1" PER FOOT SLOPE FOR DUCT LONGER THAN 75' HOOD TO OVERHANG COOKING EQUIPMENT 6" ON ALL OPEN SIDES.
- EXHAUST DUCT TO BE PROTECTED FROM COMBUSTIBLES PER NFPA96 AND LOCAL CODE.
- BUILDING PRESSURE SHALL NOT EXCEED 0.02" WATER COLUMN AT EXTERIOR DOORS.
- KITCHEN SHALL BE BALANCED TO BE NEGATIVE WITH RESPECT TO THE DINING ROOM.

DESCRIPTION DATE:

TEXAS CHICKEN & BURGER

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

DRAWING TITLE:

HOOD DETAILS (4 OF 4)

DRAWING NO.:

H-103.00

Texas Chicken & Burger

6/22/2022

5527635

celso.saenz

3/4" = 1'-0"

MASTER DRAWING



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**PROJECT INFORMATION:**

## TEXAS CHICKEN & BURGERS

## DOB APPROVAL STAMP:

## DOB NOW JOB NO.:

DATE: 05/19/2022

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DRAWN BY: NYE

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**SCALE: AS NOTED**

**DRAWING TITLE:**

## ELECTRICAL SYMBOL LIST, ABBREVIATIONS & GENERAL NOTES

**DRAWING NO.:**

# E-001.00



ELECTRICAL SPECIFICATIONS

1. GENERAL:
- 1) "PROVIDE": TO FURNISH, INSTALL AND CONNECT UP COMPLETE AND REGULAR FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.

2)"INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.

3)"FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE, AND DELIVER COMPLETE WITH RELATED ACCESSORIES.

4)"WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.

5)"WIRING": RACEWAY, FITTINGS, WIRE, BOXES, AND RELATED ITEMS.

6)"CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.

7)"EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.

8)"SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.

2) TEMPORARY LIGHT AND POWER: PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED. EXTEND SYSTEMS TO NEW CONSTRUCTION AS SOON AS PHYSICALLY POSSIBLE. MAINTAIN SYSTEM DURING WORKING OWNER. PROVIDE ALL REQUIRED MAINTENANCE, INCLUDING LAMPS AND SOCKETS.

3) QUALITY ASSURANCE

1) QUALITY OF MATERIALS: ALL EQUIPMENT SHALL BE NEW SPECIFICATION GRADE, FREE FROM DEFECTS AND LISTED BY APPROVED TESTING AGENCY AND BEARING THEIR LABEL MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION SHALL BE OF SAME MANUFACTURER, EXCEPT AS NOTED.
- 2) GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AS DEFINED IN PARAGRAPH 2.C.

3) CURRENT CHARACTERISTICS:

a. SERVICE: 120/208 VOLT, 3 PHASE, 4 WIRE, 60 HERTZ WITH GROUNDED NEUTRAL.

b. DISTRIBUTION: 120/208 VOLT, 3 PHASE, 4 WIRE, 60 HERTZ WITH GROUNDED NEUTRAL.

4) HEIGHTS OF OUTLETS:

a. FROM FINISHED FLOOR TO CENTERLINE OF OUTLETS FOR:

— RECEPTACLES AND TELEPHONES: 1 FT-6 IN.

— WALL SWITCHES: 4 FT-0 IN.

— WALL FIXTURES: 7 FT-0 IN.

— MOTOR CONTROLLERS: 5 FT-0 IN.

— CLOCKS: 7 FT 6 IN

b. EXCEPTIONS: AT JUNCTION OF DIFFERENT WALL FINISH MATERIALS; ON MOLDING OR BREAK IN WALL SURFACE, IN VIOLATION OF CODE, OR AS NOTED OR DIRECTED.

5) PRODUCT DELIVERY, STORAGE AND HANDLING

1) MOVING OF EQUIPMENT: WHERE NECESSARY, SHIP IN CARTED SECTIONS OF SIZE TO PERMIT PASSING THROUGH AVAILABLE SPACES.

2) ACCESSIBILITY: FOR OPERATION, MAINTENANCE AND REPAIR, MINOR DEVIATIONS SHALL BE PERMITTED, CHANGES OF MAGNITUDE OR INVOLVING EXTRA COST ARE NOT PERMISSIBLE WITHOUT REVIEW. GROUP CONCEALED ELECTRICAL EQUIPMENT REQUIRING ACCESS WITH EQUIPMENT FREELY ACCESSIBLE THROUGH ACCESS DOORS.

6) MATERIALS

1) NAMEPLATES: PROVIDE BLACK LAMICOID SHEET WITH 3/4 IN. WHITE LETTERING, FASTENED WITH EPOXY CEMENT FOR EACH DISCONNECT SWITCH, CIRCUIT BREAKER, PANEL, CABINET, TRANSFORMER, ENCLOSURE, MOTOR CONTROLLER AND THE LIKE. NAMEPLATES SHALL DESCRIBE THE NAME AND NUMBER OF EACH COMPONENT.

2) CABLE TAGS: TAG EACH CONDUCTOR PASSING THROUGH SPLICE OR PULLBOX WITH A WHITE LINEN TAG, INDICATING POINT OF ORIGIN AND TERMINATION OF THE CIRCUIT.

3) INSERTS AND SUPPORTS:

a. INSERTS: STEEL, SLOTTED TYPE, FACTORY PAINTED.

— SINGLE ROD: SIMILAR TO GRINNELL FIG. 281.

— MULTI-ROD: SIMILAR TO FEE AND MASON SERIES 9000 WITH END CAPS AND CLOSURE STRIPS.

— CLIP FORM NAILS FLUSH WITH INSERTS.

— MAXIMUM LOADING 75 PERCENT OF RATING.

b. SUPPORTS FROM BUILDING CONSTRUCTION: INSERTS, BEAM CLAMPS, STEEL FISHPLATES (IN CONCRETE FILL ONLY), CANTILEVER BRACKETS OR OTHER MEANS. SUBMIT FOR REVIEW.

c. GROUPED LINES AND SERVICES: TRAPEZE HANGERS OF BOLTED ANGLES OR CHANNELS.

d. WHERE BUILDING CONSTRUCTION IS INADEQUATE: PROVIDE ADDITIONAL FRAMING. SUBMIT FOR REVIEW.

7) PAINT SHALL BE THE BEST GRADE FOR ITS PURPOSE. DELIVER IN ORIGINAL SEALED CONTAINERS AND APPLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COLORS SHALL BE AS SELECTED BY ARCHITECT OR ENGINEER. UTILIZE GALVANIZED IRONWORK ON PANEL AND PULL BOXES, AFTER FABRICATION. UTILIZE HOT DIPPED GALVANIZED OR DIPPED IN ZINC BASED PRIMER FOR: OUTLET BOXES, JUNCTION BOXES, CONDUIT HANGERS, RODS, INSERTS AND SUPPORTS. ZINC BASED PRIMER WITH FINISH TO MATCH SURROUNDINGS SHALL BE USED FOR MARKED SURFACES OF STEEL EQUIPMENT AND RACEWAYS. A FIELD-APPLIED ZINC BASED PRIME COAT SHALL BE UTILIZED FOR STEEL OR IRONWORK.

8) BRUSH AND CLEAN WORK PRIOR TO CONCEALING, PAINTING AND ACCEPTANCE. PAINTED EXPOSED WORK SOILED OR DAMAGED; CLEAN AND REPAIR TO MATCH ADJOINING WORK BEFORE FINAL ACCEPTANCE. REMOVE DEBRIS FROM INSIDE AND OUTSIDE OF MATERIAL AND EQUIPMENT.

9) FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH ARCHITECT.

10) ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.

8) SCOPE OF WORK:

a. SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS, EQUIPMENT, SERVICES AND FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMING WITH THE NATIONAL ELECTRICAL CODE (NEC), AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.

b. ALL DRAWINGS, PLANS, DETAILS, SPECIFICATIONS AND SPECIFICATION ADDENDA ARE MADE PART OF THIS CONTRACT AND SHALL APPLY TO ALL WORK UNDER THE CONTRACT UNLESS OTHERWISE AMENDED, MODIFIED, SUPPLIED OR SPECIFIED HEREIN.

c. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OF ACTUAL USE OF EQUIPMENT OR OCCUPANCY BY OWNER. INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER, DATE IS EARLIER, THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR

d. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK (AS REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.

e. CONTRACTOR SHALL PERFORM ALL CONTROLLED INSPECTIONS IN ACCORDANCE WITH THE BUILDING CODE. SECURE ALL REQUIRED PERMITS AND APPROVALS AND TRANSMIT SAME TO OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES.

f. AREAS WITH NO ELECTRICAL WORK SHALL REMAIN AS IS. CONTRACTOR SHALL MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS TO ALL AREAS NOT COVERED BY THIS RENOVATION AND SHALL PROVIDE 48 HOUR NOTICE TO LANDLORD OF ANY PLANNED POWER INTERRUPTIONS OR SIGNAL SYSTEM OUTAGES.

9) GENERAL:

a. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT, LATEST EDITION, AND THESE SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.

b. DRAWING ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY, AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISERS OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF CONDUIT TO AVOID OBSTRUCTIONS. COORDINATION WITH EXISTING SERVICES, INCLUDING THOSE OF OTHER TRADES, IS REQUIRED, MAINTAIN HEADROOM AND SPACE CONDITIONS.

c. BIDDERS, BEFORE SUBMITTING PROPOSALS, SHALL VISIT AND CAREFULLY EXAMINE THE AREA AFFECTED BY THIS WORK TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND THE DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE, AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT, OR MATERIALS, REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.

d. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR, MINOR DEVIATIONS FROM DRAWING MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.

e. REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK MAY BE NECESSARY FOR THE PERFORMANCE OF THE GENERAL WORK. ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND INCLUDE ALL CHANGES AND CHARGES IN MAKING UP THE WORK PROPOSAL.

f. CONNECTIONS TO EXISTING WORK: INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY SHUTDOWNS OF EXISTING SERVICES SHALL BE PERFORMED AT NO ADDITIONAL CHARGES. AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING FACILITIES AND ONLY WITH WRITTEN CONSENT OF OWNER. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.

g. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.

h. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.

i. SEAL OPENINGS THROUGH PARTITIONS, WALLS AND FLOORS WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL, UNLESS OTHERWISE NOTED.

j. PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF CONDUIT AND EQUIPMENT, PROVIDE EQUIPMENT CURBS AS REQUIRED.

k. ALL EXISTING MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT AND APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE, ARCHITECT OR AS NOTED TO BE RELOCATED ON THE DRAWINGS. REMOVED EQUIPMENT SHALL BE PROPERLY DISPOSED OF BY THIS CONTRACTOR.

l. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK DURING OVERTIME HOURS AND THE ADDITIONAL COST TO BE CHARGED THEREFOR SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.

m. UNLESS OTHERWISE SPECIFICALLY NOTED OR SPECIFIED, INCLUDE ALL CUTTING AND SUPPORTS OF EXISTING ROOFS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION.

n. ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.

o. INSURANCE: PROVIDE IN ACCORDANCE WITH OWNER/BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.

p. THE FINAL ACCEPTANCE SHALL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, TESTED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATED OF INSPECTION AND APPROVAL.

10) GENERAL PROVISIONS FOR ELECTRICAL WORK:

1) DEFINITIONS:

1)"PROVIDE": TO FURNISH, INSTALL AND CONNECT UP COMPLETE AND REGULAR FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.

2)"INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.

3)"FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE, AND DELIVER COMPLETE WITH RELATED ACCESSORIES.

4)"WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.

5)"WIRING": RACEWAY, FITTINGS, WIRE, BOXES, AND RELATED ITEMS.

6)"CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.

7)"EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.

8)"SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.

2) TEMPORARY LIGHT AND POWER: PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED. EXTEND SYSTEMS TO NEW CONSTRUCTION AS SOON AS PHYSICALLY POSSIBLE. MAINTAIN SYSTEM DURING WORKING OWNER. PROVIDE ALL REQUIRED MAINTENANCE, INCLUDING LAMPS AND SOCKETS.

3) QUALITY ASSURANCE

1) QUALITY OF MATERIALS: ALL EQUIPMENT SHALL BE NEW SPECIFICATION GRADE, FREE FROM DEFECTS AND LISTED BY APPROVED TESTING AGENCY AND BEARING THEIR LABEL MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION SHALL BE OF SAME MANUFACTURER, EXCEPT AS NOTED.

11) SHOP DRAWINGS

a. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT, CONTRACTOR SHALL PROVIDE COMPLETE SETS OF COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING EQUIPMENT, INDICATING CAPACITY, DIMENSIONS AND SEQUENCE OF OPERATION FOR WRITTEN APPROVAL BY THE ARCHITECT AND ENGINEER.

b. INDICATE ON EACH SHOP DRAWINGS SUBMITTED:

1) PROJECT NAME AND LOCATION

2) NAME OF ARCHITECT AND ENGINEER

3) ITEM IDENTIFICATION

4) APPROVAL STAMP OF PRIME CONTRACTOR

c. SUBMISSIONS:

1) SUBMISSIONS 11 IN. X 17 IN. OR SMALLER: IF THE SUBMISSION IS A CATALOG CUT, THEN THE CONTRACTOR SHALL SUBMIT ONE ORIGINAL AND TWO COPIES. OTHERWISE, HE SHALL SUBMIT THREE COPIES. THE ARCHITECT WILL FORWARD THE ORIGINAL AND ONE COPY (TWO COPIES WHEN NO ORIGINAL IS RECEIVED) TO THE ENGINEER. ALL CATALOG CUTS SHALL BE COMPLETE.

2) SUBMISSIONS LARGER THAN 11 IN. X 17 IN.: SUBMIT TWO PRINTS AND ONE PAPER SEPIA TO THE ARCHITECT. THE ARCHITECT WILL FORWARD ONE PRINT AND THE PAPER SEPIA TO THE ENGINEER.

d. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:

1) SAFETY/DISCONNECT SWITCHES

2) FUSES

3) CIRCUIT BREAKERS

4) PANELBOARDS/LOADCENTER (INCLUDING DIMENSIONS, SCHEDULES, AND CATALOG CUTS).

5) RACEWAYS

6) WIRE AND CABLE

7) WALL SWITCHES

8) INSERTION RECEPTACLES

9) MOMENTARY CONTACT SWITCHES

10) TIME SWITCHES

11) LIGHTING FIXTURES.

e. ASSIST AND PROVIDE ALL NECESSARY INFORMATION, DIAGRAMS, SKETCHES, ETC. TO THE HVAC CONTRACTOR, FOR THE PREPARATION OF COORDINATED SHOP DRAWINGS INDICATING ROUTING OF FEEDERS, CONTROL CONDUITS, RECESSED FIXTURES AND ADJACENT NEARBY PIPING AND DUCTWORK WHERE APPLICABLE, CERTIFIED BY ALL TRADES THAT COORDINATION HAS BEEN ESTABLISHED. SUBMIT FOUR(4) BOOKBOUND OPERATING AND SERVICE MANUALS WHICH SHALL INCLUDE COPIES OF ALL SHOP DRAWING. PROVIDE SHOP DRAWINGS FOR PANELS, FIXTURES, WIRING DEVICES, CONDUIT, CABLE, DISCONNECT SWITCH, RELAYS, CONTRACTORS, AND OTHER SYSTEMS AS DIRECTED BY THE ENGINEER.

12) AS-BUILT DRAWINGS AND EQUIPMENT OPERATIONAL INSTRUCTIONS

a. UPON COMPLETION AND ACCEPTANCE OF WORK, CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.

b. THESE INSTRUCTIONS SHALL BE TYPED ON 8-1/2 IN. X 11 IN. PAPER AND BOUND IN THREE RING BINDERS WITH CLEAR ACETATE COVERS. CONTRACTOR SHALL GIVE THREE COPIES OF THE INSTRUCTIONS TO THE OWNER AND ONE COPY TO THE ENGINEER.

c. THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE PROJECT, ARCHITECT AND ENGINEER.

d. REPRODUCIBLE "AS-BUILT" DRAWINGS SHALL BE PROVIDED INDICATING THE AS INSTALLED CONDITIONS OF THE WORK. "AS-BUILT" DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT AFTER COMPLETION OF THE INSTALLATION.

13) LOW-VOLTAGE DISTRIBUTION EQUIPMENT:

a. PROVIDE COMPLETE EQUIPMENT INCLUDING: SWITCHES, FUSES, CIRCUIT BREAKERS, PANELS AND TRANSFORMERS.

b. ALL EQUIPMENT SHALL CONFORM TO NEMA, ANSI AND IEEE STANDARDS.

c. DISCONNECT SWITCHES SHALL BE FUSED OR NONFUSED AS NOTED. VOLTAGE SHALL BE AS REQUIRED. SWITCHES SHALL BE HEAVY DUTY, EXCEPT AS NOTED, AND HORSEPOWER RATED FOR MOTOR LOADS. TOGGLE TYPE SWITCHES SHALL BE NONFUSED, LOAD BREAK, HAVING MAXIMUM RATINGS OF 20 AMP AT 600 VOLTS AND 30 AMP AT 240 VOLTS; TWO-POLE SWITCHES SHALL BE SIMILAR TO HART AND HEGEMAN NO. 6808F. THREE-POLE SWITCHES SHALL BE SIMILAR TO HART AND HEGEMAN NO. 7810F. KNIFE-BLADE TYPE SWITCHES SHALL BE LOAD BREAK, QUICK-MAKE- QUICK-BREAK, UL CLASS R UP TO 800 AMP. MAXIMUM RATING EXCEPT AS NOTED SHALL BE 800 AMP. ARC QUENCHERS SHALL BE PROVIDED. SWITCHES SHALL BE SIMILAR TO GENERAL ELECTRIC QMR. ALL SWITCH ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED.

14) FUSES:

a. CIRCUITS 0 TO 600 AMPERES SHALL BE PROTECTED BY FUSES SIMILAR TO CURRENT LIMITING BUSSMAN LOW-PEAK DUAL-ELEMENT TIME-DELAY LPN-RK (AMP)SP (250V) /LPS-RK (AMP)SP (600V) OR LPJ (AMP)SP (600V) (UL CLASS RK1 OR CLASS J), AND BE LISTED BY UL WITH AN INTERRUPTING RATING OF 300,000 AMPERES RMS SYMMETRICAL.

b. MOTOR CIRCUITS – ALL INDIVIDUAL MOTOR CIRCUITS WITH FULL LOAD AMPERE RATINGS (FLA) OF 480 AMPERES OR LESS SHALL BE PROTECTED BY FUSES SIMILAR TO CURRENT LIMITING BUSSMAN LOW-PEAK DUAL-ELEMENT TIME-DELAY LPN-RK (AMP)SP (250V) /LPS-RK (AMP)SP (600V) OR LPJ (AMP)SP (600V) (UL CLASS RK1 OR CLASS J), AND BE LISTED BY UL WITH AN INTERRUPTING RATING OF 300,000 AMPERES RMS SYMMETRICAL.

c. ALL FUSES SHALL BE PROVIDED BY SAME MANUFACTURER.

d. PROVIDE 1 SPACE MATCHING FUSE FOR EACH SET OF 3.

e. CIRCUIT BREAKERS: MOLDED CASE BREAKERS SHALL BE THERMAL-MAGNETIC, QUICK-MAKE-QUICK-BREAK, BOLT-ON TYPE, MANUALLY OPERATED WITH INSULATED TRIP-FREE HANDLE. MULTI-POLE TYPE BREAKERS SHALL CONTAIN INTERNAL TRIP BAR. TERMINALS SHALL BE SUITABLE FOR COPPER OR ALUMINUM CABLE. FURNISH AUXILIARY DEVICES WHERE REQUIRED FOR SHUNT-TRIPPING, OPEN A ND CLOSE MOTOR OPERATOR AND ALARM INDICATION. ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED. FRAMES, IC AND INTERCHANGEABLE TRIPS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:

1) 120 VOLTS, 100-AMP FRAME: 10,000 AMPS, 1 POLE.

2) 120/240 VOLTS, 225-AMP FRAME: 22,000 AMPS MINIMUM

15) DISTRIBUTION PANELBOARDS, CIRCUIT BREAKER TYPE:

a. THREE PHASE, 4 OR 5 WIRE, COPPER BUS BARS, WITH 2, 3, OR 4 WIRE BUSES, AS NOTED; CAPACITY OF PANEL AND CIRCUITS, AS NOTED BELOW. PANELBOARD TO HAVE GROUND BUS SAME SIZE AS PHASE BUSES.

b. CABINETS: CODE GAUGE GALVANIZED SHEET STEEL PRIMED AND PAINTED WITH TRIM AND DOOR, TYPE AS NOTED, LAP AND RIVET CORNERS OR FORM AS APPROVED.

c. TRIM: ONE PIECE FULL FINISH PRIMED AND PAINTED SHEET STEEL. TRIM SHALL BE MOUNTED WITH A CONTINUOUS PIANO HINGE CONFIGURED IN SUCH A MANNER THAT IT SHALL BE POSSIBLE TO GAIN FULL ACCESS TO CIRCUIT BREAKERS AND WIRING GUTTERS WITHOUT REMOVING THE TRIM. PROVIDE A MULTI-PIN CYLINDER LOCK (YALE, CORBIN OR EQUAL) TO LATCH THE TRIM. KEYS SHALL BE MILLED.

d. HARDWARE: MULTI-PIN, CYLINDER LOCKS WITH MILLED KEYS. ALL PANELS SHALL BE KEYED ALIKE. DOOR OVER 48" HIGH SHALL BE EQUIPPED WITH A CHROME PLATED VAULT HANDLE, BUILT-IN LOCK AND 3-POINT CATCH FASTENING DOOR AT TOP, BOTTOM AND CENTER.

e. HINGES: CONCEALED, CONTINUOUS PIANO HINGE AS DESCRIBED ABOVE.

f. DIRECTORY HOLDER: MEAL FRAME WITH NONBREAKABLE TRANSPARENT COVER AND DIRECTORY CARD. ENTRIES TO BE TYPEWRITTEN BY ELECTRICAL CONTRACTOR. PROVIDE AN ENGRAVED LAMINATED NAMEPLATE ADJACENT TO EACH BRANCH BREAKER. MOUNT WITH SELF TAPPING MACHINE SCREWS.

g. FURNISH MULTI-CABLE LUGS WHERE REQUIRED, DOUBLE LUGGING NOT PERMITTED. SECURE LUGS TO BUS BY STUD BOLTS.

h. PANELBOARD CONSTRUCTION FOR BOLTED TYPE BREAKERS. MINIMUM SHORT CIRCUIT RATING 25,000 AMPERES, RMS SYMMETRICAL FOR ALL 120/208V APPLICATIONS. INDIVIDUAL CIRCUIT BREAKERS SHALL HAVE MINIMUM 100A FRAME, TRIPS SIZED AS SHOWN ON THE PLANS.

i. MINIMUM GUTTER SPACES: PANELS WITH 225 AMPERE MAINS, 5-1/4" MINIMUM, 400 AMPERES AND OVER, MINIMUM GUTTERS 8". FOR PANELS WITH THROUGH FEEDERS, INCREASE GUTTER WIDTH BY 2" MINIMUM AND PROVIDE A SHEET STEEL BARRIER BETWEEN THE PANEL GUTTER AND THE THROUGH FEEDER PORTION OF THE BACK BOX. BRANCH CIRCUIT BREAKERS SHALL BE MECHANICALLY INTERLOCKED WHEN SHOWN ON DRAWINGS.

j. DISTRIBUTION AND SUB-DISTRIBUTION PANELBOARDS SHALL BE A MINIMUM OF 30" WIDE AND 10" DEEP.

k. PANELBOARD SHALL HAVE MAIN CIRCUIT BREAKER OR MAIN LUGS AS INDICATED ON THE DRAWINGS. QUANTITY, POLES AND TRIP RATINGS OF BRANCH CIRCUIT BREAKERS TO BE AS INDICATED ON DRAWINGS.

l. PANELBOARD SHALL HAVE ENGRAVED WHITE CORE, BLACK LAMACOID NAMEPLATE SCREWED ONTO PANE TRIM WITH DESIGNATION LISTED (PANELBOARD NAME, VOLTAGE, RATING OR MAINS IN AMPS).

16) DISTRIBUTION PANELBOARDS, SWITCH AND FUSE:

a. THREE PHASE, 3 OR 4 WIRE WITH COPPER BUS BARS. ALL THROUGH BUS SHALL BE INSULATED.

b. NEMA CLASS 1 CONSTRUCTION TO ACCOMMODATE FUSIBLE, INDIVIDUALLY ENCLOSED SWITCHES, FRONT REMOVABLE, SWITCH AND DOOR INTERLOCKS. COVERS TO BE PAD-LOCKABLE.

c. PANELBOARD SHALL BE CONSTRUCTED OF CODE-GAUGE STEEL, GRAY FINISH OVER RUST INHIBITOR, FOR SURFACE MOUNTING. BOX AND PANEL FRAME SHALL BE FLANGED AND REINFORCED FOR RIGID SUPPORT OF INTERIOR AND ACCURATE ALIGNMENT OF INTERIOR WITH FRONT. TRIMS TO BE FASTENED TO BACK BOX WITH SCREWS.

d. ALL BRANCH SWITCHES SHALL HAVE INDIVIDUAL ENGRAVED LAMICOID NAMEPLATES (BLACK WITH WHITE CORE).

e. DISTRIBUTION PANELBOARD CONSTRUCTION MINIMUM SHORT CIRCUIT RATING 25,000 AMPERES, REMS SYMMETRICAL FOR ALL 120/208V APPLICATIONS. APPLICATIONS.

f. DISCONNECTS

1) DISCONNECT SWITCHES SHALL CONFORM TO NEMA AND UL STANDARDS, AND SHALL BE HORSEPOWER RATED.

2) SWITCHING MECHANISM SHALL BE QUICK-MAKE, QUICK-BREAK, SINGLE THROW WITH EXTERNAL OPERATING HANDLE MECHANICALLY INTERLOCKED WITH ENCLOSURE COVER TO PROVIDE ACCESS TO INTERIOR WHEN DISCONNECT IS IN OFF POSITION ONLY. PROVIDE MEANS TO LOCK OPERATING HANDLE IN THE OPEN AND CLOSED POSITION. DESIGNATE ON THE ENCLOSURE THE OPEN AND CLOSED POSITION OF THE OPERATING HANDLE.

3) SWITCHES SHALL BE OF THE DOUBLE STATIONARY CONTACT TYPE.

4) SWITCHES SHALL BE EQUIPPED WITH REJECTION TYPE FUSE HOLDERS, FUSIBLE AS SHOWN ON THE DRAWINGS; PROVIDE COMPLETE WITH FUSES AS SCHEDULED.

17) INSTALLATION

1) DISTRIBUTION PANELBOARD SHALL BE MOUNTED TO STRUCTURAL STEEL CHANNEL (KINDORF) WHICH SHALL BE BOLTED TO THE WALL USING EXPANSION ANCHORS FOR LARGE PANELS.

18) IDENTIFICATION

1) PROVIDE NAMEPLATE AT EACH SWITCH IDENTIFYING THE LOAD SERVED.

2) NAMEPLATES SHALL BE MOUNTED ON THE FRONT COVER SECURED WITH SELF-TAPPING SCREWS OR NUTS AND BOLTS. NAMEPLATES SHALL BE LAMINATED PHENOLIC, BLACK WITH A MINIMUM OF 1/4" HIGH WHITE LETTERING.

19) DISTRIBUTION AND SUB-DISTRIBUTION PANELBOARDS SHALL BE A MINIMUM OF 30" WIDE AND 10" DEEP.

20) POWER PANELBOARDS SHALL BE SIMILAR TO GENERAL ELECTRIC TYPE "QMR" AS MANUFACTURED BY ATLAS SWITCH COMPANY, ELECTRIC SWITCHBOARD COMPANY OR APPROVED EQUAL.

21) PANELBOARD SHALL HAVE MAIN CIRCUIT BREAKER OR MAIN LUGS AS INDICATED ON THE DRAWINGS. QUANTITY, POLES AND TRIP RATINGS OF BRANCH CIRCUIT BREAKERS TO BE AS INDICATED ON DRAWINGS.

22) PANELBOARD SHALL HAVE ENGRAVED WHITE CORE, BLACK LAMACOID NAMEPLATE SCREWED ONTO PANE TRIM WITH DESIGNATION LISTED (PANELBOARD NAME, VOLTAGE, RATING OR MAINS IN AMPS).

23) MATERIALS

1) RACEWAYS:

a. RIGID STEEL CONDUIT: FULL-WEIGHT PIPE, GALVANIZED, THREADED.

b. ELECTROMETALLIC TUBING (EMT): THIN WALL PIPE, GALVANIZED, THREADLESS.

c. FLEXIBLE STEEL CONDUIT: CONTINUOUS SINGLE STRIP, GALVANIZED.

d. WIREWAYS: WIRE SHALL BE AS NOTED, MINIMUM NO. 16 GAUGE STEEL WITH GROUND CONTINUITY. FINISH SHALL BE BAKED ENAMEL. COVERS SHALL BE SCREW-ON.

