

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

ABBREVIATIONS	
AL	ACOUSTIC LINING
BD	BACKDRAFT DAMPER
CDS	CEILING DIFFUSER SUPPLY
CDR	CEILING DIFFUSER RETURN
CFM	CUBIC FEET OF AIR PER MINUTE
EG	EXHAUST GRILLE
FC	FLEXIBLE CONNECTION
VD	VOLUME DAMPER
(E)	EXISTING
FD	FIRE DAMPER
FSD	FIRE AND SMOKE DAMPER
WMS	WIRE MESH SCREEN
CDE	CEILING DIFFUSER EXHAUST
RTU	ROOFTOP UNIT
OAI	OUTDOOR AIR INTAKE

MECHANICAL DRAWING LIST	
M01	MECHANICAL GENERAL NOTES, SYMBOLS & ABBREVIATIONS
M02	MECHANICAL SPECIFICATIONS
M03	MECHANICAL FLOOR & ROOF PLAN
M04	MECHANICAL SCHEDULES
M05	MECHANICAL DETAILS (1 OF 3)
M06	MECHANICAL DETAILS (2 OF 3)
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M08	HOOD DETAILS (1 OF 4)
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M10	HOOD DETAILS (3 OF 4)
M11	HOOD DETAILS (4 OF 4)

- FIELD VERIFY ALL CONDITIONS**
- DESIGN DRAWINGS ARE SCHEMATIC. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.
 - THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.
 - BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES. THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

NEW JERSEY BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF 2018-IBC 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 2021 INTERNATIONAL BUILDING CODE REQUIREMENTS AS OUTLINES IN SECTION.
- THE LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS AND CONDUCTING SUCH TESTS WILL FILE DOCUMENTATION AND REPORTS OF TESTS THAT THE SYSTEM COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS.
- TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE 2021 IMC:
 - MECHANICAL VENTILATION – SECTION 403.
- THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
 - DUCT CONSTRUCTION AND INSTALLATION – 2021 IMC 603
 - AIR INTAKES, EXHAUSTS AND RELIEFS – 2021 IMC 401.5
 - AIR FILTERS – 2021 IMC 605
- MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
- VENTILATION FOR ALL AREA SHALL COMPLY WITH 2021 IMC 401.
- A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE AS REQUIRED BY 2021 IMC 403.3
- 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 SHALL NOT BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
- MECHANICAL SYSTEMS SHALL BE COMMISSIONED PER ASHRAE 90.1 SECTION 6.9.2. FINAL COMMISSIONING REPORT SHALL BE DUE WITHIN 90 DAYS OF RECEIPT OF CERTIFICATE OF OCCUPANCY.
- A COMMISSIONING PLAN SHALL BE DEVELOPED BY A LICENSED DESIGN PROFESSIONAL, MECHANICAL ENGINEER OR APPROVED AGENCY.
- A PRELIMINARY REPORT OF COMMISSIONING TEST PROCEDURES AND RESULTS SHALL BE COMPLETED AND CERTIFIED BY THE LICENSED DESIGN PROFESSIONAL, ELECTRICAL ENGINEER, MECHANICAL ENGINEER OR APPROVED AGENCY AND PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT AS PER ASHRAE 90.1, SECTION 6.9.2.
- A WRITTEN REPORT DESCRIBING THE ACTIVITIES AND MEASUREMENTS COMPLETED IN ACCORDANCE WITH SECTION ASHRAE 90.1, SECTION 6.9.1.
- ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
- SMOKE DETECTOR SHALL MEET UL268A.
- SMOKE DETECTION SYSTEMS SHALL BE INSTALLED AND SEQUENCED TO FOLLOW CONTROLS OPERATIONS WITH THE REQUIREMENTS OF SECTION 606, 2021 INTERNATIONAL MECHANICAL CODE TO CLOSE DAMPERS AND AUTOMATICALLY STOP THE FAN.

GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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 IN OVERTIME AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.
- 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.
- DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW SYSTEM.
- CONNECT NEW WORK TO EXISTING WORK IN NEAT AND APPROVED MANNER. RESTORE EXISTING WORK DISTURBED WHILE INSTALLING NEW WORK TO ACCEPTABLE CONDITION AS DETERMINED BY ARCHITECT.
- PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH BUILDING OWNER. INSTALL ISOLATION VALVES AT POINT OF CONNECTION TO THE EXISTING PIPING. PROVIDE TEMPORARY DUCT CAPS AND/OR CONNECTIONS TO MINIMIZE SHUTDOWN TIME.
- 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.
- 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, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DUNNAGE STEEL AS REQUIRED.
- 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).
- WHERE PENETRATIONS THROUGH FIRE RATED WALLS ARE NOT FIRE PROOFED THIS CONTRACTOR SHALL BE RESPONSIBLE TO SEAL SAME TO MAINTAIN THE RATED INTEGRITY.
- 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.
- 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.
- 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.
- 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.
- UNLESS OTHERWISE SPECIFICALLY SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION.
- MATERIALS AND WORKMANSHIP, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
- ALL EQUIPMENT SHALL BE PROVIDED WITH ONE YEAR WARRANTY PARTS AND LABOR AND FIVE YEARS ON COMPRESSORS. WARRANTY PERIOD BEGINS UPON PROJECT ACCEPTANCE

GENERAL HVAC NOTES

- 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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FAILURE OF THE DUCTWORK SYSTEM OR EQUIPMENT TO FUNCTION PROPERLY UPON COMPLETION OF HIS WORK UPON SAID SYSTEM OR EQUIPMENT.
- SUBMIT SHOP DRAWING OF ALL WORK WHICH MUST BE APPROVED BY THE ARCHITECT AND ENGINEER BEFORE WORK COMMENCES.
- ALL MATERIAL AND EQUIPMENT TO BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
- SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTIONS OF THE EXISTING BUILDING, EQUIPMENT, ETC., WHICH AFFECT THIS WORK, AND THE ACCESS TO SUCH SPACES, HAS BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION. THE ON-SITE INSPECTION SHALL VERIFY EXISTING DUCTWORK, PIPING (SIZES, CLEARANCES, ETC) AND CONDITIONS.
- INSURANCE: IN ACCORDANCE WITH BUILDING REQUIREMENTS THE CONTRACTOR SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.
- 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.
- 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.
- 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:**
- "PROVIDE": TO SUPPLY, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
 - "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
 - "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.

SCOPE OF WORK

- SCOPE OF WORK**
- 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 PLAN(S) DESIGN, DETAIL DRAWINGS, NOTES, RF'S, ETC. FOR THIS PROJECT. WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.
 - 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.
 - 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 WHERE 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

- 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.
- CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK (HVAC, PLUMBING, AND FIRE PROTECTION) ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
- 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.
- 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.
- COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
- INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
- WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
- COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
- ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND ELECTRICAL DIVISION OF THE SPECIFICATION.
- PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.
- LOCATE ALL TEMPERATURE, 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.
- 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.
- ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN THE DETAILS FOR DUCTWORK, AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- 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.
- MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHALL NOT BE SUPPORTED FROM A METAL DECK.
- ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED, SPECIFIED AND REQUIRED TO PROVIDE A VIBRATION-FREE INSTALLATION.
- 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.
- LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
- ALL OPENINGS IN FIRE WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED WITH A PRODUCT SIMILAR TO 3M OR APPROVED EQUAL.
- ALL CONDENSATE DRAIN LINES FROM EACH ROOF TOP UNIT SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET, WITH "P" TRAP, AND PIPED TO THE NEAREST DRAIN OR GUTTER OR DOWN SPOUT PROVIDED THAT DOWNSPOUT DOES NOT DISCHARGE ONTO PAVEMENT. SEE THE DETAILS SHOWN IN THE DRAWINGS OR THE CONTRACT SPECIFICATIONS FOR THE DEPTH OF THE AIR CONDITIONING CONDENSATE TRAP.
- REFER TO TYPICAL DETAILS FOR DUCTWORK, PIPING, AND EQUIPMENT INSTALLATION.
- ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED.
- 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.

NOTES

- DO NOT SCALE PLANS
- THESE CONSTRUCTION DOCUMENTS WERE PREPARED FOR COMPLIANCE WITH LOCAL CONSTRUCTION CODES IN EFFECT AT TIME OF PERMIT SUBMITTAL. ALL ENGINEERS, CONTRACTORS, AND SUPPLIERS INVOLVED WITH THIS PROJECT SHALL COMPLY WITH SAME CODES, ISSUED AND APPROVED CODE MODIFICATIONS AND/OR LOCAL CONSTRUCTION BOARDS OF APPEALS RULING AND WHENEVER REQUIRED SHALL PROVIDE SHOP DRAWINGS AND SUBMITTALS CLEARLY DESCRIBING COMPLIANCE TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW AND APPROVAL.
- COORDINATE ALL DRAWINGS, DETAILS, AND EQUIPMENT SPECS.
- ALL TRADES SHALL REVIEW AND HAVE ACCESS TO ENTIRE SET OF PLANS AND SPECS PRIOR TO BIDDING AND DURING CONSTRUCTION.
- SEPARATION OF SHEETS IS NOT PERMITTED.
- SUBMIT WEEKLY UPDATES TO OWNER/ARCHITECT INCLUDING SCHEDULE, PHOTOS, AND PROGRESS REPORT.
- FIELD VERIFY EXISTING CONDITIONS AND REPORT ANY INCONSISTENCIES TO ARCHITECT. G.C. SHALL SUBMIT ALL AS-BUILTS AND DEVIATIONS FROM THE PLANS TO OWNER & ARCHITECT.
- PROVIDE STORAGE FOR ALL EQUIPMENT AND MATERIALS IN ACCORDANCE TO MANUFACTURER'S SPECS FOR DURATION OF CONSTRUCTION.
- WORK SHALL NOT COMMENCE PRIOR TO RECEIPT OF ALL APPROVED PERMITS.
- THE PLANS AND DETAILS INCLUDED IN THIS PROJECT ARE FOR THE SOLE PURPOSE OF THIS PROJECT. THE USE OF THESE DETAILS ON ANOTHER PROJECT IS STRICTLY PROHIBITED UNLESS APPROVED BY ARCHITECT.
- COPYRIGHT 2024 BIGGDESIGNS, LLC
- REQUESTS FOR INFORMATION (RFI)
- ALL RFIS SHALL BE SUBMITTED ELECTRONICALLY VIA EMAIL. TEXT/CALL RFIS WILL NOT BE ACCEPTED.
- SUBSTITUTIONS/ALTERNATES MUST BE PROVIDED TO ARCHITECT FOR APPROVAL PRIOR TO PURCHASE/INSTALL AND MAY REQUIRE A MIN. \$150.00 PAYMENT UNLESS OTHERWISE APPROVED IN CLIENT SERVICE AGREEMENT.

DEFERRED SUBMITTALS

- ALL PLANS LABELED AS DEFERRED SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT AND/OR LOCAL AUTHORITY FOR APPROVAL PRIOR TO INSTALLATION.



PROJECT

PIZZAWALAS

PERMIT

MECHANICAL GENERAL NOTES, SYMBOLS & ABBREVIATIONS
04.26.2024

REV

REV	NOTE	DATE
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M01

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 230593 – TESTING, ADJUSTING, AND BALANCING FOR HVAC

- 1.1 SUMMARY
A. TESTING, ADJUSTING, AND BALANCING FOR THE FOLLOWING:
1. AIR SYSTEMS: 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

THERMOSTATIC CONTROLS:

- A. 6.4.3.1.1. GENERAL: THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE.
B. 6.4.3.1.2. DEAD BAND: WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM.
C. 6.4.3.3.1 AUTOMATIC SHUTDOWN. AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR NOT FEWER THAN 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CONFIGURED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.
D. 6.4.3.3.2. SETBACK CONTROLS: THERMOSTATIC SETBACK CONTROLS SHALL BE CONFIGURED TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURE 10°F BELOW THE OCCUPIED HEATING SET POINT AND 5°F ABOVE THE OCCUPIED COOLING SET POINT.

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 JACKET 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-6 OUTSIDE OF BUILDING: R-8
1.4 ITEMS NOT INSULATED:
1. FIBROUS-GLOSS DUCTS.
2. METAL DUCTS WITH DUCT LINER OR SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 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:

Table with 4 columns: USG, MAX. SIDE INCHES, TRANSVERSE JOINTS AND BRACING, and COMMERCIAL KITCHEN EXHAUST DUCTWORK. It lists specifications for ductwork sizes and materials like S SLIP, DRIVE SLIP, ONE INCH POCKET LOCK ON 8 FOOT CENTERS, etc.

- 1.2 MATERIALS
A. SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS.
B. SINGLE-WALL ROUND AND FLAT-OVAL DUCTS AND FITTINGS.
C. SHEET METAL MATERIALS:
1. GALVANIZED SHEET STEEL.
2. STAINLESS-STEEL SHEETS.
3. ALUMINUM SHEETS.
4. FACTORY-APPLIED ANTI-MICROBIAL COATING.
D. DUCT LINER:
1. FIBROUS GLASS, TYPE I, FLEXIBLE.
a. WITH ANTI-MICROBIAL EROSION-RESISTANT COATING.
2. FLEXIBLE ELASTOMERIC.
3. NATURAL FIBER.
E. 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 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.

- 1.4 DUCT SCHEDULE
A. ALL DUCTS SHALL BE GALVANIZED STEEL EXCEPT AS FOLLOWS:
1. MOIST ENVIRONMENT DUCT MATERIAL: ALUMINUM.

END OF SECTION 233113
SECTION 233713 – DIFFUSERS AND GRILLES

- 1.1 PRODUCTS
A. DIFFUSERS AND GRILLES 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. CARNES.
2. HART & COOLEY INC.
3. KRUEGER.
4. METALAIR, INC.
5. NAILOR INDUSTRIES INC.
C. ALL DIFFUSERS SHALL HAVE CONTROLLING/EQUALIZING GRID AND OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.
D. ALL DUCTED RETURN REGISTERS SHALL HAVE AN OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

END OF SECTION 233713

- A. ALL HORIZONTAL AND VERTICAL KITCHEN EXHAUST DUCTWORK SHALL BE CONSTRUCTED OF 16 GAUGE MINIMUM BLACK IRON OR PREFABRICATED DOUBLE WALL GREASE DUCTWORK APPROVED FOR KITCHEN EXHAUST APPLICATION WITH ETL LISTED TO UL 1978 AND UL 2221 SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER INSTALLATION INSTRUCTIONS AND LOCAL CODES. ALL SEAMS AND JOINTS SHALL HAVE A LIQUID TIGHT CONTINUOUS EXTERNAL WELD AS PER NFPA 96 FOR BLACK IRON DUCTWORK. THE EXTERIOR OF ALL KITCHEN RANGE BLACK IRON EXHAUST DUCTS SHALL HAVE 1-1/2" X 1-1/2" X 1/8"WELDED ANGLES, PUNCHED FOR SECURING BLOCK INSULATION. WHERE KITCHEN RANGE BLACK IRON EXHAUST DUCT RISER PASSED VERTICALLY THROUGH FLOORS OF THE BUILDING, PROVIDE ANGLE CLIPS WELDED TO THE DUCT OF REQUIRED SIZES TO SUPPORT THE WEIGHT OF THE RISER SECTIONS ON THE BUILDING STRUCTURE AT EACH OF THE FLOOR LEVELS. PROVIDE AND INSTALL ALL SUPPLEMENTARY STRUCTURAL STEEL IN SHAFTS TO PROPERLY SUPPORT EXHAUST DUCTWORK FROM BUILDING CONSTRUCTION. PROVIDE MINIMUM 12"x12" ACCESE DOOR ON SIDE OF HORIZONTAL DUCTS AT 12' SPACING. ACCESS DOORS SHALL BE SIMILAR TO DESCRIPTION IN "ACCESS DOORS IN SHEET METAL WORK WORK" EXCEPT THAT DOOR GAUGE SHALL BE THE SAME AS DUCT GAUGE. ALL HORIZONTAL DUCTS SHALL BE PITCHED BACK TO HOODS 1/4" PER FOOT OR MAXIMUM PITCH ATTAINABLE. THIS TRADE SHALL DRILL OR CUT ALL REQUIRED OPENING AS REQUIRED BY THE DUCTS EXTINGUISHING SYSTEM AND AS COORDINATED WITH THE TRADE SUPPLYING THE EXTINGUISHING SPRAY HEADS. MAINTAIN 6" CLEARANCE BETWEEN SHEET METAL DUCT AND ANY SURFACE SUCH AS SLAB , BEAM OR SHAFT ENCLOSURE.
B. ALL HORIZONTAL AND VERTICAL KITCHEN RANGE BLACK IRON EXHAUST DUCTWORK GAUGES SHALL BE AS FOLLOWS.

Table with 2 columns: SIZE and GAUGE BLACK IRON. It lists size ranges like LESS THEN 155 SQIN, 155-200 SQIN, 201-255 SQIN and corresponding gauges 16, 14, 12.

- 1.2 MATERIALS
A. SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS.
B. SINGLE-WALL ROUND AND FLAT-OVAL DUCTS AND FITTINGS.
C. SHEET METAL MATERIALS:
1. GALVANIZED SHEET STEEL.
2. STAINLESS-STEEL SHEETS.
3. ALUMINUM SHEETS.
4. FACTORY-APPLIED ANTI-MICROBIAL COATING.
D. DUCT LINER:
1. FIBROUS GLASS, TYPE I, FLEXIBLE.
a. WITH ANTI-MICROBIAL EROSION-RESISTANT COATING.
2. FLEXIBLE ELASTOMERIC.
3. NATURAL FIBER.
E. 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 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.

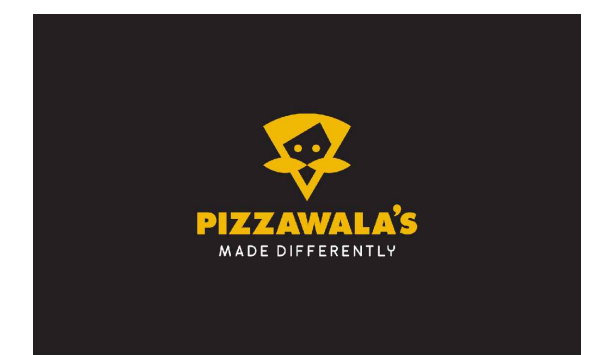
- 1.4 DUCT SCHEDULE
A. ALL DUCTS SHALL BE GALVANIZED STEEL EXCEPT AS FOLLOWS:
1. MOIST ENVIRONMENT DUCT MATERIAL: ALUMINUM.

END OF SECTION 233113
SECTION 233713 – DIFFUSERS AND GRILLES

- 1.1 PRODUCTS
A. DIFFUSERS AND GRILLES 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. CARNES.
2. HART & COOLEY INC.
3. KRUEGER.
4. METALAIR, INC.
5. NAILOR INDUSTRIES INC.
C. ALL DIFFUSERS SHALL HAVE CONTROLLING/EQUALIZING GRID AND OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.
D. ALL DUCTED RETURN REGISTERS SHALL HAVE AN OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

NOTES

- DO NOT SCALE PLANS
• THESE CONSTRUCTION DOCUMENTS WERE PREPARED FOR COMPLIANCE WITH LOCAL CONSTRUCTION CODES IN AFFECT AT TIME OF PERMIT SUBMITTAL. ALL ENGINEERS, CONTRACTORS, AND SUPPLIERS INVOLVED WITH THIS PROJECT SHALL COMPLY WITH SAME CODES, ISSUED AND APPROVED CODE MODIFICATIONS AND/OR LOCAL CONSTRUCTION BOARDS OF APPEALS RULING AND WHENEVER REQUIRED SHALL PROVIDE SHOP DRAWINGS AND SUBMITTALS CLEARLY DESCRIBING COMPLIANCE TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW AND APPROVAL.
• COORDINATE ALL DRAWINGS, DETAILS, AND EQUIPMENT SPECS.
• ALL TRADES SHALL REVIEW AND HAVE ACCESS TO ENTIRE SET OF PLANS AND SPECS PRIOR TO BIDDING AND DURING CONSTRUCTION.
• SEPARATION OF SHEETS IS NOT PERMITTED.
• SUBMIT WEEKLY UPDATES TO OWNER/ARCHITECT INCLUDING SCHEDULE, PHOTOS, AND PROGRESS REPORT.
• FIELD VERIFY EXISTING CONDITIONS AND REPORT ANY INCONSISTENCIES TO ARCHITECT. G.C. SHALL SUBMIT ALL AS-BUILTS AND DEVIATIONS FROM THE PLANS TO OWNER & ARCHITECT.
• PROVIDE STORAGE FOR ALL EQUIPMENT AND MATERIALS IN ACCORDANCE TO MANUFACTURER'S SPECS FOR DURATION OF CONSTRUCTION.
• WORK SHALL NOT COMMENCE PRIOR TO RECEIPT OF ALL APPROVED PERMITS.
• THE PLANS AND DETAILS INCLUDED IN THIS PROJECT ARE FOR THE SOLE PURPOSE OF THIS PROJECT. THE USE OF THESE DETAILS ON ANOTHER PROJECT IS STRICTLY PROHIBITED UNLESS APPROVED BY ARCHITECT.
• COPYRIGHT 2024 BIGGDESIGNS, LLC
• REQUESTS FOR INFORMATION (RFI)
• ALL RFIS SHALL BE SUBMITTED ELECTRONICALLY VIA EMAIL. TEXT/CALL RFIS WILL NOT BE ACCEPTED.
• SUBSTITUTIONS/ALTERNATES MUST BE PROVIDED TO ARCHITECT FOR APPROVAL PRIOR TO PURCHASE/INSTALL AND MAY REQUIRE A MIN. \$150.00 PAYMENT UNLESS OTHERWISE APPROVED IN CLIENT SERVICE AGREEMENT.
DEFERRED SUBMITTALS
• ALL PLANS LABELED AS DEFERRED SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT AND/OR LOCAL AUTHORITY FOR APPROVAL PRIOR TO INSTALLATION.