24) SURFACE METAL RACEWAY: SIZE AS NOTED. BASE 0.04 IN., COVER 0.25 IN. MATERIAL SHALL BE STEEL. FINISH SHALL BE BAKED ENAMEL. COVERS SHALL BE SCREW-ON.

25) FITTINGS AND ACCESSORIES:

a. RIGID STEEL: NONSPILT, THREADED, STEEL OR MALLEABLE IRON. ZINC DIE CAST NOT PERMITTED.

b. ELECTROMETALLIC TUBING: COMPRESSION TYPE. GALVANIZED RIGID STEEL ELBOWS, 2 IN. OR LARGER.

c. FLEXIBLE METALLIC CONDUIT: ANGLE WEDGE TYPE WITH INSULATED THROAT.

d. BUSHINGS: METALLIC INSULATED TYPE.

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: 2325-21

DRAWN BY: NYE

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SCALE: AS NOTED

DRAWING TITLE:

ELECTRICAL SPECIFICATIONS

SHEET 1 OF 2

DRAWING NO.:

E-002.00



ELECTRICAL SPECIFICATIONS (CONT.)

3. BOXES:

OUTLET BOXES: EXCEPT AS OTHERWISE REQUIRED BY CONSTRUCTION, DEVICES OR WIRING, BOXES SHALL BE STAMPED STEEL, 4 IN. SQUARE OR OCTAGON FOR FIXTURES. BOXES ABOVE CEILING SHALL BE 1–1/2 IN. DEEP. BOXES IN CEILING OR SLAB SHALL BE 3 IN. DEEP. BOXES IN WALL FOR FIXTURES SHALL BE 2–3/4 IN. DEEP. BOXES IN WALL FOR RECEPTACLES AND SWITCHES SHALL BE 1–1/2 IN. DEEP. FURNISH WITH RAISED COVERS AND FIXTURE STUDS WHERE REQUIRED. WITHOUT FIXTURE OR DEVICE: FURNISH BLANK COVER, OFFSET BACK-TO-BACK OUTLETS WITH MINIMUM 6 IN. SEPARATION.

JUNCTION AND PULL BOXES: GALVANIZED SHEET STEEL WITH SCREW-ON COVERS, EXCEPT AS NOTED. FURNISH WITH INSULATED SUPPORTS FOR CABLES. LOCATIONS SHALL BE AS NOTED OR REQUIRED AND ACCESSIBLE. PROVIDE BARRIERS IN NEW AND RENOVATED BOXES BETWEEN 120/208 VOLT AND 265/460 VOLT WIRING AND BETWEEN EMERGENCY AND NORMAL WIRING. FLOOR BOXES SHALL BE SUITABLE FOR CONDUIT AND DEVICES NOTED. RAISED OUTLETS SHALL BE HUBBELL #B2414 SERIES WITH ABOVE FLOOR FITTING. TELEPHONE: BUSHED HOLE. POWER: DUPLEX RECEPTACLE OR OTHER AS NOTED. INCREASE SIZE TO SUIT AS NECESSARY. FLUSH OUTLETS SHALL BE HUBBELL #B2414 SERIES WITH FLUSH FLOOR FITTING FOR TELEPHONE AND FLUSH DUAL FLAP COVER WITH DUPLEX RECEPTACLE FOR POWER AS NOTED. INCREASE SIZE TO SUIT AS NECESSARY.

N. PROVIDE RACEWAYS ONLY AS HEREIN SPECIFIED, EXCEPT AS NOTED. RACEWAYS SHALL BE RUN CONCEALED, EXCEPT AS NOTED.

PROVIDE RACEWAY SUPPORT UTILIZING CEILING TRAPEZE, STRAP HANGERS, OR WALL BRACKETS. PROVIDE U-BOLTS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND CONNECTED TO ACCEPTABLE SUPPORTS. PROVIDE RISER CLAMPS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND RESTING ON SLAB. FOR THROUGH-THE-FLOOR SYSTEMS, UTILIZE AN ASSEMBLY SIMILAR TO HUBBELL FIRE RATED POKE-THROUGH-FLOOR BOX SYSTEM. FOR ABOVE FLOOR FITTINGS TELEPHONE SHALL BE BUSHED HOLE AND POWER SHALL BE DUPLEX RECEPTACLE OR OTHER AS NOTED. PROVIDE SEPARATION BARRIER BETWEEN POWER AND TELEPHONE COMPARTMENTS. PROVIDE JUNCTION BOX ON UNDERSIDE OF FLOOR. PACK FITTING TO RESTORE FIRE RATING OF FLOOR.

SECURE ALL RACEWAYS TO SUPPORTS WITH PIPE STRAPS OR U-BOLTS. SPACING OF SUPPORTS SHALL BE A MINIMUM OF 5 FT ON CENTER FOR METALLIC RACEWAY AND AS REQUIRED FOR NONMETALLIC RACEWAY. SPACING SHALL BE 5 FT ON CENTER FOR WIREWAYS AND PER CODE AND AS NOTED FOR OTHERS. MOUNT SUPPORTS TO STRUCTURE MASONRY WITH TOGGLE BOLTS ON HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK. MACHINE SCREWS ON METAL. BEAM CLAMPS ON FRAMEWORK, WOOD SCREWS ON WOOD, AND PAN THROUGH STRAPS IN METAL DECK. NAILS, RAWL PLUGS OR WOOD PLUGS SHALL NOT BE PERMITTED WHERE REQUIRED BY STRUCTURE, FURNISH THROUGH BOLTS AND FISHPATES.

EXPPOSED RACEWAYS SHALL BE RUN PARALLEL WITH OR AT RIGHT ANGLES TO WALLS. PROVIDE CLEARANCE WITH WATER, STEAM OR OTHER PIPING (MINIMUM 3 IN. SEPARATION FROM STEAM AND HOT WATER PIPES, EXCEPT 1 IN. FROM PIPE COVER AT CROSSINGS AND 18 IN. FOR PARALLEL RUNS). FOR HUNG CEILING OUTLETS, RUN IN HUNG CEILING AND CONNECT TO CEILING SUPPORT CHANNELS. IN MASONRY AND POURED CONCRETE, RUN VERTICALLY ONLY.

MAINTAIN GROUNDING CONTINUITY OF INTERRUPTED METALLIC RACEWAYS WITH GROUND CONDUCTOR, AND IN FLEXIBLE CONDUIT FOR FEEDERS AND MOTOR TERMINAL CONNECTIONS.

EMPTY RACEWAYS OVER 10 FT LONG: PROVIDE FISH OR PULL WIRE, GALVANIZED OR NYLON ROPE.

RIGID STEEL CONDUIT SHALL BE PERMITTED FOR FEEDERS AND BRANCH CIRCUITS. PAINT MALE THREADS OF FIELD-THREADED CONDUIT WITH GRAPHITE-BASE PIPE COMPOUND AND BUTT CONDUIT ENDS. TOUCH UP MARKED SURFACES AND FIELD-CUT THREADS, CRG-COLD GALVANIZED. EMT SHALL BE PERMITTED FOR BRANCH CIRCUITS ONLY, IN DRY LOCATIONS, DRY WALLS, HUNG CEILINGS, HOLLOW BLOCK WALLS AND FURRED SPACES. EMT SHALL NOT BE PERMITTED IN RAISED FLOORS. FLEXIBLE STEEL CONDUIT SHALL BE UTILIZED FOR SHORT CONNECTIONS WHERE RIGID CONDUIT IS IMPRACTICAL. FROM OUTLET BOX TO RECESSED LIGHTING FIXTURE: PROVIDE MINIMUM 4 FT AND MAXIMUM 6 FT LENGTHS. FOR FINAL CONNECTION TO MOTOR TERMINAL BOX, TRANSFORMER AND OTHER VIBRATING EQUIPMENT: PROVIDE WITH POLYVINYL SHEATHING AND GROUND CONDUCTOR. MINIMUM LENGTH: 18 IN. WITH SLACK. CONNECT GROUND CONDUCTOR TO ENCLOSURE OR RACEWAY AT EACH END. FOR EXPANSION JOINT CROSSINGS, CROSS AT RIGHT ANGLES AND ANCHOR ENDS.

CUT CONDUIT ENDS SQUARE. REAM SMOOTH. PAINT MALE THREADS OF FIELD THREADED RACEWAYS WITH GRAPHITE BASE PIPE COMPOUND. DRAW UP TIGHT WITH RACEWAY COUPLING.

ALL COUPLINGS SHALL BE COMPRESSION TYPE. NO SET SCREW FITTINGS.

EXPANSION FITTINGS SHALL BE INSTALLED AT RIGHT ANGLES WITH CLIP JOINT CENTERED IN EXPANSION JOINT. PROVIDE A LENGTH OF RUN IN ACCORDANCE MANUFACTURER'S RECOMMENDATIONS. PRESET FITTINGS SHALL ALLOW FOR TEMPERATURE VARIATION.

RACEWAYS PASSING THROUGH FIRE-RATED CONSTRUCTION: SEAL OPENING WITH FIRE SEALANT.

O. OVIDE CABLE SUPPORTS IN ACCORDANCE WITH NATIONAL ELECTRIC CODE ARTICLE 300.19. CABLE SUPPORTS SHALL UTILIZE A ONE-PIECE PLUG WITH POZI-GRIP WEDGING PLUG AS MANUFACTURED BY OZ-GEDNEY. TYPE SF SHALL BE USED FOR ARMORED CABLE.

INSTALL CABLE SUPPORTS AT THE TOP OF A VERTICAL RISE AND PROVIDE INTERMEDIATE ADDITIONAL SUPPORTS AS REQUIRED TO LIMIT SUPPORTED CONDUCTOR LENGTHS TO NOT GREATER THAN THOSE SPECIFIED IN TABLE 300.19(A).PR

P. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. OUTLET BOXES SHALL BE SET SQUARE AND TRUE WITH BUILDING FINISH. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRON OR GROUT IN WITH MASONRY. VERIFY OUTLET LOCATIONS IN FINISHED SPACES WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISHES. PROVIDE BARRIERS BETWEEN SWITCHES CONNECTED TO DIFFERENT PHASES FOR VOLTAGES EXCEEDING 150 VOLTS TO GROUND.

Q. PANEL, JUNCTION AND PULL BOXES SHALL BE LOCATED CLEAR OF OTHER TRADES. CONCEAL JUNCTION AND PULL BOXES IN

FINISHED SPACES. WHERE NECESSARY, REROUTE RACEWAYS OR MAKE OTHER ARRANGEMENTS FOR CONCEALMENT. BOXES SHALL BE ACCESSIBLE. SUPPORT BOXES FROM BUILDING STRUCTURE, INDEPENDENT OF CONDUIT. PROVIDE FLOOR-TO-CEILING CHANNELS FOR MOUNTING ON DRYWALL AND LIGHTWEIGHT CONSTRUCTION. OUTLET BOXES FOR FIXTURES RECESSED IN HUNG CEILINGS SHALL BE ACCESSIBLE THROUGH OPENING CREATED BY REMOVAL OF FIXTURE. SECURE TO BLACK IRON SUPPORT. MOTOR TERMINAL BOXES: COORDINATE WITH MOTOR BRANCH CIRCUIT CONDUIT AND WIRING; ADD BOX VOLUME WHERE REQUIRED.

R. FIRE SEALANTS: PROVIDE FOR RACEWAYS AND WIRE PASSING THROUGH FLOOR SLOTS, SLEEVES OR OPENINGS IN FIRE-PARTITIONS ROOMS.

S. PERFORM CONTINUITY TESTS OF RESISTANCE OF FEEDER CONDUITS FROM SERVICE TO POINT OF FINAL DISTRIBUTION USING 1 CONDUCTOR RETURN. MAXIMUM RESISTANCE SHALL BE 25 OHMS.

9. WIRE AND CABLE:

A. PROVIDE WIRE AND CABLE COMPLETE WITH ACCESSORIES. SIZE REFERENCE SHALL BE AWG EXCEPT AS NOTED.

B. CONDUCTORS SHALL BE COPPER, ASTM STANDARD SOLID (NO. 10 AND SMALLER) OR STRANDED (NO. 8 AND LARGER). GENERAL USE CABLING SHALL BE NO. 12 MINIMUM. AT 120 VOLTS AND OVER 100 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM. AT 265 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM.

C. CONTROL AND ALARM CABLING, EXCEPT AS NOTED, SHALL BE NO. 14 MINIMUM. AT 120 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 12 MINIMUM. OTHER VOLTAGES AND PHASES: ADJUST CABLE SIZING AS REQUIRED TO MAINTAIN VOLTAGE DROP. INCREASE RACEWAY SIZES FOR LARGER WIRE AS REQUIRED.

D. INSULATION SHALL BE RUBBER AND THERMOPLASTIC MEETING ASTM AND IPCEA STANDARDS. TYPE THW OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED. TYPE SFF-2 SHALL BE UTILIZED FOR BRANCH CIRCUITS LOCATED IN WIRING CHANNELS OF CONTINUOUS FLOUORESCENT FIXTURES AND IN AMBIENT TEMPERATURES OVER 90 DEG C. FOR UNGROUNDED ISOLATED BRANCH CIRCUITS PROVIDE CROSS-LINKED POLYETHYLENE INSULATION (TYPE XHHW).

E. ARMORED CABLE (BX) SHALL BE UTILIZED FOR BRANCH CIRCUITS IN DRY HOLLOW LOCATIONS, HUNG CEILINGS, AND BLOCK WALLS. WHEN USED IN LIEU OF WIRING IN CONDUIT, STATE IN PROPOSAL THAT PRICE IS BASED UPON THE USE OF HOSPITAL GRADE "BX".

F. COLOR CODING SHALL BE AS FOLLOWS:

120/208 VOLT SYSTEM: :  
BLACK FOR A PHASE  
RED FOR B PHASE  
BLUE FOR C PHASE

1) NEUTRAL WIRE SHALL UTILIZE WHITE OUTER COVERING THROUGHOUT. EQUIPMENT GROUND WIRE SHALL UTILIZE GREEN OUTER COVERING THROUGHOUT.

WHERE COLOR-CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING AND REQUEST PERMISSION TO OVERLAP CONDUCTORS WITH 6 IN. OF COLOR TAPING IN ACCESSIBLE LOCATIONS.

G. PROVIDE FLAMEPROOF LINEN OR FIBER TAGS IN ACCESSIBLE LOCATIONS. FOR FEEDERS INDICATE FEEDER NUMBER, SIZE, PHASE AND POINTS OF ORIGIN AND TERMINATIONS. FOR CONTROL AND ALARM WIRING INDICATE TYPE (CONTROL OR ALARM), SIZE OF WIRE, AND POINTS OF ORIGIN AND TERMINATIONS.

H. TERMINATIONS, SPLICES AND TAPS UNDER 600 VOLTS: COPPER CONDUCTORS NO. 10 AND SMALLER SHALL UTILIZE COMPRESSION-TYPE OF TWIST-ON SPRING-LOADED CONNECTORS AND CLEAR NYLON-INSULATED COVERING. COPPER CONDUCTORS NO. 8 AND LARGER SHALL UTILIZE MECHANICAL BOLTED PRESSURE OR HYDRAULIC COMPRESSION TYPE USING MANUFACTURER'S RECOMMENDED TOOLING. CABLE LUGS AND CONNECTORS SHALL UTILIZE COMPRESSION TYPE OF SAME METAL AS CONDUCTOR. PROVIDE TO MATCH CABLE, WITH MARKING INDICATING SIZE AND TYPE. COPPER LUG CONNECTIONS TO BUS BARS: USE ANTISEIZE COMPOUND ON TANG.

I. NOT MORE THAN 3 LIGHTING OR CONVENIENCE OUTLET CIRCUITS SHALL BE INSTALLED IN ONE CONDUIT UNLESS OTHERWISE INDICATED. PULL NO THERMOPLASTIC AT TEMPERATURES LOWER THAN 32 DEG F. PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS OF 120/208 AND 265/460 VOLT SYSTEMS, EXCEPT 460 VOLT MOTOR BRANCH CIRCUIT WIRING AND RELATED 120 VOLT CONTROL WIRING. THERMOPLASTIC WIRES SHALL NOT BE INSTALLED IN COMPUTER AREA RAISED FLOORS.

J. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS.

K. PERFORM CONTINUITY AND INSULATION TESTS. MEGGER TEST 100 PERCENT OF FEEDERS, 10 PERCENT OF BRANCH CIRCUITS AND ALL MOTOR BRANCH CIRCUITS OVER 25 HP.

PERFORM TESTS PRIOR TO CONNECTING EQUIPMENT AND IN PRESENCE OF AUTHORIZED REPRESENTATIVES. SUBMIT WRITTEN REPORT OF RESULTS. CORRECT OR REPLACE CABLE TESTING BELOW MANUFACTURER'S STANDARDS.

10. WIRING DEVICES:

A. WIRING DEVICES SHALL BE SPECIFICATION GRADE UNLESS OTHERWISE SPECIFIED. ALL DEVICES SHALL BE FLUSH MOUNTED, UNLESS OTHERWISE NOTED. PROVIDE COMPLETE MATERIAL AND ACCESSORIES AS NOTED.

B. LOCAL WALL SWITCHES SHALL BE ROCKER TYPE, QUIET OPERATING, RATED 20 AMP, 120/277 VOLT, AC. SIMILAR TO LEVITON DECORA SERIES A5621 (SINGLE POLE), A5623 (3-WAY) AND A5624 (4-WAY).

C. STRAIGHT BLADE RECEPTACLES SHALL BE RESIDENTIAL GRADE DUPLEX CONVENIENCE 125 VOLTS, 2 POLE, 3 WIRE, U GROUND SLOT, DECORA SERIES BY LEVITON. GROUNDED, EXCEPT AS NOTED.

1)SINGLE GANG, RECESSED, DUPLEX RECEPTACLE: TAMPER RESISTANT, 2-POLE, 3-WIRE GROUNDING, 15A, 125V, NEMA 5-20R; LEVITON 689 SERIES (COLOR AS SPECIFIED BY ARCHITECT).

2)USB CHARGER/ DUPLEX TAMPER-RESISTANT RECEPTACLE:

TAMPER RESISTANT,

D. DEVICE PLATES: SEE ARCHITECT FOR TYPE. FOR RECEPTACLES WITH OTHER THAN 120 VOLT, INSCRIBED VOLTAGE AVAILABLE.

E. COLORS: COORDINATE COLORS WITH ARCHITECT.

F. MOUNTING ORIENTATION OF RECEPTACLES (HORIZONTAL OR VERTICALLY): COORDINATE WITH ARCHITECT.

11. LIGHTING FIXTURES:

A. FIXTURES TO BE AS SPECIFIED BY ARCHITECT AND SHALL BE COMPLETELY FACTORY ASSEMBLED, WIRED AND EQUIPPED WITH ALL NECESSARY SOCKETS, BALLASTS, SUPPORTING HARDWARE AND ACCESSORIES. REFER TO DRAWINGS FOR INDIVIDUAL FIXTURE DESCRIPTIONS.

B. FIXTURE CATALOG NUMBERS USED TO ILLUSTRATE EQUIPMENT TYPE DO NOT NECESSARILY DENOTE REQUIRED MOUNTING EQUIPMENT OR ACCESSORIES. PROVIDE ACCESSORIES TO SUIT.

C. BALLAST: CLASS P, HIGH POWER FACTOR, LOWEST AVAILABLE NEMA RATED NOISE LEVEL, E11 AND C8M APPROVED. ENERGY SAVING TYPE. TRIGGER START FOR 24-INCH LAMPS AND RAPID START FOR 48-INCH, TWO LAMP BALLASTS; NO THREE LAMP BALLASTS. BALLASTS SHALL BE ADVANCE MAGNETEK, UNIVERSAL OR EQUAL.

D. LED DRIVERS SHALL BE ELECTRONIC TYPE, LABELED AS COMPLIANT WITH RADIO FREQUENCY INTERFERENCE (RFI) REQUIREMENTS OF FCC TITLE 47, PART 15 AND COMPLY WITH NEMA SSL-1 "ELECTRONIC DRIVERS FOR LED DEVICES, ARRAYS OR SYSTEMS". LED DRIVERS SHALL HAVE A SOUND RATING OF "A", HAVE A MINIMUM EFFICIENCY OF 85% AND BE RATED FOR A THD OF LESS THAN 20% AT ALL INPUT VOLTAGES.

E. DIMMABLE LED DRIVERS SHALL BE CAPABLE OF DIMMING WITHOUT LED STROBING OR FLICKER ACROSS THEIR FULL DIMMING RANGE. PROVIDE TYPE OF LED DRIVER AS PER LIGHTING FIXTURE SCHEDULE. DIMMABLE LED DRIVERS SHALL BE 0-10V WHERE NOT INDICATED.

F. CONTINUOUS ROW, TWO LAMP STRIP FIXTURES SHALL BE STAGGERED TYPE.

G. EXIT SIGNS SHALL BE PRECISION DIE-CAST ALUMINUM HOUSING WITH LASER-FORMED ACRYLIC LEGEND. EXIT SIGNS SHALL COMPLY WITH UL 924 AND BE MEA APPROVED. AC POWERED WITH PREMIUM LONG-LIFE NICKEL CADMIUM BATTERY WITH STANDARD UL LISTED 3-HOUR RUN TIME. PROVIDE WITH INTEGRAL AUTOMATIC CHARGER IN A SELF CONTAINED POWER PACK. LED INDICATOR WITH PUSH TO TEST SWITCH.

12. TELEPHONE CONDUIT SYSTEM:

A. PROVIDE COMPLETE SYSTEM OF: RACEWAYS AND ACCESSORIES, OUTLET BOXES, SLEEVES AND FISHWIRES.

B. EQUIPMENT SHALL CONFORM TO REQUIREMENTS OF TELEPHONE COMPANY.

C. OUTLETS SHALL BE:

1) WALL: 4 IN. SQUARE WITH BUSHED COVER PLATE.

D. PROVIDE FISHWIRES, IN RACEWAYS OVER 10 FT LONG.

E. CONDUIT SHALL BE 3/4 IN. MINIMUM. FURNISH EMPTY CONDUIT FROM OUTLET BOX TO BUSHED END THRU WALL 6" BELOW THE PLASTER CEILING.

F. FACE RACEWAYS IN ROOMS SHALL HUBBELL HBL500, HBL750 OR HBL2000 SERIES OR AS ACCEPTABLE.

13. GROUNDING AND BONDING:

A. PROVIDE GROUNDING SYSTEM IN ACCORDANCE WITH (NATIONAL ELECTRICAL CODE) AND THESE SPECIFICATIONS. THE WIRING SYSTEM SHALL BE INSTALLED AS REQUIRED TO PROVIDE A CONTINUOUSLY GROUNDED SYSTEM WHERE FLEXIBLE CONDUIT IS USED FOR PART OF A CONDUIT RUN, EXCEPT LIGHTING BRANCH CIRCUITS, AN INSULATED GROUNDING CONDUCTOR SHALL BE PROVIDED IN THE CONDUIT AND CONNECTED TO GROUNDING BUSHINGS AT EACH END OF THE RUN.

B. USE EXOTHERMIC WELDING PROCESS FOR INACCESSIBLE CONNECTIONS.

C. EXTEND EXISTING SYSTEM GROUND TO INCLUDE ALL THE ELECTRICAL EQUIPMENT IN THE SCOPE OF WORK.

D. WHERE FLEXIBLE METALLIC CONDUIT IS USED AN INTERNAL BONDING CONDUCTOR SHALL BE INSTALLED.

E. IN ADDITION, FURNISH A SEPARATE INSULATED GREEN EQUIPMENT GROUND CONDUCTOR WHERE INDICATED ON DRAWINGS AND FOR THE FOLLOWING BRANCH CIRCUITS:

1) CIRCUITS SERVING ANY WALL BOX DIMMER.

2) CIRCUITS SERVING ANY ISOLATED GROUND RECEPTACLES. TERMINATE GROUND DIRECTLY AT AN EQUIPMENT GROUNDING CONDUCTOR TERMINAL OF THE SOURCE AT THE SOURCE , OR AS OTHER WISE NOTED ON DRAWINGS.

3) CIRCUITS SERVING ANY DUPLEX OR SIMPLEX COMPUTER RECEPTACLES

4) ANY CIRCUIT SERVED VIA AN ISOLATION TRANSFORMER OR COMPUTER POWER DISTRIBUTION UNIT.

14. PANELBOARDS:

A. PANELBOARDS SHALL BE OF THE DEAD FRONT TYPE MANUFACTURED IN CODE GAUGE AND SIZE BOXES FOR MOUNTING AS INDICATED ON PLANS COMPLETE WITH TRIM, DOORS AND LOCKS. ALL LOCKS SHALL BE KEYED ALIKE.

B. CIRCUIT BREAKERS SHALL BE OF THE BOLT-ON THERMAL MAGNETIC MOLDED CASE TYPE, AND SHALL HAVE THE TRIP RATINGS AND NUMBER OF POLES SHOWN IN SCHEDULES ON THE CONTRACT DRAWINGS. FOR BLANK (SPACE) COMPARTMENTS, PROVIDE FULL RATED BUS. MINIMUM GUTTER SPACES SHALL BE 5-3/4". SIDES, TOP AND BOTTOM, INCREASE FOR THROUGH FEEDERS. PROVIDE 25% COPPER GROUND BUS AND 100% COPPER NEUTRAL BUS AND INCREASE NEUTRAL BUS INDICATED.

C. LOCKING TABS SHALL BE PROVIDED ON ALL CIRCUIT BREAKERS SERVING EMERGENCY LIGHTING, FIRE ALARM SYSTEM, SECURITY SYSTEMS AND OTHER EMERGENCY OR CRITICAL EQUIPMENT AND AS NOTED ON THE CONTRACT DRAWINGS. A TOTAL OF 5 SPARE LOCKING TABS SHALL BE FURNISHED TO THE OWNER.

D. BUSES SHALL BE HARD DRAWN COPPER OF 98 PERCENT CONDUCTIVITY AND SHALL HAVE CROSS SECTIONAL AREAS LARGE

ENOUGH TO LIMIT THE TEMPERATURE RISE, WHEN CARRYING FULL LOAD, TO 35 DEGREES C. ABOVE AN AMBIENT INSIDE THE ENCLOSURE OF 55 DEGREES C. AS DEFINED IN IEEE STANDARD RULES. MAIN BUS CAPACITY SHALL BE AS SHOWN ON THE CONTRACT DRAWINGS.

E. ENCLOSURES SHALL BE SURFACE OR FLUSH AS INDICATED. TRIMS SHALL BE SECURED TO PANEL WITH MACHINE SCREWS. COVERS SHALL BE HINGED DOOR-IN-DOOR CONSTRUCTION WITH CYLINDER LOCKS AND CATCHES. LOCKS MUST BE COMPATIBLE WITH BUILDING STANDARD KEY SYSTEM AND WHEN NONE EXISTS, THEY SHALL BE SIMILAR TO A YALE NO. 911 KEY.

F. DISTRIBUTION AND SUB-DISTRIBUTION PANELBOARD SHALL BE A MINIMUM OF 30" WIDE AND 10" DEEP.

G. ALL STANDARD PANELBOARDS SHALL BE A MINIMUM OF 20" WIDE AND 5 3/4" DEEP.

H. FURNISH ALL PANELBOARDS WITH FEED-THRU LUGS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

I. ALL NEW PANELBOARDS SHALL BE PROVIDED WITH AN ENGRAVED WHITE CORE LAMACOID NAMEPLATE, WITH 3/4 IN. WHITE LETTERING ON A BLACK BACKGROUND, WITH DESIGNATION LISTED (PANELBOARD NAME), FASTENED WITH EPOXY CEMENT OR OVAL HEAD CHROME PLATED MACHINE SCREWS.

J. THE CIRCUIT DIRECTORY SHALL BE TYPEWRITTEN AND PROVIDED INSIDE EACH PANEL DOOR TO INDICATE EQUIPMENT AND/OR AREA SERVED. DIRECTORY HOLDER SHALL BE METAL FRAME WITH CLEAR PLASTIC, TRANSPARENT COVER. THE TYPEWRITTEN LIST INDICATING CIRCUIT NUMBERS, OUTLETS SUPPLIED AND THEIR LOCATIONS SHALL BE PROVIDED.

K. TIE-BARS SHALL NOT BE USED TO CREATE MULTI-POLE CIRCUITS. MAXIMUM 42 CIRCUITS ALLOWED.

L. ONLY ONE WIRE SHALL BE INSTALLED UNDER EACH CIRCUIT BREAKER LUG.

M. SHORT CIRCUIT RATING OF PANELBOARDS SHALL NOT BE LESS THAN AS INDICATED ON THE CONTRACT DRAWINGS OR SPECIFIED HEREIN. WHERE NOT INDICATED OR SPECIFIED THE MINIMUM SHORT CIRCUIT RATING SHALL BE EQUAL TO THE INTERRUPTING CAPACITY OF THE LOWEST RATED CIRCUIT BREAKER IN THE PANELBOARD, BUT IN NO CASE LESS THAN 10,000 AMPERES R.M.S. SYMMETRICAL FOR 208Y/120 VOLT SYSTEM AND 14,000 AMPERES R.M.S. SYMMETRICAL FOR 480Y/277 VOLT SYSTEM. SERIES RATED PANELBOARDS SHALL BE USED TO ACHIEVE REQUIRED SHORT CIRCUIT RATINGS.