PROJECT

PIZZAWALAS

PERMIT
MECHANICAL SPECIFICATION

04.26.2024

REV

Table with 3 columns: REV, NOTE, DATE

M02

VENTILATION CALCULATION												
ROOM NAME	AREA (SQ.FT.)	NUMBER OF PEOPLE/1000sq.ft AS PER IMC 21	NUMBER OF PEOPLE AS PER IMC 2021	NUMBER OF CHAIR	FINAL PEOPLE NO.	MIN OUTSIDE AIR AS PER IMC 2021		REQ. OA (CFM)	Provided OA (CFM)	EXHAUST AIRFLOW RATE (CFM/SQ.FT OR /FXT.)	TOTAL EX-HAUST (CFM)	PROVIDED EXHAUST (CFM)
						CFM/PEOPLE	CFM/SQ.FT					
LOBBY	140	30	4.2	2	2	7.5	0.06	23	2050	0	0	0
COUNTER	70	15	1.05	2	2	7.5	0.12	23		0	0	0
MGR	16	50	0.8	1	1	5	0.06	6		0	0	0
KITCHEN	730	20	14.6	3	3	7.5	0.18	154		1825	1825	1825
RR	50	5	0.25	0	0	0	0	0		70	70	70
TOTAL								207		-	Total	1895

ROOF TOP UNIT SCHEDULE																		
UNIT ID	MANUFACTURER	MODEL	NOMINAL TONS	SUPPLY FAN DATA				HEATING		COOLING		ELECTRICAL DATA			SEER2	THERMAL EFFICIENCY (%)	OPERATING WEIGHT (LBS)	
				TOTAL	OUTSIDE AIR	EXTERNAL STATIC PRESSURE	HP	RPM	INPUT	OUTPUT	TOTAL	SENSIBLE	V/PH/Hz	MCA(A)				MCCP(A)
				CFM	CFM	(IN. W.G.)			MBH	MBH	MBH	MBH						
RTU-1	TRANE	4YCC4060E1***	5	2000	400	1.0	1.0	1050.0	90.0	72.9	58.0	38.8	208-230/1/60	39.1	60.0	13.4	81	590
MAU-1	CAPTIVEAIRE	A1-D.250-182-MPU	NOTE 13	1500	1500	0.5	1.7	1559.0	115.8	106.6	33.0	21.9	208-230/1/60	12.0	20.0	NOTE 13	92	1350

- NOTES:**
- ALL RTU SHALL BE STANDARD EFFICIENCY
 - PROVIDE LOW LEAK ECONOMIZER WITH BAROMETRIC RELIEF. PROVIDE FDD.
 - ELECTRICAL CONNECTION TO BE SINGLE POINT AND TO BE THROUGH THE BOTTOM OF THE UNIT
 - PROVIDE UNIT MOUNTED NON-FUSED DISCONNECT SWITCH AND UN-POWERED CONVENIENCE OUTLET.
 - 14" ROOF CURB - CONTRACTOR SHALL FIELD INSULATE. SHIP ASAP AHEAD OF THE UNIT.
 - CABINET WITH 1/2" FIBERGLASS INSULATION.
 - PROVIDE 8-WIRE, 24 VAC, AUTOMATIC CHANGEVER, 2-STAGE HEAT / COOL, REMOTELY PROGRAMMABLE THERMOSTAT.
 - REMOTE SENSORS SHALL BE PROVIDED IN SPACE WIRED BACK TO PROGRAMMABLE, 24 HOUR, 7 DAY, THERMOSTATS.
 - ANTI SHORT CYCLE TIMER, CLOGGED FILTER SWITCH, CONDENSATE OVERFLOW SWITCH, FAN FAILURE SWITCH, HINGED ACCESS PANEL.
 - PROVIDE 2" FILTERS (MERV 8), COMPLETECOAT (MICROCHANNEL CONDENSER COIL)
 - PROVIDE HOT GAS REHEAT WITH ASSOCIATED CONTROLS AND SENSORS FOR DEHUMIDIFICATION CONTROL.
 - PROVIDE ALL COMPRESSORS WITH 5 YEAR WARRANTY.
 - REFER TO MAU CONDENSER SCHEDULE.

MAU CONDENSER UNIT SCHEDULE										
UNIT ID	MANUFACTURER	MODEL	NOMINAL TONS	COOLING		ELECTRICAL DATA			SEER	
				TOTAL MBH	SENSIBLE MBH	V/PH/Hz	MCA(A)	MCCP(A)		
MAU-1	CAPTIVEAIRE	A1-D.250-182-MPU	3	33	21.9	208-230/1/60	18.1	30.0	15	

EXHAUST FAN SCHEDULE													
TAG	QTY	FAN UNIT MODEL	MANUFACTURER	CFM	ESP (IN W.G.)	RPM	PHASE	VOLT (V)	MOTOR SIZE (HP)	FLA (A)	WEIGHT (LBS)	SONES	NOTES
KEF-1	1	DU50H	FLOAIRE	1018	0.80	1370	1	230	0.500	3.5	83	12.8	1-6, 9-12
KEF-2	1	DU33H	FLOAIRE	670	0.75	1441	1	230	0.333	2.4	75	14.3	1-6, 9-12
EF-1	1	SP-A90	GREENHECK	70	0.25	900	1	115	0.01 (BHP)	0.17	20	0.4	7,8,13

- NOTES:**
- UL 762 LISTED (GREASE)
 - VENTED ROOF CURB
 - ROOF CURB
 - GREASE CUP
 - HINGED ROOF CURB
 - WEATHERPROOF DISCONNECT SWITCH
 - SOLID STATE SPEED CONTROLLER
 - BACKDRAFT DAMPER
 - EXHAUST FANS PROVIDED BY HOOD MANUFACTURER. REFER TO HOOD DRAWINGS FOR MORE INFORMATION.
 - PROVIDE MASTER SWITCH TO BE WIRED BACK TO CONTROL BOX TO ENERGIZE FANS.
 - EXHAUST HOODS SHALL OPERATE AUTOMATICALLY DURING COOKING OPERATIONS.
 - ELECTRONICALLY INTERLOCKED TO OPERATE WITH MAU-1
 - ELECTRONICALLY INTERLOCKED TO OPERATE WITH RTU-1

AIR TERMINAL SCHEDULE						BASIS OF DESIGN: TITUS	
TAG	TYPE	CFM RANGE	DIMENSION (IN)	MODEL NO.	MAX NC dBA		
CDS-1	SUPPLY	140-218	24X24	TMS	20		
CDR-1	RETURN	140-218	24X24	TMS	20		
CDS-2	SUPPLY	45-175	12X12	TMS	20		
CDR-2	RETURN	45-175	12X12	TMS	20		
CDE-1	EXHAUST	100-500	24X24	350RL	20		
CDE-2	EXHAUST	100-500	12X12	350RL	20		
EAG-1	EXHAUST	100-500	12X12	350RL	20		

NOTES FOR DIFFUSERS

- ALL GRILLES - CONTRACTOR SHALL COORDINATE WITH LATEST ARCHITECTURAL REFLECTED CEILING PLANS TO ENSURE PROPER AIR DEVICE BORDER SELECTION.
- COORDINATE COLOR/FINISH WITH ARCHITECT.

15" DIA: 536-615 CFM
14" DIA: 396-535 CFM
12" DIA: 376-600 CFM
10" DIA: 276-395 CFM
8" DIA: 101-275 CFM
6" DIA: 0-100 CFM

AIR BALANCE					
UNIT	AREA SERVED	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	RETURN AIR (CFM)	EXHAUST AIR (CFM)
RTU-1	KITCHEN/DINING	2000	400	1600	0
MAU-1	KITCHEN	1500	1500	0	0
KEF-1	HOOD -1	0	0	0	1018
KEF-2	HOOD -2	0	0	0	670
EF-1	TOILET	0	0	0	70
TOTAL:		3500	1900	1600	1758
BUILDING PRESSURE:			POSITIVE		142 CFM

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PROJECT

PIZZAWALAS

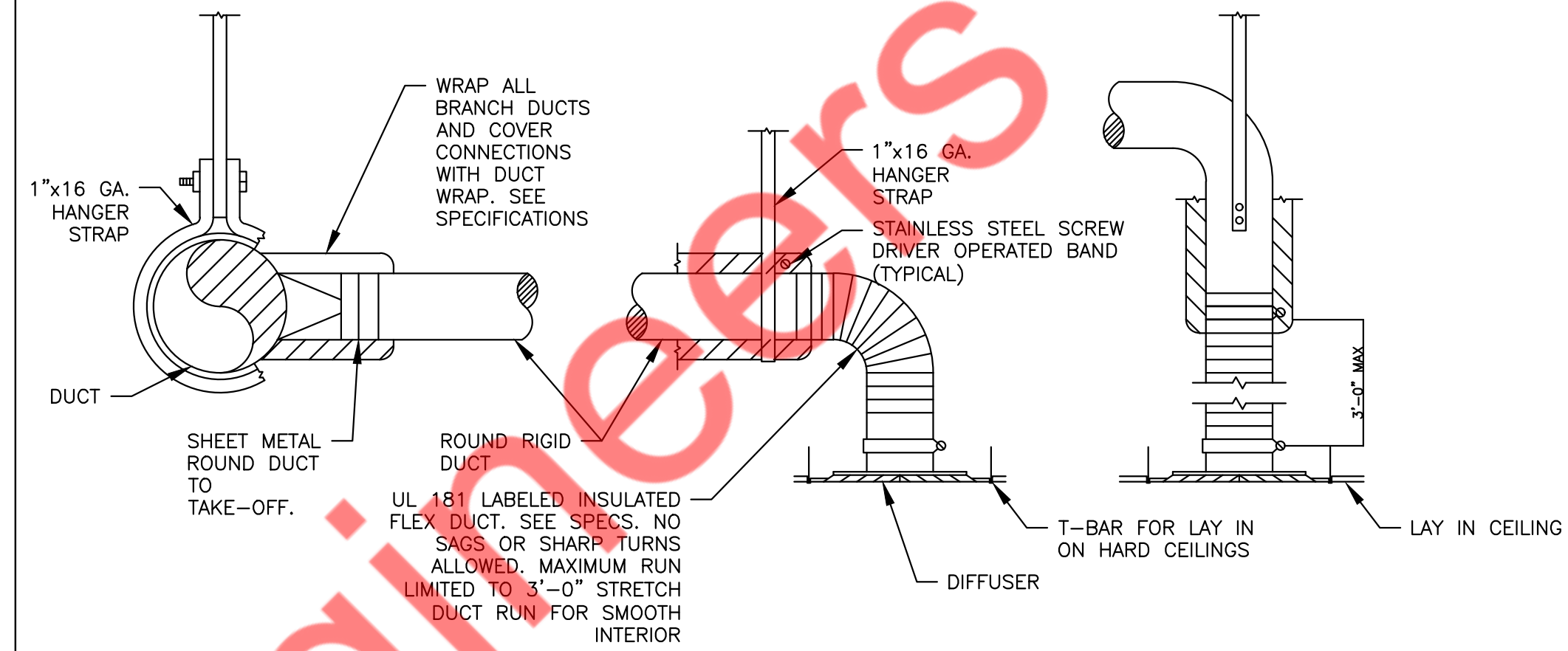
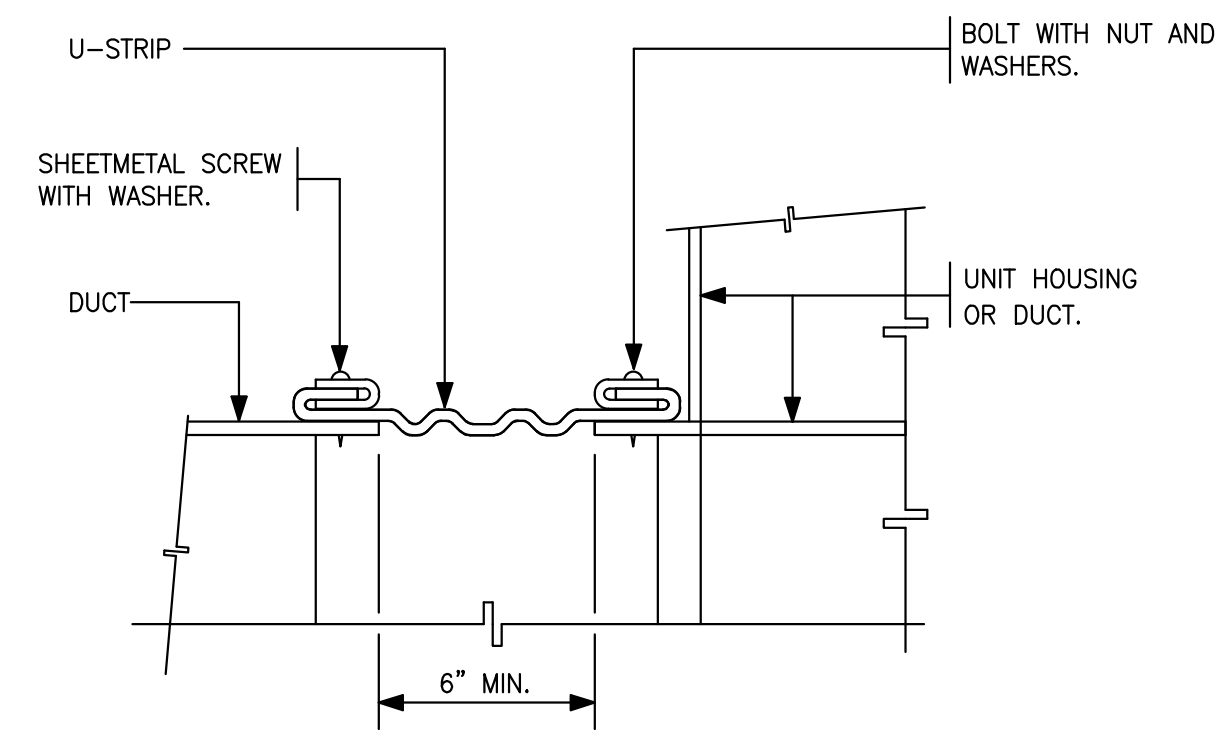
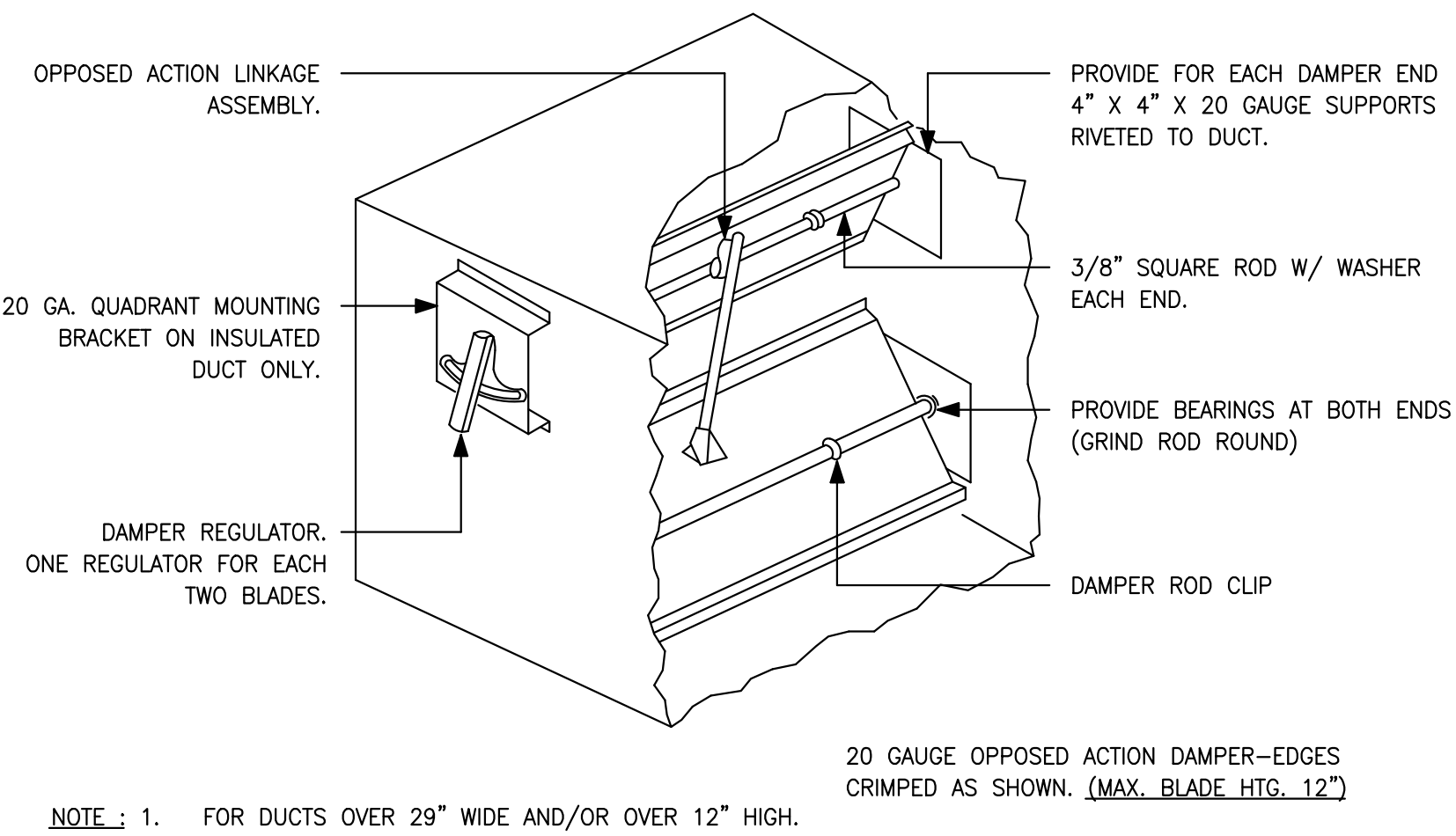
PERMIT MECHANICAL SCHEDULES

04.26.2024

REV

REV	NOTE	DATE
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M04



NOTES:
1. ALL JOINTS, SEAMS AND CONNECTIONS FOR DUCTS WILL BE IN ACCORDANCE WITH SECTION C403.2.9 OF FBCEC 2020 AND SECTION 603 OF FBCM 2020

NOTES

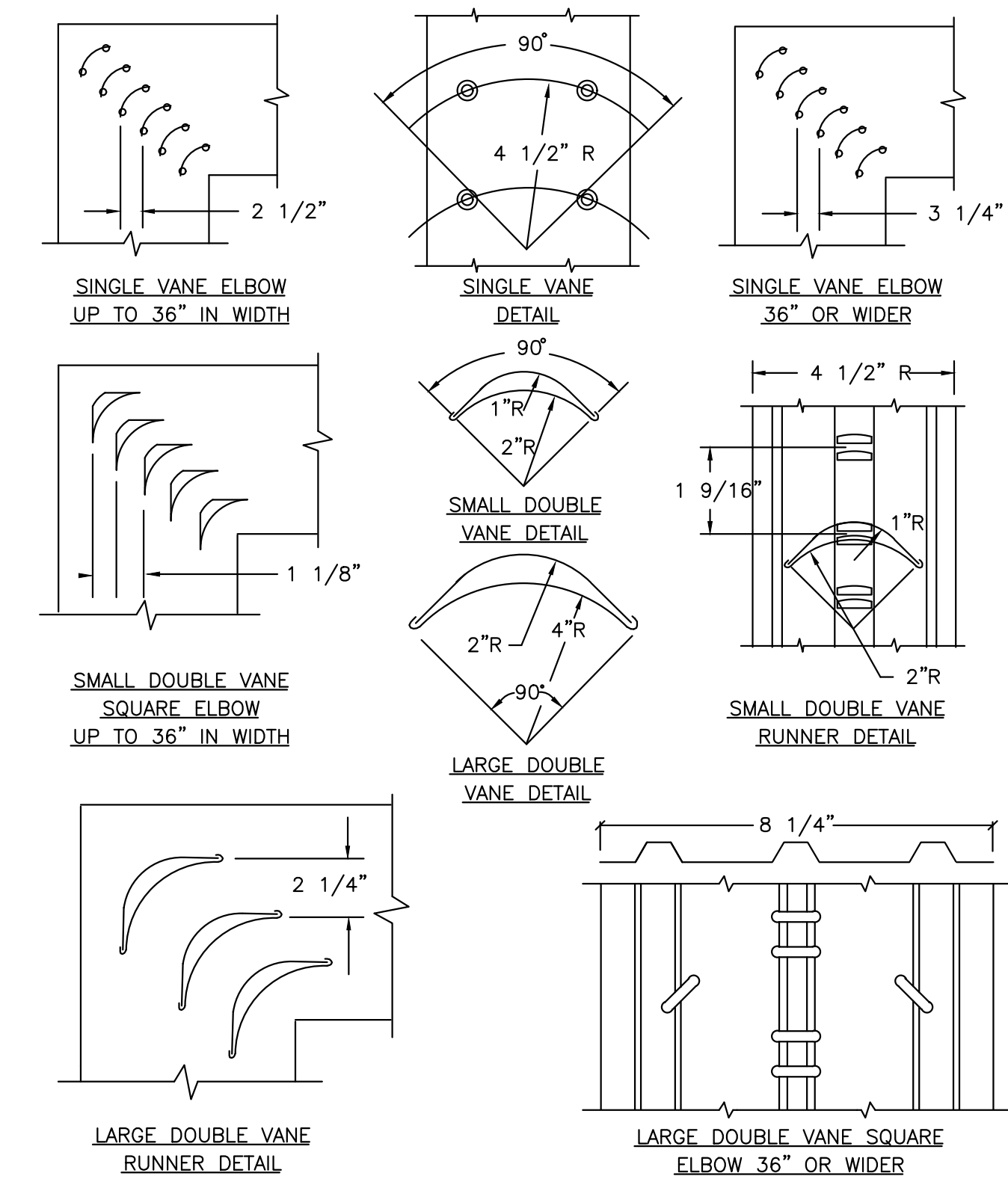
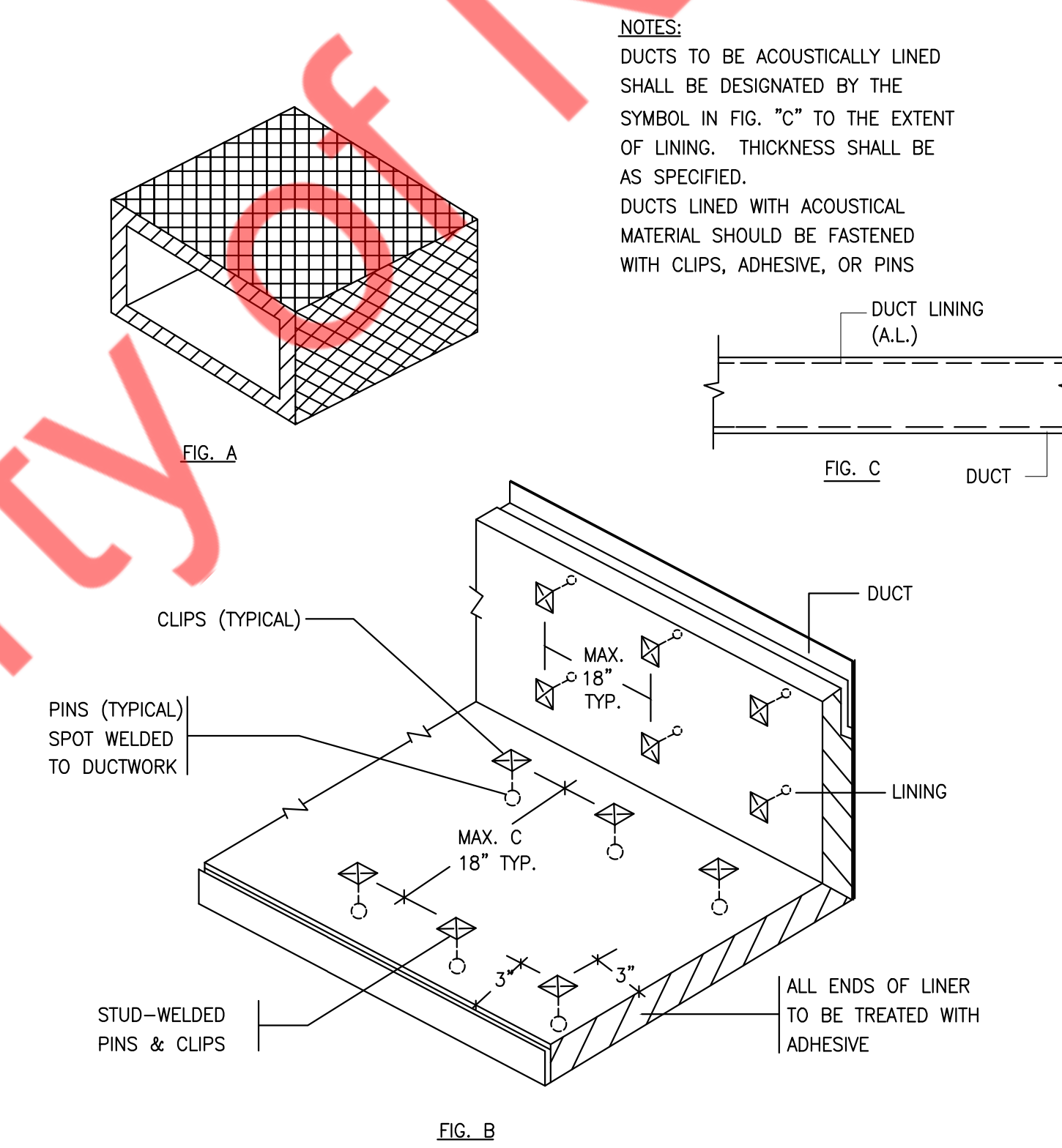
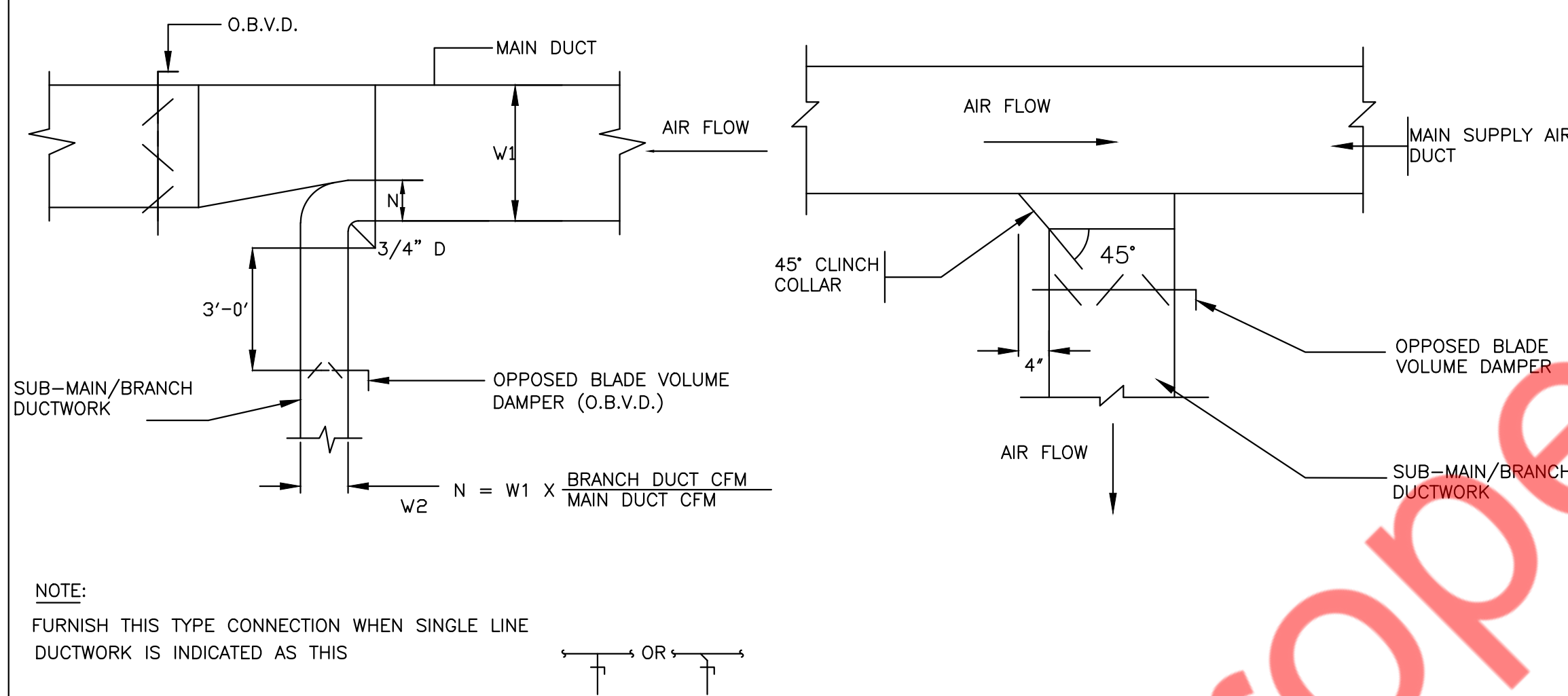
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1 LOW PRESSURE BALANCING DAMPER
M05 N.T.S