N. FOR ALL EXISTING PANELBOARDS, CONTRACTOR SHALL PROVIDE NEW CIRCUIT BREAKERS TO REPLACE EXISTING AS REQUIRED AS INDICATED ON DRAWINGS.

15. SMOKE ALARMS

A. PROVIDE SOLID STATE, PHOTOELECTRIC TYPE, HARD-WIRED SMOKE ALARM WITH 9V BATTERY BACKUP AND INTEGRAL TEMPORAL PATTERN EVACUATION HORN. EDWARDS 517 SERIES OR APPROVED EQUAL.

B. THREE POSITION TEST FEATURE THAT SIMULATES ACTUAL SMOKE CONDITIONS. SHALL CONTAIN MAINTENANCE INDICATOR.

C. PROVIDE WITH INTEGRAL 135 DEGREE F ISOLATED HEAT DETECTION OR INTEGRAL RELAY RATED 0.6A AT 125V AC., AS INDICATED ON THE PLANS AND DRAWINGS.

D. DEVICE SHALL BE RATED TO OPERATE AT A RANGE OF 40'f TO 100'f.

E. UL LISTED TO UL217 AND APPROVED.

16. INTERCOM CONDUIT SYSTEM:

A. PROVIDE COMPLETE SYSTEM OF: RACEWAYS AND ACCESSORIES, OUTLET BOXES, SLEEVES AND FISHWIRES.

B. EQUIPMENT SHALL CONFORM TO REQUIREMENTS OF INTERCOM MANUFACTURER.

C. OUTLETS SHALL BE:

1)WALL: 4 IN. SQUARE WITH SINGLE GANG COVER PLATE.

D. PROVIDE FISHWIRES, IN RACEWAYS OVER 10 FT LONG.

E. CONDUIT SHALL BE 3/4 IN. MINIMUM. FURNISH EMPTY CONDUIT FROM EACH APARTMENT TO MAIN INTERCOM CONTROLLER AT ENTRANCE.

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

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ELECTRICAL SPECIFICATIONS  
SHEET 2 OF 2

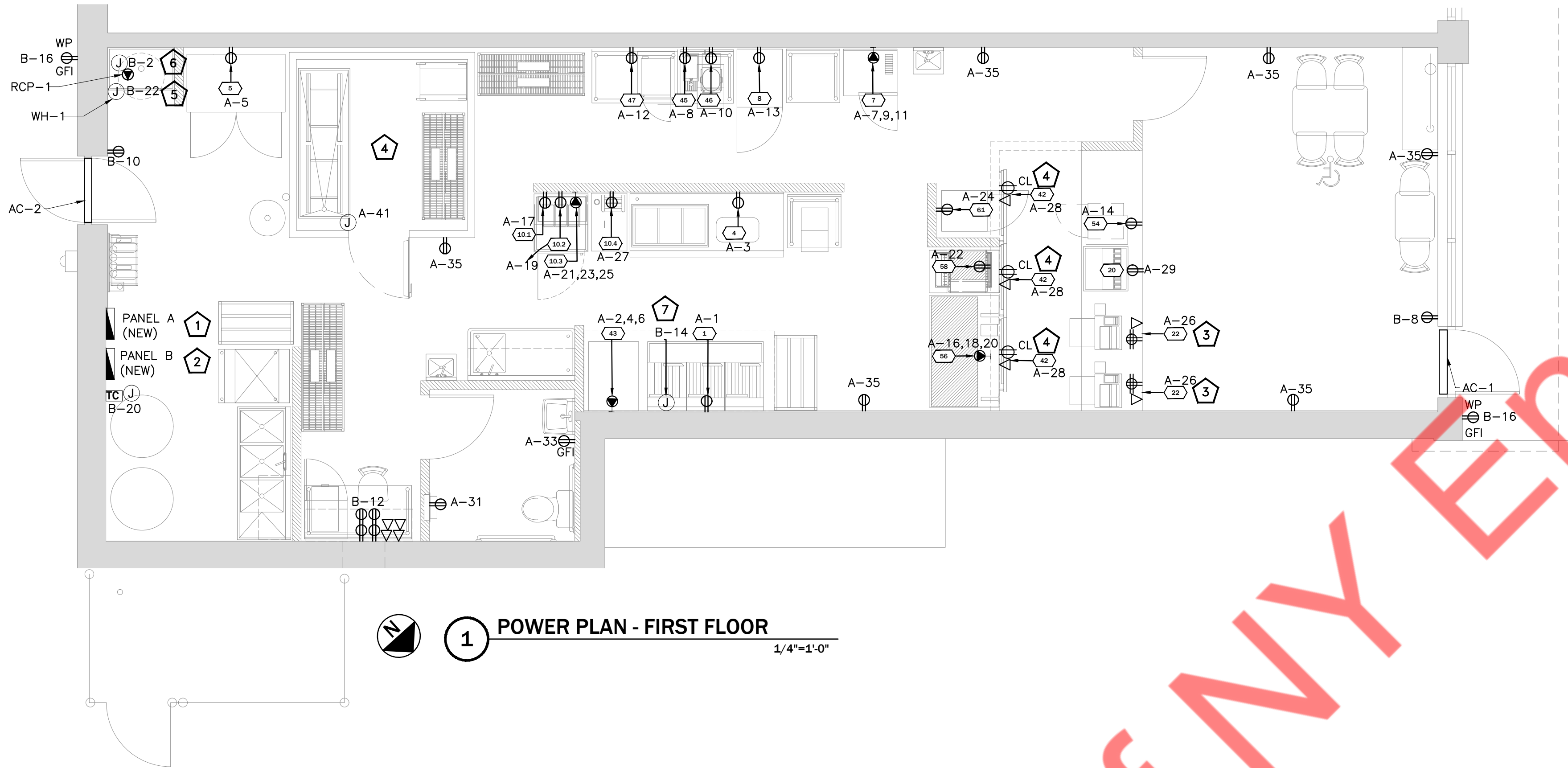
DRAWING NO.:

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

KITCHEN EQUIPMENT SCHEDULE:

TAG NO.	DESCRIPTION	VOLTAGE	PHASE	AMPS	kW	CONN. TYPE	NEMA
1	3 VAT FRYER, GAS	115	1	8.5	0.98	CORD & PLUG	5-15P
4	ICE BATTER/SIFTER TABLE, 2PANS	115	1	1.6	0.18	CORD & PLUG	5-15P
5	FREEZER, UPRIGHT	115	1	9	1.04	CORD & PLUG	5-15P
7	HALF SIZE ELEC. CONVECTION OVEN	208	3	24	8.65	CORD & PLUG	6-30P
8	UPRIGHT REFRIGERATOR	115	1	6	0.69	CORD & PLUG	5-15P
10.1	SANDWICH UNIT W/ OVERSHELF	115	1	7.2	0.83	CORD & PLUG	5-15P
10.2	PRODUCT HOLDING UNIT	115	1	12	1.38	CORD & PLUG	5-15P
10.3	REFRIGERATOR, UNDERCOUNTER	115	1	4.9	0.98	CORD & PLUG	5-15P
10.4	VERTICAL CONTACT TOASTER	115	1	15	1.73	CORD & PLUG	5-15P
20	SODA FOUNTAIN	115	1	3	0.35	CORD & PLUG	5-15P
41	HAND DRYER WITH RECESSED KIT	208	3	5.6	2.02	CORD & PLUG	6-20P
43	GAS/ELEC GRILL	208	3	21	4.37	CORD & PLUG	6-30P
45	HOT WATER DISPENSER	208	1	19.5	4.06	CORD & PLUG	6-20P
46	1 GAL. BREWER w/ DISPENSER	115	1	14	1.61	CORD & PLUG	5-15P
47	MICRO WAVE	208	1	16.6	3.45	CORD & PLUG	6-20P
54	FROZEN BEVERAGE	115	1	12	1.38	CORD & PLUG	5-15P
56	PROD. HOLDING BIN - BIRD CAGE UNIT	208	3	26	9.37	CORD & PLUG	6-30P
58	PROD. HOLDING BIN - BISCUIT WARMER UNIT	115	1	12	1.38	CORD & PLUG	5-15P
61	SINGLE DOOR MERCHANDISER	115	1	4.8	0.55	CORD & PLUG	5-15P

KITCHEN EQUIPMENT SCHEDULE GENERAL NOTES:

E.C. TO COORDINATE WITH ARCHITECT/ KITCHEN EQUIPMENT SPECIALIST FOR CONNECTION TYPE AND HEIGHT PRIOR TO ROUGH IN.

ELECTRICAL POWER PLAN GENERAL NOTES:

- VERIFY MOUNTING HEIGHTS OF ALL RECEPTACLES WITH EQUIPMENT SUPPLIED PRIOR TO INSTALLATION.
- E.C. TO PROVIDE CORD & PLUG CONNECTIONS FOR EQUIPMENT AS REQUIRED.
- ALL RECEPTACLES IN KITCHEN COOKING AREA/FOOD PREPARATION AREA SHALL BE "GFCI" IN ACCORDANCE WITH NEC 2017 ARTICLE 210.8(B). PROVIDE GFI RATED BREAKER AT PANEL FOR KITCHEN EQUIPMENT.
- ALL CIRCUITS FOR P.O.S. (POINT OF SALE) EQUIPMENT SHALL BE CONNECTED TO THE SAME PHASE OF POWER IN THE PANEL. ALL BRANCH CIRCUIT BREAKERS SUPPLYING P.O.S. EQUIPMENT SHALL HAVE LOCKING HANDLES DEVICES.
- EACH RECEPTACLE TYPE (LOCKING OR STRAIGHT BLADE) SHALL MATCH THAT OF THE EQUIPMENT FURNISHED.
- ALL RECEPTACLES WITHIN 6 FEET FROM THE TOP INSIDE EDGE OF THE BOWL OF THE SINK SHALL BE "GFCI" IN ACCORDANCE WITH NEC 2017 ARTICLE 210.8(B)
- ALL POS AND COMPUTERS TO HAVE ISOLATED GROUND.

ELECTRICAL POWER PLAN KEYED WORK NOTES:

- NEW 400A, 120/208V, 3-PHASE ELECTRICAL PANEL A. E.C SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION.
- NEW 125A, 120/208V, 3-PHASE ELECTRICAL PANEL B. E.C SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION.
- POWER AND DATA FOR ALL POS AND SCREEN.
- ELECTRICAL CONTRACTOR TO COORDINATE EXACT POWER REQUIREMENT WITH WALK IN BOX MANUFACTURER AND MAKE POWER PROVISION ACCORDINGLY.
- JUNCTION BOX FOR GAS WATER HEATER. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR.
- JUNCTION BOX FOR RE-CIRCULATING PUMP. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR.
- JUNCTION BOX FOR HOOD/ANSUL SYSTEM. ELECTRICAL CONTRACTOR TO COORDINATE EXACT POWER REQUIREMENT WITH HOOD MANUFACTURER AND MAKE POWER PROVISION ACCORDINGLY.

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

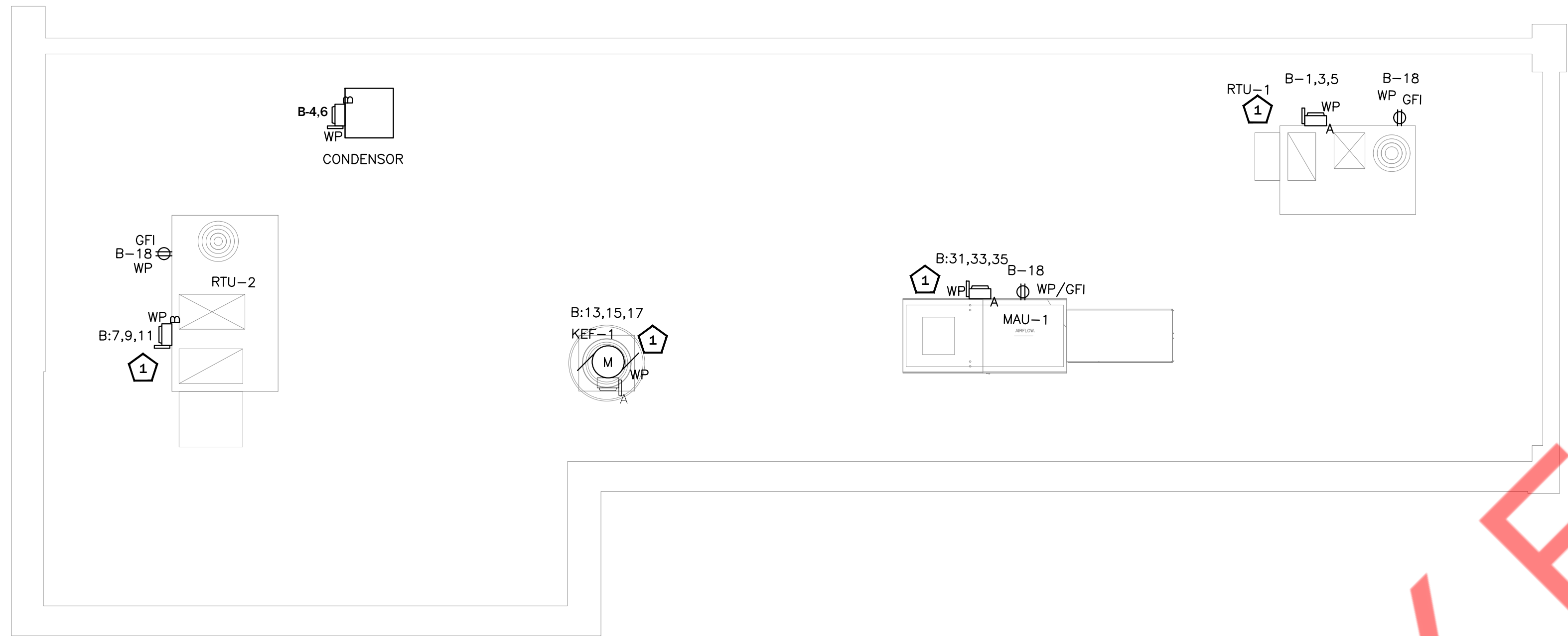
DRAWING TITLE:

ELECTRICAL  
POWER PLAN

DRAWING NO.:


E-201.00





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

ROOF PLAN GENERAL NOTES	
1. COORDINATE EXACT LOCATION OF HVAC EQUIPMENTS ON ROOF WITH MECHANICAL CONTRACTOR.	

 ROOF PLAN KEYED NOTES	NOTES
1. ELECTRICAL CONTRACTOR SHALL COORDINATE DISCONNECT AND FUSE REQUIREMENT FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. COORDINATE LOCATION OF DISCONNECT WITH MANUFACTURER AND MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES.	

PROJECT INFORMATION:
TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

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DOB NOW JOB NO.:

DATE: 05/19/2022
PROJECT NO.: Z325-21
DRAWN BY: NYE
CHECKED BY: NYE
SCALE: AS NOTED

DRAWING TITLE:
ROOF POWER PLAN

DRAWING NO.:
E-202.00

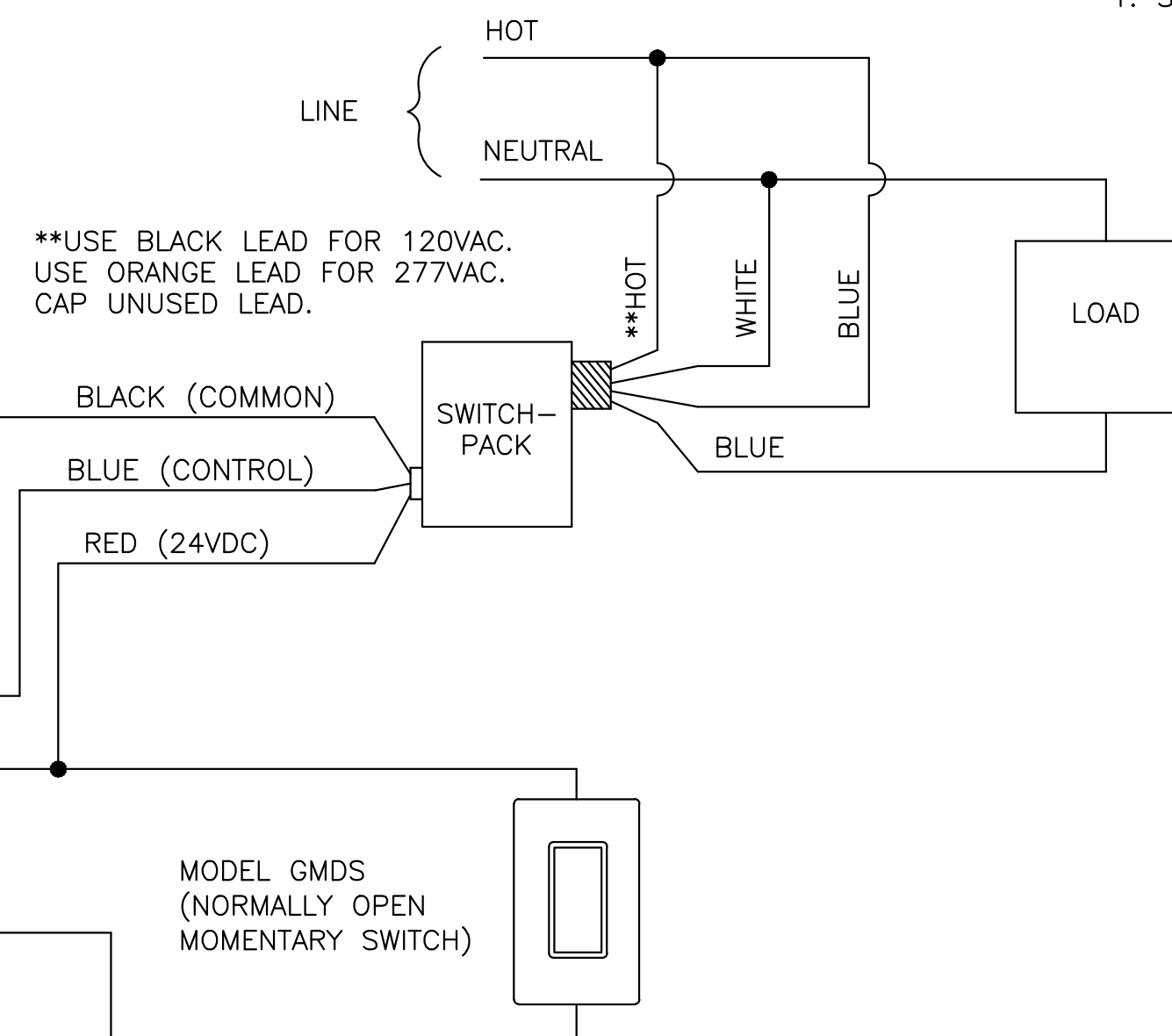


1. SWITCHES ARE REQUIRED TO TURN LOAD ON.
2. LOAD TURNS OFF WHEN SENSOR TIMES OUT OR WITH SWITCH.

1. WHEN SENSOR ACTIVATES LOAD TURNS ON.
2. SWITCH CAN BE USED TO TURN LOAD ON OR OFF.

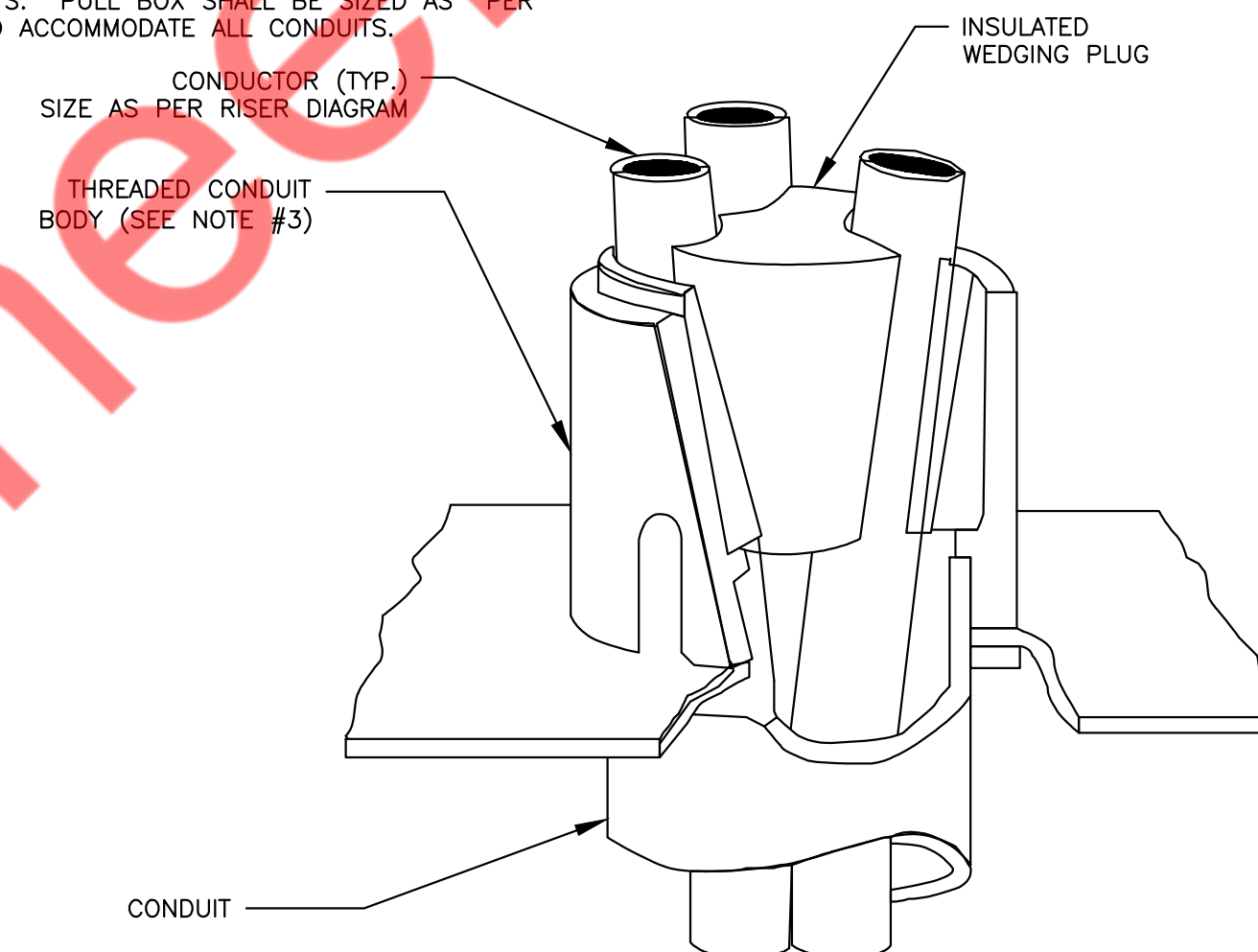
The diagram shows a circular 12-pin relay terminal block with the following wiring connections:

- BLACK (COMMON)**: Connected to the top terminal.
- BLUE (CONTROL-OCC)**: Connected to the terminal below black.
- RED (10-30VDC)**: Connected to the terminal below blue.
- WHITE/BLUE (CONTROL-OCC/DAY)**: Connected to the terminal below red.
- BROWN (BLUE-CONTROL)**: Connected to the terminal below white/blue.
- YELLOW/ORANGE (CONTROL)**: Connected to the terminal below brown.
- PURPLE (NORMALLY CLOSED)**: Connected to the terminal below yellow/orange.
- GRAY (ISOLATED RELAY COMMON)**: Connected to the terminal below purple.
- ORANGE (NORMALLY OPEN)**: Connected to the terminal below gray.



1. SP20-RD4 SWITCHPACK SHOWN.  
120/277VAC 20AMP RATING.

1. ALL CONDUCTORS IN VERTICAL RACEWAYS SHALL BE SUPPORTED IN ACCORDANCE WITH ARTICLE 300.19 OF NEC. CABLE SUPPORTS SHALL BE LOCATED AT THE INTERVALS REQUIRED BY THE NEC.
2. CABLE SUPPORT SYSTEM SHALL BE AS MANUFACTURED BY O-Z GEDNEY WITH  $\phi$ ZI-GRIP "S"-STYLE WEDGING PLUG OR APPROVED EQUAL.
3. FOR THREADLESS CONDUIT (RIGID, IMC OR EMT), ATTACH CONDUIT BODY TO MALE THREADS OF A SET SCREW OR COMPRESSION CONNECT, AS PERMITTED BY SPECIFICATIONS.



WIRING DIAGRAM - LOW VOLTAGE CEILING SENSOR

EQUIPMENT/SYSTEM IS IN ACCORDANCE WITH BUILDING/PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS.

NUMBER OF HANGER RODS SHALL BE REQUIRED FOR PROPER SUPPORT (MIN. OF 2).

CONDUIT (TYP.)

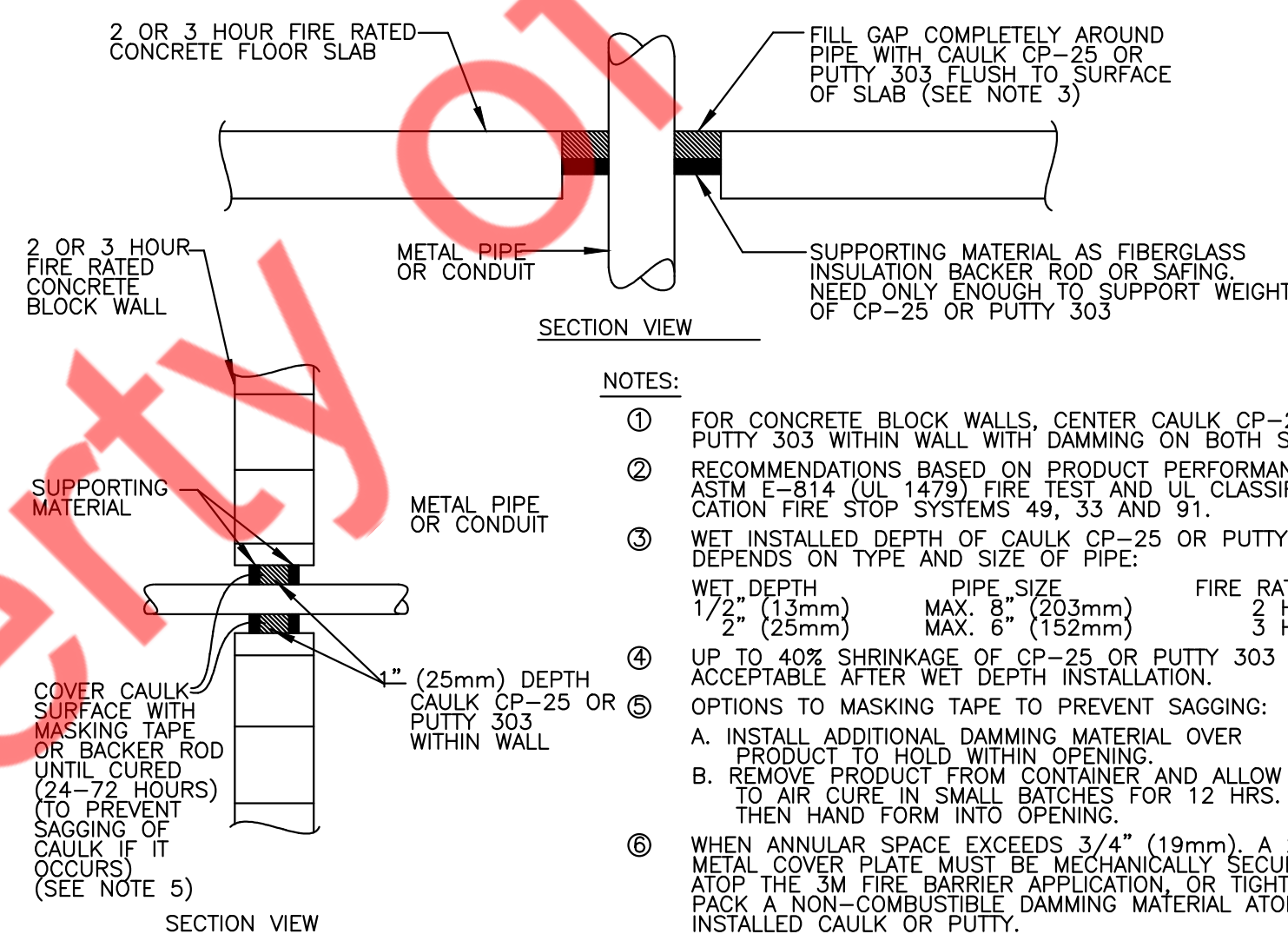
UNISTRUT UNI-CLIP CLAMP, USE FOR ELEC. CONDUIT

CHANNEL SUPPORT (TYP.)