2 FLEXIBLE CONNECTION (DUCT-EQUIPMENT)
M05 N.T.S

3 TYPICAL DIFFUSER CONNECTION DETAIL
M05 N.T.S



4 SUPPLY AIR DUCTWORK SUB-MAIN/BRANCH DUCT CONNECTION
M05 N.T.S

5 ACOUSTICAL TREATMENT DUCT LINING
M05 N.T.S

6 LOW VELOCITY DUCTWORK ELBOWS
M05 N.T.S

PROJECT

PIZZAWALAS

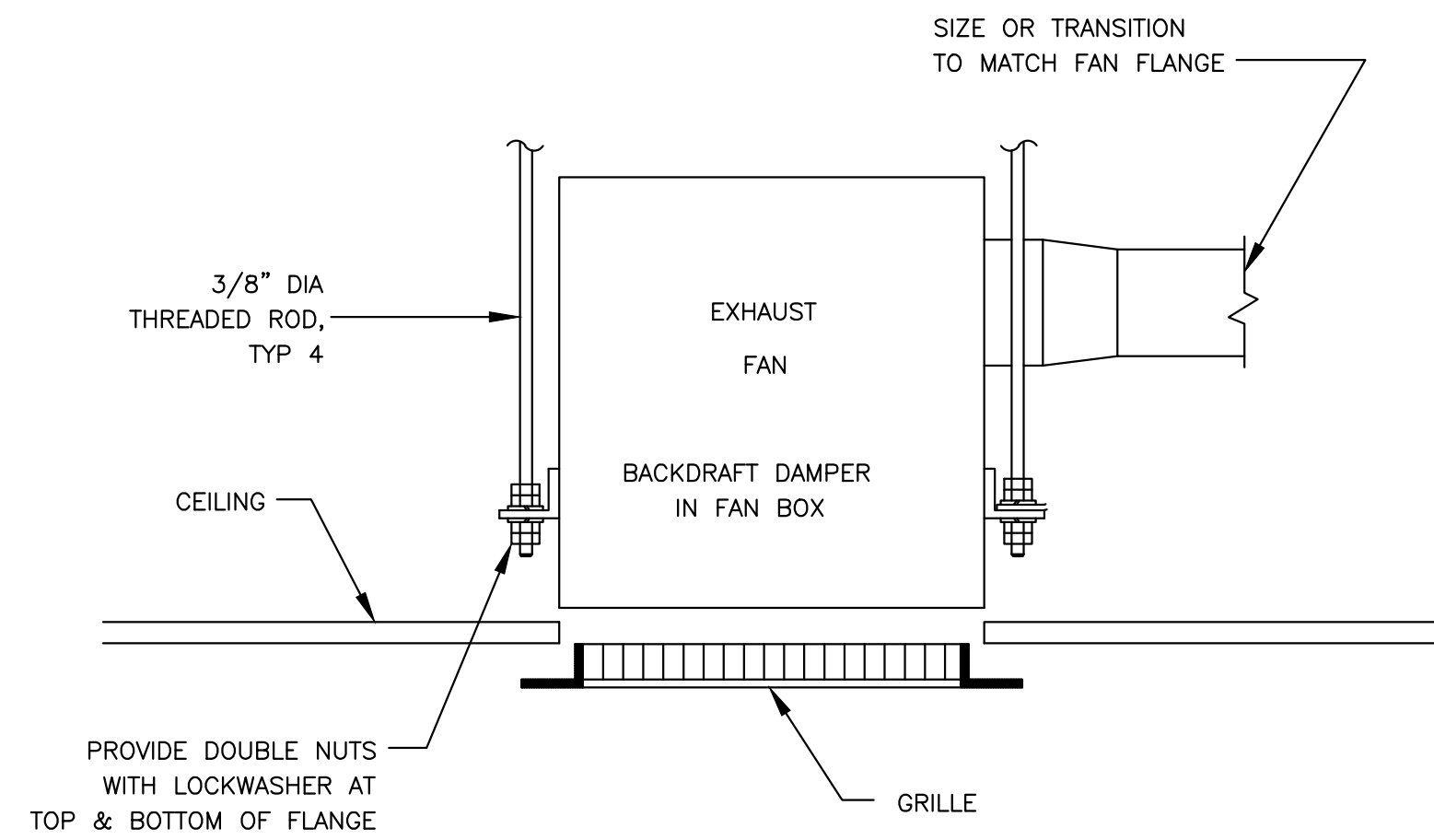
PERMIT
MECHANICAL DETAILS (1 OF 3)

04.26.2024

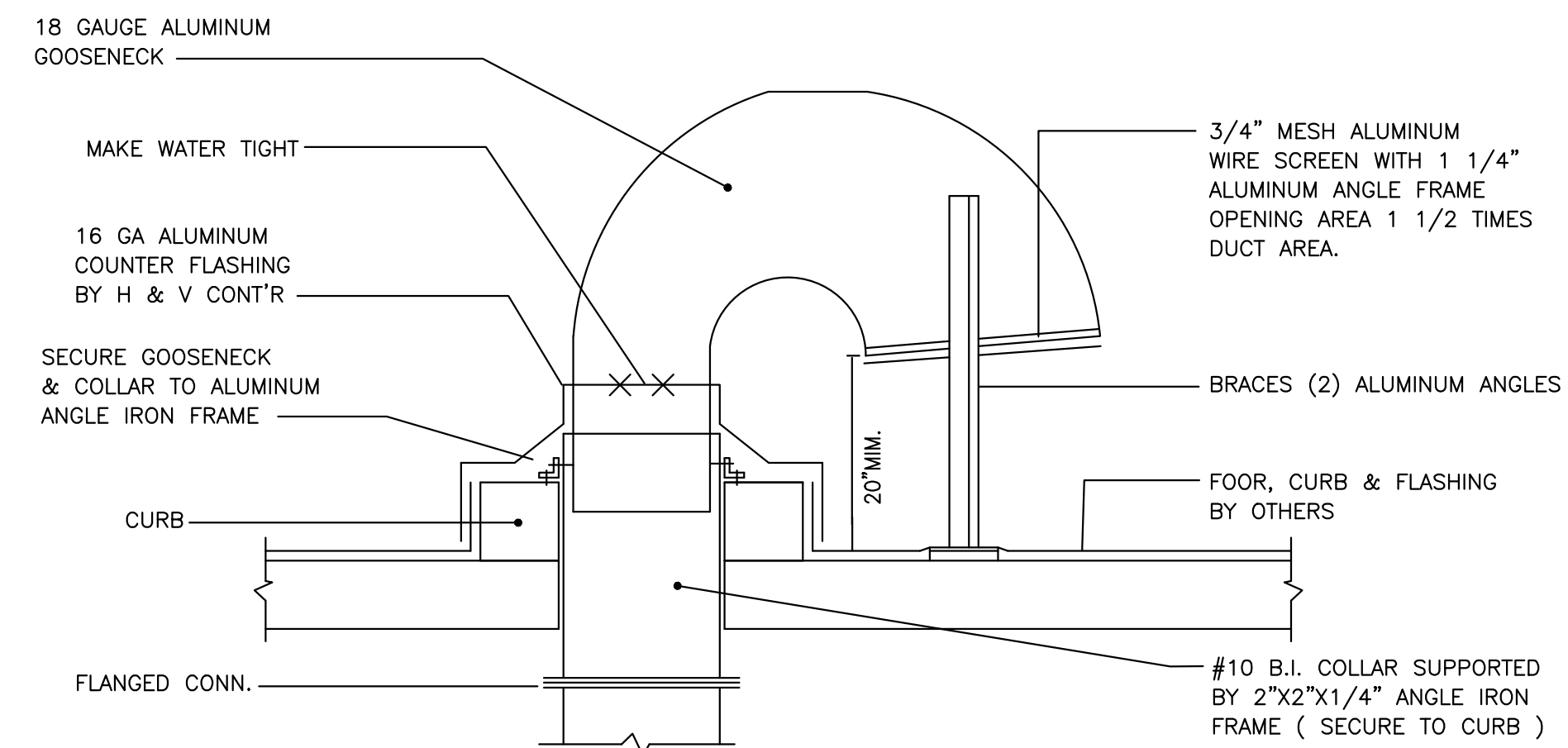
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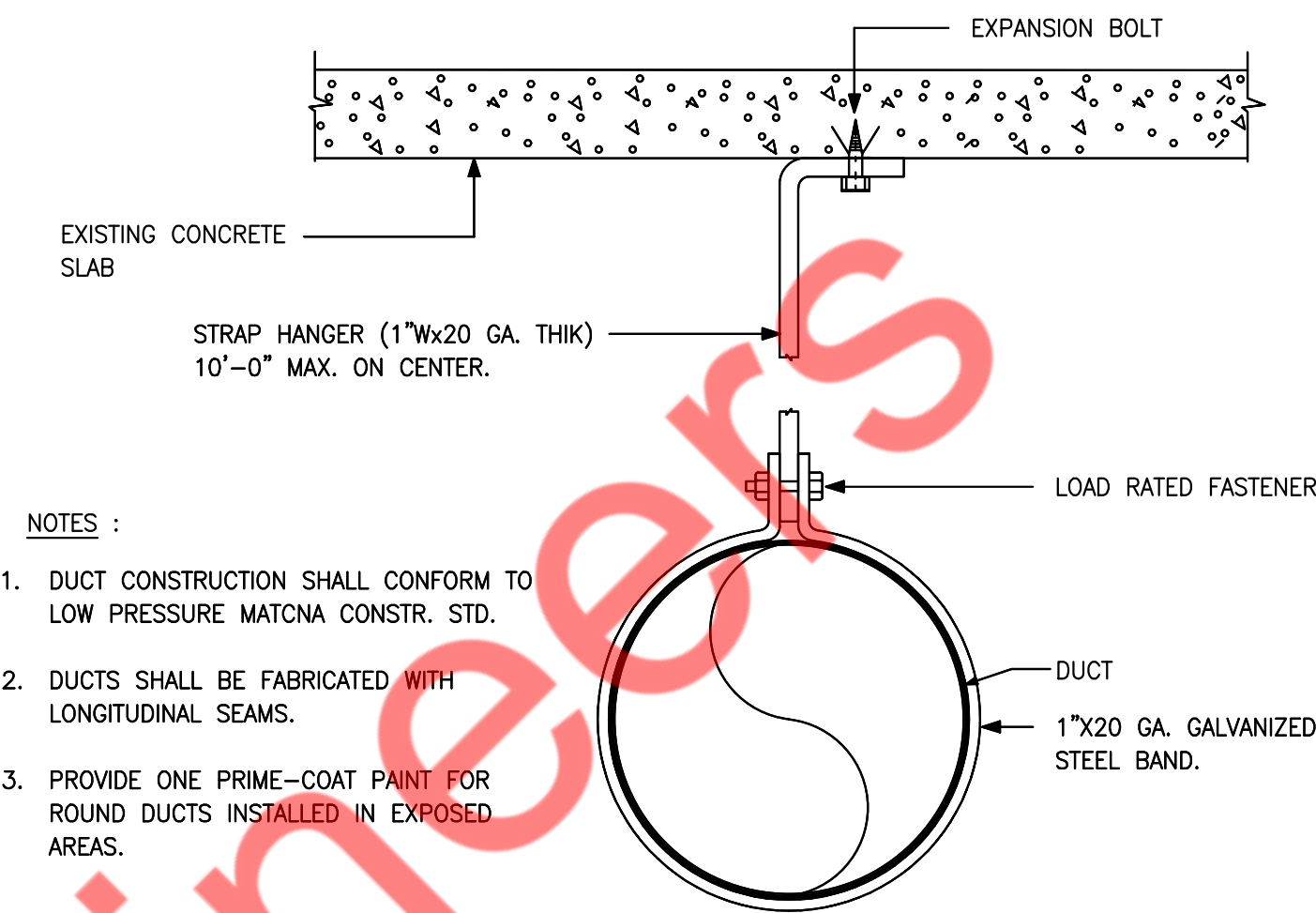
M05



1 CEILING EXHAUST FAN
M06 N.T.S



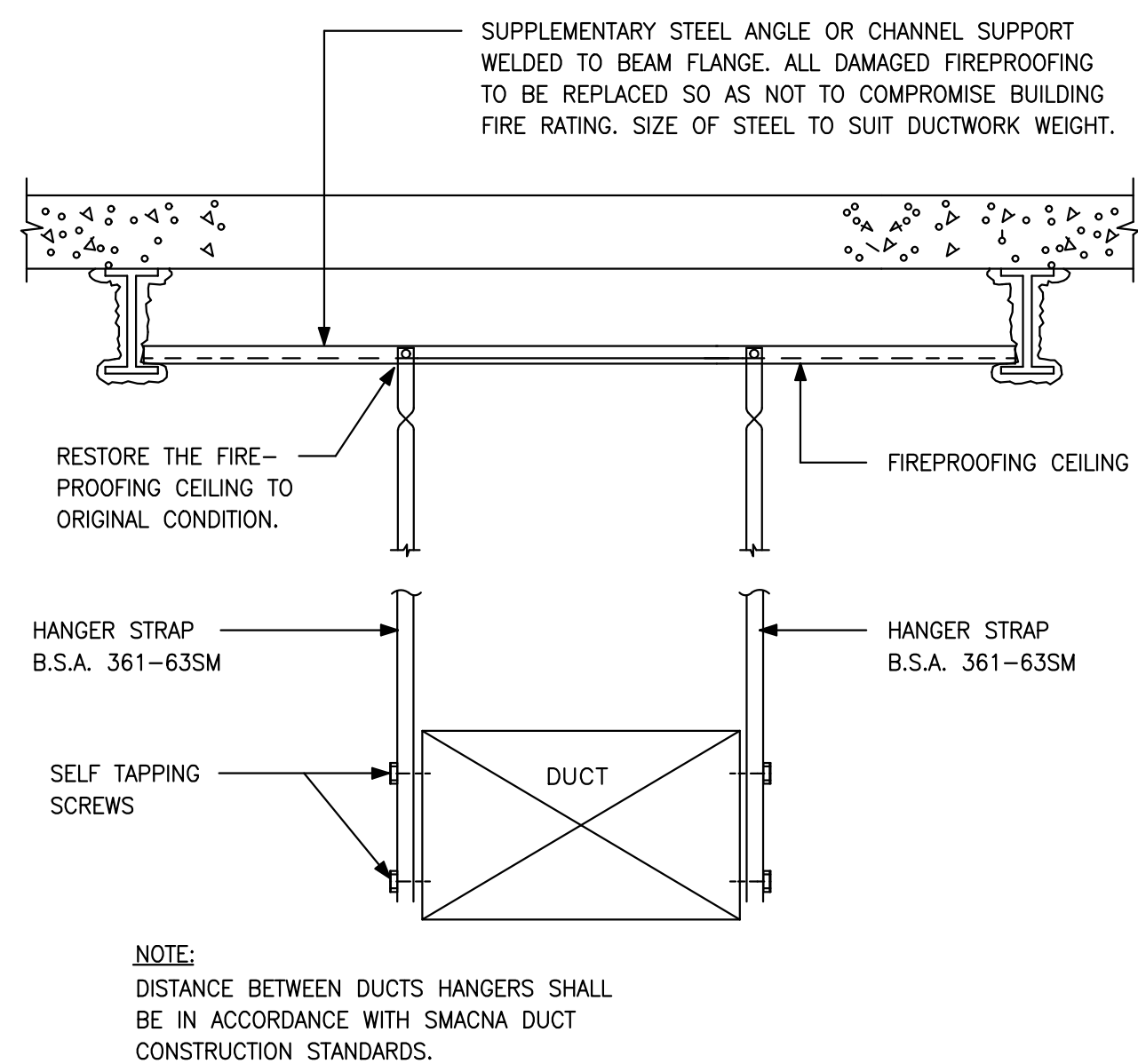
2 TYPICAL DETAIL OF ROOF GOOSENECK
M06 N.T.S



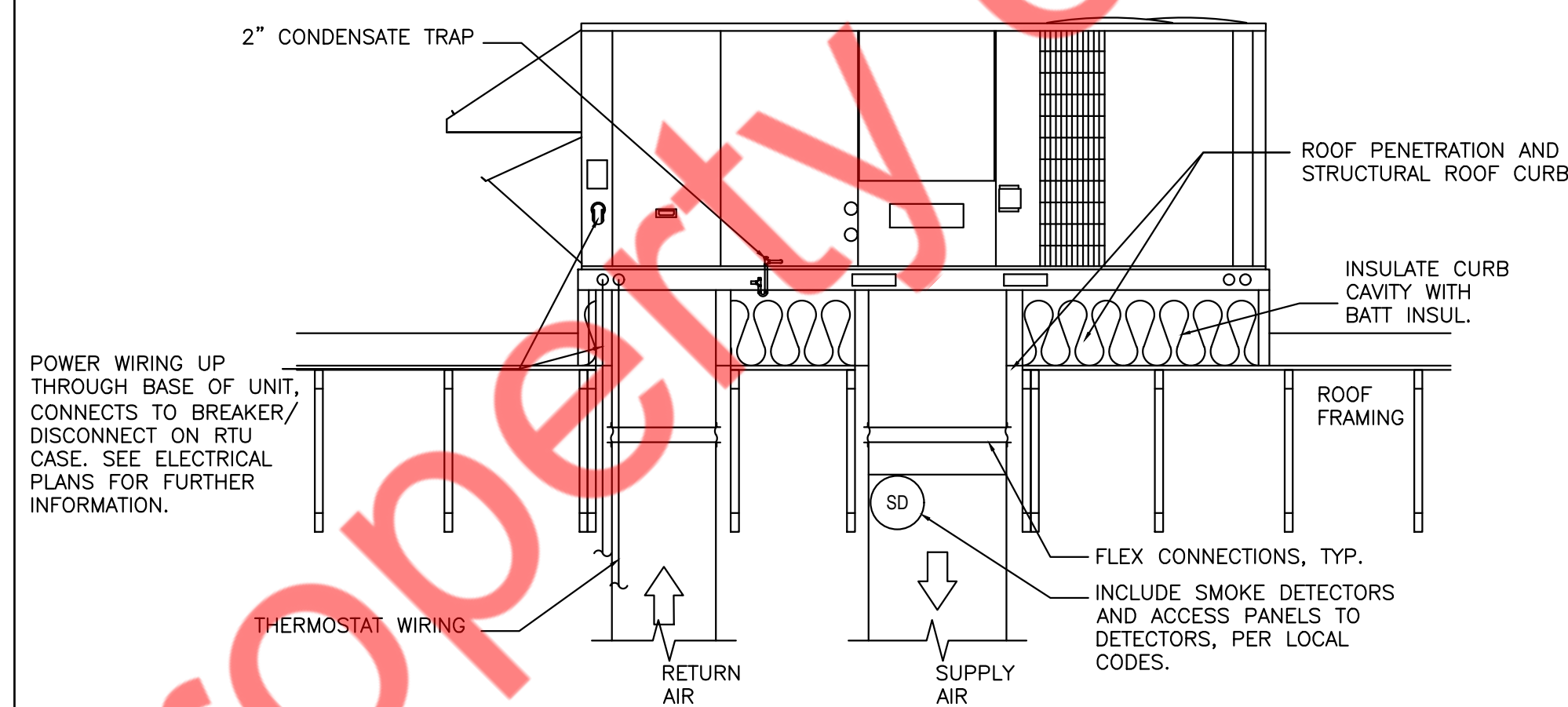
NOTES :

1. DUCT CONSTRUCTION SHALL CONFORM TO LOW PRESSURE MATCHNA CONSTR. STD.
2. DUCTS SHALL BE FABRICATED WITH LONGITUDINAL SEAMS.
3. PROVIDE ONE PRIME-COAT PAINT FOR ROUND DUCTS INSTALLED IN EXPOSED AREAS.