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".
4. UNISTRUT AND CONDUIT INSTALLATION MAY BE REVERSED.

CONDUIT SUPPORT DETAIL

E-301	N.T.S
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- ① FOR CONCRETE BLOCK WALLS, CENTER CAULK CP-25 OR PUTTY 303 WITHIN WALL WITH DAMPING ON BOTH SIDES.
- ② RECOMMENDATIONS BASED ON PRODUCT PERFORMANCE PER ASTM E-814 (UL 793) FIRE TEST AND UL CLASSIFICATION. FIRE STOP TESTS PERFORMED ON CP-25 OR PUTTY 303.
- ③ WET INSTALLED DEPTH OF CAULK CP-25 OR PUTTY 303 DEPENDS ON TYPE AND SIZE OF PIPE:
 

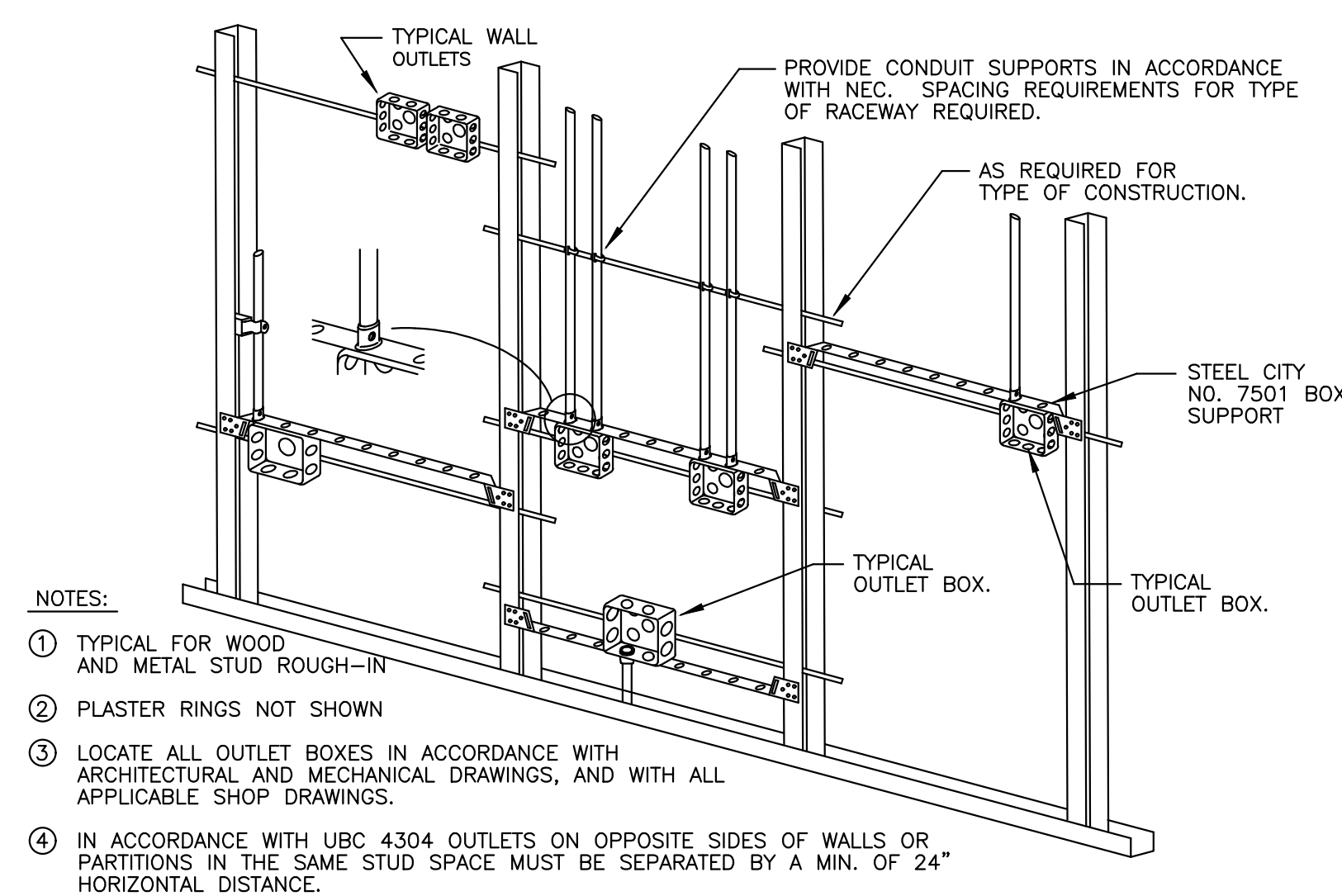
WET DEPTH	PIPE SIZE	FIRE RATING
1/2" (13mm)	MAX. 8" (203mm)	4 HRS.
3/4" (19mm)	MAX. 12" (305mm)	2 HRS.
- ④ UP TO 40% SHRINKAGE OF CP-25 OR PUTTY 303 IS ACCEPTABLE AFTER WET DEPTH INSTALLATION.
- ⑤ OPTIONS TO MASKING TAPE TO PREVENT SAGGING:
  - A. INSTALL ADDITIONAL DAMPING MATERIAL OVER PRODUCT TO HOLD 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 GAP IS 4" (10mm), A 28 AWG METAL COVER PLATE MUST BE MECHANICALLY SECURED AROUND THE 3M FIRE BARRIER APPLICATION, OR TIGHTLY PACK NON-COMBUSTIBLE DAMPING MATERIAL AROUND INSTALLED CAULK OR PUTTY.

FIRE STOP DETAIL

E-301 N.T.S.

### VERTICAL CABLE SUPPORT DETAIL

E-301 N.T.S



- 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.

## DETAIL TYPICAL ROUGH-IN REQUIREMENTS

E-301 N.T.S.

**TEXAS CHICKEN & BURGERS**

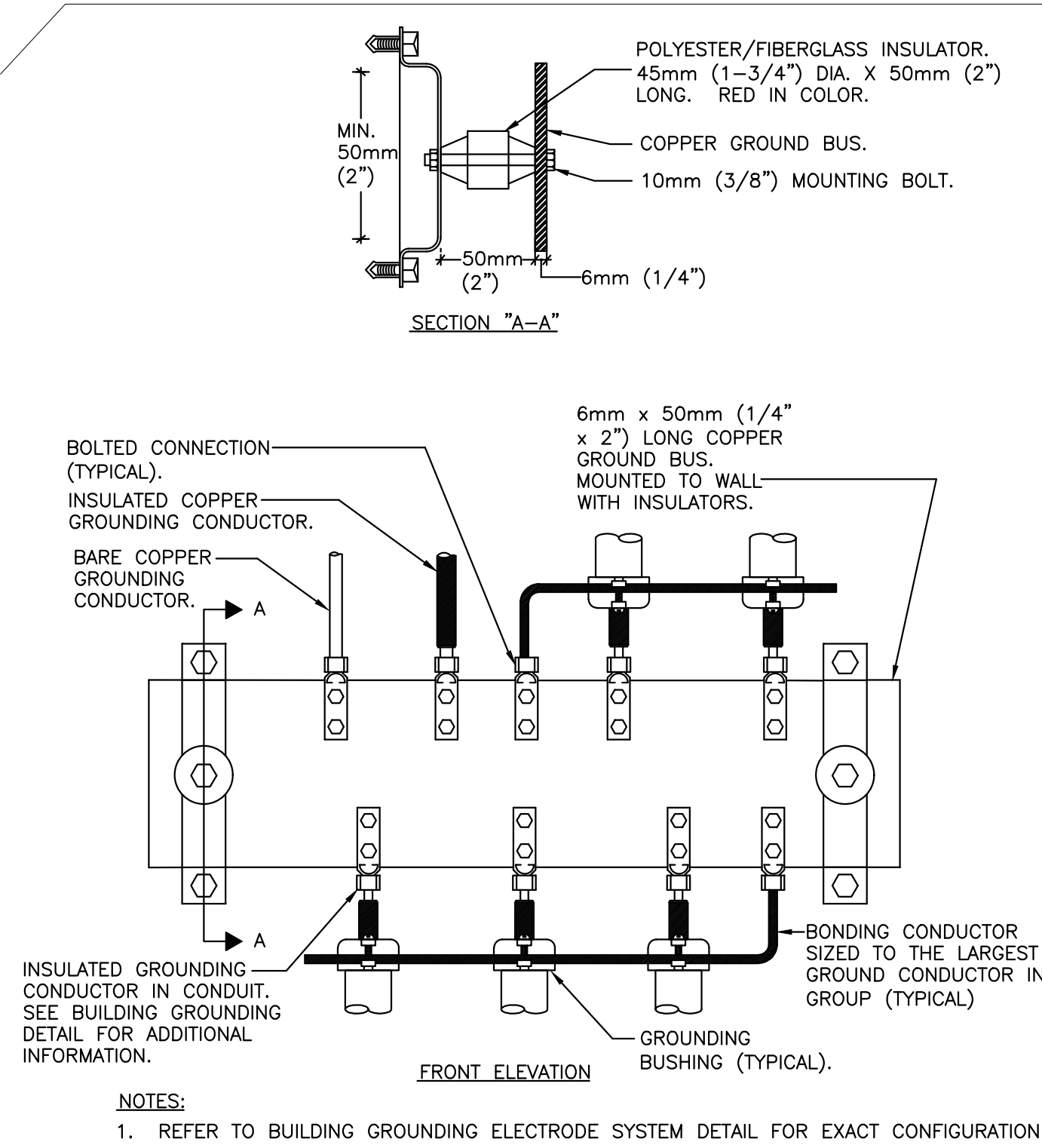
DOB NOW JOB NO.:

**SCALE: AS NOTED**

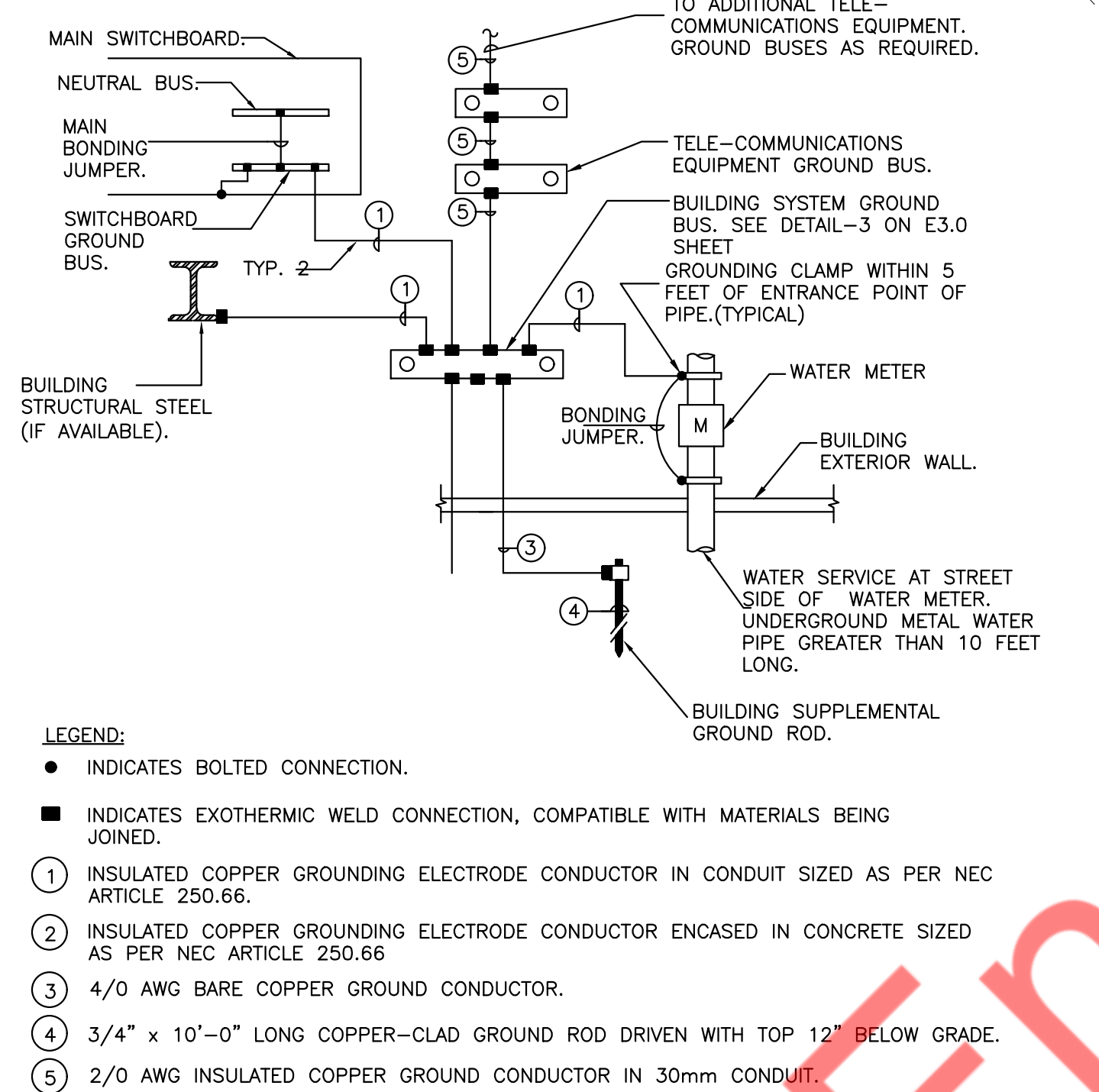
ELECTRICAL DETAILS  
SHEET 1 OF 2

**E-301.00**

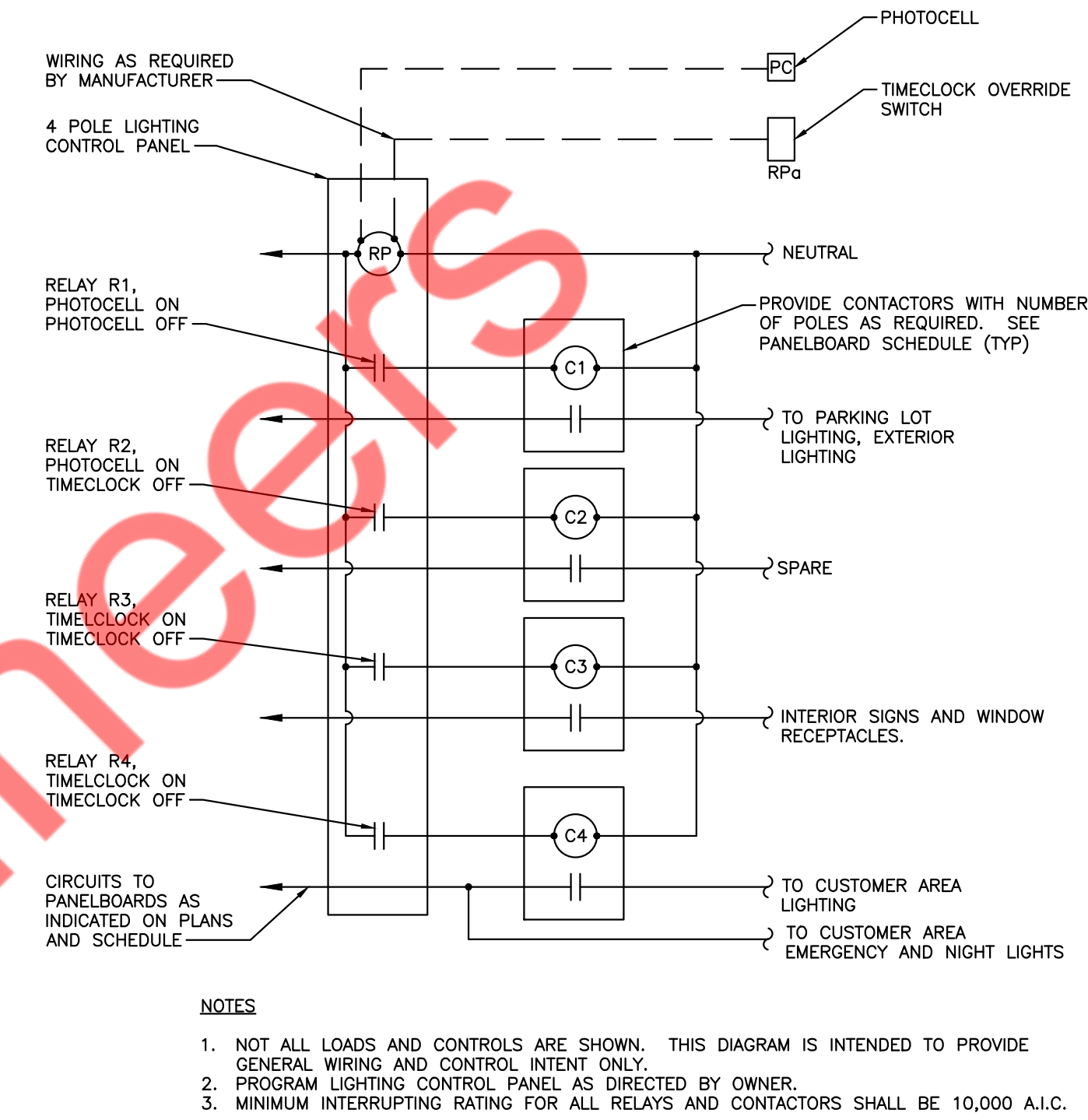




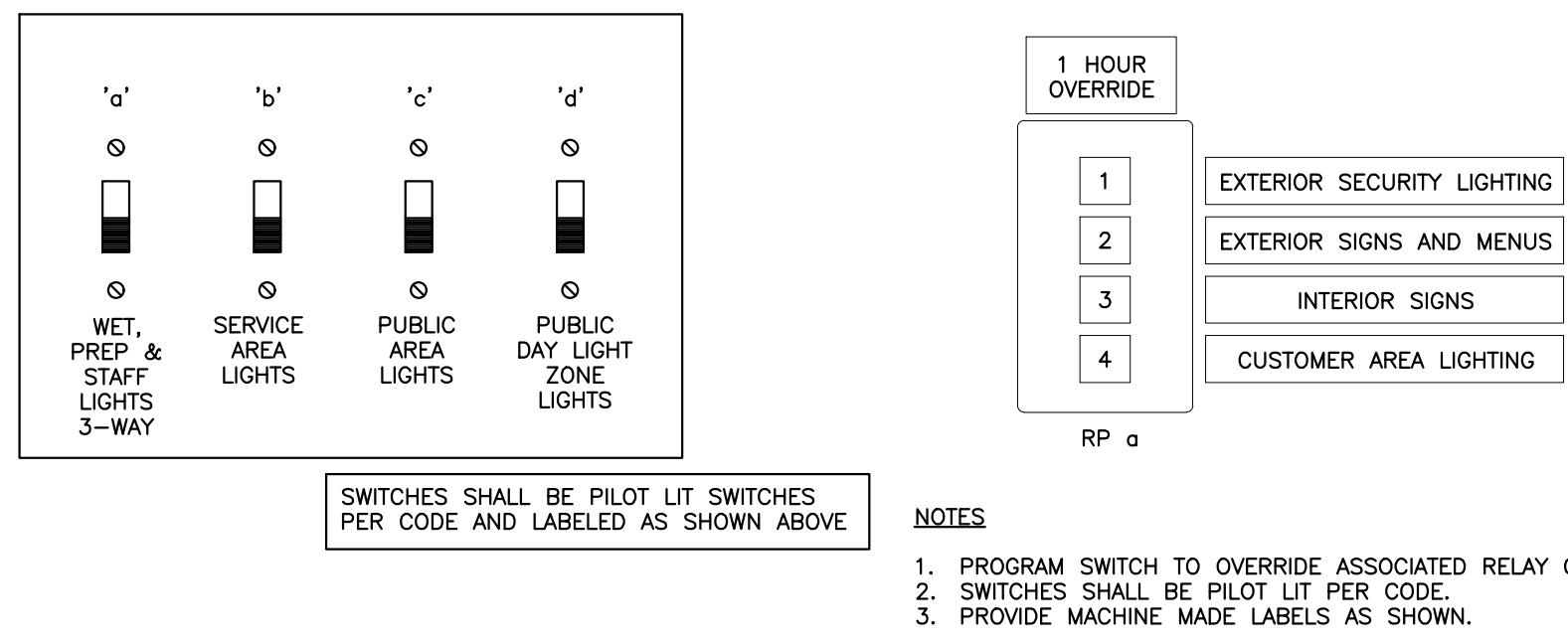
4 BUILDING ELECTRICAL SYSTEMS GROUND BUS  
E-302 N.T.S



3 BUILDING GROUNDING ELECTRODE SYSTEM  
E-302 N.T.S



2 LIGHTING CONTROL DIAGRAM  
E-302 N.T.S



1 SWITCH BANK DETAIL  
E-302 N.T.S

**PROJECT INFORMATION:**

**TEXAS CHICKEN & BURGERS**

**DOB APPROVAL STAMP:**

**DOB NOW JOB NO.:**

**DATE:** 05/19/2022  
**PROJECT NO.:** Z325-21  
**DRAWN BY:** NYE  
**CHECKED BY:** NYE  
**SCALE:** AS NOTED

**DRAWING TITLE:**

**ELECTRICAL DETAILS  
SHEET 2 OF 2**

**DRAWING NO.:**

**E-302.00**



PANEL BOARD SCHEDULES:

PANEL: PANEL A (NEW)										MOUNTING:		SURFACE			
208Y/120		VOLTS,		3	PHASE,			4	WIRE			PANEL LOCATION:		KITCHEN	
MAIN CB:		400A		MLO:	NA		BUS:	400 A		MIN,		FED FROM:		NEW DISCONNECT SWITCH	
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	3 VAT FRYER, GAS	E	8.50	2#12, #12G, 3/4"C	9.95			3#10, #10G, 3/4"C	1.45	E	GAS/ELEC GRILL	3P-30	2	
3	20	ICE BATTER/SIFTER TABLE, 2PANS	E	1.60	2#12, #12G, 3/4"C		3.05			1.45	E			4	
5	20	FREEZER, UPRIGHT	E	9.00	2#12, #12G, 3/4"C			10.45		1.45	E			6	
7	3P-30	HALF SIZE ELEC. CONVECTION OVEN	E	2.88	3#10, #10G, 3/4"C	6.94			2#12, #12G, 3/4"C	4.06	E	HOT WATER DISPENSER	20	8	
9			E	2.88			4.49		2#12, #12G, 3/4"C	1.61	E	1 GAL. BREWER W/ DISPENSER	20	10	
11			E	2.88				6.33	2#12, #12G, 3/4"C	3.45	E	MICRO WAVE	20	12	
13	20	UPRIGHT REFRIGERATOR	E	0.69	2#12, #12G, 3/4"C	2.07			2#12, #12G, 3/4"C	1.38	E	FROZEN BEVERAGE	20	14	
15		SPARE					1.59			1.59	E			16	
17	20	SANDWICH UNIT W/ OVERSHELF	E	0.83	2#12, #12G, 3/4"C			2.42	3#10, #10G, 3/4"C	1.59	E	PROD. HOLDING BIN - BIRD CAGE UNIT	3P-30	18	
19	20	PRODUCT HOLDING UNIT	E	1.38	2#12, #12G, 3/4"C	2.97				1.59	E			20	
21			E	0.59			1.97			2#12, #12G, 3/4"C	1.38			E	PROD. HOLDING BIN - BISCUIT WARMER UNIT
23	3P-20	REFRIGERATOR, UNDERCOUNTER	E	0.59	3#12, #12G, 3/4"C			1.14	2#12, #12G, 3/4"C	0.55	E	SINGLE DOOR MERCHANDISER	20	24	
25			E	0.59		0.95			2#12, #12G, 3/4"C	0.36	R	POS SYSTEM	20	26	
27	20	VERTICAL CONTACT TOASTER	E	1.73	2#12, #12G, 3/4"C		2.27		2#12, #12G, 3/4"C	0.54	R	SCREEN	20	28	
29	20	SODA FOUNTAIN	E	0.35	2#12, #12G, 3/4"C			0.85	2#12, #12G, 3/4"C	0.50	L	LIGHTING WITH TXF-1	20	30	
31	20	HAND DRYER WITH RECESSED KIT	E	1.40	2#12, #12G, 3/4"C	1.40						SPARE	20	32	
33	20	RESTROOM RECEPTACLES	R	0.18	2#12, #12G, 3/4"C		0.18					SPARE	20	34	
35	20	GENERAL RECEPTACLE	R	1.08	2#12, #12G, 3/4"C			1.08				SPARE	20	36	
37	20	JB FOR HOOD LIGHTING	L	0.20	2#12, #12G, 3/4"C	12.46				12.26	O	PANEL B	125	38	
39	20	SIGNAGE	L	1.00	2#12, #12G, 3/4"C		13.26			12.26	O			40	
41	20	WALK IN BOX LIGHTING	L	0.50	2#12, #12G, 3/4"C			12.76	4#3 , 1#8G, 11/4"C.	12.26	O			42	
TOTAL CONNECTED LOAD (KVA)						36.74	26.81	35.03							
L-LIGHTING, R-RECEPTACLE, H-HVAC, M-MOTOR, E-EQUIPMENTS, O-OTHER/MISSC															

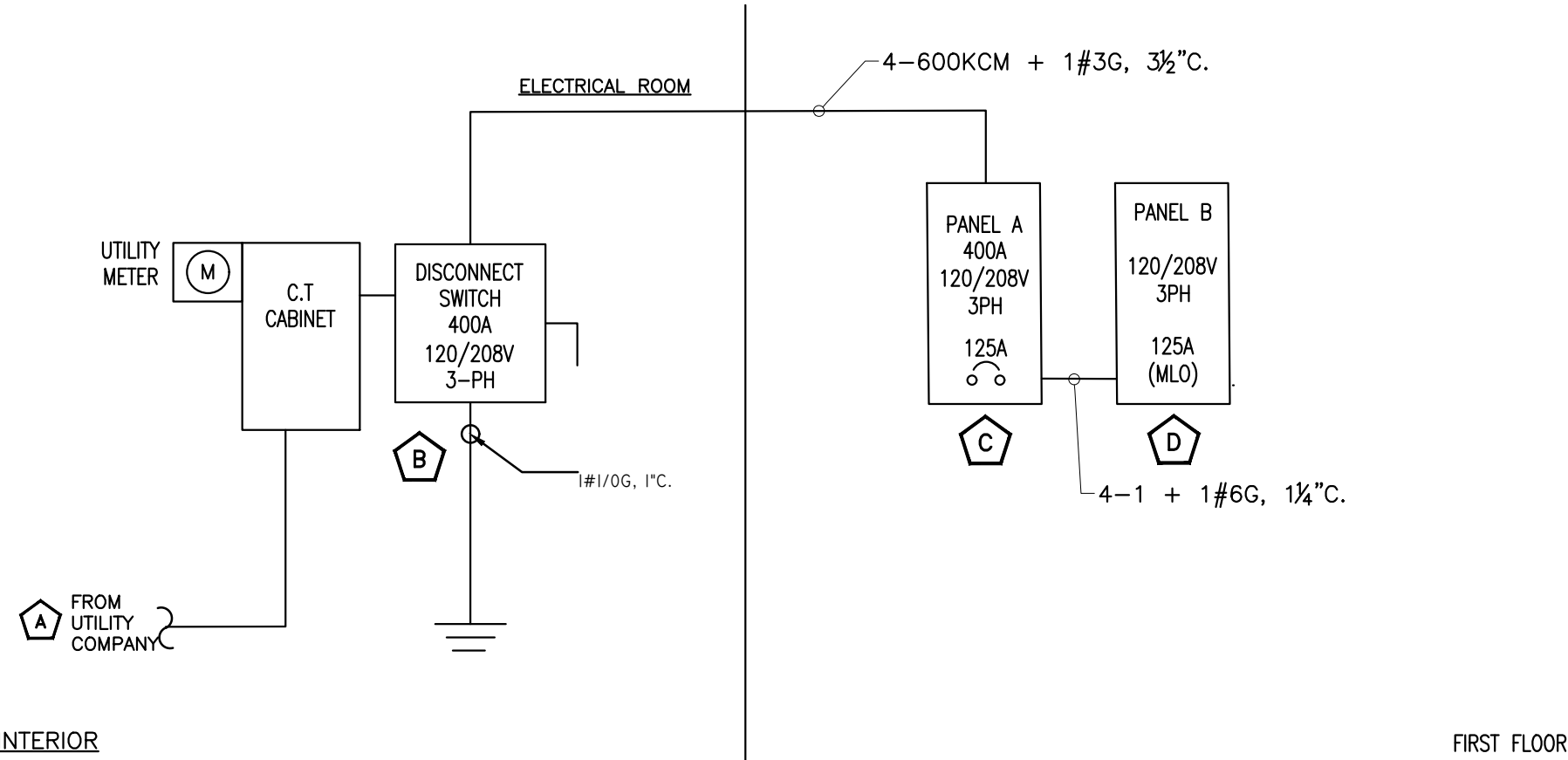
PANEL: PANEL B (NEW)										MOUNTING: SURFACE									
208Y/120	VOLTS,		3	PHASE,		4	WIRE					PANEL LOCATION: KITCHEN							
MAIN CB: NA										MLO:	125A		BUS:	150 A		MIN,	FED FROM: PANEL A		
NOTE:																			
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.					
						A	B	C											
1	3P-30	RTU-1	M	2.52	3#10, 1#10G, 3/4"C.	2.61			2#12, #12G, 3/4"C	0.08	M	RCP-1	20	2					
3			M	2.52			6.68		2#8, #10G, 3/4"C.	4.16	H	WALK IN BOX (CONDENSOR)	2P-40	4					
5			M	2.52				6.68		4.16	H		6						
7	3P-50	RTU-2	M	4.68	3#8, 1#10G, 3/4"C.	4.88			2#12, #12G, 3/4"C	0.20	M	AC-1	20	8					
9			M	4.68			4.88		2#12, #12G, 3/4"C	0.20	M	AC-2	20	10					
11			M	4.68				5.40	2#12, #12G, 3/4"C	0.72	R	RECEPTACLE FOR TABLE	20	12					
13	3P-15	KEF-1	M	0.79	3#12, 1#12G, 3/4"C.	0.99			2#12, #12G, 3/4"C	0.20	O	JUNCTION BOX FOR HOOD/ANSUL	20	14					
15			M	0.79			1.15		2#12, #12G, 3/4"C	0.36	R	GENERAL RECEPTACLE	20	16					
17			M	0.79				1.33	2#12, #12G, 3/4"C	0.54	R	ROOF RECETACLES	20	18					
19	3P-15	MAU-1	H	0.66	3#12, 1#12G, 3/4"C.	0.76			2#12, #12G, 3/4"C	0.10	R	TIME CLOCK	20	20					
21			H	0.66			0.76		2#12, #12G, 3/4"C	0.10	H	WH-1	20	22					
23			H	0.66				0.66				SPARE	20	24					
25	20	SPARE				0.00						SPARE	20	26					
27	20	SPARE					0.00					SPARE	20	28					
29	20	SPARE						0.00				SPARE	20	30					
TOTAL CONNECTED LOAD (KVA)						9.24	13.48	14.08											
L-LIGHTING, R-RECEPTACLE, H-HVAC, M-MOTOR, E-EQUIPMENTS, O-OTHER/MISSC																			

PANEL BOARD SCHEDULES NOTES:

- A. ALL CIRCUITING SHOWN IS FOR REFERENCE PURPOSE ONLY. E.C. SHALL VERIFY CIRCUITING OF THE EXISTING DEVICES IN FIELD AND INFORM ENGINEER FOR DISCREPANCIES.
- B. ELECTRICAL CONTRACTOR SHALL VERIFY EXACT CIRCUIT NUMBER & BREAKER SIZE OF THE EXISTING DEVICE IN FIELD.

1 PANEL SCHEDULES

2 RISER DIAGRAM



RISER DIAGRAM KEYED WORK NOTES

- A. UPGRADE 200A, 120/208V, 3 PHASE SERVICE TO NEW 400A, 120/208V, 3 PHASE ELECTRICAL SERVICE FOR THE PROJECT SPACE. E.C. TO COORDINATE WITH OWNER/UTILITY COMPANY FOR NEW ELECTRICAL UPGRADE.
- B. NEW 400A, 120/208V, 3-PHASE ELECTRICAL METER, C.T. CABINET AND DISCONNECT SWITCH FOR THE PROJECT SPACE. E.C. SHALL COORDINATE WITH OWNER/LANDLORD AND APPLY TO UTILITY COMPANY FOR NEW 400A, 120/208V, 3-PHASE ELECTRICAL UPGRADE FOR THE PROJECT SPACE. BASE BID ACCORDINGLY.
- C. NEW 400A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A" FOR THE PROJECT SPACE. E.C. TO COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION OF NEW ELECTRICAL PANEL "A" IN PROJECT SPACE.
- D. NEW 125A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B" FOR THE PROJECT SPACE. E.C. TO COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION OF NEW ELECTRICAL PANEL "B" IN PROJECT SPACE.

RISER DIAGRAM GENERAL NOTES

- RISER DIAGRAM IS FOR REFERENCE PURPOSES ONLY. E.C. SHALL VERIFY EXACT POWER DISTRIBUTION IN FIELD AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY.
- E.C. SHALL VERIFY INCOMING SERVICE AMPERAGE, WIRE SIZING AND DISTRIBUTION IN FILED COORDINATION WITH OWNER/ARCHITECT.
- ELECTRICAL CONTRACTOR TO COORDINATE FAULT CURRENT (Isc) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK.

ELECTRICAL RISER SYMBOLS:

- NEW
- EXISTING ITEM/FEEDER TO REMAIN
- EXISTING ITEM/FEEDER TO BE DISCONNECTED & REMOVED

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

DRAWING TITLE:

ELECTRICAL PANEL SCHEDULES AND RISER DIAGRAM

DRAWING NO.:

E-401.00



PLUMBING LEGENDS

-----	DOMESTIC COLD WATER PIPING
-----	DOMESTIC HOT WATER PIPING
-----	HOT WATER RETURN
-----	FILTERED WATER
-----	VENT PIPING
----- SAN -----	UNDERGROUND WASTE (SANITARY SEWER)
-----	INDIRECT WASTE
----- G SAN -----	UNDERGROUND GREASE WASTE
----- G -----	GAS PIPING
-----	GAS VALVE
-----	GAS SOLENOID VALVE
-----	GATE VALVE
-----	BALANCING VALVE
-----	CHECK VALVE
-----	UNION
-----	PIPE UP
-----	PIPE DOWN
-----	FLOOR DRAIN
-----	HUB DRAIN
-----	FLOOR SINK
-----	FLOOR CLEAN OUT
-----	GRADE CLEAN OUT
-----	WALL CLEAN OUT
-----	TIE INTO EXISTING
-----	DOUBLE CHECK VALVE ASSEMBLY (DCVA)

PLUMBING LEGENDS

P-1	FIXTURE DESIGNATION
AFF	ABOVE FINISHED FLOOR
PC	PLUMBING SUB-CONTRACTOR
GC	GENERAL CONTRACTOR
MC	MECHANICAL SUB-CONTRACTOR
EC	ELECTRICAL SUB-CONTRACTOR
FCO	FLOOR CLEAN OUT
WCO	WALL CLEAN OUT
GCO	GRADE CLEAN OUT
WHD	WALL HYDRANT
FD	FLOOR DRAIN
FS	FLOOR SINK
HD	HUB DRAIN
CW	COLD WATER
HW	HOT WATER
TW	TEMPERED WATER
FW	FILTERED WATER
AAV	AIR ADMITTANCE VALVE (STUOD VENT)
CODP	CLEAN OUT DECK PLATE

BUILDING DEPARTMENT PLUMBING NOTES

- ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT, GAS, WATER, STORM) AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF 2014 THE NEW YORK CITY PLUMBING CODE (NYPC).
- INSTALLATION OF UNDERGROUND PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 702.2
- PROTECTION OF PIPING AND PLUMBING SYSTEM COMPONENTS AS PER SECTION PC 305.
- TRENCHING, EXCAVATION AND BACKFILL AS PER SECTION PC 306.
- RODENT PROOFING AS PER PC 304
- MATERIALS USED IN PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 303, PC 605, PC 702, PC 902,PC 1102.
- EQUIPMENT CONNECTIONS AND JOINING OF PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTERS 4, 5, 6, 7 AND 9.
- DEEP SEAL TRAPS FOR FLOOR DRAINS SHALL BE PROVIDED AS PER PC 1002, AND CLEAN-OUTS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 708
- BUILDING HOUSE TRAPS SHALL BE PROVIDED AS PER SECTION PC 1002.
- DRAINAGE PIPE CLEANOUTS AS PER SECTION PC 708.
- VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 308
- WATER SUPPLY SYSTEMS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 SECTION PC 601-603, 604, 606, 607, 608, 610
- THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 7 SECTION PC 701, 704, 705, 706, 707, 708, 711.
- VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 9 SECTIONS PC 901 THROUGH PC 912 THROUGH PC 917
- GAS METER LOCATION SHALL BE IN ACCORDANCE OF FUEL GAS CODE APPENDIX E.
- GAS PIPING INSTALLATION SHALL IN IN ACCORDANCE WITH NYC FUEL GAS CODE CHAPTER 4.
- INSPECTION AND TESTING OF PLUMBING AND GAS PIPING SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION PC 107, 312.

GAS SPECIAL INSPECTION AND TESTING

- ALL GAS PIPING INSPECTIONS AND TESTING SHOULD BE AS PER NYC FGC 2014 SECTION 107.
- PROGRESS INSPECTIONS FOR GAS PIPING SHOULD BE AS PER NYC FGC 2014 SECTION 107.2.1.
- UNDERGROUND INSPECTION SHALL BE MADE AFTER TRENCHES OR DITCHES ARE EXCAVATED AND BEDDED, PIPING IS INSTALLED AND BEFORE BACKFILL IS PUT IN PLACE. WHEN EXCAVATED SOIL CONTAINS ROCKS, BROKEN CONCRETE, FROZEN CHUNKS AND OTHER RUBBLE THAT WOULD DAMAGE OR BREAK THE PIPING OR CAUSE CORROSIVE ACTION, CLEAN BACKFILL SHALL BE ON THE JOB SITE.
- ALL GAS PIPING INSPECTIONS DONE ARE TO FOLLOW BUILDING BULLETIN 2017-001 & NYC FGC 2014 SECTION 406.
- INSTALLATIONS SHALL BE TESTED AS REQUIRED IN THIS CODE AND IN ACCORDANCE WITH SECTIONS 107.3.1 OF NYC FUEL GAS CODE THROUGH TESTS SHALL BE MADE BY THE PERMIT HOLDER AND WITNESSED BY THE DEPARTMENT OR AN APPROVED AGENCY.

PLUMBING DRAWING LIST

P-001.00	PLUMBING NOTES AND SPECIFICATIONS (1 OF 2)
P-002.00	PLUMBING NOTES AND SPECIFICATIONS (2 OF 2)
P-101.00	PLUMBING SANITARY FLOOR PLAN
P-102.00	PLUMBING WATER AND GAS FLOOR PLAN
P-501.00	PLUMBING DETAILS
P-601.00	PLUMBING SCHEDULES
P-602.00	RISER DIAGRAMS

PLUMBING SPECIFICATIONS

- BASIC PLUMBING REQUIREMENTS, MATERIALS AND METHODS

1.01 SCOPE

- PROVIDE ALL MATERIAL, TOOLS, SUPERVISION AND LABOR INCLUDING ALL MISCELLANEOUS AND INCIDENTAL ITEMS REQUIRED FOR COMPLETE AND OPERABLE PLUMBING INSTALLATIONS AS SHOWN OR DESCRIBED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL NEW CONDITIONS AND MATERIALS WITHIN THE CONSTRUCTION AREA. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION.
- OBTAIN ALL PERMITS, PAY ALL PERMIT FEES AND SCHEDULE ALL REQUIRED INSPECTIONS. COPIES OF ALL PERMITS AND INSPECTION CERTIFICATES SHALL BE FORWARDED TO THE OWNER FOR RECORD.
- THE GENERAL CONDITIONS OF THE CONTRACT AND ALL DIVISION 1 REQUIREMENTS APPLY TO THE WORK OF THIS SECTION.
- THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID TO DETERMINE CONDITIONS AND THE EXTENT OF THE WORK. BY COMMENCING WORK, THE CONTRACTOR ACKNOWLEDGES HIS CONFIRMATION OF ALL CONDITIONS AS ACCEPTABLE WITH REFERENCE TO HIS CONTRACT, SCOPE OF WORK AND BID PRICE SUCH THAT NO ADDITIONAL COMPENSATION SHALL BE FORTHCOMING FOR UNFORESEEN EXISTING CONDITIONS.
- IN ALL AREAS SUBJECT TO FREEZING CONDITIONS, THE CONTRACTOR SHALL PROVIDE FREEZE PROTECTION FOR ALL DOMESTIC WATER PIPING INSTALLED UNDER HIS CONTRACT.
- ALL ELECTRICAL REQUIREMENTS SHALL BE COORDINATED WITH THE CONTRACTOR FOR ELECTRICAL WORK. THIS CONTRACTOR IS RESPONSIBLE FOR ALL LOW VOLTAGE WIRING FOR EQUIPMENT INSTALLED UNDER HIS CONTRACT. THE CONTRACTOR FOR ELECTRICAL WORK IS RESPONSIBLE FOR LINE VOLTAGE POWER WIRING ONLY.
- COLOR AND FINISH SELECTIONS FOR ALL MATERIALS, INCLUDING PAINTING OF PIPING, SHALL BE AS DIRECTED AND/OR APPROVED BY THE ARCHITECT.
- MINOR DETAILS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER AND ACCEPTABLE CONSTRUCTION, INSTALLATION OR OPERATION OF ANY PART OF THE WORK AS DETERMINED BY THE ENGINEER SHALL BE INCLUDED AS IF SPECIFIED OR INDICATED ON THE DRAWINGS.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS FOR THE INSTALLATION, CONNECTION, EXTENSION OR MODIFICATION TO ALL UTILITY SERVICES WITH RESPECTIVE PROVIDERS INCLUDING PAYMENT OF ALL ASSOCIATED FEES.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL PAINTING ASSOCIATED WITH CUTTING AND PATCHING. ALL PAINTING IN AREAS WITH COMPLETE FINISH RENOVATIONS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.

1.02 SUBMITTALS

- SUBMITTAL REQUIREMENTS SHALL BE COORDINATED WITH THE ARCHITECT AND AUTHORITIES HAVING JURISDICTION. UNLESS OTHERWISE DIRECTED, CONTRACTOR SHALL PROVIDE SUBMITTALS AS LISTED BELOW.
  - PIPE AND FITTINGS
  - VALVES
  - HANGERS AND SUPPORTS
  - PLUMBING PIPING LAYOUT
  - TESTS
  - PLUMBING FIXTURES
  - WATER HEATERS & ACCESSORIES
  - FLOOR DRAINS
  - MIXING VALVES
  - BACKFLOW PREVENTER
  - ALL SCHEDULED PLUMBING EQUIPMENT
- SUBMITTALS FROM SUPPLIERS OR MANUFACTURERS WHICH DO NOT BEAR THE STAMP OF THE SUPPLIER, INDICATING THAT THE CONTRACTOR HAS REVIEWED THE SUBMITTAL FOR CONFORMANCE WITH THE PROJECT REQUIREMENTS WILL BE RETURNED REJECTED.
- THE ENGINEER'S REVIEW OF SUBMITTALS IS A COURTESY WHICH DOES NOT RELIEVE THE CONTRACTOR FROM CONFORMING WITH THE CONSTRUCTION DOCUMENTS, REGARDLESS OF THE ACTION INDICATED BY THE SHOP DRAWINGS STAMP.
- REVIEW OF SHOP DRAWINGS BY THE ENGINEER SHALL BE LIMITED TO THE INITIAL REVIEW, AND A SECOND REVIEW OF ANY REQUIRED RESUBMITTED DATA. IF THE ENGINEER IS REQUIRED TO REVIEW SHOP DRAWINGS FOR A THIRD (OR MORE) SUBMISSION OF THE SAME ITEM, THE CONTRACTOR SHALL BE LIABLE FOR COMPENSATING THE ENGINEER FOR THESE SUBSEQUENT REVIEWS AS PER THE ENGINEER'S CURRENT HOURLY RATE SCHEDULE.
- SUBMIT PROOF OF APPROVAL AND/OR CONFIRMATION OF SATISFACTORY TEST RESULTS TO THE OWNER AND THE ARCHITECT.
- SUBMIT TO THE OWNER'S MAINTENANCE PERSONNEL OPERATION AND MAINTENANCE DATA FOR ALL SYSTEM COMPONENTS, SERVICING REQUIREMENTS, INSPECTION DATA, REPLACEMENT PART NUMBERS AND AVAILABILITY AND CONTACT INFORMATION FOR SERVICE/SUPPLY COMPANY.
- FOR ALL BELOW GRADE PIPING WHERE ACTUAL INSTALLATION DEVIATES FROM CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS INDICATING BELOW GRADE PIPE LOCATIONS DIMENSIONED TO NEAREST COLUMN LINES.
- RECORD AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE OWNER/TENANT AFTER COMPLETION OF THE WORK SHOWING ANY ALTERATIONS, ADDITIONS AND/OR DELETIONS TO THE SYSTEM(S) INSTALLED.

1.03 SUBSTITUTIONS

- ALL EQUIPMENT SHALL BE PRODUCTS OF THE SPECIFIED MANUFACTURER OR MANUFACTURERS. ALL BIDS SHALL BE BASED ON THE SPECIFIED MANUFACTURER OR MANUFACTURER'S EQUIPMENT. FOR SUBSTITUTIONS OF OTHER MANUFACTURER'S EQUIPMENT TO BE CONSIDERED, THE SUBSTITUTION MUST BE INDICATED PRIOR TO BIDDING WITH THE REASON FOR THE PROPOSED SUBSTITUTION IDENTIFIED, AND THE PROPOSED CREDIT TO THE OWNER INDICATED. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF ANY PROPOSED SUBSTITUTIONS.

- THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR COORDINATING THE WORK OF OTHER TRADES WHICH MAY BE AFFECTED BY SUBSTITUTIONS, INCLUDING ALL RELATED COSTS.

1.04 DEFINITIONS

- FURNISH: TO PURCHASE, PROCURE, ACQUIRE AND DELIVER, COMPLETE WITH RELATED ACCESSORIES.

- INSTALL: TO ERECT, MOUNT AND CONNECT, COMPLETE WITH RELATED ACCESSORIES.

- PROVIDE: TO FURNISH AND INSTALL.

- PLUMBING CONTRACTOR, THE CONTRACTOR, THIS CONTRACTOR: THE CONTRACTOR FOR PLUMBING WORK WHICH IS SPECIFIED HEREIN AND SHOWN ON THESE DRAWINGS.

- REFER TO THE NATIONAL STANDARD PLUMBING CODE FOR ADDITIONAL DEFINITIONS.

1.05 DRAWINGS

- THE DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO ILLUSTRATE THE GENERAL ARRANGEMENT AND ROUTING OF PIPING AND GENERAL LOCATIONS OF EQUIPMENT. PRECISE LOCATIONS OF EQUIPMENT, RISERS AND STACKS, AND ROUTING AND ELEVATION OF ALL PIPING SYSTEMS SHALL BE COORDINATED IN THE FIELD WITH THE ARCHITECT, ARCHITECTURAL DRAWINGS, THE WORK OF OTHER TRADES, EXISTING AND NEW BUILDING CONDITIONS AND/OR THE PREFERENCES OF THE OWNER/TENANT AS CONSTRUCTION PROCEEDS. ALL PIPING SHALL BE INSTALLED CONCEALED IN FINISHED SPACES, UNLESS NOTED OTHERWISE.

- PROVIDE ALL NECESSARY INCIDENTAL MATERIALS AND ACCESSORIES REQUIRED TO MAKE THE WORK COMPLETE IN ALL RESPECTS, EVEN IF NOT PARTICULARLY SHOWN OR SPECIFIED.

- REFER TO PLUMBING EQUIPMENT/FIXTURE SCHEDULE ON THE DRAWINGS FOR ALL FIXTURE AND EQUIPMENT SPECIFICATIONS.

- REFER TO FIXTURE CONNECTION SIZE SCHEDULE FOR ALL FIXTURE ROUGHING SIZE REQUIREMENTS.

- VERIFY ALL INDICATED CONDITIONS BEFORE STARTING WORK AND REPORT ANY DISCREPANCIES. THE DRAWINGS REFLECT CONDITIONS WHICH CAN BE REASONABLY INTERPRETED FROM THE EXISTING VISIBLE CONDITIONS OR FROM DRAWINGS AND INFORMATION FURNISHED BY THE OWNER.

- LOCATE ALL FIXTURES AND EQUIPMENT AS PER THE FINAL ARCHITECTURAL DRAWINGS.

1.06 PRODUCTS

A. SANITARY AND VENT PIPING:

- ABOVE GRADE PIPING SHALL BE HUBLESS CAST IRON PIPE WITH STAINLESS STEEL COUPLINGS AND ELASTOMERIC GASKETS WITH A MINIMUM NO. OF BANDS PER COUPLING AS PER CISPI 310-12.
- SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE OVER 3" (I.D.) AND 1/4" PER FOOT OF RUN FOR PIPE 3" AND SMALLER (I.D.). VENT PIPING SHALL BE PITCHED TO DRAIN.
- ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.

B. DOMESTIC WATER PIPING:

- ABOVE GRADE WATER PIPING SHALL BE TYPE 'L' HARD-DRAWN COPPER TUBE.
- FITTINGS IN DOMESTIC WATER PIPING SHALL BE WROUGHT COPPER OR CAST BRASS.
- JOINTS SHALL BE MADE WITH LEAD-FREE SOLDER.
- THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE INSULATED INCLUDING ALL VALVES, FITTINGS, ETC.
- COMPLY WITH NSF 61 FOR MATERIALS FOR WATER-SERVICE PIPING AND SPECIALTIES FOR DOMESTIC WATER.
- ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE FIRE-RETARDANT, FACTORY-APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY 2020 SECTION C403.11.3 REFER WITH NYC ENERGY CONSERVATION CODE 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	4 to >8
105-140	0.21-0.28	100	1.0	1.0	1.5 1.5
40-60	0.21-0.27	75	0.5	0.5	1.0 1.0 1.0

- WATER DISTRIBUTION SYSTEM AS PER NYC ENERGY CONSERVATION CODE 2020 C404.7, HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED-WATER SUPPLY PIPE BACK TO THE HEATED-WATER SOURCE THROUGH A COLD-WATER SUPPLY PIPE SHALL BE A DEMAND RECIRCULATION WATER SYSTEM. PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
  - THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.
  - THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).
- AS PER NYC ENERGY CONSERVATION CODE 2020 C404.6.1 HEATED-WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. CONTROLS FOR CIRCULATING HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.
- AS PER NYC ENERGY CONSERVATION CODE 2020 C404.6.3 THE CONTROLS ON PUMPS THAT CIRCULATE WATER BETWEEN A WATER HEATER AND A HEATED-WATER STORAGE TANK SHALL LIMIT OPERATION OF THE PUMP FROM HEATING CYCLE STARTUP TO NOT GREATER THAN 5 MINUTES AFTER THE END OF THE CYCLE.
- HEATED WATER SUPPLY PIPING SHALL BE IN ACCORDANCE WITH NYC ENERGY CONSERVATION CODE 2020 SECTION C404.5.1 OR C404.5.2. THE FLOW RATE THROUGH 1/4-INCH PIPING SHALL BE NOT GREATER THAN 0.5 GPM. THE FLOW RATE THROUGH 5/16-INCH PIPING SHALL BE NOT GREATER THAN 1 GPM. THE FLOW RATE THROUGH 3/8-INCH PIPING SHALL BE NOT GREATER THAN 1.5 GPM. HW SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER NYC ECC C404.5.1. THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER FOLLOWING TABLE.

NOMINAL PIPE SIZE (INCHES)	MIXIMUM PIPING LENGTH (FEET)	
	PUBLIC LAV	OTHER FIXTURES
¾"	3'	50'
½"	2'	43'
¾"	0.5'	21'
1"	0.5'	13'
1¼"	0.5'	8'
1½"	0.5'	6'
2" OR LARGER	0.5'	4'

- SEAL ALL JOINTS BETWEEN SEGMENTS OF INSULATION.

- PROVIDE SHIELDS BETWEEN HANGERS AND INSULATION.

C. PRESS JOINERY SYSTEM:

a. FITTINGS ½" - 4":

- WHERE APPROVED BY THE LOCAL JURISDICTION, THE NIBCO PRESS SYSTEM MAY BE USED AT THE CONTRACTOR'S OPTION FOR THE FOLLOWING BUILDING SERVICES PIPING -20°F TO +250°F UP TO 200 PSI:
  - HOT AND COLD DOMESTIC WATER; FITTINGS AND VALVES SHALL BE NSF-61 APPROVED.
  - POTABLE WATER; FITTINGS AND VALVES SHALL BE NSF-61 APPROVED.
  - HOT WATER HEATING SERVICE

ALL LEAD FREE WROT COPPER PRESS FITTINGS SHALL BE MADE FROM COMMERCIALLY PURE COPPER MILL PRODUCTS PER ASTM B 75 ALLOY C12200. THESE FITTINGS SHALL BE THIRD-PARTY CERTIFIED TO NSF/ANSI 61 ANNEX G AND COMPLY WITH NEW YORK CITY HEALTH AND SAFETY CODE,NYC PC 2014 AND VERMONT ACT 193. NIBCO LEAD FREE CAST DEZINCIFICATION-RESISTANT (DZR) FITTINGS SHALL BE MADE FROM A HIGH QUALITY LEAD FREE PERFORMANCE BRONZE ALLOY PER ASTM B 584 ALLOY C87850. THE PRESS FITTINGS CONNECTIONS SHALL BE COMPATIBLE WITH SEAMLESS K, L OR M COPPER TUBE MADE TO ASTM B 88. FITTINGS SHALL HAVE A MAXIMUM NON-SHOCK WORKING PRESSURE OF 200 PSI BETWEEN THE TEMPERATURES OF -20°F AND +250°F. ELASTOMERIC SEALS WITH LEAK DETECTION DESIGN SHALL BE MADE OF EPDM MATERIAL, AND THE FITTINGS SHALL BE MANUFACTURED WITH AN INBOARD BEAD DESIGN. NIBCO PRESS FITTINGS MEET ALL PERFORMANCE REQUIREMENTS OF ASME B16.22 AND B16.18ALL FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ACCORDING TO LOCAL PLUMBING AND MECHANICAL CODES. THE PRESS-TO-CONNECT JOINT SHALL BE MADE WITH PRESSING TOOLS AND JAW SETS RECOMMENDED AND AUTHORIZED BY NIBCO. ALL FITTINGS, VALVES AND TOOLS SHALL BE PROVIDED BY SAME MANUFACTURER; NIBCO.

- VALVES 2" AND SMALLER: BALL VALVES: (ON/OFF, ISOLATION OR THROTTLING)
- BALL VALVES (STAINLESS STEEL BALL AND STEM) WITH MALE OR FEMALE PRESS-TO-CONNECT ENDS SHALL BE RATED AT 200 PSI CWP TO +250°F MAXIMUM. NIBCO LEAD FREE VALVES SHALL BE MANUFACTURED IN ACCORDANCE WITH MSS SP-110 AND CONSTRUCTED OF DEZINCIFICATION-RESISTANT (DZR) BRONZE BODIES AND END PIECES AND SHALL BE MADE FROM A HIGH QUALITY LEAD FREE PERFORMANCE BRONZE ALLOY PER ASTM B 584 ALLOY C87850. NO BRASS CONTAINING MORE THAN 15% ZINC SHALL BE APPROVED. VALVE SHALL HAVE REINFORCED TEFLON SEATS, BLOW-OUT PROOF STEM, SOLID STAINLESS STEEL BALL AND STEM. NO HOLLOW CHROME PLATED BALLS ACCEPTED. ALL VALVES SHALL BE FULL PORT. ALL ELASTOMERIC SEALS SHALL HAVE LEAK DETECTION DESIGN.
- WHERE PIPING IS TO BE INSULATED, BALL VALVES SHALL BE EQUIPPED WITH 2" EXTENDED HANDLES OF NON-THERMAL CONDUCTIVE MATERIAL. HANDLE TO HAVE EXTENDED SLEEVE INCORPORATING AN INSULATION PLUG TO PROVIDE A VAPOR BARRIER AND ALLOW VALVE OPERATION WITHOUT DISTURBING THE INSULATION, AND A MEMORY STOP, WHICH CAN BE SET AFTER INSTALLATION.
- ACCEPTABLE VALVES: (NSF-61, NON-INSULATED LINES): NIBCO PC585-66-LF, -HC, -LL.
- ACCEPTABLE VALVES: (NSF-61, INSULATED LINES): NIBCO PC585-66-LF-NS, -HC, -LL.

c. CHECK VALVES: (BACKFLOW PREVENTION)

- VALVES WITH PRESS-TO-CONNECT ENDS SHALL BE RATED TO 200 PSI CWP AT +250°F MAXIMUM. NIBCO LEAD FREE VALVES SHALL BE MANUFACTURED IN ACCORDANCE WITH MSS SP-80 AND CONSTRUCTED OF DEZINCIFICATION-RESISTANT (DZR) BRONZE BODY & CAP SHALL BE MADE FROM A HIGH QUALITY LEAD FREE PERFORMANCE BRONZE ALLOY PER ASTM B 584 ALLOY C87850. DISC SHALL BE TFE TEFLON. ALL ELASTOMERIC SEALS SHALL HAVE LEAK DETECTION DESIGN.
- ACCEPTABLE CHECK VALVES: NIBCO PS413-Y-LF: Y PATTERN, SWING TYPE CHECK VALVE; NIBCO PS480-Y-LF : IN-LINE SPRING LOADED SILENT CHECK VALVE
- BUTTERFLY VALVES 2-1/2" - 4", (ON/OFF, ISOLATION OR THROTTLING)
- BUTTERFLY VALVES WITH FEMALE LEAD FREE PRESS-TO-CONNECT ENDS SHALL BE RATED AT 200 PSI CWP TO +250°F MAXIMUM. VALVES SHALL BE MANUFACTURED IN ACCORDANCE WITH MSS SP-67 AND CONSTRUCTED OF A DUCTILE-IRON BODY, FOR BUBBLE-TIGHT SHUTOFF, EXTENDED-NECK FOR INSULATION, DISC AND LINING SUITABLE FOR POTABLE WATER. VALVES SHALL BE SUITABLE FOR BI-DIRECTIONAL DEAD END SERVICE AT FULL RATED PRESSURE, ONE-PIECE TYPE 416 STAINLESS-STEEL STEM, COPPER BUSHING, FASTENERS AND PINS SHALL NOT BE USED TO ATTACH STEM TO DISC, NO PINS OR FASTENERS IN WATERWAY, ALUMINUM-BRONZE DISC, AND MOLDED-IN EPDM SEAT (LINER). ALL ELASTOMERIC SEALS SHALL HAVE LEAK DETECTION DESIGN.