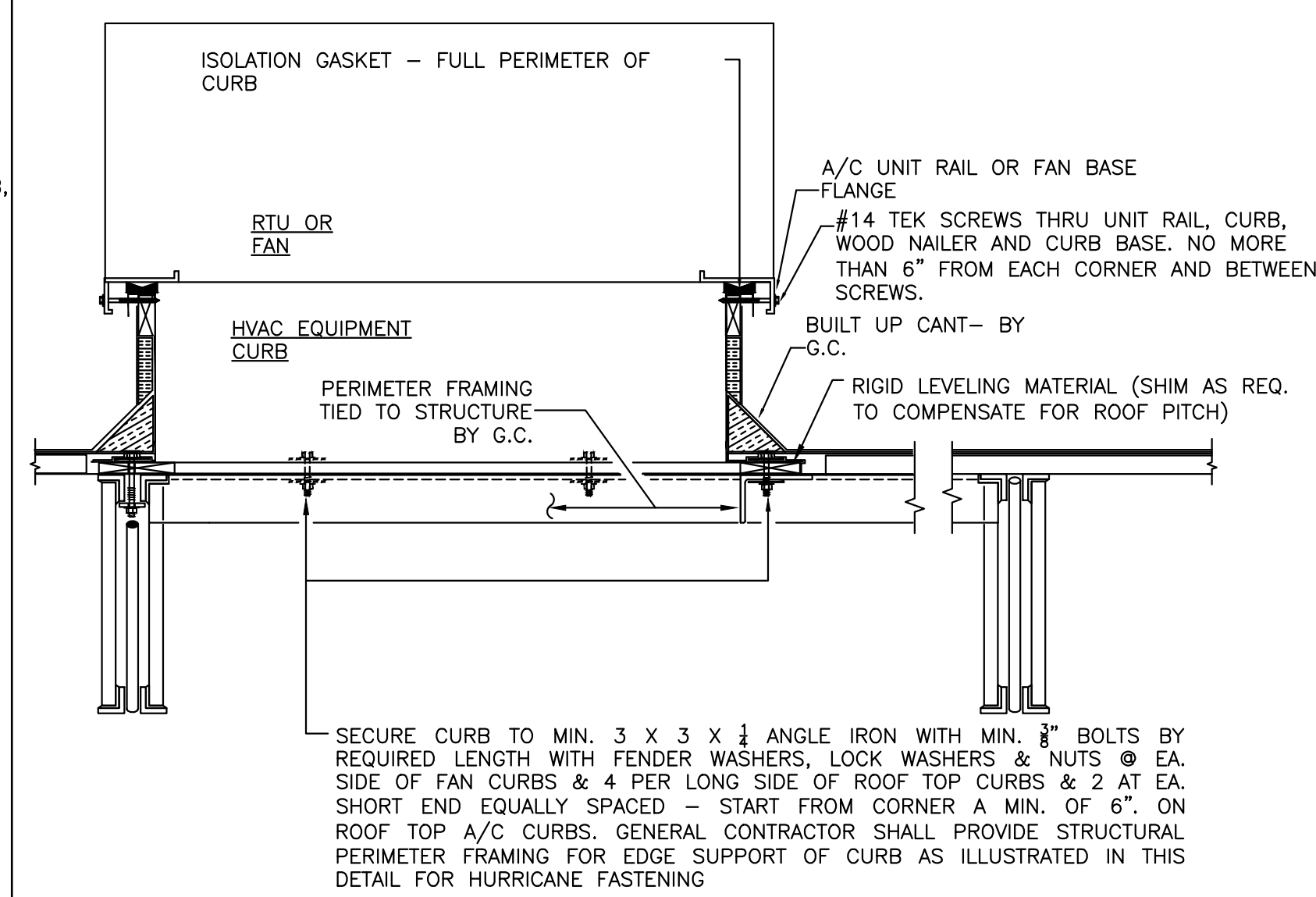
3 METHOD OF HANGING ROUND DUCTWORK
M06 N.T.S



4 METHOD OF HANGING RECTANGULAR DUCTWORK
M06 N.T.S



5 TYPICAL ROOF TOP UNIT DETAILS
M06 N.T.S



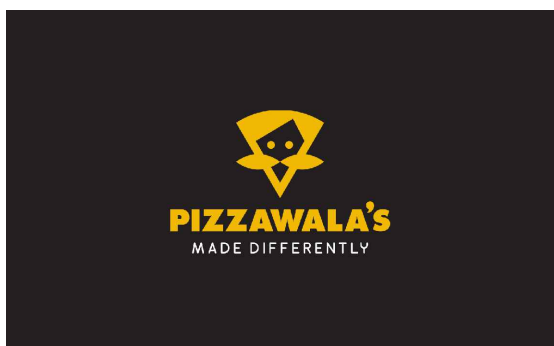
ACCEPTABLE FOR 170 MPH ZONE

VERIFY ON SITE WITH GENERAL CONTRACTOR

6 ROOF TOP UNIT INSTALLATION DETAILS
M06 N.T.S

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PROJECT

PIZZAWALAS

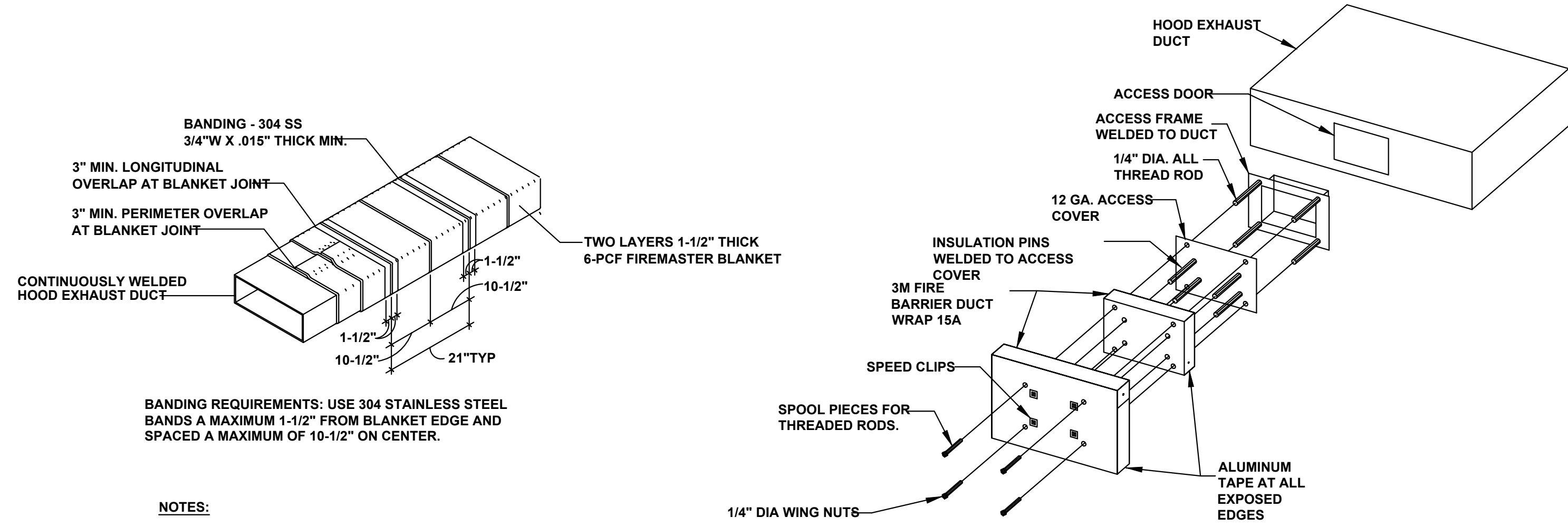
PERMIT
MECHANICAL DETAILS (2 OF 3)

04.26.2024

REV

REV NOTE DATE

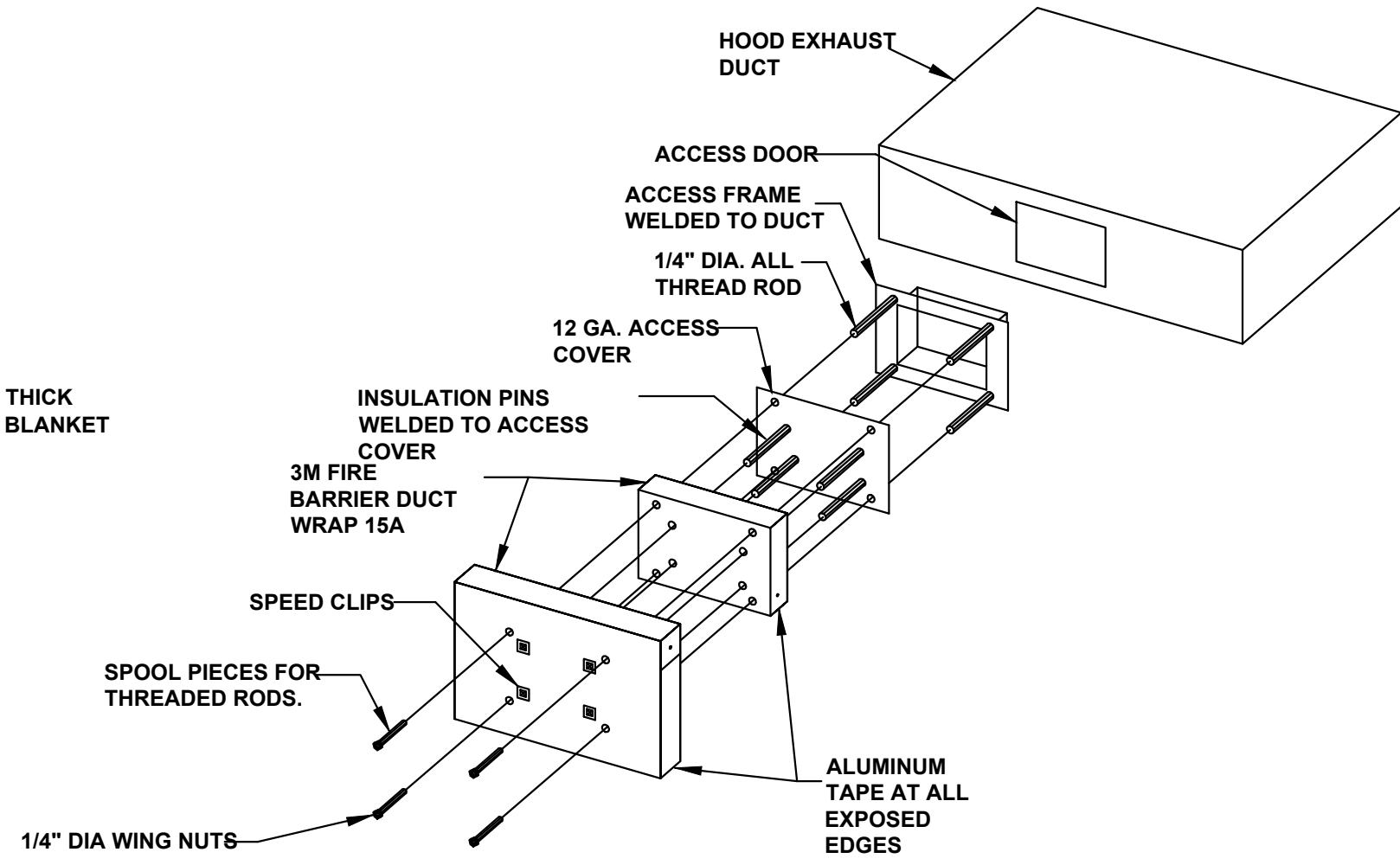
M06



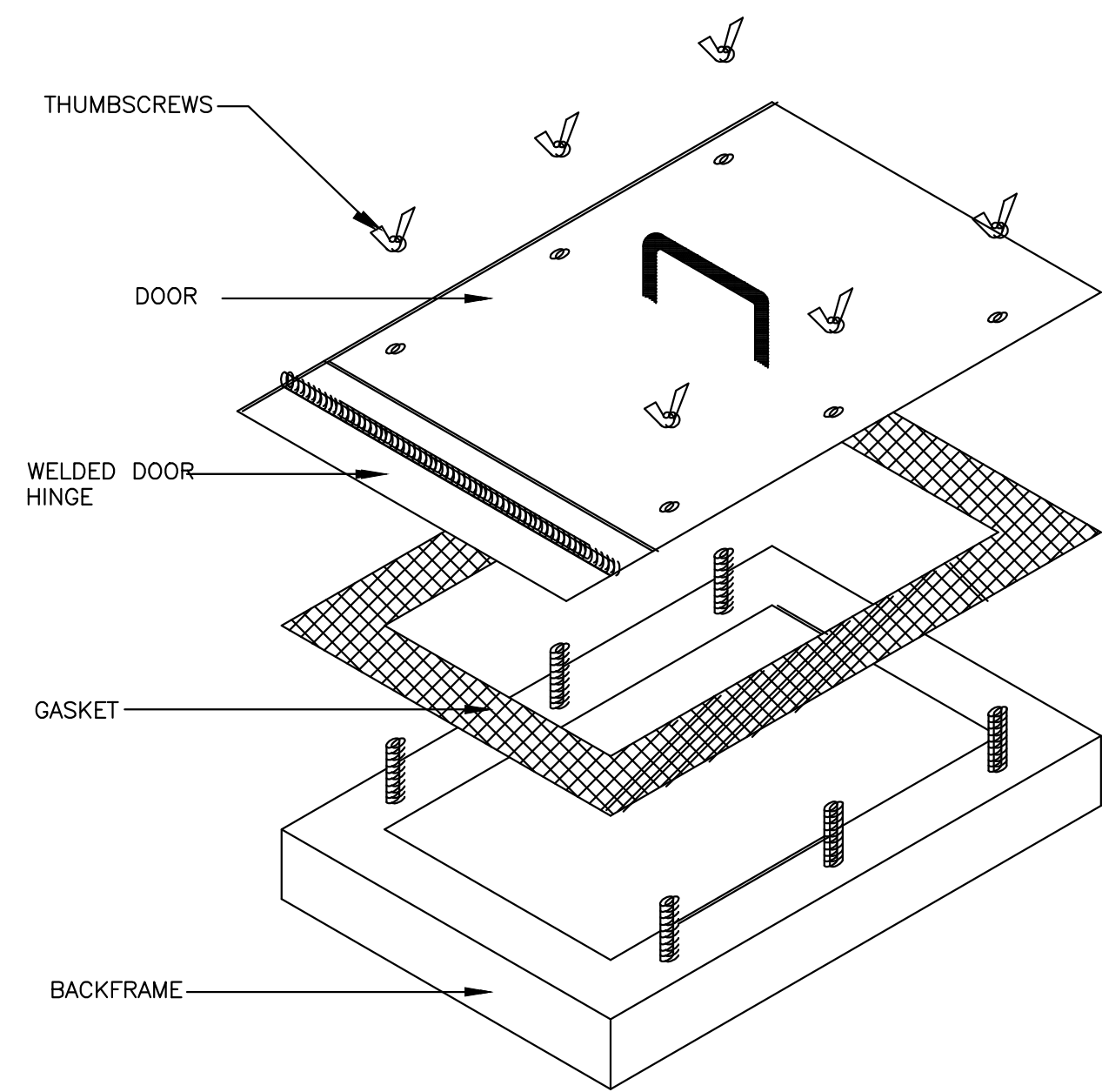
BANDING REQUIREMENTS: USE 304 STAINLESS STEEL BANDS A MAXIMUM 1-1/2" FROM BLANKET EDGE AND SPACED A MAXIMUM OF 10-1/2" ON CENTER.

NOTES:

1. WRAP GREASE DUCT CONTINUOUS AS SHOWN FROM CONNECTION AT FAN THROUGH CURB AND EXTEND 18" MIN. BELOW ROOF DECK.
2. FOR HORIZONTAL RUNS OF EXHAUST DUCTS PROVIDE TYPICAL TRAPEZE SUPPORT SYSTEM WITH 1/2" HANGER RODS A MAXIMUM OF 6" FROM INSULATION EDGE. TRAPEZE SUPPORTS SHALL BE SPACED A MAXIMUM OF 60" ON CENTER FROM CENTERLINE OF VERTICAL EXHAUST DUCT.
3. SLOPE HORIZONTAL EXHAUST DUCT RUNS A MINIMUM OF 1/4" PER FOOT (2% SLOPE) TOWARDS EXHAUST HOOD.
4. PROVIDE INSULATED ACCESS DOOR OR PANEL NEAR MID POINT OF EXHAUST DUCT RUN FOR CLEANING AND INSPECTION OF DUCT. PROVIDE AN APPROVED SIGN ON ACCESS DOOR OR PANEL WHICH READS "ACCESS PANEL DO NOT OBSTRUCT"
5. KITCHEN EXHAUST DUCT SHALL BE LISTED FOR ZERO CLEARANCE TO COMBUSTIBLE IN ACCORDANCE WITH UL 710.



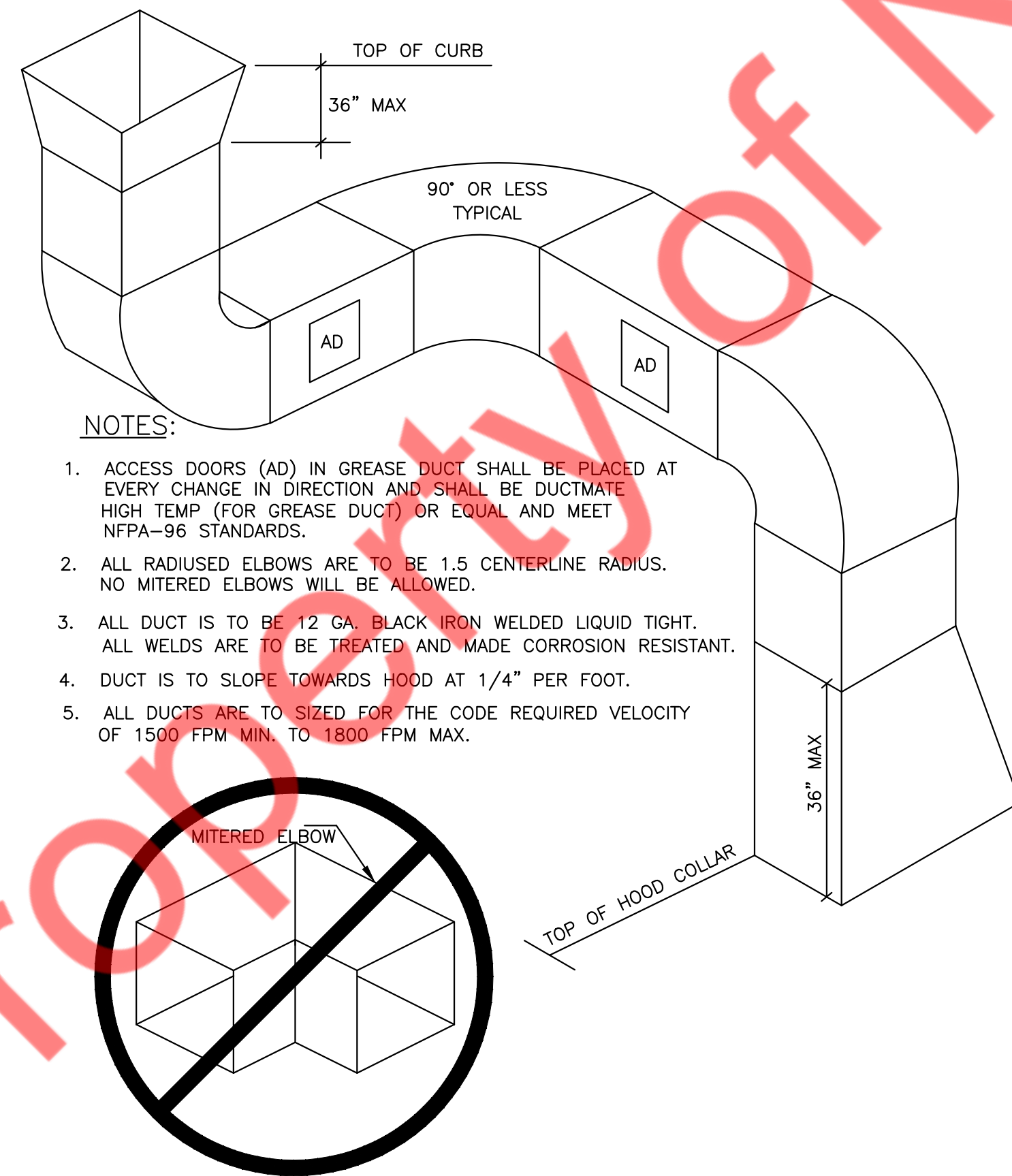
1 GREASE DUCT WRAP DETAIL
M07 N.T.S



NOTES:

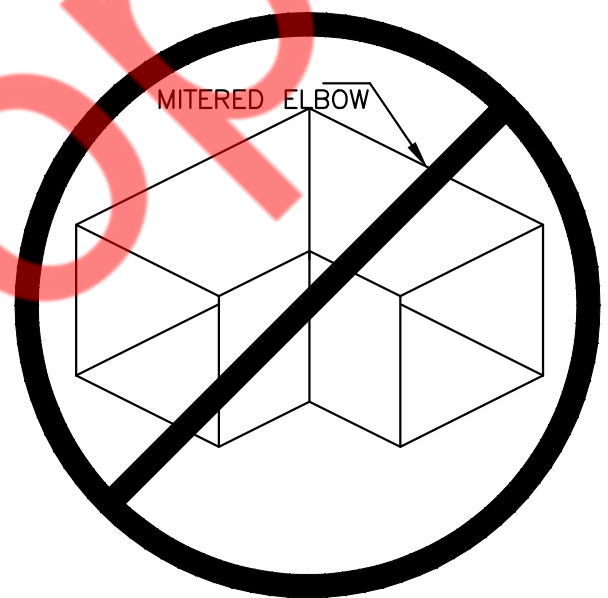
1. ACCESS DOOR IS TO BE DUCTMATE ULTIMATE DOOR II OR EQUAL.
2. ACCESS DOOR IS TO BE U.L. LISTED # 65X3.
3. ACCESS DOOR IS TO MEET OR EXCEED THE REQUIREMENTS OF NFPA 96, 2008 EDITION ALL LOCATIONS REQUIRED BY LOCAL CODE.