- ACCEPTABLE VALVES: NIBCO PFD2000 SERIES (NSF-61)
- G04765N-LF (NSF-61)

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

DRAWING TITLE:

PLUMBING NOTES AND SPECIFICATIONS (1 OF 2)

DRAWING NO.:

P-001.00



D. MIXING VALVES

1. VALVE BODY SHALL BE MADE OF CAST BRASS. THE INTERNAL COMPONENTS SHALL BE MADE OF BRASS OR STAINLESS STEEL.
2. TYPES A, C & D VALVES: VALVE SHUTS OFF IN FULL COLD POSITION AND MUST PASS THROUGH COLD RANGE BEFORE DELIVERING WARM, AND/OR HOT WATER. TEMPERATURE LIMIT SET AT 105°F MAXIMUM DELIVERY TEMPERATURE. IF ONE SUPPLY SHOULD FAIL, THE OTHER WILL AUTOMATICALLY AND INSTANTLY SHUT DOWN. DELIVERY CAPACITY IS 56PM @ 45 PSIG DIFFERENTIAL.
1. TYPES OF VALVES: TYPE A-- THERMOSTATICALLY OPERATED BY MEANS OF BI--METALLIC STRIP, OR EXPANSION BELLOW; TYPE B-- SINGLE HANDLE MECHANICAL MIXER, OR INDIVIDUAL HOT AND COLD CONTROL VALVES; TYPE C-- PRESSURE BALANCING SHOWER VALVE/PISTON OPERATED MIXING VALVE; TYPE D-- BALANCED PRESSURE OPERATION, WITH INTEGRAL DIAL THERMOMETER INDICATING DELIVERED WATER TEMPERATURE.

2. EACH ELEMENT SHALL BE CONTROLLED BY AN INDIVIDUALLY MOUNTED THERMOSTAT AND HIGH TEMPERATURE CUT--OFF SWITCH. ALL INTERNAL CIRCUITS SHALL BE FUSED. THE OUTER JACKET SHALL BE OF BAKED ENAMEL FINISH AND SHALL BE PROVIDED WITH FULL SIZE CONTROL COMPARTMENT FOR PERFORMANCE OF SERVICE AND MAINTENANCE THROUGH HINGED FRONT PANEL AND SHALL ENCLOSE THE TANK WITH FOAM INSULATION. ELECTRICAL JUNCTION BOX WITH HEAVY DUTY TERMINAL BLOCK SHALL BE PROVIDED. THE DRAIN VALVE SHALL BE LOCATED IN THE FRONT FOR EASE OF SERVICING.

E. HOT WATER RE--CIRCULATING PUMP

1. IN--LINE PUMP: SINGLE STAGE VOLUTE TYPE PUMP SHALL BE MADE OF CAST IRON OR FORGED LEAD--FREE BRONZE IMPELLER.
2. THE PUMP SHALL HAVE A GROUND AND POLISHED STEEL SHAFT WITH A HARDENED INTEGRAL THRUST COLLAR. THE SHAFT SHALL BE SUPPORTED BY TWO HORIZONTAL SLEEVE BEARINGS DESIGNED TO CIRCULATE OIL. THE PUMPS ARE TO BE EQUIPPED WITH A MECHANICAL SEAL WITH CARBON SEAL FACE ROTATING AGAINST CERAMIC SEAT. THE MOTOR SHALL BE NON--OVERLOADING AT ANY POINT ON PUMP CURVE.
3. DIRECT CONNECT PUMP TO ELECTRIC MOTOR WITH FLEXIBLE COUPLING. THE MOTOR SHALL BE OF THE DRIP--PROOF, SLEEVE--BEARING, QUIET OPERATING, RUBBER--MOUNTED CONSTRUCTION. EQUIPMENT MOTOR WITH BUILT--IN THERMAL OVERLOAD PROTECTION.
4. INSTALL IN--LINE CIRCULATING PUMPS BETWEEN PIPE FLANGES IN PIPING SYSTEMS. INSTALL OVERHEAD PIPE SUPPORTS, BOTH SIDES OF IN--LINE PUMPS, INSTALLED IN HORIZONTAL PIPING RUNS.

F. GAS PIPING:

1. GAS PIPING SHALL BE SIZED IN ACCORDANCE WITH PIPE SIZING TABLES OR SIZING EQUATIONS IN ACCORDANCE WITH SECTION 402.4.
2. INDIVIDUAL OUTLETS TO GAS RANGES SHALL NOT BE LESS THAN ¾ INCHES NPS.
3. METALLIC PIPE SHALL COMPLY WITH SECTIONS 403.4.1 THROUGH 403.4.4.
4. PIPING SYSTEM INSTALLATION SHALL COMPLY WITH REQUIREMENTS OF NYC FUEL GAS CODE SECTION 404.
5. AS PER NYC FUEL GAS CODE SECTION 404.4; UNDERGROUND PIPING, WHERE INSTALLED BELOW GRADE THROUGH THE OUTER FOUNDATION OR BASEMENT WALL OF A BUILDING, SHALL BE ENCASED IN A PROTECTIVE PIPE SLEEVE. THE ANNULAR SPACE BETWEEN THE GAS PIPING AND THE SLEEVE SHALL BE SEALED.
6. PIPING INSTALLED UNDERGROUND BENEATH BUILDINGS IS PROHIBITED EXCEPT WHERE THE PIPING IS ENCASED IN A CONDUIT OF WROUGHT IRON OR STEEL PIPE DESIGNED TO WITHSTAND THE SUPERIMPOSED LOADS. THE CONDUIT SHALL BE PROTECTED FROM CORROSION IN ACCORDANCE WITH SECTION 404.9 AND SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 404.12.1 OR 404.12.2 OF NYC FUEL GAS CODE.
7. AS PER NYC FUEL GAS CODE SECTION 404.4; UNDERGROUND PIPING SYSTEMS SHALL BE INSTALLED A MINIMUM DEPTH OF 24 INCHES BELOW GRADE.
8. THE GAS PIPING IS ENCASED IN A CONDUIT OF WROUGHT IRON OR STEEL PIPE TO WITH STAND THE SUPERIMPOSED LOADS.
9. SHUTOFF VALVES SHALL BE LOCATED IN PLACES SO AS TO PROVIDE ACCESS FOR OPERATION AND SHALL BE INSTALLED SO AS TO BE PROTECTED FROM DAMAGE.

A. HANGERS AND SUPPORTS:

1. HANGERS SHALL BE STANDARD STEEL, MALLEABLE OR WROUGHT IRON, AS MANUFACTURED BY GRINNELL OR APPROVED EQUAL, SUITABLE FOR THE TYPE OF CONSTRUCTION. PIPING SHALL NOT BE HUNG FROM OTHER PIPE.
2. SECTIONS OF INDIVIDUAL PIPE RUNS SHALL BE SUPPORTED BY CLEVIS HANGERS.
3. ALL EQUIPMENT SHALL BE PROVIDED WITH APPROVED SUPPORTS.
4. PROVIDE SEISMIC RESTRAINTS IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND STANDARDS AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
5. UNLESS OTHERWISE INDICATED OR REQUIRED BY AUTHORITIES HAVING JURISDICTION, THE FOLLOWING SHALL BE PROVIDED WITH SEISMIC RESTRAINTS AS REQUIRED BY THE BOCA NATIONAL BUILDING CODE, SECTION 1610.6.4: ALL EQUIPMENT AND MACHINERY, ALL NEW PIPING 2--1/2" AND LARGER (1--1/4" AND LARGER INBOILER/MECHANICAL ROOMS) WITH HANGERS GREATER THAN 12" IN LENGTH FROM THE TOP OF PIPE TO THE STRUCTURE.
6. SUPPORTS SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPING MANUFACTURER.

G. VALVES:

1. PROVIDE GATE VALVES, BUTTERFLY OR BALL VALVES FOR SHUT--OFF DUTY ON MAIN AND BRANCH SUPPLY LINES. FOR ALL PIPE RUNS 2" AND SMALLER, PROVIDE BALL FOR ALL PIPE RUNS LARGER THAN 2" AND SMALLER THAN 4"; PROVIDE GATE VALVES. PIPING 4" AND LARGER, PROVIDE BUTTERFLY VALVES FOR SHUT--OFF DUTY.
2. ALL FIXTURES WITH THE EXCEPTION O FLUSHOMETER--EQUIPPED WATER CLOSETS AND URINALS SHALL HAVE STOP VALVES TO CONTROL SUPPLY TO THE FIXTURE. WHERE SUPPLIES ARE EXPOSED PROVIDE CHROME--PLATED STOPS WITH CHROME--PLATED ESCUTCHEONS ON PIPING PENETRATIONS.
3. ALL PLUMBING FIXTURES AND EQUIPMENT TO HAVE SHUT--OFF VALVES ON SUPPLY LINES.
4. ALL BRANCH LINES TO HAVE SHUT--OFF VALVES.
5. ALL VALVES SHALL BE ACCESSIBLE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR VALVE ACCESS.
6. PROVIDE GLOBE VALVES FOR THROTTLING/BALANCING OF THE HOT WATER CIRCULATING SYSTEM.
- H. SLEEVES AND ESCUTCHEONS:

1. SLEEVES THROUGH STRUCTURAL CONCRETE MEMBERS AND SLEEVES FOR WALLS BELOW GRADE AND FLOORS ON GRADE SHALL BE STANDARD WEIGHT GALVANIZED SCHEDULE 40 STEEL PIPE. SLEEVES THROUGH OTHER THAN STRUCTURAL COMPONENTS OF THE BUILDING SHALL BE 20 GAGE GALVANIZED SHEET METAL WITH LOCK SEAM JOINTS. USG THERMAFIBER SAFING INSULATION SHALL BE INSTALLED BETWEEN PIPE AND SLEEVE.
2. PIPE ESCUTCHEON PLATES SHALL BE INSTALLED WHERE EXPOSED PIPING PASSES THROUGH WALLS, CEILINGS, AND FLOORS AND SHALL BE MINIMUM 20 GAGE STEEL. PROVIDE CHROME PLATED ESCUTCHEON PLATES IN FINISHED AREAS.

I. DRAINAGE ACCESSORIES

1. GENERAL:
- a. INSTALL THE WORK OF THIS SECTION IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, UNLESS OTHERWISE SPECIFIED.
- b. SECURE EXTERNAL COMPONENTS IN PLACE WITH VANDAL RESISTANT FASTENERS OR DEVICES WHICH CANNOT BE REMOVED WITHOUT SPECIAL TOOLS.

J. DEVICES:

- a. CLEANOUT & CLEANOUT PLUG
- THREADED PIPE FITTING OR CAST IRON FERRULE WITH GAS TIGHT CLEANOUT PLUG
  - PLUG SHOULD BE CAST BRASS OR BRONZE, WITH THREADED END, AND RAISED OR COUNTERSUNK HEAD.
  - LUBRICATE THREADS OF CLEANOUT PLUG WITH ANTI--SEIZE LUBRICANT BEFORE FINAL INSTALLATION.
- b. CLEANOUT WALL PLATE
- IT SHOULD BE ROUND, STAINLESS STEEL OR POLISHED CHROME PLATED BRONZE COVER PLATE WITH STAINLESS STEEL VANDAL RESISTANT FASTENER TO SECURE TO CLEANOUT PLUG.
- c. CLEANOUT DECK PLATE
- IT SHOULD BE STANDARD DUTY FLOOR CLEANOUT FITTING WITH COATED AREA OF PIPE TO WHICH CONNECTION MADE AND MADE OF POLISHED NICKEL BRONZE, WITH REMOVABLE GRATE, EITHER PERFORATED OR BAR TYPE. GRATE ATTACHED TO GRILLE BODY WITH VANDAL RESISTANT FASTENER.

K. INDIRECT WASTE FLOOR SINK

- a. IT SHOULD BE COMBINATION OF FUNNEL DRAIN AND P TRAP WITH POLISHED CHROME PLATED CAST BRASS CONSTRUCTION WITH 4" TOP DIA., 4" DEEP WITH THREADED OUTLET.

- L. INSTALL PIPING TO CONSERVE BUILDING SPACE. DO NOT INTERFERE WITH USE OF BUILDING SPACE AND THE WORK OF OTHER TRADES. ALL PIPING RUN IN CEILING SHALL BE INSTALLED TIGHT TO THE STRUCTURE ABOVE.

- M. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT. PROVIDE PIPE ANCHORS, GUIDES AND EXPANSION JOINTS OR LOOPS IN ALL HOT WATER AND HOT WATER CIRCULATING MAIN SUPPLY PIPING AND SEGMENTS OF SUCH PIPE THAT EXCEED 30'-0" IN LENGTH.

- N. IN ALL AREAS WITH FINISHED SURFACES, SYSTEM PIPING AND COMPONENTS SHALL BE CONCEALED ABOVE OR WITHIN FINISHED SURFACES.

- O. REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE--PIECE REDUCING FITTINGS. BUSHINGS ARE NOT ACCEPTABLE. USE FLANGED FITTINGS AT THE BASE OF RISERS.

- P. VENT PENETRATIONS THROUGH THE ROOF SHALL BE FLASHED.

- Q. IF WATER PRESSURE EXCEEDS 80 PSI, A WATER PRESSURE REDUCING VALVE SHALL BE INSTALLED IN WATER PIPING AT CONNECTION TO MAIN.

- R. PROVIDE DIELECTRIC FITTINGS BETWEEN DISSIMILAR METALS.

- S. PIPE BACKFLOW PREVENTER DRAINS TO FLOOR DRAIN OR OTHER APPROVED INDIRECT WASTE SOURCE.

- T. PROVIDE ACCESS DOORS/PANELS FOR SERVICE AND ACCESS TO ALL VALVES AND OTHER SYSTEM COMPONENTS ENCLOSED IN WALLS AND CEILINGS. ACCESS DOORS SHALL BE FURNISHED BY THIS CONTRACTOR, INSTALLED BY THE GENERAL CONTRACTOR.

- U. ALL FIXTURES REQUIRING VACUUM BREAKERS SHALL BE EQUIPPED WITH INTEGRAL VACUUM BREAKERS.

- W. ANY PENETRATIONS THROUGH FIRE RATED PARTITIONS, FLOORS, OR CEILINGS SHALL BE STEEL SLEEVED AND SEALED WITH 3M BRAND UL RATED FIRE BARRIER CAULK OR APPROVED EQUAL.

- X. WHEN THE WATER PIPING SYSTEM IS COMPLETE, THOROUGHLY FLUSH ALL DIRT, SEDIMENT, SOLDER, ETC., OUT OF THE SYSTEM REMOVING ALL STRAINERS, VALVE STEM SEATS, ETC., REQUIRED TO ACCOMPLISH THE FLUSHING.

- Y. AT ALL INDIRECT WASTE DRAINS, MAINTAIN AIR GAP AS REQUIRED BY CODE.

- Z. CONNECT GAS PIPING TO ALL GAS--FIRED EQUIPMENT WITH GAS COCK, DIRT LEG AND UNION.

- AA. FOR ALL GAS--FIRED EQUIPMENT, VERIFY INPUT RATING AND PRESSURE REQUIREMENTS. PROVIDE GAS PRESSURE REGULATORS VENTED TO THE BUILDING EXTERIOR ON GAS SUPPLY TO ALL EQUIPMENT REQUIRING LOWER THAN LINE GAS PRESSURE.

- AB. INSTALL SLEEVES FOR ALL PIPES WHICH PASS THROUGH WALLS, FLOORS, AND CEILINGS. WHERE PIPES ARE TO BE INSULATED, THE SLEEVE SHALL BE LARGE ENOUGH TO ACCOMMODATE INSULATION. SLEEVES SHALL BE FLUSH WITH FINISHED SURFACES AT BOTH ENDS. ON FINISHED SURFACESIN EXPOSED AREAS PROVIDE ESCUTCHEONS COMPATIBLE WITH FINISH.

- AC. PROVIDE WATER HAMMER ARRESTERS ON SUPPLY PIPING TO ALL FLUSHOMETER VALVES AND QUICK--CLOSING VALVES.

- AD. UNLESS OTHERWISE INDICATED, TRAPS SEALS AT ALL FLOOR DRAINS SHALL BE MAINTAINED BY AN APPROVED TRAP PRIMING DEVICE.

- AE. MAINTAIN ALL REQUIRED AND RECOMMENDED CLEARANCES FOR ALL PLUMBING SYSTEM COMPONENTS AND EQUIPMENT.

- AF. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN ALL PLUMBING V.T.R.S AND ALL OUTDOOR AIR INTAKES. OFFSET VENT STACKS AND STACK VENTS IF AND AS REQUIRED BELOW ROOF TO MAINTAIN SUCH CLEARANCE. WHETHER OR NOT SUCH OFFSET IS INDICATED ON THE DRAWINGS, PROVIDE ALL REQUIRED SEISMIC SUPPORTS.

2. INSTALLATION

2.01 GENERAL

- A. ALL WORK WHICH REQUIRES DISRUPTION OF THE ROOFING SHALL BE DONE BY A CONTRACTOR CERTIFIED BY THE ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ANY EXISTING ROOF WARRANTIES.
- B. EXTERIOR INSTALLATIONS TO BE WEATHER PROOF IN ALL RESPECTS.
- C. EXTERIOR MATERIALS AND EQUIPMENT SHALL BE PAINTED TO PREVENT CORROSION, COLOR PER ARCHITECT.
- D. COORDINATE THE PLUMBING WORK WITH ALL OTHER AFFECTED WORK AND THE CONSTRUCTION SCHEDULE.
- E. REAM PIPE AND TUBE ENDS. REMOVE BURRS. BEVEL PLAIN AND FERROUS END PIPE.
- F. REMOVE SCALE AND FOREIGN MATERIAL, FROM INSIDE AND OUTSIDE, BEFORE ASSEMBLY.
- G. PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES AND UNIONS.
- H. COORDINATION WITH THE WORK OF OTHER TRADES IS REQUIRED. PROVIDE OFFSETS IN PIPING SYSTEMS OR MINOR DEVIATIONS TO THE INDICATED PIPE ROUTING IN ORDER TO COORDINATE THE PLUMBING WORK WITH THE WORK OF ALL OTHER TRADES AND THE GENERAL BUILDING CONDITIONS.
- I. NO DOMESTIC WATER PIPING SHALL BE INSTALLED IN UNHEATED SPACES.
- J. PRIOR TO DISCONNECTING AND CONNECTING NEW WORK TO EXISTING SYSTEMS, THE PLUMBING CONTRACTOR SHALL NOTIFY THE PROPERTY MANAGER AND OFFER A PROPOSED SCHEDULE OF WORK. ESB WILL AUTHORIZE CONNECTIONS AND COORDINATE NECESSARY SHUT DOWNS AND DRAIN DOWNS AS REQUIRED. SHUT DOWNS AND DRAIN DOWNS MAY BE PERFORMED BY THE PLUMBING CONTRACTOR ONLY AFTER RECEIVING ESB AUTHORIZATION, AND SHOULD BE PERFORMED UNDER SUPERVISION OF ESB PERSONNEL. THREE (3) DAYS ADVANCE NOTICE TO THE PROPERTY MANAGER IS REQUIRED.
- K. THE PLUMBING CONTRACTOR IS ADVISED THAT DUE TO THE NATURE OF THE OPERATIONS AND TENANT REQUIREMENTS, CONNECTIONS TO EXISTING SYSTEMS MAY HAVE TO BE MADE AFTER REGULAR WORKING HOURS. THE PROPERTY MANAGER WILL ADVISE THE PLUMBING CONTRACTOR OF THE TIME CONSTRAINTS UPON RECEIPT AND APPROVAL OF THE PLUMBING CONTRACTOR'S REQUEST FOR SHUT DOWN AND CONNECTION TO EXISTING SYSTEMS.
- L. WHEN CONNECTING TO EXISTING STACKS AND RISERS, PROVISION IS TO BE MADE FOR FUTURE CONNECTIONS BY PROVIDING CAPPED AND VALVED OUTLETS ON DOMESTIC WATER RISERS AND PLUGGED OUTLETS ON THE SANITARY AND VENT STACKS.

2.02 ABOVE GRADE

- A. INSTALL PLUMBING PIPING IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PIPING COMPLIES WITH REQUIREMENTS AND SERVES INTENDED PURPOSES.
- B. ROUTE PIPING IN AN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE. MAINTAIN GRADIENT. SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN. IN DOMESTIC WATER SYSTEMS, PROVIDE DRAIN VALVES AT MAIN SHUT--OFF VALVES AND ALL LOW POINTS IN PIPING.
- C. USE EXISTING CONNECTIONS AT MAINS WHERE AVAILABLE FOR NEW BRANCH PIPING. LOCATE ALL RISERS AND PIPING BEFORE CONSTRUCTION COMMENCES AND TAKE CARE NOT TO DAMAGE SAME. ANY DAMAGE OCCURRING TO THE EXISTING PIPING WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

2.03 INSULATION (PIPE AND FITTINGS)

A.PIPING

- COVER ALL HOT WATER AND HOT WATER RECIRCULATION PIPE WITH 1" THICK FOR PIPE SIZE UP TO 1½" AND 1½" THICK FOR PIPE SIZE 1½" AND GREATER WITH MANVILLE MICRO--LOK AP--T PLUS FIBERGLASS INSULATION. COVER ALL COLD WATER PIPE WITH ½" THICK FOR PIPE SIZE UP TO 1½" AND 1" THICK FOR PIPE SIZE 1½" AND GREATER WITH 1" MANVILLE MICRO--LOK AP--T PLUS FIBERGLASS INSULATION. FITTINGS AND VALVES SHALL BE INSULATED. INSTALL ALL INSULATION AS PER MANUFACTURERS RECOMMENDATIONS. ALL INSULATION MATERIAL SHALL COMPLY WITH THE NEW YORK CITY BUILDING CODE REQUIREMENT OF A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DEVELOPED RATING NOT TO EXCEED 50. ALL PIPE INSULATION SHALL COMPLY WITH 2020 NYC ENERGY CONSERVATION CODE.

3. TESTING

- A. AT THE COMPLETION OF THE PLUMBING WORK, COMPLETELY TEST THE ENTIRE INSTALLATION OF ALL SYSTEMS FOR PROPER OPERATION AND COMPLIANCE WITH APPLICABLE CODES AND LOCAL REQUIREMENTS. CORRECT ALL DEFICIENCIES FOUND.

- B. TESTING OF THE INSTALLED SYSTEMS SHALL BE MADE BY THE CONTRACTOR IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER.

- C. THE CONTRACTOR SHALL NOT COVER UP OR PERMANENTLY CONCEAL PIPING, DEVICES OR ANY PORTION OF NEWLY CONSTRUCTED PLUMBING SYSTEM(S) UNTIL SUCH SYSTEM, OR PORTION OF THE SYSTEM, HAS BEEN TESTED IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER AND INSPECTED BY THE LOCAL INSPECTOR AND APPROVED IN WRITING, EXCEPT PIPING PASSING THROUGH FLOORS, WALLS, PARTITIONS, OR BEAMS, FOR DISTANCES EQUAL TO THE THICKNESS OF SUCH FLOOR, WALL, PARTITION OR BEAM.

- D. THIS CONTRACTOR SHALL NOTIFY THE VARIOUS DEPARTMENTS, BUREAUS AND INDIVIDUALS AT LEAST TWO WEEKS IN ADVANCE OF THE TIME THAT THE TESTS ARE TO BE CONDUCTED.
- E. ALL DEFECTIVE PARTS SHALL BE REPLACED OR CORRECTED BY THIS CONTRACTOR AND AN EXTRA TEST OR TESTS SHALL BE MADE UNTIL THE OPERATION IS SATISFACTORY. ALL ARRANGEMENTS AND EXPENSES NECESSARY TO CONDUCT ALL TESTS REQUIRED BY THESE SPECIFICATIONS AND THE VARIOUS AGENCIES HAVING JURISDICTION OVER THE WORK INSTALLED UNDER THIS CONTRACT SHALL BE MADE BY THIS CONTRACTOR. NO EXTRA COMPENSATION WILL BE ALLOWED FOR THESE TESTS, THE COST THEREOF BEING INCLUDED IN THE LUMP SUM BID FOR THIS CONTRACT.

- F. WHERE ANY EVIDENCE OF STOPPAGE IS FOUND IN PIPING OR EQUIPMENT, THIS CONTRACTOR SHALL DISCONNECT, CLEAN, REPAIR AND RECONNECT ALL OBSTRUCTED PIPING OR EQUIPMENT AND SHALL ALSO PAY FOR ALL NECESSARY CUTTING AND REPAIRS TO ADJOINING WORK.

- G. ALL PIPING AND EQUIPMENT SHALL BE THOROUGHLY CLEANED INSIDE AND OUT, OF DIRT, CUTTINGS, OILS AND OTHER FOREIGN SUBSTANCES AND SHALL BE LEFT CLEAN.

- H. ALL REQUIRED TESTS SHALL BE WITNESSED BY LOCAL AUTHORITIES AND THE OWNER'S REPRESENTATIVE.

- I. ALL EQUIPMENT WILL BE FACTORY TESTED.

- J. CONTRACTOR SHALL IDENTIFY TO THE OWNER'S REPRESENTATIVE ANY LEAKS OR DAMAGE THAT OCCURS AS A RESULT OF SYSTEM TESTING. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO LIMIT ANY POTENTIAL DAMAGE. CORRECTIVE ACTION REQUIRED AS A RESULT OF TESTING SHALL BE PERFORMED IMMEDIATELY AND AT THE CONTRACTOR'S EXPENSE.

- K. REPORT IN WRITING TO AUTHORITIES HAVING JURISDICTION, THE ARCHITECT AND THE OWNER THE RESULTS OF ALL TESTING.

L. TESTING REQUIREMENTS

- a. TEST ALL DOMESTIC WATER PIPING HYDROSTATICALLY TO 125 PSIG.
- b. HYDROSTATIC TEST PRESSURES SHALL REMAIN CONSTANT WITH NO VARIATION FOR 120 MINUTES.
- c. TESTS SHALL BE WITNESSED BY THE BUILDING ENGINEER.
- d. THE PLUMBING CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DUE TO TEST FAILURES AND LEAKAGE IN THE TEST AREA AND ADJACENT TENANT OR ESB SPACES.

- M. REFILL ENTIRE POTABLE HOT AND COLD WATER SUPPLY SYSTEM WITH CHLORINE SOLUTION (HTH OLIN CHEMICAL CORP.) AT A STRENGTH TO MEET STANDARDS OF THE DEPARTMENT OF HEALTH, AND FOR A PERIOD OF RETENTION AS STIPULATED.

- N. THOROUGHLY FLUSH PIPING SYSTEM WITH FRESH WATER IMMEDIATELY PRIOR TO FINAL ACCEPTANCE.

- O. INSPECTION & TESTING SHALL BE AS PER 2014 THE NEW YORK CITY PLUMBING CODE (NYPC) SECTION 107.

4. WARRANTY

- A. EQUIPMENT, MATERIALS AND WORKMANSHIP FURNISHED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER. THE CONTRACTOR SHALL KEEP THE WORK IN GOOD REPAIR FOR ONE YEAR AFTER THE DATE OF FINAL APPROVAL. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROMPTLY CORRECT AND REPAIR ANY AND ALL BREAKS, FAILURES OR WEAR DUE TO FAULTY MATERIALS, WORKMANSHIP OR EQUIPMENT. ALL SETTLEMENTS OF SURFACES THAT MAY OCCUR WITHIN THAT PERIOD SHALL ALSO BE PROMPTLY REPAIRED.