2 GREASE DUCT ACCESS DOOR DETAIL
M07 N.T.S



NOTES:

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



3 TYPICAL GREASE DUCT DETAIL
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PROJECT

PIZZAWALAS

PERMIT
MECHANICAL DETAILS (3 OF 3)

04.26.2024

REV

REV	NOTE	DATE
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M07

ELECTRICAL SYMBOLS LIST

GENERAL NOTES (APPLY TO ALL "E" DRAWINGS)

LIGHTING	
	FLUORESCENT LIGHTING FIXTURE AND OUTLET BOX. HALF SHADED FIXTURE OR "EM" INDICATES FIXTURES WITH INTEGRAL BATTERY PACK FOR EMERGENCY SERVICE, U.O.N.
	LUMINAIRE TYPE : INDICATE BY LIPPERCASE LETTER SEE LIGHTING EXTURE SCHEDULE.
	CIRCUIT NUMBER : INDICATED BY NUMBER
	SWITCHING INDICATED BY LOWER CASE LETTERS.
	EM DENOTES LUMINAIRE ON EMERGENCY CIRCUIT.
	NL DENOTES FIXTURES DESIGNATED AS NIGHTLIGHT, WIRED TO 24 HOURS UNSWITCHED CIRCUIT.
	RECESSED
	CEILING/WALL MOUNTED SELF POWERED EXIT LIGHT FIXTURE WITH DIRECTIONAL ARROWS AS INDICATED. SHADED AREA DENOTES FACE(S). ISOLITE ELITE SERIES LED EXIT SIGN
	EMERGENCY BATTERY UNIT WITH ATTACHED EMERGENCY FIXTURES AND OUTLET BOX.
SWITCHES AND CONTROLS	
	20A SPST TOGGLE SWITCH U.O.N. "a" DENOTES LIGHTING FIXTURE CONTROLLED.
	WALL OCCUPANCY SENSOR.
WIRING SYSTEMS	
	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 1#12 Ø, 1#12 N. & 1#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 2#12 Ø, 2#12 N. & 2#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 3#12 Ø, 3#12 N. & 3#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
	UNDERGROUND
	EXISTING
	NEW

POWER AND TELECOMMUNICATION	
	JUNCTION BOX WITH BLANK COVER PLATE, CEILING MOUNTED..
	DUPLEX CONVENIENCE RECEPTACLE, +18" AFF OR AS NOTED.
	DUPLEX CONVENIENCE RECEPTACLE - 20A-1P, 125V, NEMA 5-20R MOUNTED FLUSH IN CEILING.
	DOUBLE DUPLEX RECEPTACLE - 20A-1P, 125V, NEMA 5-20R.
	TELEPHONE/DATA OUTLET, 4" SQUARE OUTLET BOX WITH SINGLE GANG COLLAR AND BLANK PLATE. PROVIDE 3/4" E.C., U.O.N., UP TO HUNG CEILING AND TERMINATE WITH 90° ELBOW, BUSHING AND DRAG WIRE.
MOTORS AND CONTROLS	
	EXHAUST FAN WITH MOTOR SWITCH
	NON FUSED DISCONNECT SWITCH AMPERAGE, AND NUMBER OF POLES AS NOTED.
	30A/240V NON FUSED DISCONNECT SWITCH
	60A/240V NON FUSED DISCONNECT SWITCH
	THERMAL OVERLOAD SWITCH AT MOTOR. PROVIDE THERMAL ELEMENTS AS PER MOTOR RATING.
	MANUAL MOTOR SWITCH
	ELECTRICAL HEATER, NUMBER DENOTES HEATER RATING

ANNOTATION	
	+24" INDICATES MOUNTING HEIGHT, CENTER LINE TO FINISHED FLOOR.
	KEYED NOTE REFERENCE

POWER DISTRIBUTION	
	MAJOR ELECTRICAL COMPONENT OR DEVICE. VOLTAGE AND AMPERAGE AS NOTED.
	DISTRIBUTION PANELBOARD, 120/240V -SURFACE OR FLUSH MOUNTED.

ELECTRICAL ABBREVIATIONS			
A	AMPERES	EA	EACH
A/C, AC	AIR CONDITIONING UNIT	EC	EMPTY CONDUIT/ ELECTRICAL CONTRACTOR
AF	AMPERE FRAME/AMP FUSE	EF	EXHAUST FAN
AFF	ABOVE FINISHED FLOOR	EM	EMERGENCY
AS	AMP SWITCH	EMT	ELECTRICAL METALLIC TUBING
AIC	AMPS INTERRUPTING CAPACITY	EQUIP	EQUIPMENT
AT	AMP TRIP	ER	EXISTING TO BE RELOCATED
ATS	AUTOMATIC TRANSFER SWITCH	ETR	EXISTING TO REMAIN
AUTO	AUTOMATIC	EWf	ELECTRIFIED WORKSTATION FURNITURE
AWG	AMERICAN WIRE GAUGE	EW	ELECTRIC WATER HEATER
C	CONDUIT	FA	FIRE ALARM
C/B,CB	CIRCUIT BREAKER	FBO	FURNISHED BY OTHERS, INSTALLED & WIRED BY EC
CKT	CIRCUIT	FDR	FEEDER
CLG	CEILING	FIBO	FURNISHED & INSTALLED BY OTHERS, WIRED BY EC
COMM	COMMUNICATION	FIXT	FIXTURE
CT	CURRENT TRANSFORMER	FL	FLOOR
CU	COPPER	FLUOR	FLUORESCENT
*C	DEGREE CELSIUS	G	GROUND
*F	DEGREE FAHRENHEIT	GFI	GROUND FAULT INTERRUPTER
DIA	DIAMETER	GP	GENERAL PURPOSE
DISC	DISCONNECT	HC	HUNG CEILING
DN	DOWN	HP	HORSEPOWER
DP	DISTRIBUTION PANEL	HW	HOW WATER HEATER
DWH	DOMESTIC WATER HEATER	HZ	HERTZ
DWG	DRAWING	IC	INTERRUPTING CAPACITY
JB	JUNCTION BOX	PP	POWER PANEL
KCMIL	ONE THOUSAND CIRCULAR MILS	PVC	POLYVINYL CHLORIDE
KV	KILOVOLT	PWR	POWER
KVA	KILOVOLT-AMPERES	R	REMOVE
KW	KILOWATTS	RE	RELOCATED EXISTING
LP	LIGHTING PANEL	REC	RECEPTACLE
LTG	LIGHTING	RGS	RIGID GALVANIZED STEEL
MAX	MAXIMUM	RR	REMOVE & RELOCATE
MC	MOTOR CONTROLLER	SECT	SECTION
MCB	MAIN CIRCUIT BREAKER	SPDT	SINGLE POLE DOUBLE THROW
MER	MECHANICAL EQUIPMENT ROOM	SPST	SINGLE POLE SINGLE THROW
MIN	MINIMUM	SPEC	SPECIFICATION
MLO	MAIN LUGS ONLY	SW	SWITCH
MTD	MOUNTED	SWBD	SWITCHBOARD
MTS	MANUAL TRANSFER SWITCH	SYM	SYMMETRICAL
N	NEUTRAL	SYS	SYSTEMS
NE	NEW DEVICE TO REPLACE EXISTING	TELE	TELEPHONE
NIC	NOT IN CONTRACT	TEMP	TEMPERATURE
NL	NIGHT LIGHT	TXF	TOILET EXHAUST FAN
NTS	NOT TO SCALE	TYP	TYPICAL
OC	ON CENTER	UON	UNLESS OTHERWISE NOTED
P	POLES	V	VOLT/VOLTAGE
PB	PULLBOX	VA	VOLT AMPERE
PC	PERSONAL COMPUTER	VAV	VARIABLE AIR VOLUME
∅	PHASE	VFD	VARIABLE FREQUENCY DRIVE
PNL	PANEL	VP	VAPORPROOF
W	WATT	WP	WEATHER PROOF
W	WIRE	XFMR	TRANSFORMER
WH	WALL HEATER	ZRT	ZONE REGISTER TERMINALS
E	EXISTING	IG	ISOLATED GROUND

- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CURRENT VERSION OF THE NATIONAL ELECTRICAL CODE, WITH CITY AMENDMENTS, LOCAL JURISDICTION REQUIREMENTS, AND ALL GOVERNING LOCAL CODES, LAWS, AND REGULATIONS.
- CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK. NO ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR FAILURE TO DO SO.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, TEST REPORTS, AND CERTIFICATIONS FOR TEMPORARY AND FINAL CERTIFICATE OF OCCUPANCY.
- FIRE STOP ALL PENETRATIONS OF FIRE RATED CONSTRUCTION IN A CODE APPROVED MANNER IN ORDER TO MAINTAIN FIRE RATING. ALL PENETRATIONS SHALL BE SLEEVED AND SEALED WATERTIGHT.
- SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU STRAPS (METAL DECK). NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10 FT APART. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.
- LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10 FT LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH FISH WIRE.
- VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECT DRAWINGS OF INTERIOR DETAILS AND FINISH. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.
- CONTRACTOR SHALL PROVIDE A WARRANTY ON ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.
- ALL UNUSED MATERIALS AND DEBRIS SHALL BE LEGALLY REMOVED AND DISPOSED OF AWAY FROM THE PREMISES ON A DAILY BASIS.
- CONTRACTOR SHALL PATCH, PAINT, AND RESTORE EXISTING SURFACES DAMAGED DURING THE COURSE OF THIS CONSTRUCTION TO PRE-EXISTING CONDITIONS OR BETTER.
- MINIMUM SIZE OF CONDUIT SHALL BE 3/4", AND TYPE SHALL BE ELECTRICAL METALLIC TUBING (EMT), UNLESS OTHERWISE NOTED. PROVIDE NYLON DRAG LINE AND CONDUIT CAP FOR ALL EMPTY CONDUITS.
- CONNECT CONDUIT TO MOTOR CONDUIT TERMINAL BOXES WITH FLEXIBLE CONDUIT (MINIMUM 18 IN. LENGTH AND 50% SLACK). DO NOT TERMINATE IN OR FASTEN RACEWAYS TO MOTOR FOUNDATION.
- PULL AND JUNCTION BOXES WHERE INDICATED ON THE DRAWINGS, SHALL BE CONSIDERED SHOWN AT THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL LOCATE THEM AS FIELD CONDITIONS DICTATE. ADDITIONAL PULL AND JUNCTION BOXES NOT SHOWN ON DRAWINGS SHALL BE PROVIDED WHERE REQUIRED BY APPLICABLE CODE PROVISIONS OR WHERE CALLED FOR BY FIELD CONDITIONS. PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND INSTALLED CONCEALED IN FINISHED AREAS, AND ALL COVERS TO PULL & JUNCTION BOXES SHALL BE READILY ACCESSIBLE.
- SUPPORT PANEL, JUNCTION AND PULLBOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.
- FOR EXACT LOCATION AND MOUNTING HEIGHT OF LIGHTING FIXTURES AND SWITCH/RECEPTACLE OUTLETS, REFER TO ARCHITECT REFLECTED CEILING AND POWER PLANS.
- ALL ELECTRICAL ACCESSORIES AND EQUIPMENT INSTALLED OUTSIDE OR EXPOSED TO WEATHER SHALL HAVE NEMA 3R ENCLOSURES AND SHALL BE TIGHTLY GASKETED FOR A COMPLETE RAINIGHT INSTALLATION. ALL BUILDING EXTERIOR MOUNTED RECEPTACLES SHALL BE GFCI RATED AND MOUNTED IN WEATHERPROOF ENCLOSURE.
- ALL ACCESS PANEL LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.
- ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION OF NEW WORK WITH THE GENERAL CONTRACTOR AND OTHER ASSOCIATED TRADES IN A TIMELY MANNER. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL, DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
- ALL CONDUITS AND EQUIPMENT TO BE CONCEALED IN FINISHED SPACES UNLESS OTHERWISE NOTED. CONDUITS SHALL BE ENCASED IN THE CONCRETE FLOOR SLAB.
- ALL EQUIPMENT AND MATERIALS INSTALLED IN PLENUM CEILINGS SHALL BE APPROVED FOR THAT APPLICATION.
- OUTLET BOXES AND JUNCTION BOXES ON OPPOSITE SIDES OF FIRE-RATED WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 INCHES, UNLESS FIRE-RATED BOXES OR PUTTY PADS ARE UTILIZED.
- COORDINATE THE MOUNTING HEIGHT AND LOCATION OF RACEWAYS, COMMUNICATIONS OUTLETS, AND RECEPTACLES WITH THE ARCHITECT CASEWORK DRAWINGS AND DETAILS. COORDINATE LOCATIONS OF LIGHT FIXTURES, SWITCHES, AND RELATED DEVICES WITH THE ARCHITECT DRAWINGS AND DETAILS.
- REFER TO ARCHITECT PLANS FOR FINAL LOCATIONS OF ALL LUMINARIES AND SWITCHES, AND FOR ALL FINISHED CEILING HEIGHTS.
- REFER TO ARCHITECT PLANS FOR FINAL LOCATIONS OF ALL ELECTRICAL DEVICES, AND FOR FINAL CEILING AND WALL HEIGHTS AND LAYOUTS.
- LIGHTING FIXTURES PROVIDED WITH EMERGENCY BATTERY PACKS AND INDICATED WITH SWITCH CONTROL SHALL BE WIRED WITH BATTERY CHARGING/SENSING CIRCUIT WIRED AHEAD OF SWITCH CONTROL.
- NUMBER(S) SHOWN AT RECEPTACLES, JUNCTION BOXES AND EQUIPMENT INDICATES CIRCUIT NUMBERS IN PANELBOARD, PROVIDE WIRE AND CONDUIT TO INTERCONNECT EQUIPMENT AND DEVICES WITH SAME CIRCUIT NUMBERS AND RUN TO PANELBOARD.

NOTES

- DO NOT SCALE PLANS
- THESE CONSTRUCTION DOCUMENTS WERE PREPARED FOR COMPLIANCE WITH LOCAL CONSTRUCTION CODES IN EFFECT AT TIME OF PERMIT SUBMITTAL. ALL ENGINEERS, CONTRACTORS, AND SUPPLIERS INVOLVED WITH THIS PROJECT SHALL COMPLY WITH SAME CODES, ISSUED AND APPROVED CODE MODIFICATIONS AND/OR LOCAL CONSTRUCTION BOARDS OF APPEALS RULING AND WHENEVER REQUIRED SHALL PROVIDE SHOP DRAWINGS AND SUBMITTALS CLEARLY DESCRIBING COMPLIANCE TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW AND APPROVAL.
- COORDINATE ALL DRAWINGS, DETAILS, AND EQUIPMENT SPECS.
- ALL TRADES SHALL REVIEW AND HAVE ACCESS TO ENTIRE SET OF PLANS AND SPECS PRIOR TO BIDDING AND DURING CONSTRUCTION.
- SEPARATION OF SHEETS IS NOT PERMITTED.
- SUBMIT WEEKLY UPDATES TO OWNER/ARCHITECT INCLUDING SCHEDULE, PHOTOS, AND PROGRESS REPORT.
- FIELD VERIFY EXISTING CONDITIONS AND REPORT ANY INCONSISTENCIES TO ARCHITECT. G.C. SHALL SUBMIT ALL AS-BUILTS AND DEVIATIONS FROM THE PLANS TO OWNER & ARCHITECT.
- PROVIDE STORAGE FOR ALL EQUIPMENT AND MATERIALS IN ACCORDANCE TO MANUFACTURER'S SPECS FOR DURATION OF CONSTRUCTION.
- WORK SHALL NOT COMMENCE PRIOR TO RECEIPT OF ALL APPROVED PERMITS.
- THE PLANS AND DETAILS INCLUDED IN THIS PROJECT ARE FOR THE SOLE PURPOSE OF THIS PROJECT. THE USE OF THESE DETAILS ON ANOTHER PROJECT IS STRICTLY PROHIBITED UNLESS APPROVED BY ARCHITECT.
- COPYRIGHT 2024 BIGGDESIGNS, LLC
- REQUESTS FOR INFORMATION (RFI)
- ALL RFIS SHALL BE SUBMITTED ELECTRONICALLY VIA EMAIL. TEXT/CALL RFIS WILL NOT BE ACCEPTED.
- SUBSTITUTIONS/ALTERNATES MUSTING BE PROVIDED TO ARCHITECT FOR APPROVAL PRIOR TO PURCHASE/INSTALL AND MAY REQUIRE A MIN. \$150.00 PAYMENT UNLESS OTHERWISE APPROVED IN CLIENT SERVICE AGREEMENT.
- DEFERRED SUBMITTALS
- ALL PLANS LABELED AS DEFERRED SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT AND/OR LOCAL AUTHORITY FOR APPROVAL PRIOR TO INSTALLATION.



PROJECT

PIZZAWALAS

PERMIT
ELECTRICAL SYMBOL LIST, PLAN
NOTES AND ABBREVIATIONS
04.26.2024
REV

REV NOTE DATE

ELECTRICAL SPECIFICATIONS

1. GENERAL:
- A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT A201, 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 RISES 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/OR 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 ND 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 THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.
- M. UNLESS OTHERWISE SPECIFICALLY NOTED OR SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, 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.
2. GENERAL PROVISIONS FOR ELECTRICAL WORK:
- A. DEFINITIONS:
- 1) "PROVIDE": TO FURNISH, 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.
- 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.
- B) "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.
- C. 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 HOURS. PROVIDE ALL REQUIRED MAINTENANCE, INCLUDING LAMPS AND SOCKETS.
- C. 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.
- D. 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.
- E. 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 TACS: 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.
- F. 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 IRON PRIMER 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 MARRED SURFACES OF STEEL EQUIPMENT AND RACEWAYS. A FIELD-APPLIED ZINC BASED PRIME COAT SHALL BE UTILIZED FOR STEEL OR IRONWORK.
- G. 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.
- H. FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH ARCHITECT.
- I. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.
3. 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 2020 NATIONAL ELECTRICAL CODE (NEC) FLORIDA AMENDMENTS, 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 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 WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR 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 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.
- E. CONTRACTOR SHALL PERFORM ALL CONTROLLED INSPECTIONS IN ACCORDANCE WITH THE FLORIDA 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.

4. 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.

5. 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.

6. 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. 6808B. 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 600 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.

7. FUSES:

- A. CIRCUITS 0 TO 600 AMPERES SHALL BE PROTECTED BY FUSES SIMILAR TO CURRENT LIMITING BUSSMANN 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 BUSSMANN 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, PER SHUNT-TIPPING, OPEN AND 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

8. DISTRIBUTION PANELBOARDS, CIRCUIT BREAKER TYPE:

- A. THREE PHASE, 4 OR 5 WIRE, COPPER BUS BARS, WITH 2, 3, OR 4 WIRE BRANCHES, 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 KEYS ALIKE. DOOR OVER 48" HIGH SHALL BE EQUIPPED WITH A CHROME PLATED VALVE 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 TYPED 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 SHOW ON THE PLANS.

- I. MINIMUM GUTTER SPACES: PANELS WITH 225 AMPERE MAINS, 5-3/4" 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).

8. 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.

G. 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.

H. 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 3/4" HIGH WHITE LETTERING.

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

- J. POWER PANELBOARDS SHALL BE SIMILAR TO GENERAL ELECTRIC TYPE "OMR", AS MANUFACTURED BY ATLAS SWITCH COMPANY, ELECTRIC SWITCHBOARD COMPANY OR APPROVED EQUAL.

- 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).

B. MATERIALS

1) RACEWAYS:

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

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

- 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.

- e. 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.

2) FITTINGS AND ACCESSORIES:

- a. RIGID STEEL: NONSPPLIT, 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.

NOTES

- DO NOT SCALE PLANS
- THESE CONSTRUCTION DOCUMENTS WERE PREPARED FOR COMPLIANCE WITH LOCAL CONSTRUCTION CODES IN AFFECT AT TIME OF PERMIT SUBMITTAL. ALL ENGINEERS, CONTRACTORS, AND SUPPLIERS INVOLVED WITH THIS PROJECT SHALL COMPLY WITH SAME CODES, ISSUED AND APPROVED CODE MODIFICATIONS AND/OR LOCAL CONSTRUCTION BOARDS OF APPEALS RULING AND WHENEVER REQUIRED SHALL PROVIDE SHOP DRAWINGS AND SUBMITTALS CLEARLY DESCRIBING COMPLIANCE TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW AND APPROVAL. COORDINATE ALL DRAWINGS, DETAILS, AND EQUIPMENT SPECS.
- ALL TRADES SHALL REVIEW AND HAVE ACCESS TO ENTIRE SET OF PLANS AND SPECS PRIOR TO BIDDING AND DURING CONSTRUCTION.
- SEPARATION OF SHEETS IS NOT PERMITTED.
- SUBMIT WEEKLY UPDATES TO OWNER/ARCHITECT INCLUDING SCHEDULE, PHOTOS, AND PROGRESS REPORT.
- FIELD VERIFY EXISTING CONDITIONS AND REPORT ANY INCONSISTENCIES TO ARCHITECT. G.C. SHALL SUBMIT ALL AS-BUILTS AND DEVIATIONS FROM THE PLANS TO OWNER & ARCHITECT.
- PROVIDE STORAGE FOR ALL EQUIPMENT AND MATERIALS IN ACCORDANCE TO MANUFACTURER'S SPECS FOR DURATION OF CONSTRUCTION.
- WORK SHALL NOT COMMENCE PRIOR TO RECEIPT OF ALL APPROVED PERMITS.
- THE PLANS AND DETAILS INCLUDED IN THIS PROJECT ARE FOR THE SOLE PURPOSE OF THIS PROJECT. THE USE OF THESE DETAILS ON ANOTHER PROJECT IS STRICTLY PROHIBITED UNLESS APPROVED BY ARCHITECT.
- COPYRIGHT 2024 BIGGDESIGNS, LLC
- REQUESTS FOR INFORMATION (RFI)
- ALL RFIS SHALL BE SUBMITTED ELECTRONICALLY VIA EMAIL. TEXT/CALL RFIS WILL NOT BE ACCEPTED.
- SUBSTITUTIONS/ALTERNATES MUST BE PROVIDED TO ARCHITECT FOR APPROVAL PRIOR TO PURCHASE/INSTALL AND MAY REQUIRE A MIN. \$1500 PAYMENT UNLESS OTHERWISE APPROVED IN CLIENT SERVICE AGREEMENT.
- DEFERRED SUBMITTALS
- ALL PLANS LABELED AS DEFERRED SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT AND/OR LOCAL AUTHORITY FOR APPROVAL PRIOR TO INSTALLATION.



PROJECT

PIZZAWALAS

PERMIT

ELECTRICAL SPECIFICATIONS

(1 OF 2)

04.26.2024

REV

REV	NOTE	DATE
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E02

ELECTRICAL SPECIFICATIONS (CONT.)