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

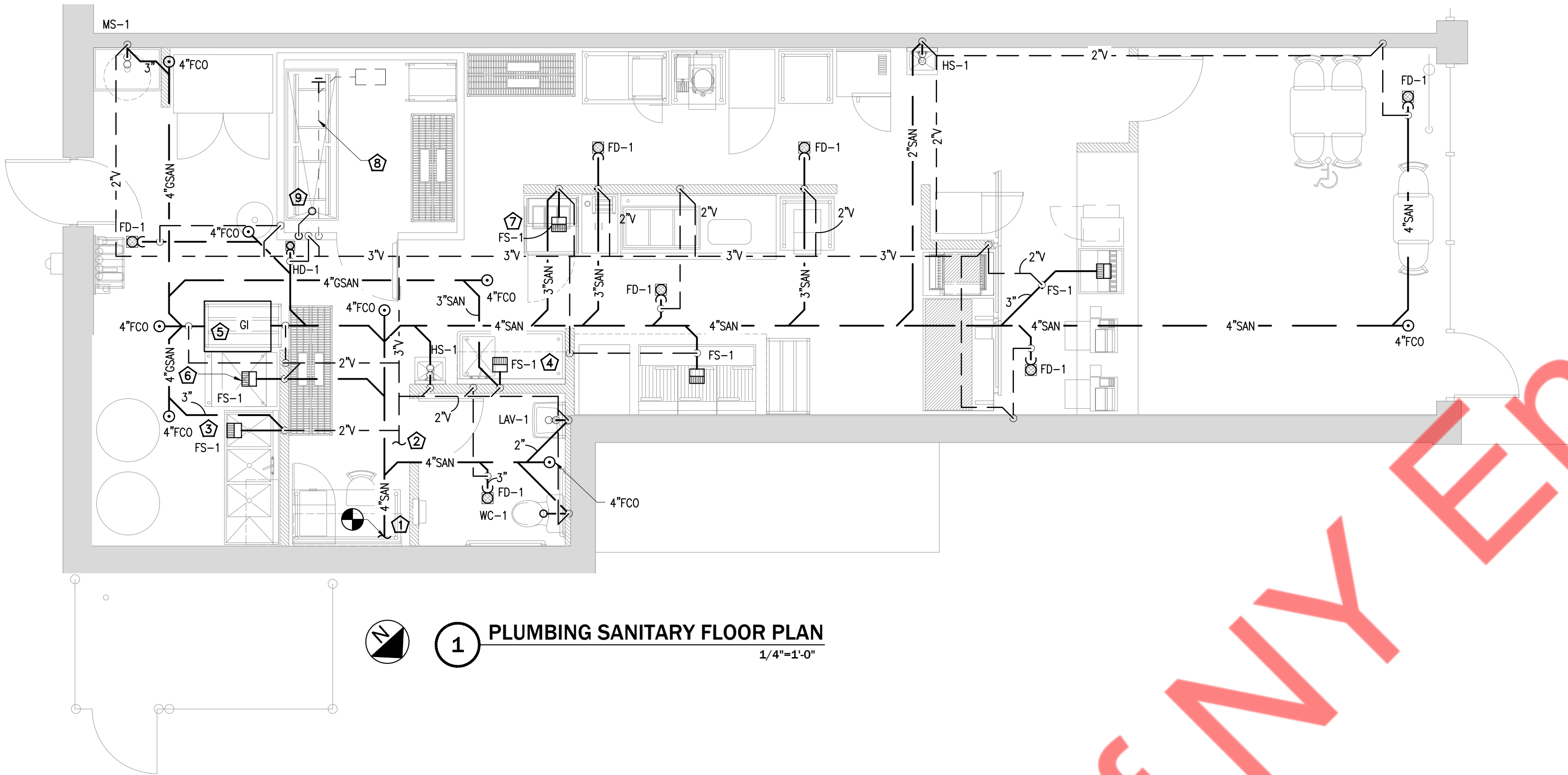
DRAWING TITLE:

PLUMBING NOTES AND SPECIFICATIONS (2 OF 2)

DRAWING NO.:

P-002.00





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

**PLUMBING KEYNOTES**

- CONNECT NEW 4" SANITARY WASTE PIPE TO EXISTING SANITARY LINE. CONTRACTOR TO VERIFY IN FIELD EXACT SIZE AND INVERT LOCATION.
- CONNECT NEW 3" VENT PIPE TO EXISTING VENT SYSTEM. CONTRACTOR TO VERIFY IN FIELD EXACT SIZE AND LOCATION.
- ROUTE 3" INDIRECT WASTE FROM 3-COMP SINK TO FLOOR SINK WITH APPROVED AIR GAP.
- PROVIDE 1-1/2" INDIRECT WASTE FROM PREP SINK TO FLOOR SINK WITH APPROVED AIR GAP.
- GREASE INTERCEPTOR-SCHIER GB-50 GREASE TRAP FOR INDOOR INSTALLATION, FLOW RATE-50 GPM. CONTRACTOR TO REFER MANUFACTURER GUIDELINES FOR INSTALLATION. LANDLORD TO REVIEW AND APPROVE THE LOCATION OF THE GREASE INTERCEPTOR AS PER SITE CONDITIONS.
- ROUTE INDIRECT WASTE FROM ICE MAKER MACHINE TO FLOOR SINK WITH APPROVED AIR GAP.
- ROUTE INDIRECT WASTE FROM REFRIGERATED MERCHANDISER TO FLOOR SINK.
- 3/4" CONDENSATE PIPING BRACED TO WALK-IN WALLS. SPILL W/INDIRECT CONNECTION INTO HUB DRAIN.
- EXTEND CHICKEN CRATE VAT 2" COPPER INDIRECT WASTE LINE THRU COOLER/FREEZER WALL TO DISCHARGE IN HUB DRAIN LOCATED BESIDE WALL.

GREASE INTERCEPTOR CALCULATIONS PER DEP TITLE 15 RCNY 19-11 (GI-1)	
TABLE 1	
3 COMPARTMENT UTILITY SINK DESCRIPTION: #3-COMP. SINK	
SIZE PER COMP. = 18"L x 24"W x 14"H = 6,048 CU.IN. SIZE PER SINK = 6,048 CU.IN. x 3 = 18,144 CU.IN.	
TOTAL VOLUME FOR #1 SINKS: 18,144 X 1 = 18,144 CU.IN.	
MOP SINK DESCRIPTION: #MOP SINK	
SIZE PER SINK = 20"L x 20"W x 12"H = 4,800 CU.IN.	
TOTAL VOLUME FOR #1 SINKS: 4,800 X 1 = 4,800 CU.IN.	
PREP SINK DESCRIPTION: #1-COMP SINK	
SIZE PER SINK = 18"L x 24"W x 14"H = 6,048 CU.IN.	
TOTAL VOLUME FOR #1 SINKS: 6,048 X 1 = 6,048 CU.IN.	
TOTAL VOLUME	= 28,992 CU. IN
TOTAL FLOW	= 50 GPM
TOTAL (LB)	= 100 LBS

PROPOSED GREASE INTERCEPTOR: SCHIER GB-50

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

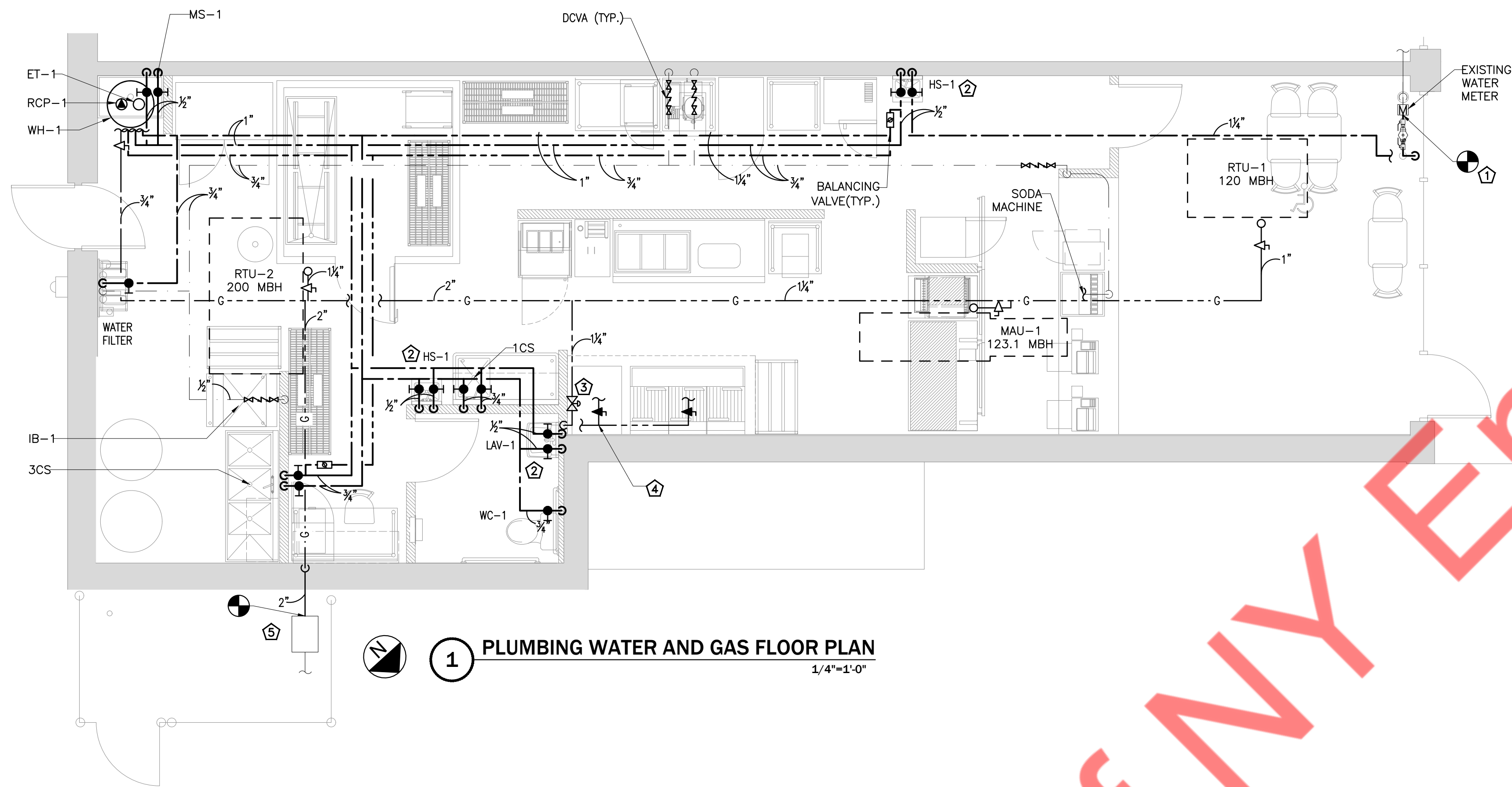
DRAWING TITLE:

PLUMBING SANITARY  
FLOOR PLAN

DRAWING NO.:

P-101.00





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

## PLUMBING KEYNOTES

- CONNECT NEW 1-1/4" DOMESTIC WATER PIPE TO EXISTING 3/4" WATER SERVICE WITH EXISTING WATER METER AND BACKFLOW PREVENTER. CONTRACTOR TO FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING WATER SERVICE AND WATER METER. UPGRADE IF REQUIRED.
- PROVIDE TEMPERATURE MIXING VALVE, SET AT 110°F, ON ALL HANDSINKS.
- EMERGENCY GAS SHUT-OFF VALVE LOCATED BELOW CEILING.
- 1" GAS DOWN, EXPOSED ON WALL. EXTEND UNDER EQUIPMENT TO FINAL CONNECTIONS. PROVIDE PLUG VALVE, REDUCER AND AGA RATED FLEX SUPPLY AT CONNECTION.
- CONNECT NEW 2" GAS LINE TO EXISTING LINE WITH EXISTING GAS METER. CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR GAS FRYERS. PROVIDE GAS BOOSTER PUMP IF INLET PRESSURE IS LESS THAN 7" W.C. BASE BID ACCORDINGLY. REFER TO GAS LOAD SUMMARY AND GAS RISER DIAGRAM - SHEET P-602.00

### PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

### DOB APPROVAL STAMP:

### DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

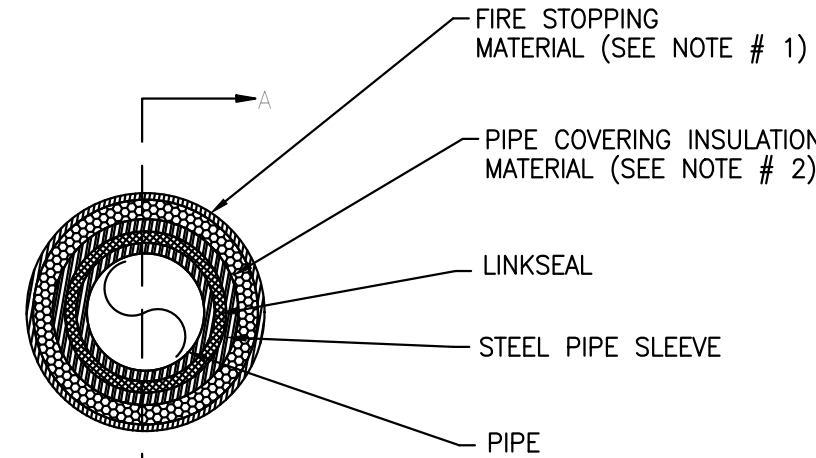
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PLUMBING WATER AND GAS  
FLOOR PLAN

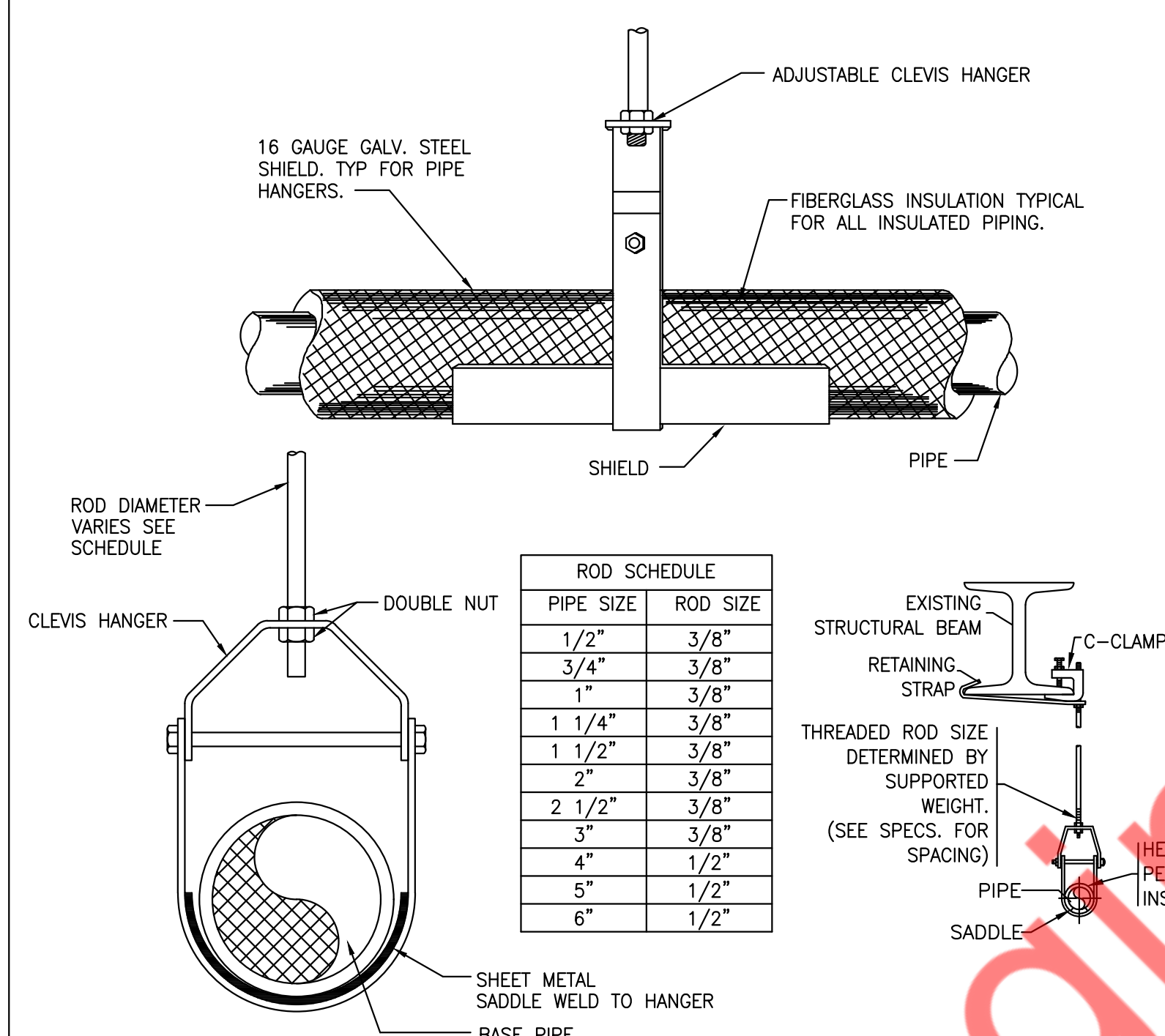
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P-102.00

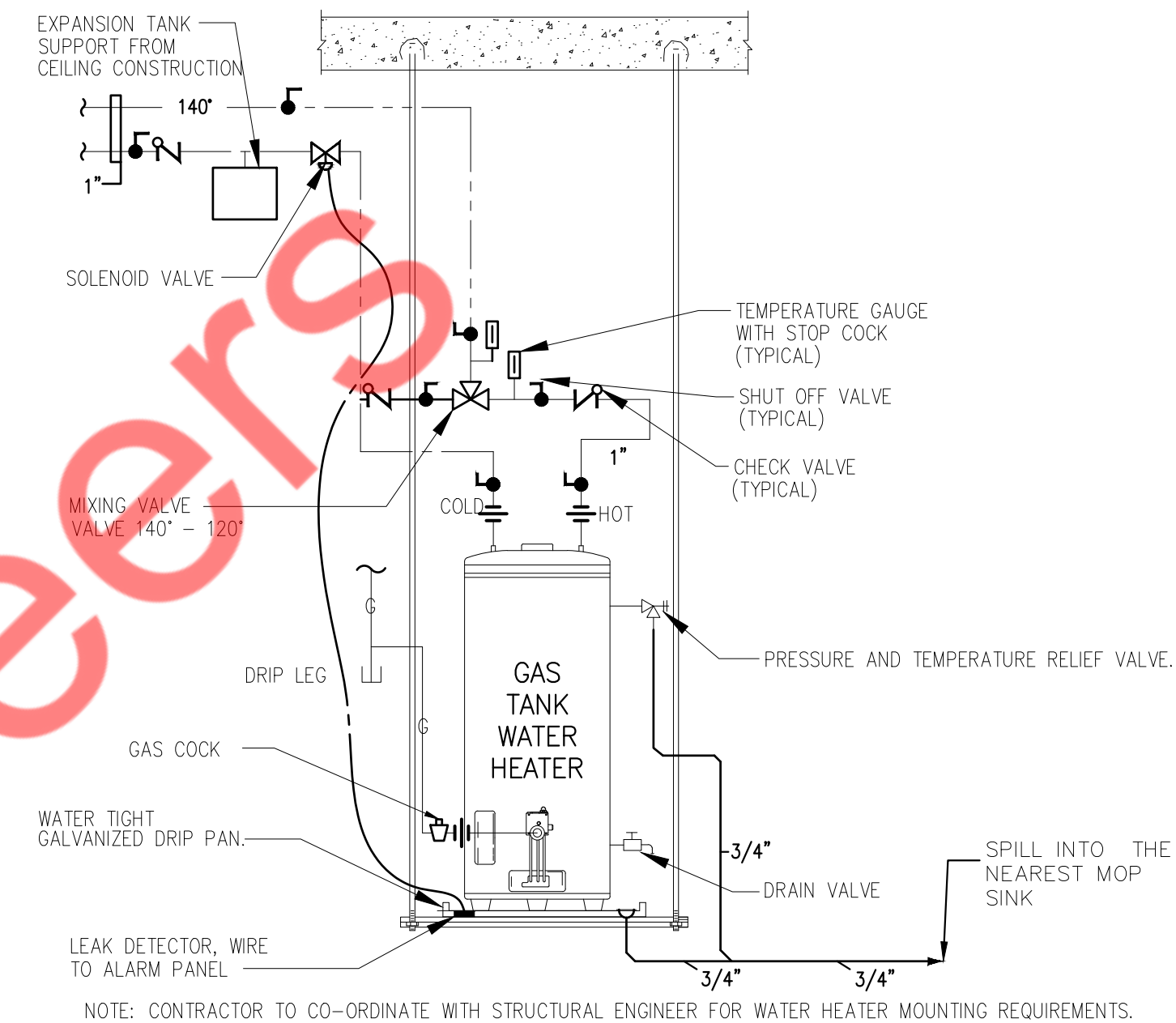




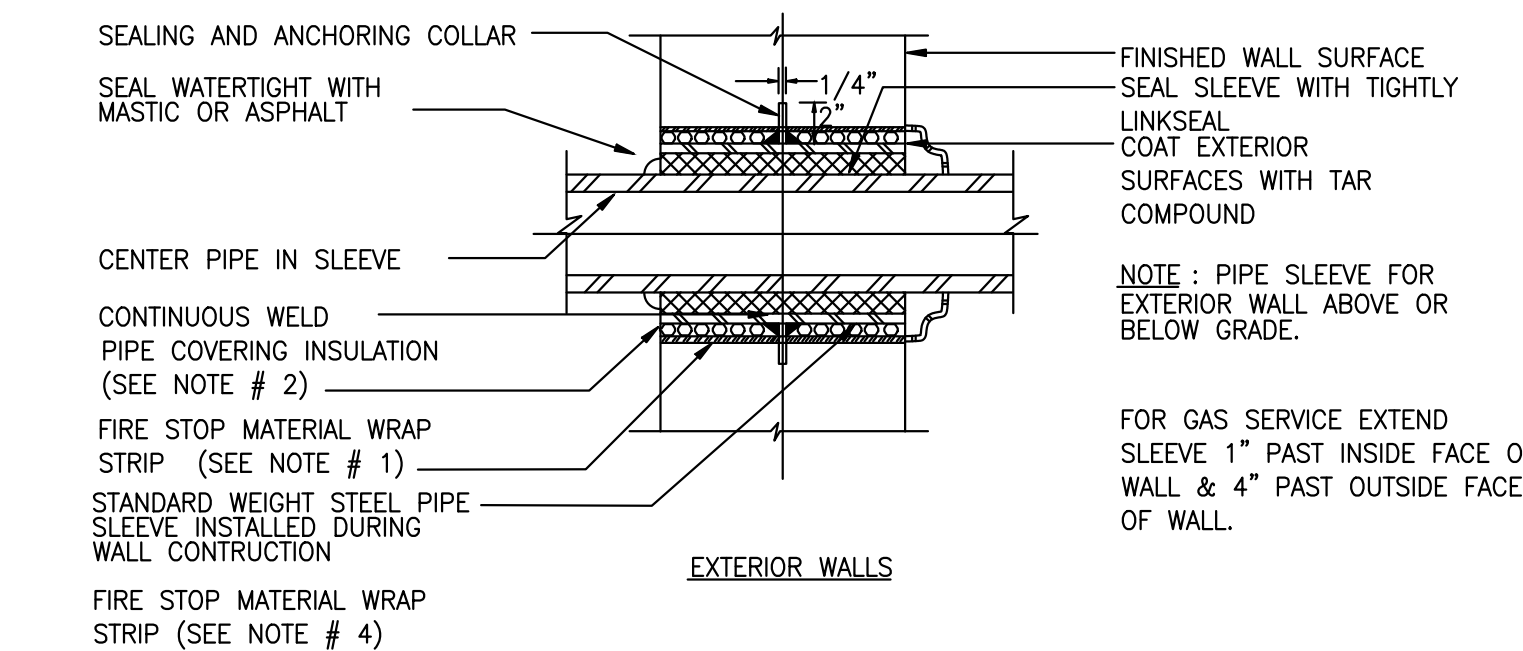
### PIPE SLEEVE VIEW



2 HANGER DETAIL  
P-501.00 N.T.S.



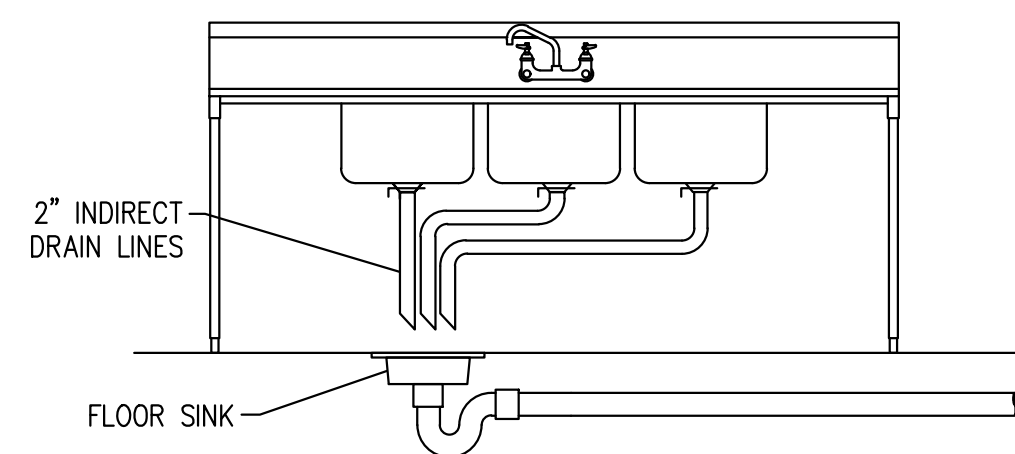
3	WATER HEATER INSTALLATION DETAILS
P-501.00	N.T.S



### PIPE SLEEVE THRU WALL SECTION



1  
P-501.00 N.T.S



COMMENTS:

1. CONNECT GREASE SANITARY LINE TO GREASE TRAP LOCATED IN CELLAR. VERIFY IN FIELD EXACT LOCATION.
2. ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS OR MEET LOCAL CODE REQUIREMENTS. HUBLESS CAST IRON PIPE, FITTINGS AND CONNECTORS ALL AROUND SINK AND TRAP. CONNECT GREASE TRAP FROM CENTER COMPARTMENT.
3. COORDINATE INDIVIDUAL BAY DRAINAGE , AIR GAP, & DRAIN FUNNEL WITH LOCAL CODE REQUIREMENTS.

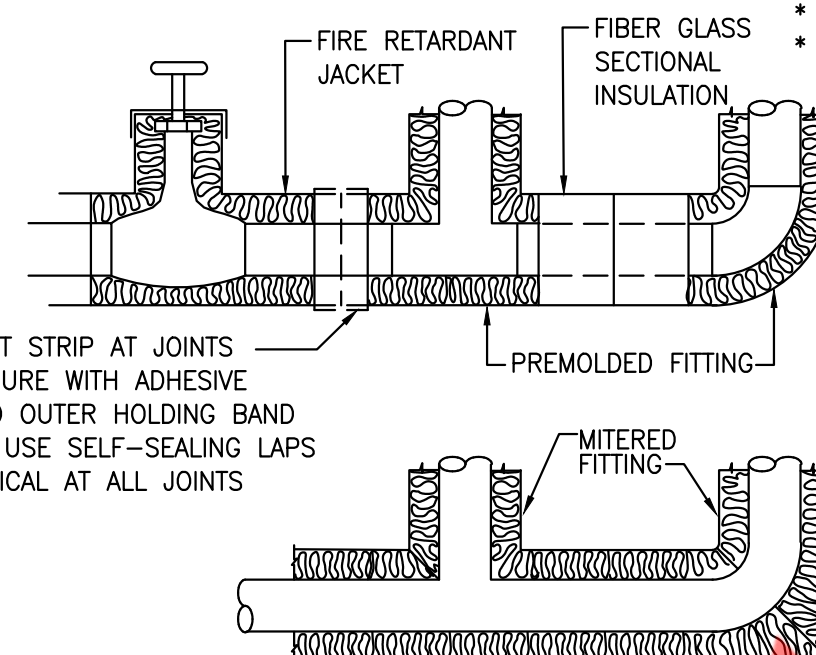
4 3 COMPARTMENT SINK DETAILS  
P-501.00 NTS

### CONCEALED VALVES AND FITTINGS

- \* WRAP WITH 1-INCH THICK, 1-POUND DENSITY TO REQUIRED PIPE INSULATION THICKNESS
- \* SECURE WITH WIRE OR TAPE.
- \* VAPOR SEAL COLD WATER, CHILLED WATER AND STORM WATER PIPING.