- 3) BOXES:
a. 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. WITH FIXTURE OR DEVICE, FURNISH BLANK COVER, OFFSET BACK-TO-BACK OUTLETS WITH MINIMUM 6 IN. SEPARATION.
b. 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.
c. 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 10 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 FISHPLATES.
EXPOSED 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 METALLIC 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 MARRED SURFACES AND FIELD-CUT THREADS, CRC-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 WITH MANUFACTURER'S RECOMMENDATIONS. PRESET FITTINGS SHALL ALLOW FOR TEMPERATURE VARIATION.
RACEWAYS PASSING THROUGH FIRE-RATED CONSTRUCTION: SEAL OPENING WITH FIRE SEALANT.
d. PROVIDE CABLE SUPPORTS IN ACCORDANCE WITH NATIONAL ELECTRIC CODE ARTICLE 300.19. CABLES SHALL UTILIZE A ONE-PIECE PLUG WITH PZ01-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).
a. 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.
D. 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.
E. FIRE SEALANTS: PROVIDE FOR RACEWAYS AND WIRE PASSING THROUGH FLOOR SLOTS, SLEEVES OR OPENINGS IN FIRE-PARTITIONS ROOMS.
F. 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 IPCA 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 FLUORESCENT FIXTURES AND IN AMBIENT TEMPERATURES OVER 90 DEG C. FOR UNGROUNDING 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 LIQUID 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 OUTER COVERING THROUGHOUT. GREEN
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 WIRES 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.
11. 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 COMMERCIAL SPECIFICATION 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. INSERTION RECEPTACLES SHALL BE HOSPITAL GRADE DUPLEX CONVENIENCE 125 VOLTS, 2 POLE, 3 WIRE, U GROUND SLOT, GROUNDED, EXCEPT AS NOTED.
1) HEALTH CARE FACILITIES:
a) DUPLEX, 20 AMP, 125 VOLTS, 2 POLE, 3 WIRE, U GROUND SLOT: SIMILAR TO HUBBELL NO. 8300 HOSPITAL GRADE.
b) SINGLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE, U GROUND SLOT: SIMILAR TO HUBBELL NO. 8310 HOSPITAL GRADE.
2) GROUND FAULT INTERRUPTER RECEPTACLES:
a. 20 AMP DUPLEX FEED-THROUGH TYPE. SIMILAR TO NO. GF8300.
E. DEVICE PLATES: SEE ARCHITECT FOR TYPE. FOR RECEPTACLES WITH OTHER THAN 120 VOLT, INSCRIBED VOLTAGE AVAILABLE.
F. COLORS: COORDINATE COLORS WITH ARCHITECT.
G. MOUNTING ORIENTATION OF RECEPTACLES (HORIZONTAL OR VERTICAL): COORDINATE WITH ARCHITECT.
12. 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, ET1 AND CBM 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. FLUORESCENT LIGHTING FIXTURES, INCLUDING GENERAL CONSTRUCTION, LAMPS AND BALLASTS SHALL CONFORM TO THE ENERGY EFFICIENCY REQUIREMENTS OF CONSOLIDATED EDISON CO. AND QUALITY FOR A UTILITY REBATE TO OWNER UNDER CON EDISON'S ENLIGHTENED ENERGY LIGHTING REBATE PROGRAM. CONTRACTOR SHALL COORDINATE REBATE PROGRAM WITH CON EDISON AND ARRANGE FOR CON EDISON TO PERFORM A SURVEY TO INVENTORY ALL EXISTING FIXTURES PRIOR TO DEMOLITION.
H. 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 FOR USE IN NEW YORK CITY. 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.
13. 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.
14. GROUNDING AND BONDING:
A. PROVIDE GROUNDING SYSTEM IN ACCORDANCE WITH 2020 NATIONAL ELECTRICAL CODE WITH FLORIDA AMENDMENTS), AND THESE SPECIFICATIONS. THE WIRING SYSTEM SHALL BE INSTALLED AS REQUIRED TO PROVIDE A CONTINUOUSLY GROUNDING 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 , 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.

NOTES

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COORDINATE ALL DRAWINGS, DETAILS, AND EQUIPMENT SPECS.
ALL TRADES SHALL REVIEW AND HAVE ACCESS TO ENTIRE SET OF PLANS AND SPECS PRIOR TO BIDDING AND DURING CONSTRUCTION.
SEPARATION OF SHEETS IS NOT PERMITTED.
SUBMIT WEEKLY UPDATES TO OWNER/ARCHITECT INCLUDING SCHEDULE, PHOTOS, AND PROGRESS REPORT.
FIELD VERIFY EXISTING CONDITIONS AND REPORT ANY INCONSISTENCIES TO ARCHITECT. G.C. SHALL SUBMIT ALL AS-BUILTS AND DEVIATIONS FROM THE PLANS TO OWNER & ARCHITECT.
PROVIDE STORAGE FOR ALL EQUIPMENT AND MATERIALS IN ACCORDANCE TO MANUFACTURER'S SPECS FOR DURATION OF CONSTRUCTION.
WORK SHALL NOT COMMENCE PRIOR TO RECEIPT OF ALL APPROVED PERMITS.
THE PLANS AND DETAILS INCLUDED IN THIS PROJECT ARE FOR THE SOLE PURPOSE OF THIS PROJECT. THE USE OF THESE DETAILS ON ANOTHER PROJECT IS STRICTLY PROHIBITED UNLESS APPROVED BY ARCHITECT.
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REQUESTS FOR INFORMATION (RFI)
ALL RFIS SHALL BE SUBMITTED ELECTRONICALLY VIA EMAIL. TEXT/CALL RFIS WILL NOT BE ACCEPTED.
SUBSTITUTIONS/ALTERNATES MUST BE PROVIDED TO ARCHITECT FOR APPROVAL PRIOR TO PURCHASE/INSTALL AND MAY REQUIRE A MIN. \$1500 PAYMENT UNLESS OTHERWISE APPROVED IN CLIENT SERVICE AGREEMENT.
DEFERRED SUBMITTALS
ALL PLANS LABELED AS DEFERRED SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT AND/OR LOCAL AUTHORITY FOR APPROVAL PRIOR TO INSTALLATION.



PROJECT

PIZZAWALAS

PERMIT
ELECTRICAL SPECIFICATIONS
(2 OF 2)
04.26.2024
REV

Table with 3 columns: REV, NOTE, DATE

LIGHTING PLAN GENERAL NOTES:

1. A. EMERGENCY AND EXIT FIXTURES SHALL BE INSTALLED AND CIRCUITED PER LOCAL AND LATEST NATIONAL ELECTRICAL CODES.
2. B. EMERGENCY DEVICES SHALL BE PROVIDED WITH AN UNSWITCHED "HOT" TO PROVIDE CONTINUOUS POWER TO DEVICE EVEN WHEN FIXTURE IS OFF.
3. C. PROVIDE EMERGENCY LIGHTS TO PROVIDE A MINIMUM OF 1 FOOT CANDLE FOR 90 MINUTES AT FLOOR LEVEL FOR EMERGENCY EGRESS.
4. D. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO ROUGH-IN. VERIFY EXACT LOCATIONS AND MOUNTING HEIGHTS FOR ALL DEVICES PRIOR TO ROUGH-IN.
5. E. PROVIDE DIMMABLE CIRCUITS WITH A DEDICATED NEUTRAL - NO SHARED NEUTRALS.
6. F. ALL NIGHT LIGHTS (SHOWN WITH "NL" DESIGNATION) SHALL BE WIRED AHEAD OF SWITCHING.
7. G. LABEL JUNCTION BOXES WITH THE PANEL AND CIRCUIT USED TO FEED THE LUMINAIRES. AS BUILTS SHALL REFLECT AND SHOW THE CIRCUIT USED BY EACH FIXTURE.
8. H. ALL LUMINAIRES, LIGHT SWITCH COVERPLATES, EXIT SIGNS SHALL MATCH ARCHITECTURAL DECOR. PROVIDE PRODUCT SUBMITTAL FOR ARCHITECT AND OWNER APPROVAL.
9. I. LUMINAIRES IN CONTACT WITH INSULATION SHALL BE U.L. LISTED FOR THERMAL BARRIER OR BE PROVIDED WITH 3" MINIMUM CLEARANCE.
10. J. LIGHTS AND PANELS SHALL NOT BE RECESSED IN FIRE RATED ASSEMBLIES UNLESS BOXED WITH EQUIVALENT CONSTRUCTION AS UTILIZED TO MAINTAIN INTEGRITY OF FIRE RATING.
11. K. ALL WIRING AND LAMPS INSTALLED IN HIGH TEMPERATURE HOOD OR IN OTHER AREAS SUBJECT TO HIGH TEMPERATURES SHALL BE RATED FOR THAT USAGE.
12. L. LIGHTING SHALL BE CIRCUITED AS SHOWN ON PLANS. CIRCUITING SHALL BE THRU-WIRING WHEREVER POSSIBLE. MULTIPLE CONNECTIONS TO A SINGLE LIGHT FIXTURE FOR VOLTAGE DROP CONDITIONS OR AS A RESULT OF A FIELD CONDITION ARE ACCEPTABLE. LUMINAIRES SHALL BE MANUFACTURED TO ACCOMMODATE THRU-WIRING, ANY RELATED COSTS FOR MULTIPLE CONNECTIONS SHALL BE INCLUDED IN BID.
13. M. PROVIDE LIFTING MEANS TO ACCESS ALL LUMINAIRES DURING FINAL AIMING. AIM DIRECTIONAL LUMINAIRES AFTER INSTALLATION PER DIRECTION FROM OWNER.
14. N. COORDINATE ALL SIGNAGE REQUIREMENTS WITH SIGNAGE VENDOR AS IT RELATES TO POWER, PLACEMENT, AND ANY OTHER PERTINENT INFORMATION.
15. O. PROVIDE UPDATED PANEL SCHEDULES UPON COMPLETION OF WORK.
16. P. ALL CONDUITS RUN IN AREAS WITHOUT SUSPENDED CEILINGS SHALL BE RUN INCONSPICUOUSLY AS POSSIBLE, HIDDEN BEHIND BEAMS, TIGHT TO DECK, ETC. PAINT ALL CONDUIT TO MATCH FINISH OF EACH SPECIFIC AREA.
17. Q. CONDUIT SHALL NOT BE INSTALLED WITHIN FIRE PROOFING. PROVIDE ALL REQUIRED DROP HANGERS.
18. R. ALL WIRING SHALL BE COPPER, MINIMUM SIZE SHALL BE #12, UNLESS OTHERWISE NOTED.
19. S. BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED FOR A MAXIMUM OF 3% VOLTAGE DROP.
20. T. LOCATIONS OF LUMINAIRES WITHIN MECHANICAL EQUIPMENT ROOMS SHALL BE COORDINATED IN FIELD WITH INSTALLED EQUIPMENT. LUMINAIRES SHALL BE LOCATED OVER ACCESS PATHWAYS AROUND EQUIPMENT AND NOT OVER TOP OF DUCTWORK WHERE INACCESSIBLE. DO NOT SUSPEND LUMINAIRES FROM PIPING OR DUCTWORK. PROVIDE APPROPRIATE MOUNTING HARDWARE, UNISTRUT, ALL THREAD, ETC., AS REQUIRED TO SUPPORT FIXTURES.
21. U. ALL LUMINAIRES WITHIN A ROOM OR AREA SHALL BE CONTROLLED BY SWITCHES/OCCUPANCY SENSORS SHOWN IN THAT ROOM OR AREA UNLESS OTHERWISE NOTED.
22. V. POWER PACKS AND SATELLITE PACKS FOR OCCUPANCY SENSORS ARE NOT SHOWN. AS PRODUCTS REQUIRE, PROVIDE POWER AND SATELLITE PACKS WITHIN EACH ROOM ABOVE CEILING ADJACENT TO ENTRY DOOR.
23. W. LOWER CASE LETTER DENOTES LIGHTING CONTROL (I.E. (a)).
24. X. OCCUPANCY SENSOR LOCATIONS SHOWN FOR SCHEMATIC INTENT AND COVERAGE PURPOSES ONLY. VERIFY EXACT SPACING WITH SELECTED OCCUPANCY SENSOR'S MANUFACTURER RECOMMENDATIONS TO PROVIDE ADEQUATE COVERAGE IN CORRIDORS.

POWER PLAN GENERAL NOTES:

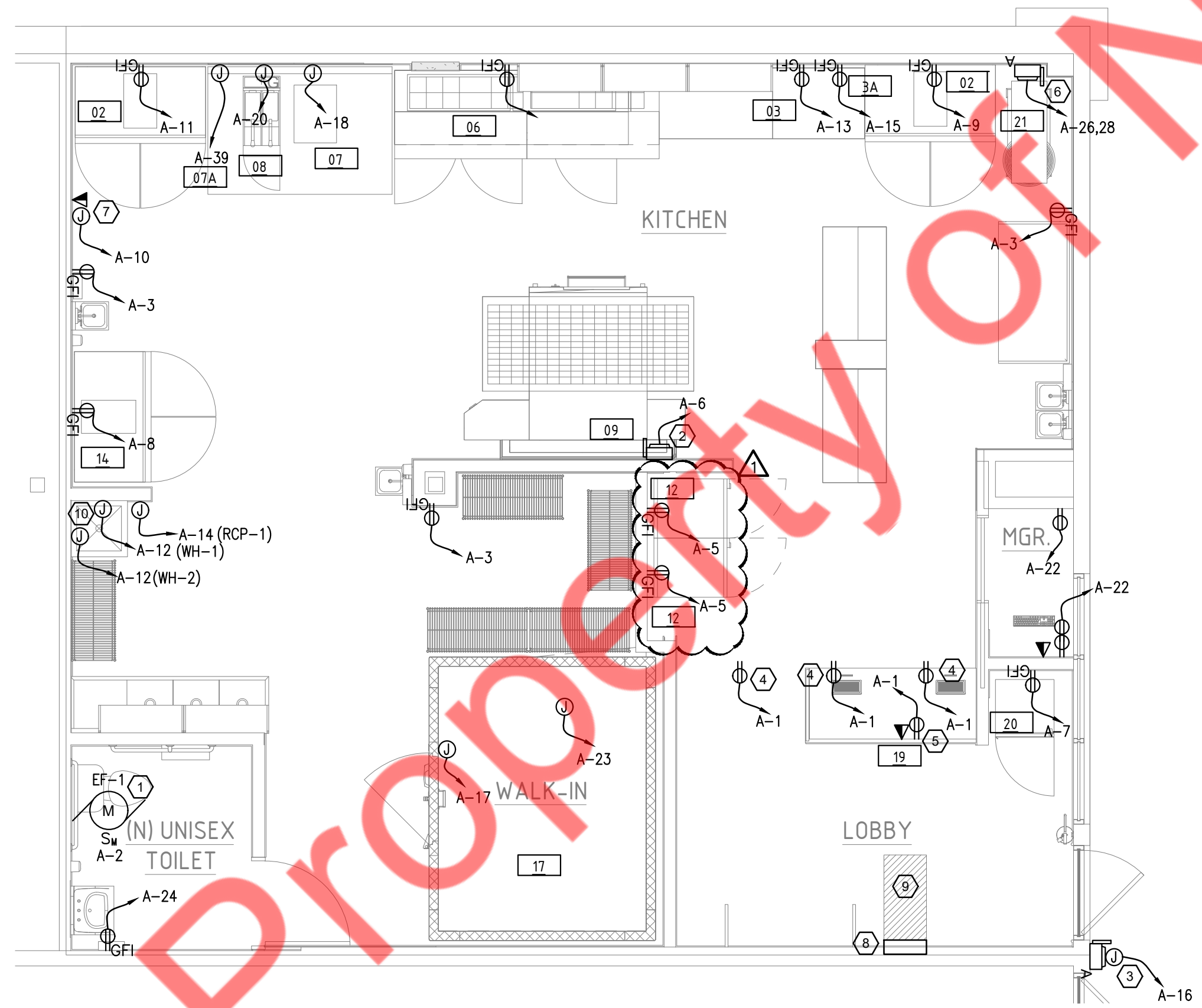
1. ALL RECEPTACLES IN THE KITCHEN AREA SHALL BE "GFCI" PROTECTED IN ACCORDANCE WITH NEC ART. 210.8(B). GFCI RECEPTACLES, ONCE INSTALLED, SHALL BE READILY ACCESSIBLE. IF GFCI RECEPTACLE IS NOT READILY ACCESSIBLE, PROVIDE GFCI RATED CIRCUIT BREAKER IN THE PANEL.
2. SEE ARCHITECTURAL ELEVATIONS FOR PLACEMENT AND MOUNTING OF DEVICES.
3. E.C. SHALL VERIFY THE EXACT ELECTRICAL REQUIREMENT INCLUDING RECEPTACLE, PLUG/CIRCUIT BREAKER AND CABLES FOR ALL THE KITCHEN EQUIPMENTS IN FIELD AND ACCORDINGLY PROVIDE THE ELECTRICAL CONNECTION FOR ALL KITCHEN EQUIPMENTS AS REQUIRED. BASE BID ACCORDINGLY.
4. E.C. TO PROVIDE LABEL ON EACH OUTLET AND DISCONNECT MEANS INDICATING THE POWER SOURCE PANEL AND CIRCUIT NUMBER.
5. E.C. HAS OPTION TO PROVIDE CORD-AND-PLUG-CONNECTED INSTEAD OF DISCONNECT SWITCH FOR LOCAL DISCONNECT MEANS. THE SEPARABLE CONNECTOR SHALL BE ACCESSIBLE, THE RATING SHALL NOT BE LESS THAN THE OVER-CURRENT DEVICE.
6. ALL ROOF MOUNTED EQUIPMENT SHALL BE IN NEMA-3R ENCLOSURES.
7. ALL ROOF RECEPTACLES SHALL BE GFI & WP TYPE.
8. VERIFY ALL FUSE SIZES AND TYPES WITH THE AIR CONDITIONING EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
9. REVIEW THE MECHANICAL PLANS FOR ALL THE HVAC EQUIPMENT CONTROL REQUIREMENTS AND SCOPE OF WORK PRIOR TO BIDDING AND INCLUDE ALL COSTS IN BID.
10. VERIFY CONNECTION POINTS OF ALL HVAC EQUIPMENT PRIOR TO INSTALLATION. PROVIDE CONTROL VOLTAGE CONNECTION TO DUCT MTD. SMOKE DETECTOR AS REQUIRED BY MECHANICAL DRAWING.
11. SEE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND THERMOSTATS. PROVIDE RACEWAY SYSTEM FOR ALL CONTROL WIRING AS REQUIRED BY DETAIL ON MECHANICAL DRAWING.
12. ELECTRICAL CONTRACTOR TO VERIFY WITH MANUFACTURER FOR ALL KITCHEN EQUIPMENT HEIGHT/CONNECTION REQUIREMENTS AND VERIFY WITH OWNER FOR ALL OUTLET HEIGHTS BEFORE ROUGH-IN.
13. ANY NEW WIRING TO BE COPPER AND RUN IN CONDUIT, INCLUDING LOW VOLTAGE.

POWER PLAN KEYED NOTES:

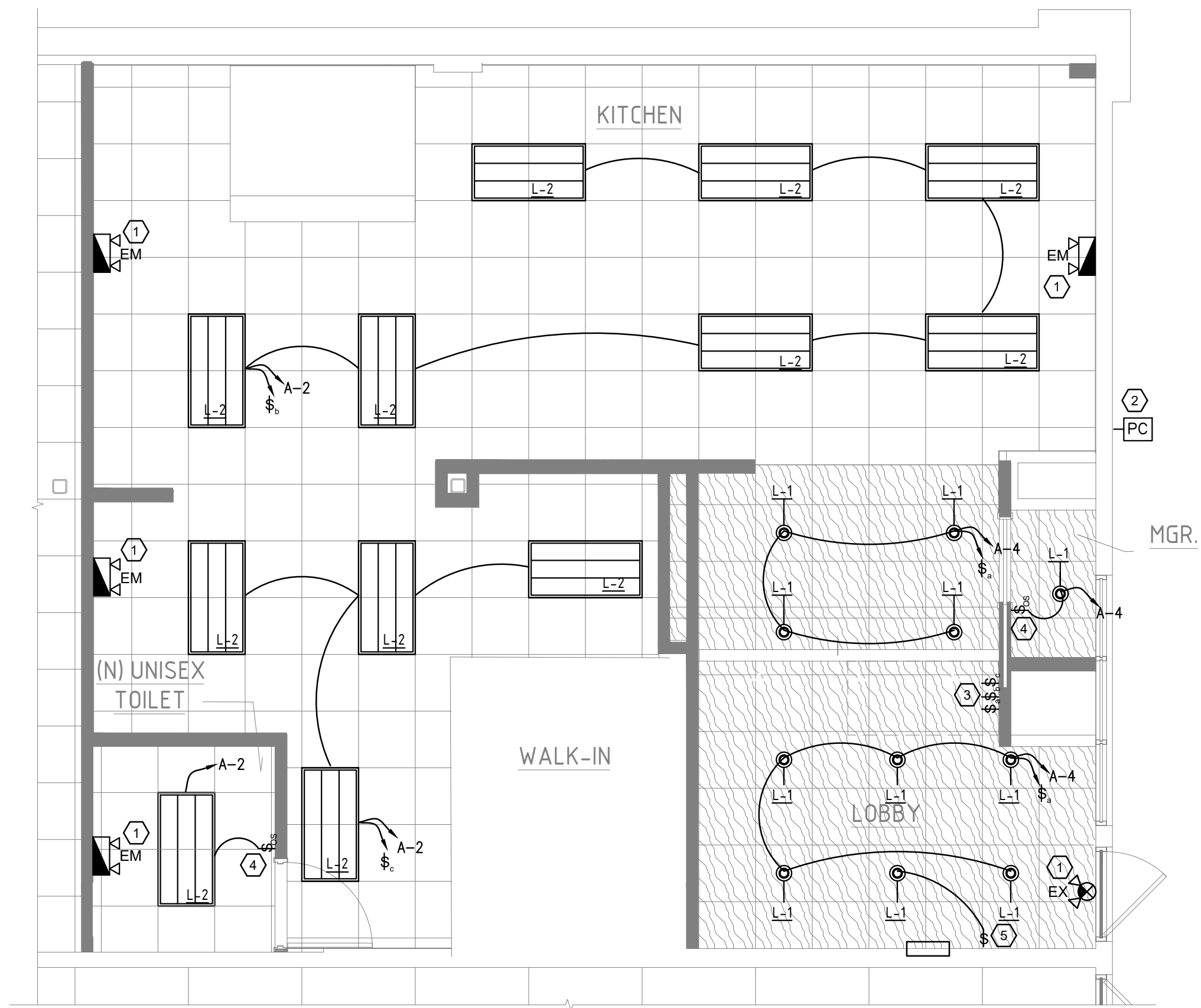
1. E.C. TO COORDINATE WITH MECHANICAL CONTRACTOR FOR POWER AND CONTROL REQUIREMENTS OF MECHANICAL EQUIPMENT. PROVIDE ELECTRICAL CONNECTIONS ACCORDINGLY. VERIFY EQUIPMENT LOCATION IN FIELD WITH MECHANICAL CONTRACTOR.
2. 20A, 120V TOGGLE DISCONNECT SWITCH FOR PIZZA OVEN. E.C. TO FIELD VERIFY THE LOCATION AND MOUNTING HEIGHT.
3. E.C. TO PROVIDE WP JUNCTION BOX AND TOGGLE DISCONNECT SWITCH FOR EXTERIOR SIGNAGE. VERIFY EXACT LOCATION IN FIELD WITH SIGNAGE VENDOR/ARCHITECT/OWNER. PROVIDE ELECTRICAL CONNECTIONS ACCORDINGLY.
4. COORDINATE TV MENU BOARD PROMOTION DISPLAY PANEL RECEPTACLE AND DATA OUTLET MOUNTING LOCATION WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.
5. MOUNT RECEPTACLE FOR POS BELOW COUNTER. COORDINATE LOCATION IN FIELD.
6. EQUIPMENT#21 - FLOUR DOUGH MIXER. CONNECT THE EQUIPMENT TO 240V SINGLE PHASE TO 240V THREE PHASE CONVERTER. SIZE THE PHASE CONVERTER AS PER THE FINAL 1.75 KVA, 240V, 3PH POWER REQUIREMENT. CONFIRM WIRING REQUIREMENT WITH MANUFACTURER. FIELD LOCATE THE PHASE CONVERTER.
7. E.C. SHALL PROVIDE POWER AND CONTROL WIRING BETWEEN KITCHEN HOOD CONTROLS, FIRE SUPPRESSION SYSTEM AND EXHAUST FAN ON THE ROOF. PROVIDE RELAY AS NEEDED TO CONTROL POWER AS NEEDED WHEN FIRE SUPPRESSION SYSTEM IS ACTIVATED.
8. EXISTING 200A, 120/240V, 1 PH, 3W PANEL-A TO REMAIN. E.C. SHALL VERIFY THE OPERABLE CONDITION IN FIELD. REPLACE IF FOUND IN-OPERABLE. INFORM ENGINEER OF ANY DISCREPANCY FOUND. BASE BID ACCORDINGLY.
9. E.C. SHALL ENSURE CLEARANCE IN-FRONT OF ELECTRICAL PANEL AS PER NEC 110.26(A).
10. E.C. TO COORDINATE WITH PLUMBING CONTRACTOR FOR POWER AND CONTROL REQUIREMENTS OF PLUMBING EQUIPMENT. PROVIDE ELECTRICAL CONNECTIONS ACCORDINGLY. VERIFY EQUIPMENT LOCATION IN FIELD WITH PLUMBING CONTRACTOR.