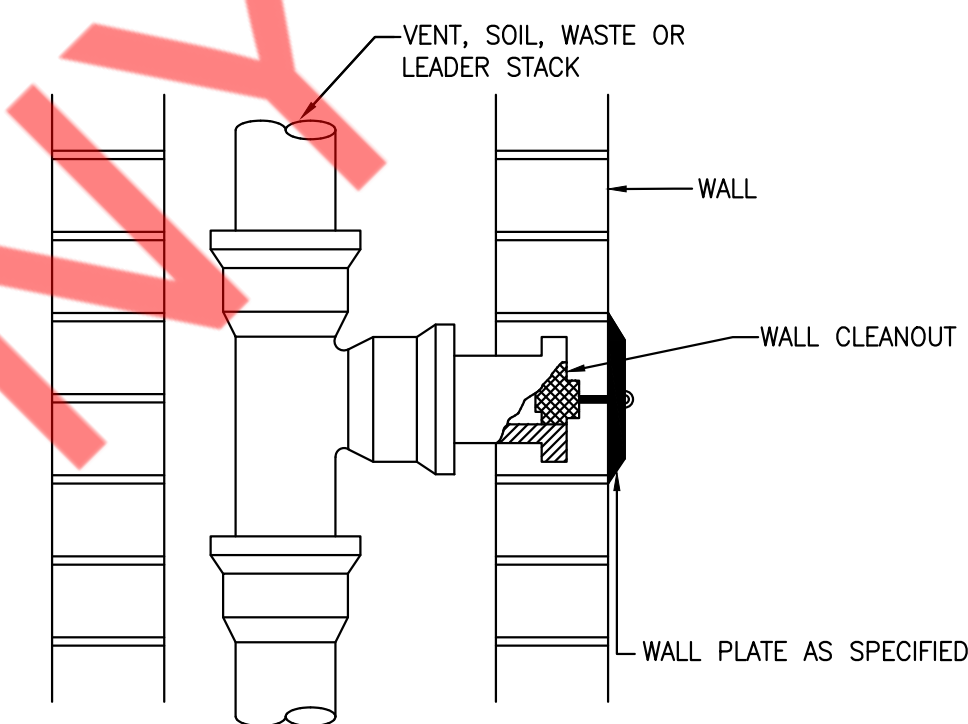
### CONCEALED VALVES AND FITTINGS

- \* PREMOLDED FIBER GLASS OR RADIAL MITERED PIPE INSULATION
- \* SKIM COAT OF INSULATION CEMENT
- \* COAT OF MASTIC
- \* WRAP WITH FIBER GLASS REINFORCING CLOTH
- \* FINISH COAT OF MASTIC
- \* OVERLAP 2-INCHES ON PIPE INSULATION.

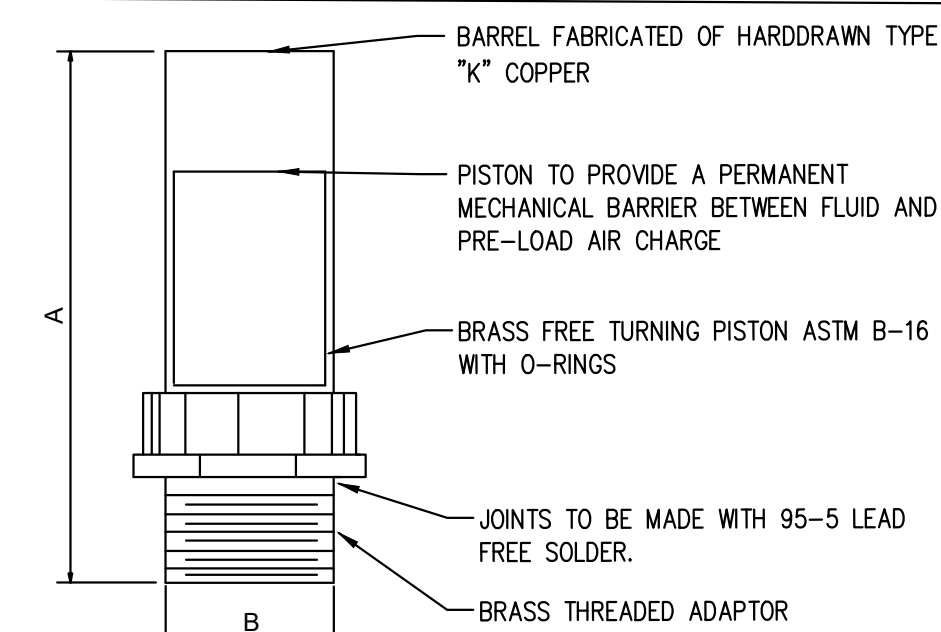


SEALING LAP  
SECURE WITH ADHESIVE  
ALL SEALS AND LAPS  
AT TOP. \_\_\_\_\_

# INSULATION OF PIPING, VALVES AND FITTINGS FOR EXPOSED AND CONCEALED LOCATIONS



6 WALL CLEANOUT DETAILS  
P-501 00 NTS



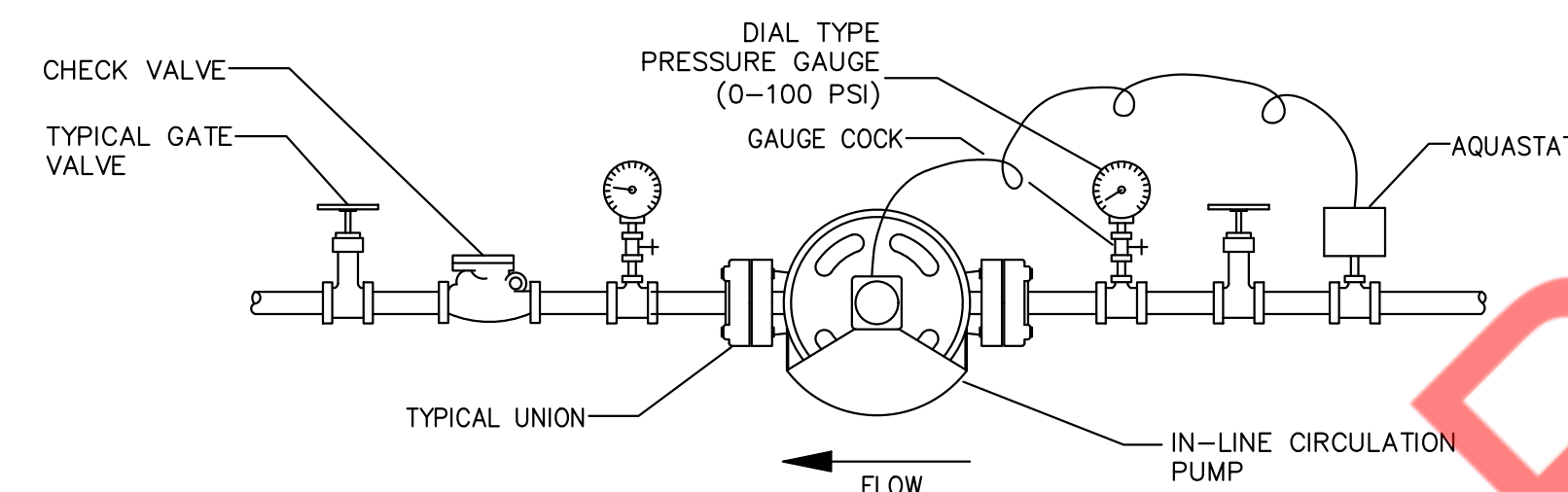
PIPE SIZE	P.D.I. SYMBOL	FIXTURE UNIT RATINGS	A SIZE	B SIZE
1/2"	A	1 - 11	5"	1/2"
3/4"	B	12 - 32	5"	3/4"
1"	C	33 - 60	7"	1"
1-1/4"	D	61 - 113	7"	1-1/4"
1-1/2"	E	114 - 154	9"	1-1/2"
2"	E	155 - 330	9"	2"

NOTE: LOCATE ONE FOR EACH BANK OF FLUSHOMETER  
FIXTURES AT LAST FIXTURE PROVIDE A STAINLESS STEEL  
ACCESS DOOR FOR EACH SUFFICIENT IN SIZE TO ALLOW  
REPLACEMENT OF ARRESTOR AT A FUTURE DATE.

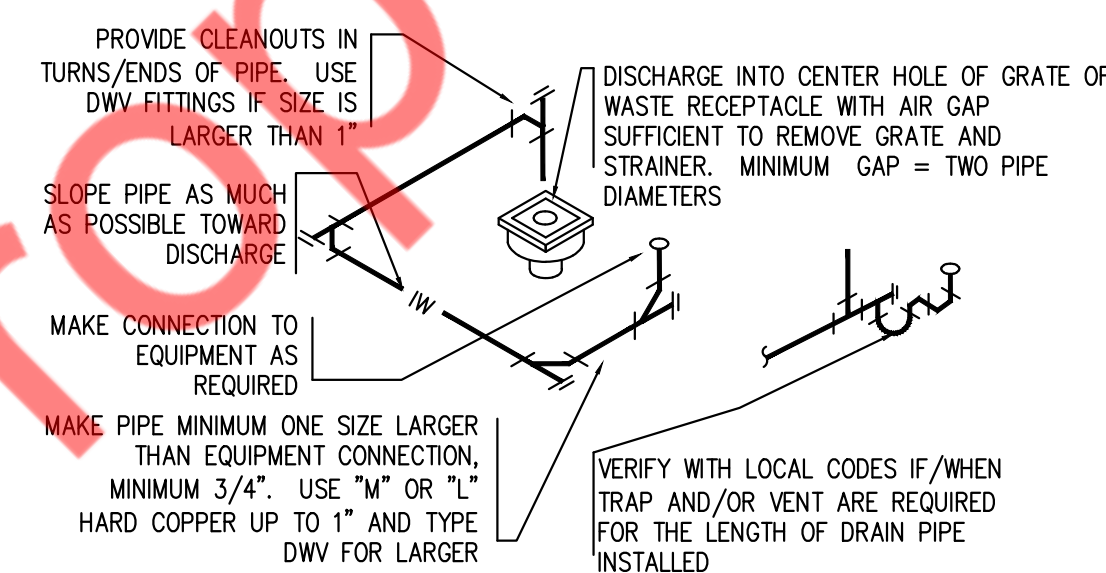
ACCESS DOOR FOR EACH SUFFICIENT IN SIZE TO ALLOW  
REPLACEMENT OF ARRESTOR AT A FUTURE DATE.

7 WATER HAMMER ARRESTOR DETAIL

D 501.00



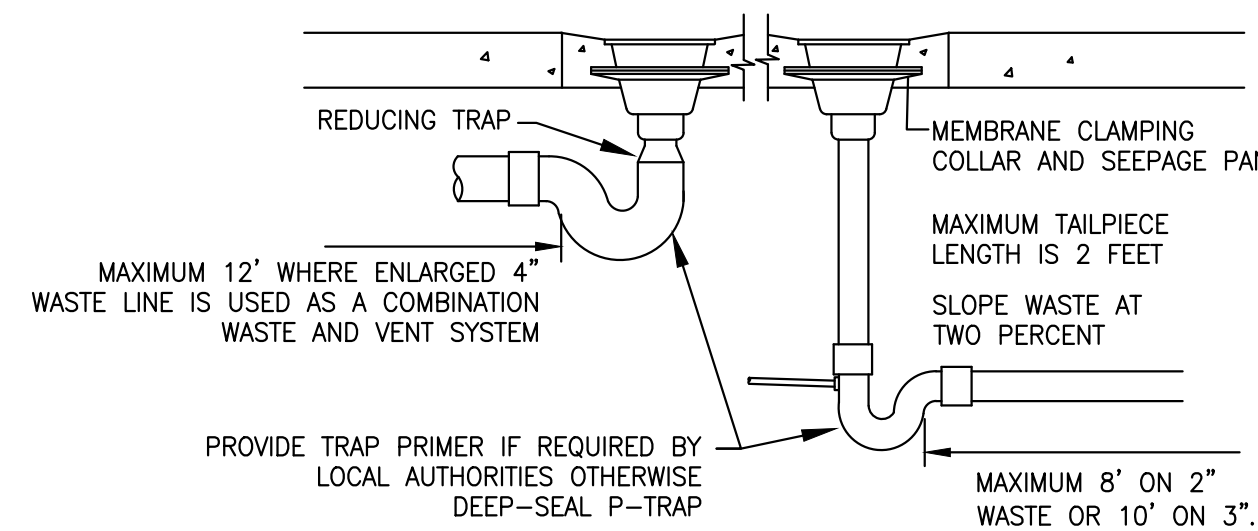
8  
P-501.00 NTS



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

9  
P-501.00

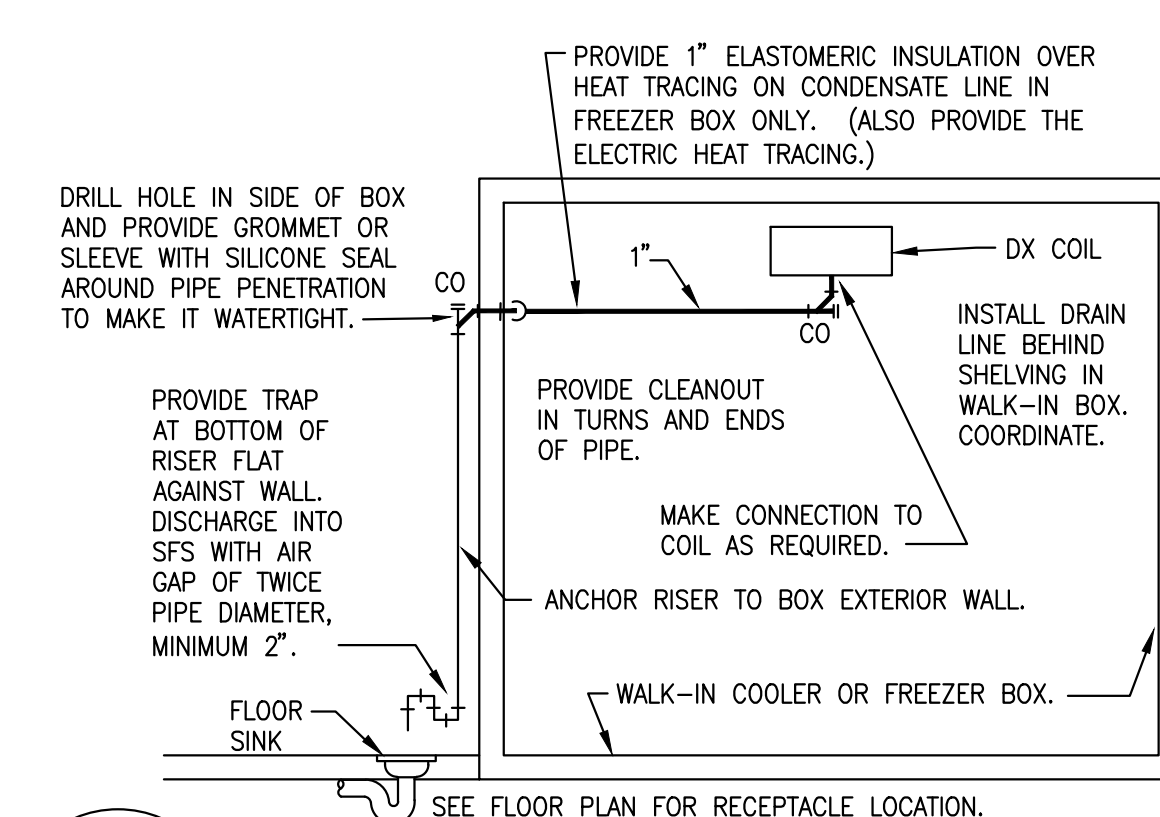
INDIRECT WASTE DETAILS  
N.T.S



COMMENTS:

1. LOCATE FLOOR DRAIN/SINK WHERE SHOWN ON DIMENSIONED FLOOR PLAN. IF SITUATION IS FLOOR SLAB ON GRADE, SET DRAIN BODY IN PLACE, PROVIDE BACKFILL, AND POUR AROUND IT. RECESS TOP OF FLOOR DRAINS 1/2" BELOW FLOOR DATUM AND SLOPE FLOOR TO IT. DO NOT RECESS FLOOR SINKS.
2. OTHER VENTING METHODS MAY BE USED, IF APPROVED BY LOCAL CODE AND/OR LOCAL AUTHORITIES.

10 FLOOR SINK AND FLOOR DRAIN DETAILS  
P-501.00 N.T.S.



11 WALK IN BOX CONDENSATE DRAIN DETAILS  
P-501.00 N.T.S.

#### PROJECT INFORMATION:

## TEXAS CHICKEN & BURGERS

**DOB APPROVAL STAMP:**

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

**DRAWN BY:** NYE

CHECKED BY: NYE

SCALE: AS NOTED

**DRAWING TITLE:**

## PLUMBING DETAILS

DRAWING NO.:

**P-501.00**



PLUMBING FIXTURE SCHEDULE								
LEGEND	PLUMBING FIXTURE	CONNECTION SIZE - INCHES						REMARKS
		TRAP	SOIL/WASTE	VENT	COLD WATER	HOT WATER	THERMOSTATIC MIXING VALVE	
3CS	3-COMPARTMENT SINK	-	3"	2"	¾"	¾"	PROVIDE	I.W. FROM 3CS SPILLS INTO FLOOR SINK
HS-1	HAND SINK	2"	1½"	1½"	½"	½"	PROVIDE	P-TRAP
FS-1	FLOOR SINK	3"	3"	2"	-	-	-	P-TRAP
FD-1	FLOOR DRAIN	3"	3"	2"	-	-	-	P-TRAP
HD-1	HUB DRAIN	3"	3"	-	-	-	-	P-TRAP
WC-1	WATER CLOSET	-	4"	2"	¾"	-	-	FLUSH TANK
LAV-1	LAVATORY	1½"	1½"	1½"	½"	½"	PROVIDE	P-TRAP
MS-1	MOP SINK	3"	3"	2"	¾"	¾"	PROVIDE	P-TRAP
1CS	1-COMPARTMENT SINK	-	3"	2"	¾"	¾"	PROVIDE	I.W. FROM 1CS SPILLS INTO FLOOR SINK
IB-1	ICE BIN	-	3"	2"	-	-	PROVIDE	I.W. FROM IB-1 SPILLS INTO FLOOR SINK
NOTE: CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES SPECIFICATIONS AND MOUNTING HEIGHT INSTALLATION.								

GREASE INTERCEPTOR SCHEDULE				
ITEM	FLOW RATE (GPM)	GREASE CAPACITY (LBS)	MAKE	REMARKS
GI-1	50	249	SCHIER GB-50	DIMENSIONS- 28½"(H)x37"(L)x28"(B) WEIGHT- 172 LBS

- NOTES: 1. CONTRACTOR SHALL SUBMIT PROPOSED GREASE INTERCEPTOR INSTALLATION PLANS AND SPECIFICATIONS TO LOCAL AUTHORITIES FOR THEIR APPROVAL BEFORE ACQUISITION. SEE MANUFACTURERS INSTALLATION MANUAL FOR ADDITIONAL INSTRUCTIONS.
2. PROVIDE ALL ACCESSORIES FOR SATISFACTORILY WORKING OF GREASE TRAP AS PER SITE CONDITIONS.

HOT WATER HEATER								
TAG No.	CAPACITY (MBH)	FIXTURES SERVING	QUANTITY	RECOVERY CAP. (GPH @ RISE)	TYPE	GAS TYPE	MANUFACTURER & MODEL NO.	REMARKS
WH-1	75.1	1-COMPARTMENT SINK, 3-COMPARTMENT SINK, MOP SINK, HAND SINK, LAVATORY, HOT WATER DISPENSER	1	81 @ 90°F	GAS TANK WATER HEATER	NATURAL GAS	A.O. SMITH CONSERVATIONIST BT-80	-DIMENSIONS 61-1/8"H X 26-1/2"DIA

RECIRCULATING PUMP SCHEDULE					
MARK	SERVICE	GPM	TOTAL HEAD FT.	MOTOR HP	MANUFACTURER & REMARKS
RCP-1	HW RECIRCULATION	2	10	0.115	GRUNDFOS UPS 15-18 BUC5 W/AQUASTAT + TIMER

EXPANSION TANK SCHEDULE				
ITEM	SERVICE	GALLONS	MAKE	REMARKS
EXPANSION TANK (ET-1)	HOT WATER	4.4	AMTROL ST-12	DIMENSIONS- 15"(H)x11"(DIA.) SHIPPING WEIGHT- 9 LBS

THERMOSTATIC MIXING VALVE										
TAG No.	LOCATION	SERVING	SERVICE	PIPE SIZE (INCHES)	CAPACITY RANGE (GPM)		TEMP. RANGE (°F)		MANUFACTURER & MODEL NO.	REMARKS
					MIN.	MAX.	MIN.	MAX.		
MX-1	ALL UNITS	ALL UNITS	HOT WATER	1/2	0.1	45	100	160	ACORN MODEL MV17-1	-BRASS BODY -ASSE 1017 LISTED -CSA APPROVED

PROJECT INFORMATION:

TEXAS CHICKEN & BURGERS

DOB APPROVAL STAMP:

DOB NOW JOB NO.:

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

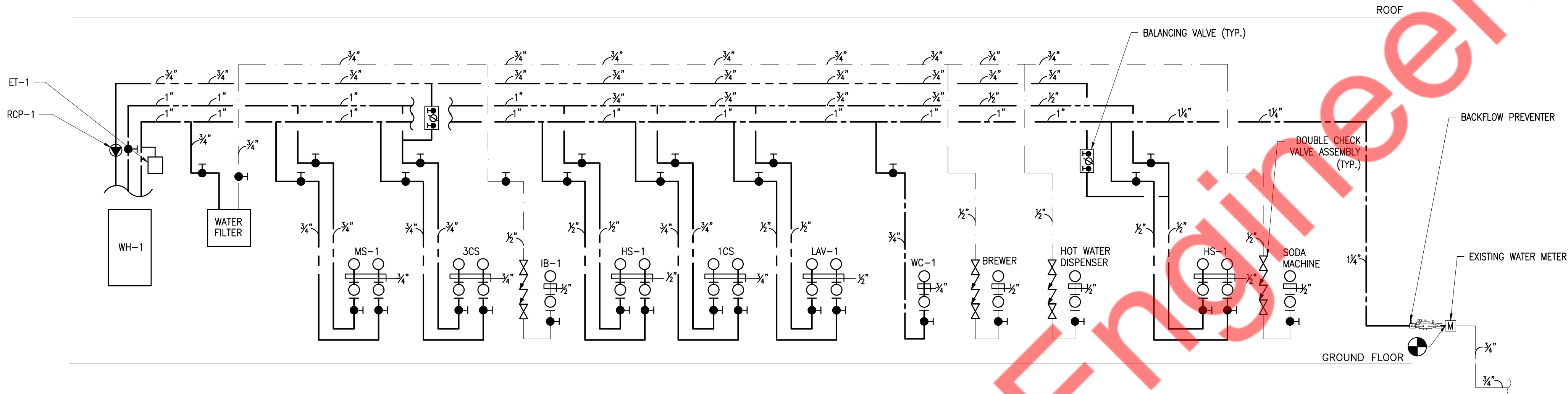
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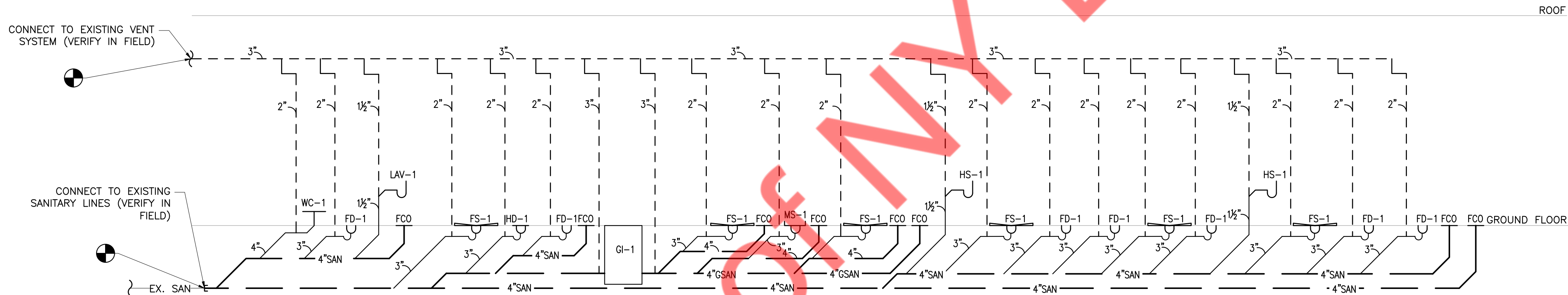
DRAWING NO.:

P-601.00





1 PLUMBING DOMESTIC WATER RISER DIAGRAM



2 PLUMBING SANITARY RISER DIAGRAM

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

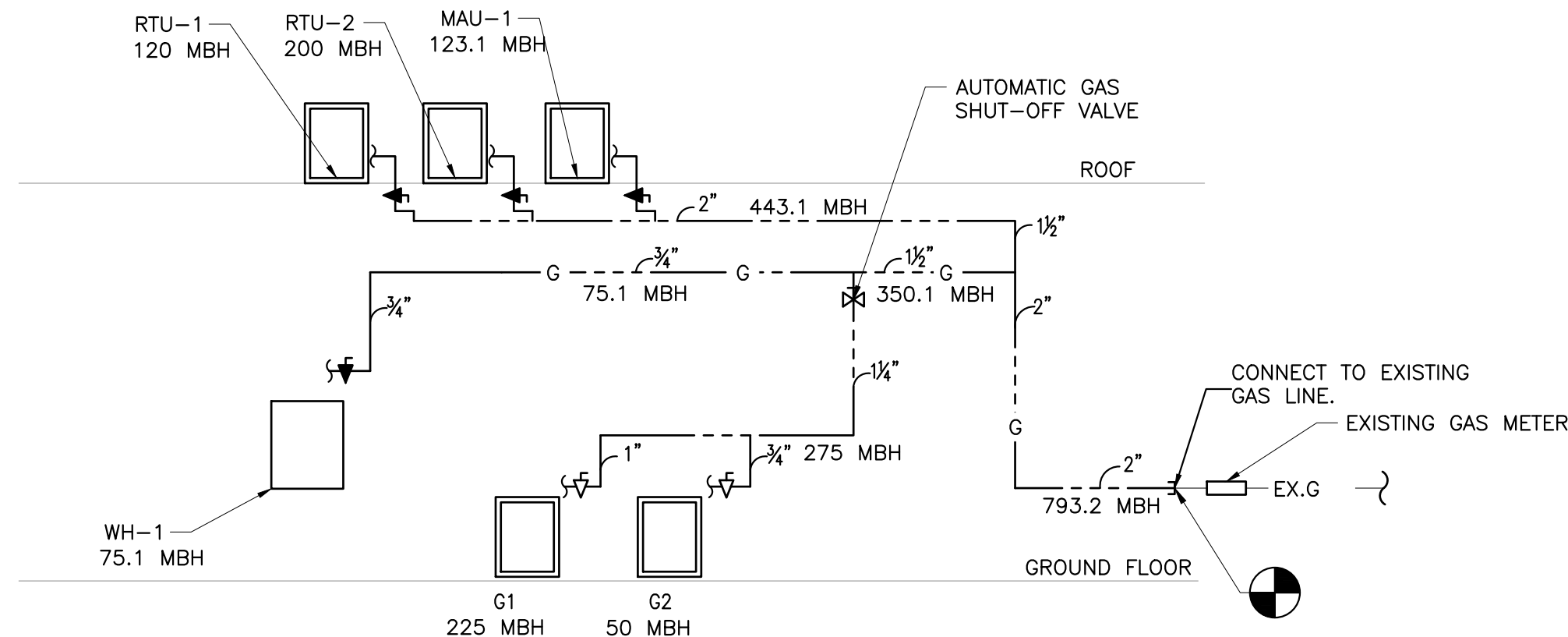
**NOTES:**

1. GAS PIPING TO BE SCHEDULE 40 STEEL PIPE W/125 CAST IRON SCREW FITTINGS
2. GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR.
3. VERIFY ALL EQUIPMENT BTUS'S PRIOR TO INSTALLATION. ADJUST PIPE SIZE ACCORDING NYC FUEL GAS CODE 2014, TABLE 402.4(2)

**GAS LOAD SUMMARY**

EQUIPMENT	MBH LOAD
G1 (3 VAT FRYER)	225
G2 (GAS/ELEC. GRILL)	50
WATER HEATER	75.1
RTU-1	120
RTU-2	200
MAU-1	123.1
TOTAL LOAD	793.2

GAS PIPE SIZING PER TABLE 402.4(2) NYC FUEL GAS CODE 2014  
GAS INLET PRESSURE- LESS THAN 2 PSI.  
PRESSURE DROP- 0.5" WC  
SPECIFIC GRAVITY- 0.60  
EQUIVALENT LENGTH OF PIPE = 125 FT



3 GAS RISER DIAGRAM

**PROJECT INFORMATION:**

TEXAS CHICKEN & BURGERS

**DOB APPROVAL STAMP:**

**DOB NOW JOB NO.:**

DATE: 05/19/2022

PROJECT NO.: Z325-21

DRAWN BY: NYE

CHECKED BY: NYE

SCALE: AS NOTED

**DRAWING TITLE:**

PLUMBING RISER  
DIAGRAM

**DRAWING NO.:**

P-602.00