LIGHTING PLAN KEYED NOTES:

1. CONNECT ALL EMERGENCY AND EXIT LIGHTS AHEAD OF SWITCHING, TO THE NEAREST AVAILABLE LIGHTING CIRCUIT, FOR CONTINUOUS OPERATION.
2. CONNECT ALL EXTERIOR LIGHTS / SIGNAGES VIA PHOTOCELL. VERIFY THE EXACT MOUNTING LOCATION OF THE PHOTOCELL IN FIELD WITH ARCHITECT/OWNER.
3. TIMER SWITCH BANK. E.C. SHALL COORDINATE FINAL LOCATION WITH ARCHITECT/OWNER IN FIELD.
4. WALL MOUNTED OCCUPANCY SENSOR. SET OFF TIME TO 15 MINS / AS PER LOCAL AHJ REQUIREMENTS.
5. LIGHTING NEAR ELECTRICAL PANEL SHALL NOT BE CONTROLLED VIA AUTOMATIC MEANS ONLY. PROVIDE MANUAL SWITCH IN ORDER TO COMPLY WITH NEC 110.26 (D). COORDINATE FINAL LOCATION OF THE SWITCH WITH ARCHITECT/OWNER IN FIELD.



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



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

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- COORDINATE ALL DRAWINGS, DETAILS, AND EQUIPMENT SPECS.
- ALL TRADES SHALL REVIEW AND HAVE ACCESS TO ENTIRE SET OF PLANS AND SPECS PRIOR TO BIDDING AND DURING CONSTRUCTION.
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- SUBMIT WEEKLY UPDATES TO OWNER/ARCHITECT INCLUDING SCHEDULE, PHOTOS, AND PROGRESS REPORT.
- FIELD VERIFY EXISTING CONDITIONS AND REPORT ANY INCONSISTENCIES TO ARCHITECT. G.C. SHALL SUBMIT ALL AS-BUILTS AND DEVIATIONS FROM THE PLANS TO OWNER & ARCHITECT.
- PROVIDE STORAGE FOR ALL EQUIPMENT AND MATERIALS IN ACCORDANCE TO MANUFACTURER'S SPECS FOR DURATION OF CONSTRUCTION.
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- COPYRIGHT 2024 BIGGDESIGNS, LLC
- REQUESTS FOR INFORMATION (RFI)
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PROJECT

PIZZAWALAS

PERMIT
ELECTRICAL FLOOR PLAN

04.26.2024
REV

REV	NOTE	DATE
1	CLIENT CHANGES	04.26.2024

E04

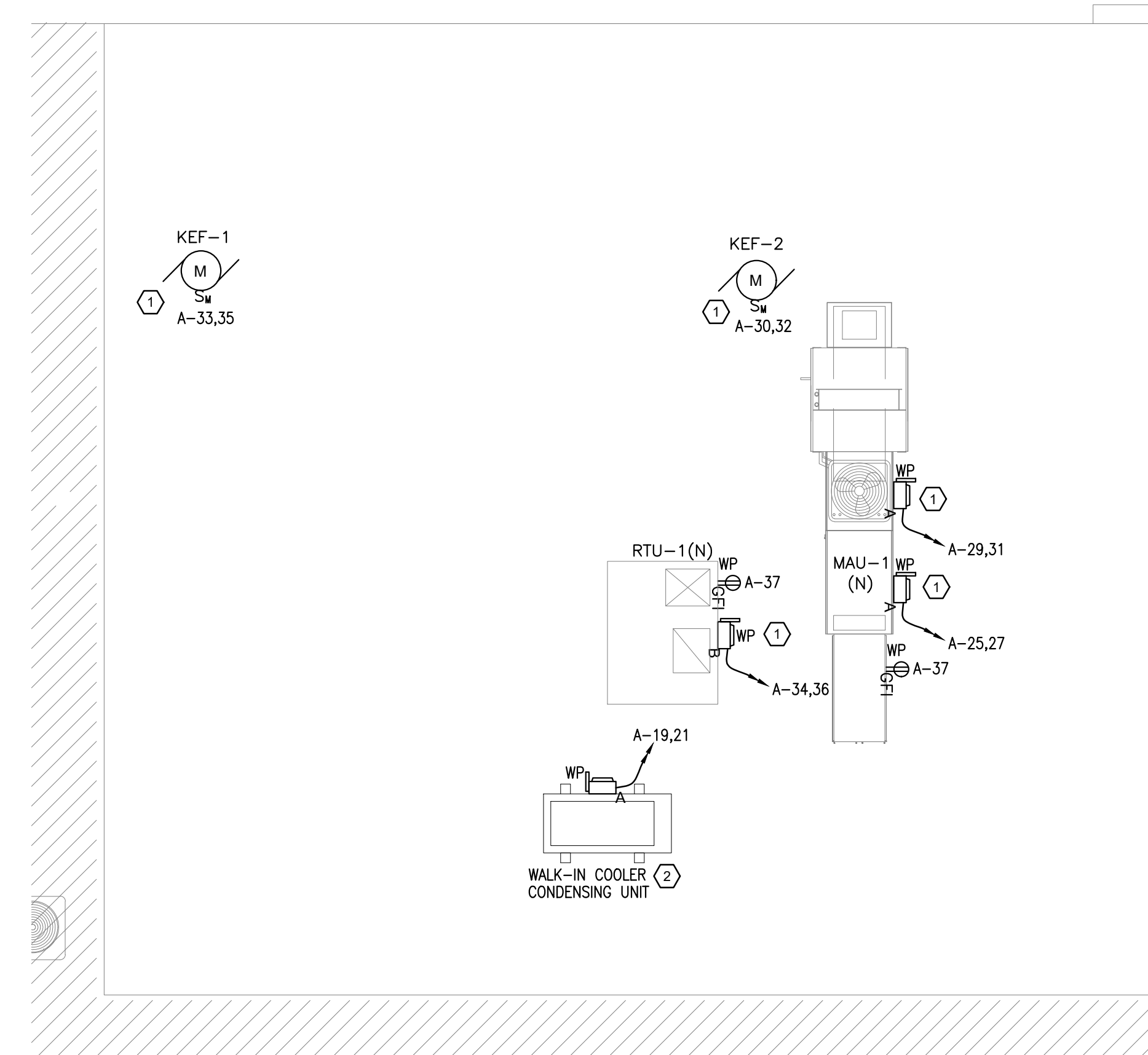
ROOF POWER PLAN GENERAL NOTES:

- E.C. TO PROVIDE LABEL ON EACH OUTLET AND DISCONNECT MEANS INDICATING THE POWER SOURCE PANEL AND CIRCUIT NUMBER.
- ALL ROOF MOUNTED EQUIPMENT SHALL BE IN NEMA-3R ENCLOSURES.
- ALL ROOF RECEPTACLES SHALL BE GFI & WP TYPE.
- VERIFY ALL FUSE SIZES AND TYPES WITH THE AIR CONDITIONING EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
- REVIEW THE MECHANICAL PLANS FOR ALL THE HVAC EQUIPMENT CONTROL REQUIREMENTS AND SCOPE OF WORK PRIOR TO BIDDING AND INCLUDE ALL COSTS IN BID.
- VERIFY CONNECTION POINTS OF ALL HVAC EQUIPMENT PRIOR TO INSTALLATION. PROVIDE CONTROL VOLTAGE CONNECTION TO DUCT MTD. SMOKE DETECTOR AS REQUIRED BY MECHANICAL DRAWING.
- SEE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND THERMOSTATS. PROVIDE RACEWAY SYSTEM FOR ALL CONTROL WIRING AS REQUIRED BY DETAIL ON MECHANICAL DRAWING.
- ANY NEW WIRING TO BE COPPER AND RUN IN CONDUIT, INCLUDING LOW VOLTAGE

ROOF POWER PLAN KEYED NOTES:

- E.C. TO COORDINATE WITH MECHANICAL CONTRACTOR FOR POWER AND CONTROL REQUIREMENTS OF MECHANICAL EQUIPMENT. PROVIDE ELECTRICAL CONNECTIONS ACCORDINGLY. VERIFY EQUIPMENT LOCATION IN FIELD WITH MECHANICAL CONTRACTOR.
- E.C. SHALL VERIFY EXACT LOCATION AND POWER REQUIREMENTS OF WALK-IN COOLER CONDENSING UNIT WITH WALK-IN COOLER SUPPLIER. PROVIDE ELECTRICAL CONNECTIONS ACCORDINGLY.

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NOTES

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PROJECT

PIZZAWALAS

PERMIT

ROOF POWER PLAN

04.26.2024

REV

REV	NOTE	DATE
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1 ROOF POWER PLAN

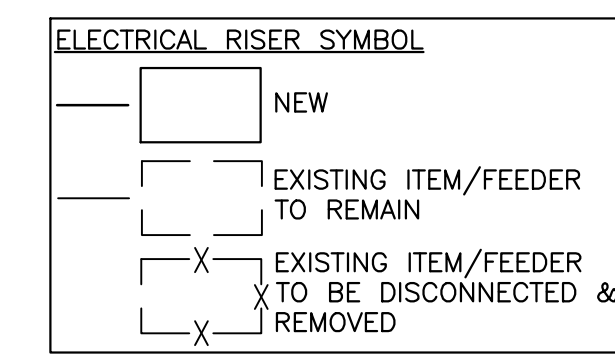
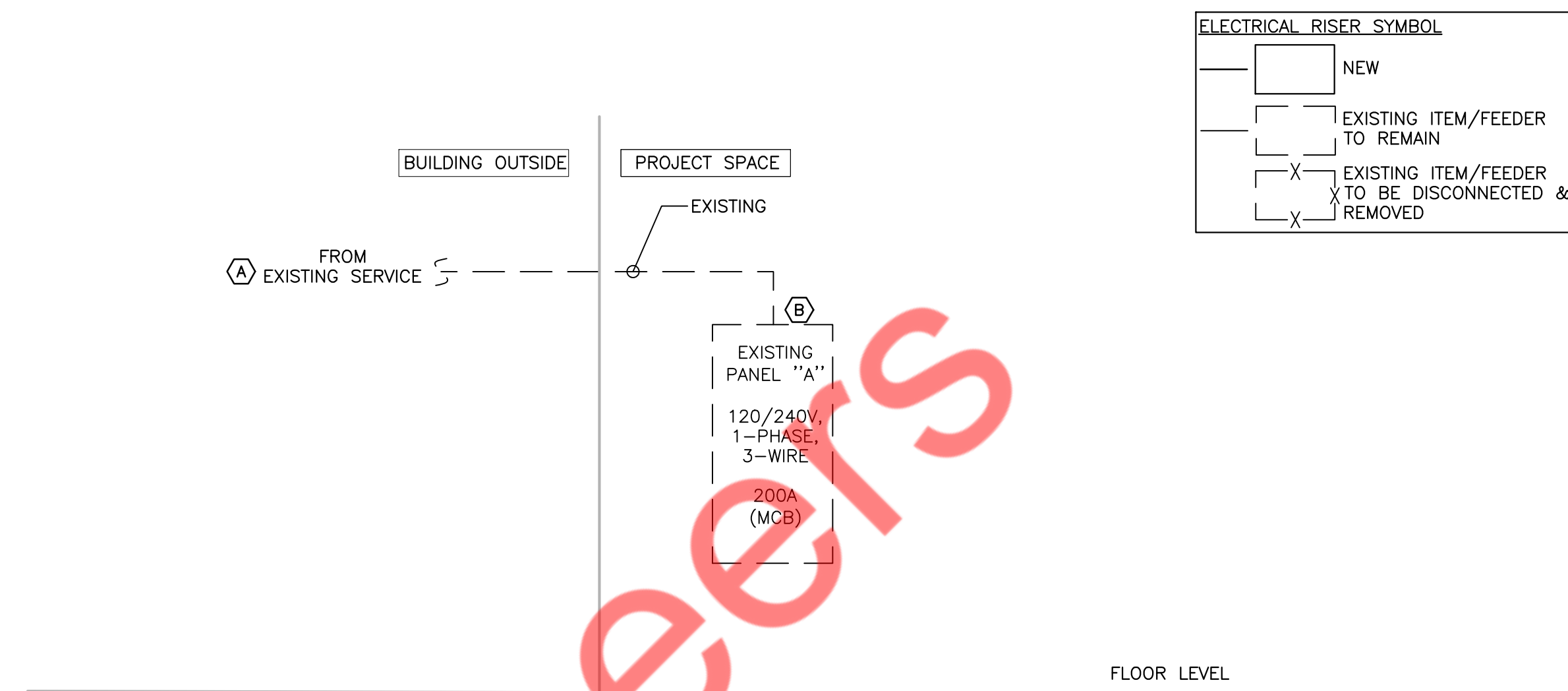
1/4" = 1'-0"

E05

PANEL: A (EX.)										MOUNTING: SURFACE			
120/240V VOLTS,			1 PHASE,		3 WIRE			PANEL LOCATION: LOBBY					
MAIN CB: 200A			MLO: NA		BUS: 225A			MIN, FED FROM: EXISTING EL SERVICE					
NOTE: LIGHTING, R-RECEPTACLES, K-KITCHEN/EQUIPMENTS, C- REFRIGERATION, H- HVAC, M- MOTOR, O-OTHER/MISCELLANEOUS													
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						
1	20	RECEPTACLES - MENUBOARD	R	0.54	2#12, #12G, 3/4"C	0.54	0.58	2#12, #12G, 3/4"C	0.58	L	LIGHTS + EF-1	20	2
3	20	CONVENIENCE RECEPTACLES	R	0.54	2#12, #12G, 3/4"C	0.54	0.40	2#12, #12G, 3/4"C	0.40	L	LIGHTS	20	4
5	20	12_HEATED SHELF	E	1.60	2#12, #12G, 3/4"C	1.60	1.02	2#12, #12G, 3/4"C	1.02	E	9_PIZZA OVEN	20	6
7	20	20_DRINK COOLER	E	0.90	2#12, #12G, 3/4"C	0.90	1.00	2#12, #12G, 3/4"C	1.00	C	14_2 DOOR FREEZER	20	8
9	20	2_2 DOOR REFRIGERATOR	C	0.90	2#12, #12G, 3/4"C	0.90	0.60	2#12, #12G, 3/4"C	0.60	R	FIRE SUPPRESSION SYSTEM	20	10
11	20	2_2 DOOR REFRIGERATOR	C	0.90	2#12, #12G, 3/4"C	0.90	0.18	2#12, #12G, 3/4"C	0.18	O	WH-1, WH-2 IGNITION	20	12
13	20	3_PIZZA SPINNER	E	0.20	2#12, #12G, 3/4"C	0.20	0.20	2#12, #12G, 3/4"C	0.20	M	RCP-1	20	14
15	20	3A_DOUGH SHEETER	E	0.20	2#12, #12G, 3/4"C	0.20	1.20	2#12, #12G, 3/4"C	1.20	L	EXTERIOR SIGNAGE	20	16
17	20	17_WALK-IN FREEZER LIGHTS, DOOR HEATER	E	0.20	2#12, #12G, 3/4"C	0.20	0.18	2#12, #12G, 3/4"C	0.18	E	7_STOCK POT BURNER	20	18
19	2P-20	17A_WALK-IN COOLER CONDENSER	H	1.30	2#12, #12G, 3/4"C	1.30	0.18	2#12, #12G, 3/4"C	0.18	E	8_FRYER	20	20
21	2P-20	17A_WALK-IN COOLER CONDENSER	H	1.30	2#12, #12G, 3/4"C	1.30	0.54	2#12, #12G, 3/4"C	0.54	R	MANAGER'S OFFICE RECEPTACLES	20	22
23	20	17B_WALK-IN COOLER EVAPORATOR	H	0.80	2#12, #12G, 3/4"C	0.80	0.18	2#12, #12G, 3/4"C	0.18	R	RESTROOM RECEPTACLE	20	24
25	2P-20	MAU FAN	M	1.25	2#12, #12G, 3/4"C	1.25	0.90	2#10, #10G, 3/4"C	0.90	E	21_FLOUR DOUGH MIXER	2P-30	26
27	2P-20	MAU FAN	M	1.25	2#12, #12G, 3/4"C	1.25	0.90	2#10, #10G, 3/4"C	0.90	E		2P-30	28
29	2P-20	MAU COND.	H	1.88	2#10, #10G, 3/4"C	1.88	0.35	2#12, #12G, 3/4"C	0.35	M	KEF-2	2P-20	30
31	2P-20	MAU COND.	H	1.88	2#10, #10G, 3/4"C	1.88	0.35	2#12, #12G, 3/4"C	0.35	M		2P-20	32
33	2P-20	KEF-1	M	0.50	2#12, #12G, 3/4"C	0.50	4.07	2#6, #10G, 3/4"C	4.07	H	RTU-1 (N)	2P-60	34
35	2P-20	KEF-1	M	0.50	2#12, #12G, 3/4"C	0.50	4.07	2#6, #10G, 3/4"C	4.07	H		2P-60	36
37	20	ROOF RECEPTACLES	R	0.36	2#12, #12G, 3/4"C	0.36	0.00				SPARE	20	38
39	20	HOOD CONTROL	E	0.50	2#12, #12G, 3/4"C	0.50	0.00				SPARE	20	40
41	20	SPARE				0.00	0.00				SPARE	20	42
TOTAL CONNECTED LOAD (KVA)						17.51	16.88						
LOAD CLASSIFICATION			CONNECTED LOAD (KVA)		DEMAND FACTOR		DEMAND LOAD (KVA)		PANEL TOTAL LOAD				
LIGHTING	L		2.18	125%	2.73								
RECEPTACLE	R		2.76	100%	2.76								
HVAC	H		15.30	100%	15.30								
MOTOR	M		4.39	100%	4.39								
EQUIPMENTS	E		6.78	65%	4.41								
REFRIGERATION	C		2.80	100%	2.80								
OTHER/MISCELLANEOUS	O		0.18	100%	0.18								
TOTAL CONNECTED LOAD			34.39		34.39								
TOTAL DEMAND LOAD			32.56		32.56								
TOTAL CONNECTED CURRENT			143.29		143.29								
TOTAL DEMAND CURRENT			135.67		135.67								

PANEL SCHEDULE GENERAL NOTES	
1.	ALL CIRCUITING SHOWN IS FOR REFERENCE PURPOSE ONLY. INFORM ENGINEER FOR ANY DISCREPANCIES BEFORE PURCHASE OF ANY EQUIPMENTS/WIRES OR DEVICES.
2.	ELECTRICAL CONTRACTOR TO VERIFY THE EXACT PANEL SIZES AND INCOMING FEEDER SIZE.
3.	E.C. SHALL COORDINATE WITH MECHANICAL AND PLUMBING CONTRACTOR/EQUIPMENT MANUFACTURER FORE EXACT ELECTRICAL REQUIREMENTS FOR CABLE AND BREAKERS AND ACCORDINGLY PROVIDE THE ELECTRICAL BREAKER AND CABLES IN FIELD. BASE BID ACCORDINGLY.

2 ELECTRICAL PANEL SCHEDULE
N.T.S.



NOTES

- DO NOT SCALE PLANS
- THESE CONSTRUCTION DOCUMENTS WERE PREPARED FOR COMPLIANCE WITH LOCAL CONSTRUCTION CODES IN AFFECT AT TIME OF PERMIT SUBMITTAL. ALL ENGINEERS, CONTRACTORS, AND SUPPLIERS INVOLVED WITH THIS PROJECT SHALL COMPLY WITH SAME CODES, ISSUED AND APPROVED CODE MODIFICATIONS AND/OR LOCAL CONSTRUCTION BOARDS OF APPEALS RULING AND WHENEVER REQUIRED SHALL PROVIDE SHOP DRAWINGS AND SUBMITTALS CLEARLY DESCRIBING COMPLIANCE TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW AND APPROVAL
- COORDINATE ALL DRAWINGS, DETAILS, AND EQUIPMENT SPECS.
- ALL TRADES SHALL REVIEW AND HAVE ACCESS TO ENTIRE SET OF PLANS AND SPECS PRIOR TO BIDDING AND DURING CONSTRUCTION
- SEPARATION OF SHEETS IS NOT PERMITTED.
- SUBMIT WEEKLY UPDATES TO OWNER/ARCHITECT INCLUDING SCHEDULE, PHOTOS, AND PROGRESS REPORT.
- FIELD VERIFY EXISTING CONDITIONS AND REPORT ANY INCONSISTENCIES TO ARCHITECT. G.C. SHALL SUBMIT ALL AS-BUILTS AND DEVIATIONS FROM THE PLANS TO OWNER & ARCHITECT.
- PROVIDE STORAGE FOR ALL EQUIPMENT AND MATERIALS IN ACCORDANCE TO MANUFACTURERS SPECS FOR DURATION OF CONSTRUCTION.
- WORK SHALL NOT COMMENCE PRIOR TO RECEIPT OF ALL APPROVED PERMITS.
- THE PLANS AND DETAILS INCLUDED IN THIS PROJECT ARE FOR THE SOLE PURPOSE OF THIS PROJECT. THE USE OF THESE DETAILS ON ANOTHER PROJECT IS STRICTLY PROHIBITED UNLESS APPROVED BY ARCHITECT.
- COPYRIGHT 2024 BIGGDESIGNS, LLC
- REQUESTS FOR INFORMATION (RFI)
- ALL RFIS SHALL BE SUBMITTED ELECTRONICALLY VIA EMAIL. TEXT/CALL RFIS WILL NOT BE ACCEPTED.
- SUBSTITUTIONS/ALTERNATES MUST BE PROVIDED TO ARCHITECT FOR APPROVAL PRIOR TO PURCHASE/INSTALL AND MAY REQUIRE A MIN. \$150.00 PAYMENT UNLESS OTHERWISE APPROVED IN CLIENT SERVICE AGREEMENT.
- DEFERRED SUBMITTALS
- ALL PLANS LABELED AS DEFERRED SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT AND/OR LOCAL AUTHORITY FOR APPROVAL PRIOR TO INSTALLATION.

- Ⓜ RISER DIAGRAM KEYED WORK NOTES
- Ⓐ EXISTING 200A, 120/240V, 1-PHASE, 3-WIRE ELECTRICAL SERVICE FOR THE PROJECT SPACE SHALL REMAIN. E.C. SHALL VERIFY OPERABLE CONDITION IN FIELD. REPLACE IF FOUND IN-OPERABLE. BASE BID ACCORDINGLY.
- Ⓑ E.C. EXISTING 200A (MCB), 120/240V, 1-PH, 3-WIRE ELECTRICAL PANEL "A" FOR THE PROJECT SPACE SHALL REMAIN. SHALL VERIFY OPERABLE CONDITION IN FIELD. REPLACE IF FOUND IN-OPERABLE. BASE BID ACCORDINGLY.

- RISER DIAGRAM GENERAL NOTES
- ABOVE RISER DIAGRAM IS FOR REFERENCE PURPOSE ONLY.
 - E.C. SHALL VERIFY THE INCOMING SERVICE AMPERAGE, VOLTAGE, NUMBER OF PHASES, WIRE SIZE AND DISTRIBUTION IN FIELD.
 - E.C. TO COORDINATE FAULT CURRENT (ISC) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK.
 - E.C. SHALL VERIFY THE EXACT POWER DISTRIBUTION & INCOMING CONNECTION TO ALL PANELS IN FIELD AND COORDINATE WITH UTILITY FOR THE ARRANGEMENT OF THE SAME. INFORM ENGINEER FOR ANY DISCREPANCY FOUND.

1 ELECTRICAL RISER DIAGRAM
N.T.S.

PROJECT

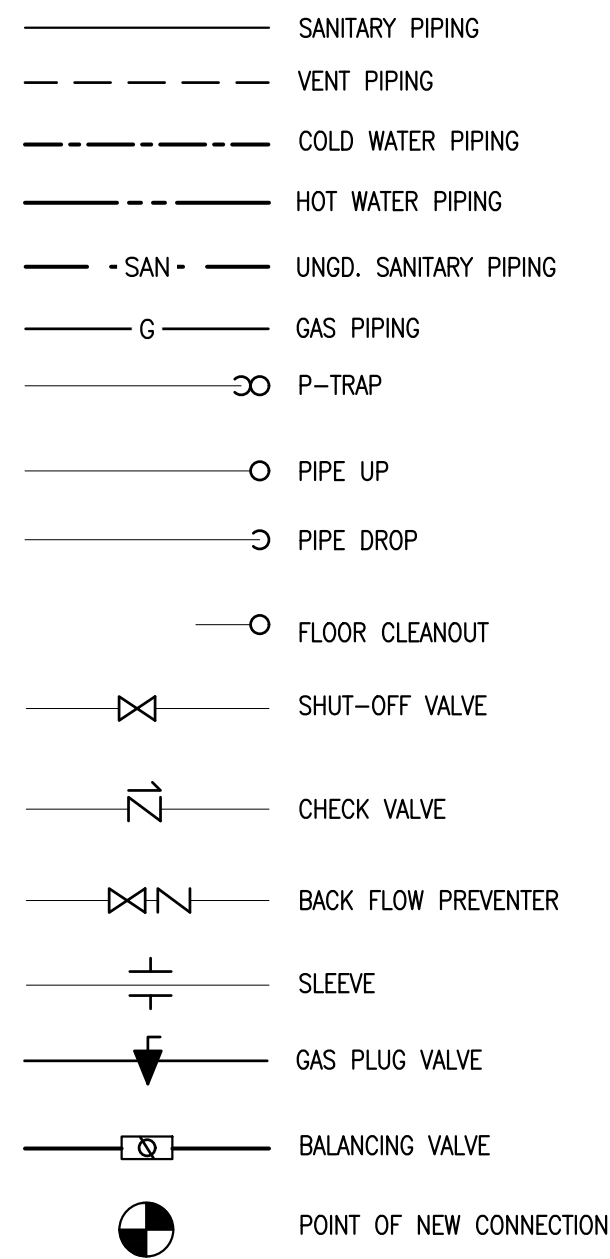
PIZZAWALAS

PERMIT
ELECTRICAL RISER AND
PANEL SCHEDULE
04.26.2024
REV

REV NOTE DATE

E06

PLUMBING SYMBOLS LIST



PLUMBING ABBREVIATIONS

FCO	FLOOR CLEAN OUT
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
SAN	SANITARY
V	VENT
LAV	LAVATORY
WC	WATER CLOSET
TYP.	TYPICAL
DN	DOWN
EX.	EXISTING
G	GAS
AFF	ABOVE FINISH FLOOR
FD	FLOOR DRAIN
SQ. FT.	SQUARE FEET
RPZ	BACK FLOW PREVENTER
WH	HOT WATER HEATER
VTR	VENT THROUGH ROOF

PLUMBING DRAWING LIST

P01	PLUMBING SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATIONS
P02	PLUMBING SPECIFICATIONS
P03	PLUMBING SANITARY FLOOR PLAN
P04	PLUMBING WATER & GAS FLOOR PLAN
P05	PLUMBING DETAILS
P06	PLUMBING SCHEDULES
P07	PLUMBING ISOMETRIC RISERS

BUILDING DEPARTMENT PLUMBING NOTES

- ALL PLUMBING SYSTEMS (SANITARY, GAS, VENT & WATER DISTRIBUTION PIPING SYSTEMS) AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF 2021 NATIONAL STANDARD PLUMBING CODE(NSPC) FOR NEW JERSEY, 2021 AND LOCAL LAWS.
- PROTECTION OF PIPING AND PLUMBING SYSTEM COMPONENTS AS PER 2021 NATIONAL STANDARD PLUMBING CODE (NSPC) SECTION 2.9.
- TRENCHING, EXCAVATION AND BACKFILL AS PER SECTION 2.6 OF 2021 NATIONAL STANDARD PLUMBING CODE(NSPC).
- RODENT PROOFING AS PER 2021 NATIONAL STANDARD PLUMBING CODE(NSPC).
- MATERIAL USED IN PLUMBING SYSTEM SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF 2021 NATIONAL STANDARD PLUMBING CODE (NSPC) SECTION 3.4,3.5,3.6,3.7.
- EQUIPMENT CONNECTIONS AND JOINING OF PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF 2021 NATIONAL STANDARD PLUMBING CODE(NSPC) CHAPTER 7,10,11,12.
- DRAINAGE PIPE CLEANOUTS AS PER 2021 NATIONAL STANDARD PLUMBING CODE (NSPC) SECTION 5.4.
- VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF 2021 NATIONAL STANDARD PLUMBING CODE (NSPC) CHAPTER 8.
- WATER SUPPLY SYSTEM SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF 2021 NATIONAL STANDARD PLUMBING CODE (NSPC) CHAPTER 10 SECTION 10.1,10.3,10.4,10.6,10.14,10.15.
- THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF 2021 NATIONAL STANDARD PLUMBING CODE(NSPC) CHAPTER 11.
- VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NATIONAL STANDARD PUMBING CODE (NSPC) 2021, CHAPTER 12, SECTION 12.1,12.2, 12.10 AND APPENDIX E SECTION E.7
- INSPECTION AND TESTING OF PLUMBING SYSTEM SHALL BE IN ACCORDANCE WITH 2021 NATIONAL STANDARD PLUMBING CODE (NSPC) SECTION 1.2,10.5 & CHAPTER 15.
- INSPECTION AND TESTING OF GAS PIPING SYSTEM SHALL BE IN ACCORDANCE WITH SECTION 406 OF 2021 IFGC.

PLUMBING SPECIFICATIONS

- BASIC PLUMBING REQUIREMENTS, MATERIALS AND METHODS
 - 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 SUBMITTING CONTRACTOR 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 SANITARY AND VENT PIPING SHALL BE POLYVINYL CHLORIDE (PVC) PLASTIC PIPE WITH A SOLID CELLULAR CORE OR COMPOSITE WALL. PIPE SHALL BE COMPLY WITH ASTM D2665, ASTM F891, ASTM F1488, CSA B181.2. PVC PIPE AND FITTINGS AS SPECIFIED UNDER SECTION 3.5 SHALL BE USED.
- BELOW GROUND SANITARY AND VENT PIPING SHALL BE POLYVINYL CHLORIDE (PVC) PLASTIC PIPE/PIPE SHALL COMPLY WITH ASTM D 2665, ASTM F 891, CAS B181.2 AND FITTING WITH JOINTS MADE WITH PVC ASTM D 3034 AND FITTINGS AS SPECIFIED UNDER SECTION 3.5 SHALL BE USED.
- SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE 3" TO 6" (I.D.) AND 1/4" PER FOOT OF RUN FOR PIPE 2-1/2" AND SMALLER (I.D.). VENT PIPING SHALL BE PITCHED TO DRAIN. PVC OR OTHER COMBUSTIBLE PLASTIC PIPING SHALL NOT BE INSTALLED IN CEILING PLENUM SPACES.

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 INSULATED WITH FIRE RETARDANT, FACTORY-APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY WITH ASHRAE 90.1 2019 SECTION ENERGY CONSERVATION CODE 7.4.3 BELOW TABLE.

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

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

C. HANGERS AND SUPPORTS:

- 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.
- SECTIONS OF INDIVIDUAL PIPE RUNS SHALL BE SUPPORTED BY CLEVIS HANGERS.
- ALL EQUIPMENT SHALL BE PROVIDED WITH APPROVE SUPPORTS.
- SUPPORTS SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPING MANUFACTURER.

D. VALVES:

- 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 VALVES. 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.
- ALL FIXTURES WITH THE EXCEPTION 0 FLOUSHOMETER-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.

- ALL PLUMBING FIXTURES AND EQUIPMENT TO HAVE SHUT-OFF VALVES ON SUPPLY LINES.

- ALL BRANCH LINES TO HAVE SHUT-OFF VALVES.

- ALL VALVES SHALL BE ACCESSIBLE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR VALVE ACCESS.

- PROVIDE GLOBE VALVES FOR THROTTLING/BALANCING OF THE HOT WATER CIRCULATING SYSTEM.

E. SLEEVES AND ESCUTCHEONS:

- 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.
- PIPE ESCUTCHEON PLATES SHALL BE INSTALLED WHERE EXPOSED PIPING PASSES THROUGH WALLS, CEILING, AND FLOORS AND SHALL BE MINIMUM 20 GAGE STEEL. PROVIDE CHROME PLATED ESCUTCHEON PLATES IN FINISHED AREAS.

F. MIXING VALVES

- POINT OF USE WATER MIXING VALVES SHALL BE IAPMO LAB CERTIFIED PER ASSE 1070 AT 0.25 GPM AND CSA STANDARDS. IT SHALL HAVE A SOLID BRASS BODY CONSTRUCTION WITH CORROSION-RESISTANT INTERNAL COMPONENTS.
- VALVE SHALL INCLUDE INTEGRAL CHECKS WITH SCREENS TO PREVENT BACKFLOW AND TO FILTER DEBRIS FROM ENTERING THE VALVES. TEMPERATURE ADJUSTMENT SHALL BE MADE USING AN ALLEN WRENCH AND A LOCKNUT ON THE BONNET TO PREVENT UNAUTHORIZED OR ACCIDENTAL TEMP. ADJUSTMENT.

- VALVES SHALL PROVIDE PROTECTION AGAINST HOT OR COLD SUPPLY LINE FAILURE AND THERMOSTAT FAILURE.

G. HOT WATER RE-CIRCULATING PUMP

- IN-LINE PUMP: SINGLE STAGE VOLUTE TYPE PUMP SHALL BE MADE OF FORGED LEAD-FREE BRONZE IMPELLER.
- 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.
- 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.
- 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.

H. GAS FIRED INSTANTANEOUS WATER HEATER:

- PROVIDE HIGH EFFICIENCY GAS FIRED, INSTANTANEOUS WATER HEATERS. SIZE, LOCATION AND CAPACITY SHALL BE AS INDICATED ON THE DRAWINGS
- FACTORY-INSTALLED TEMPERATURE AND PRESSURE RELIEF VALVE EXTEND DISCHARGE PIPE, FULL SIZE, TO WITHIN 6" ABOVE THE MOP SINK OR FLOOR DRAIN
- PROVIDE POTABLE WATER EXPANSION TANK AS SPECIFIED EQUAL PRODUCTS BY WATTS, AMTROL OR BELL & GOSSETT MAY BE PROVIDED AT THE CONTRACTOR'S OPTION

I. GAS PIPING:

- ALL GAS PIPING WORK SHALL COMPLY WITH INTERNATIONAL FUEL GAS CODE 2021, LOCAL UTILITY GAS REQUIREMENTS AND NFPA 54, ANSI Z223.1.
- FURNISH AND INSTALL ALL NECESSARY GAS PIPING TO ALL EQUIPMENT REQUIRING GAS SUPPLY INCLUDING RECONNECTION TO EXISTING ACTIVE GAS BURNING EQUIPMENT
- PROVIDE A LUBRICATED GAS VALVE AT ALL CONNECTIONS TO EQUIPMENT.
- ALL GAS PIPING AND INSTALLATION SHALL BE IN ACCORDANCE WITH RULES AND REGULATIONS OF LOCAL UTILITY GAS COMPANY AND OTHER AUTHORITIES HAVING JURISDICTION.
- PROVIDE ADEQUATE SUPPORT FOR ALL PIPING.
- GAS PIPING SHALL BE BLACK STEEL SCHEDULE 40 THREADED PIPE CONFORMING TO ANSI B36-20.
- FITTINGS SHALL BE MALLEABLE IRON.
- VALVES SHALL BE NORDSTROM IRON PLUG VALVES FIG. 142.
- PIPING UNDERGROUND BENEATH BUILDING SHALL COMPLY WITH INTERNATIONAL FUEL GAS CODE 2021 SECTION 404.14.

NOTES

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- COORDINATE ALL DRAWINGS, DETAILS, AND EQUIPMENT SPECS.
- ALL TRADES SHALL REVIEW AND HAVE ACCESS TO ENTIRE SET OF PLANS AND SPECS PRIOR TO BIDDING AND DURING CONSTRUCTION
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- SUBMIT WEEKLY UPDATES TO OWNER/ARCHITECT INCLUDING SCHEDULE, PHOTOS, AND PROGRESS REPORT
- FIELD VERIFY EXISTING CONDITIONS AND REPORT ANY INCONSISTENCIES TO ARCHITECT. G.C. SHALL SUBMIT ALL AS-BUILTS AND DEVIATIONS FROM THE PLANS TO OWNER & ARCHITECT
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- DEFERRED SUBMITTALS
- ALL PLANS LABELED AS DEFERRED SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT AND/OR LOCAL AUTHORITY FOR APPROVAL PRIOR TO INSTALLATION.



PROJECT

PIZZAWALAS

PERMIT

PLUMBING SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATIONS. 04.26.2024

REV

REV	NOTE	DATE
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P01

J. 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.

K. 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 CAST IRON BODY, ROUND, POLISHED NICKEL BRONZE SCORRIATED TOP SECURED TO CLEANOUT PLUG WITH STAINLESS STEEL VANDAL RESISTANT FASTENER; THREADED HEIGHT ADJUSTMENT, CAST IRON HEAD, GAS TIGHT CLEANOUT PLUG, AND CONNECTION TO MATCH PIPING OPTION SELECTED.
 - GRILLE FREE AREA SHOULD BE AT LEAST EQUAL TO CROSS-SECTION 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.

L. 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.
- M. 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.
- N. 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.
- O. IN ALL AREAS WITH FINISHED SURFACES, SYSTEM PIPING AND COMPONENTS SHALL BE CONCEALED ABOVE OR WITHIN FINISHED SURFACES.
- P. REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE-PIECE REDUCING FITTINGS. BUSHINGS ARE NOT ACCEPTABLE. USE FLANGED FITTINGS AT THE ASE OF RISERS.
- Q. VENT PENETRATIONS THROUGH THE ROOF SHALL BE FLASHED.
- R. IF WATER PRESSURE EXCEEDS 80 PSI, A WATER PRESSURE REDUCING VALVE SHALL BE INSTALLED IN WATER PIPING AT CONNECTION TO MAIN.
- S. PROVIDE DIELECTRIC FITTINGS BETWEEN DISSIMILAR METALS.
- T. PIPE BACKFLOW PREVENTER DRAINS TO FLOOR DRAIN OR OTHER APPROVED INDIRECT WASTE SOURCE.
- U. 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.
- V. 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. 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 SURFACES IN EXPOSED AREAS PROVIDE ESCUTCHEONS COMPATIBLE WITH FINISH.
- AA. PROVIDE WATER HAMMER ARRESTERS ON SUPPLY PIPING TO ALL FLUSHOMETER VALVES AND QUICK-CLOSING VALVES.
- AB. UNLESS OTHERWISE INDICATED, TRAPS SEALS AT ALL FLOOR DRAINS SHALL BE MAINTAINED BY AN APPROVED TRAP PRIMING DEVICE.

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

AE. 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. ELECTRICAL SERVICE BOARD(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 RE-CIRCULATION 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 ½" 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 WITH MANVILLE ZESTON 2000 PVC INSULATED FITTING COVERS. INSTALL ALL INSULATION AS PER MANUFACTURERS RECOMMENDATIONS. ALL INSULATION MATERIAL SHALL COMPLY WITH NATIONAL STANDARD PLUMBING CODE (NSPC) FOR NEW JERSEY, 2021 AND LOCAL LAWS. 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 NATIONAL STANDARD PLUMBING 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 ELECTRICAL SERVICE BOARD 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.

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.

NOTES

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PROJECT

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PERMIT PLUMBING SPECIFICATIONS

04.26.2024

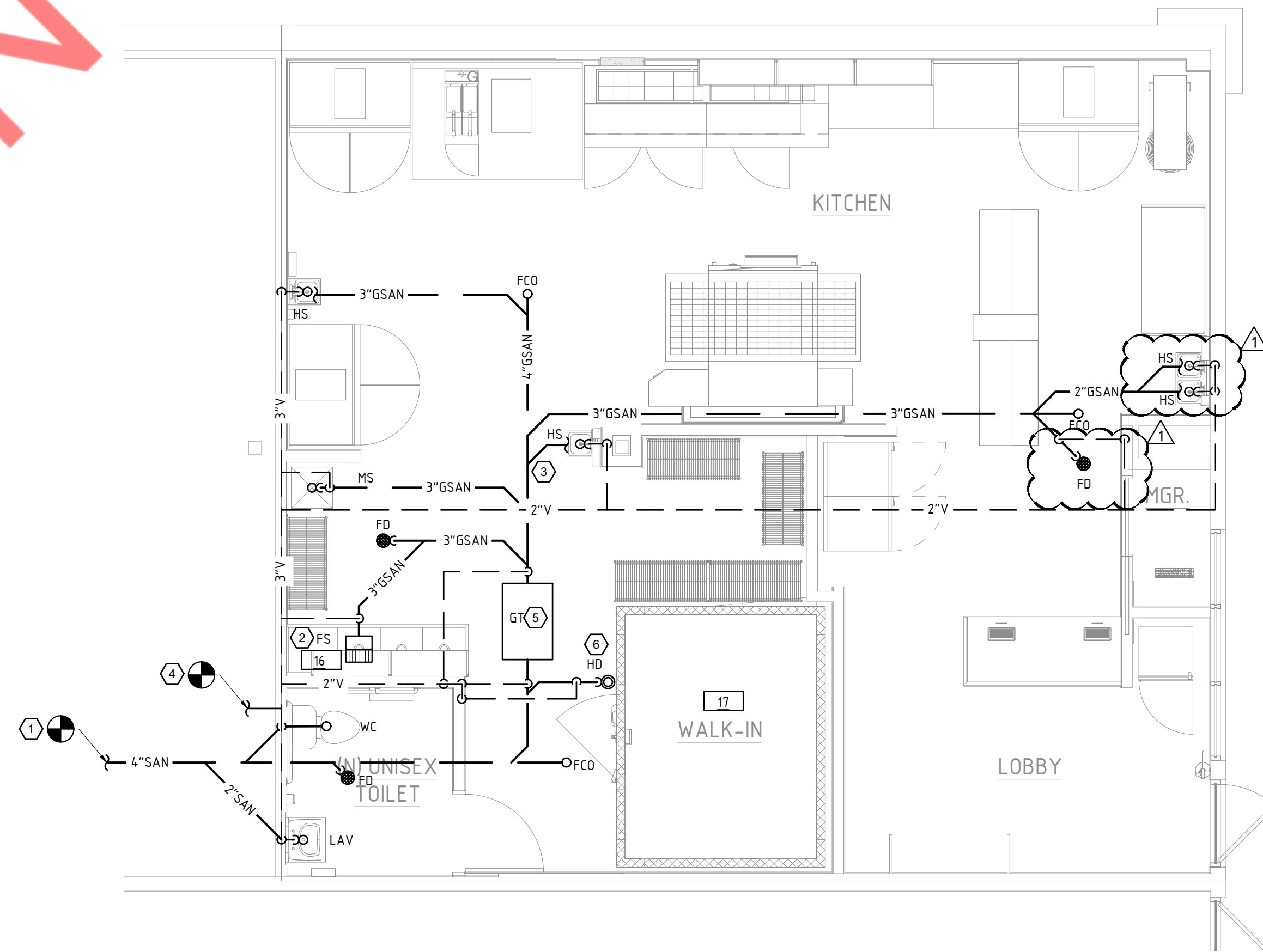
REV

REV	NOTE	DATE
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P02

- SANITARY KEYED NOTES:**
- 1 EXTEND & CONNECT NEW 4" SANITARY LINE TO EXISTING SANITARY LINE. CONTRACTOR TO VERIFY SIZE AND LOCATION OF TIE-IN POINT IN FIELD.
 - 2 ROUTE INDIRECT WASTE FROM 3-COMP SINK (#TAG 16) TO FLOOR SINK WITH APPROVED AIR GAP.
 - 3 ROUTE INDIRECT WASTE FROM WATER HEATER (WH-1 & 2) MOP SINK(MS) WITH APPROVED AIR GAP.
 - 4 CONNECT NEW VENT PIPE TO EXISTING VENT PIPE WITH EXISTING VTR.
 - 5 PROVIDE FLOOR RECESSED GREASE TRAP(GT), REFER SHEET P06 FOR SCHEDULE. INSTALL INTERCEPTOR AS PER MANUFACTURER'S RECOMMENDATIONS & LOCAL CODES.
 - 6 ROUTE INDIRECT WASTE FROM WALK IN COOLER (#TAG 17) TO HUB DRAIN (HD) WITH APPROVED AIR GAP.

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PROJECT

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PLUMBING SANITARY FLOOR PLAN
04.26.2024
REV

REV	NOTE	DATE
1	CLIENT CHANGES	04.26.2024

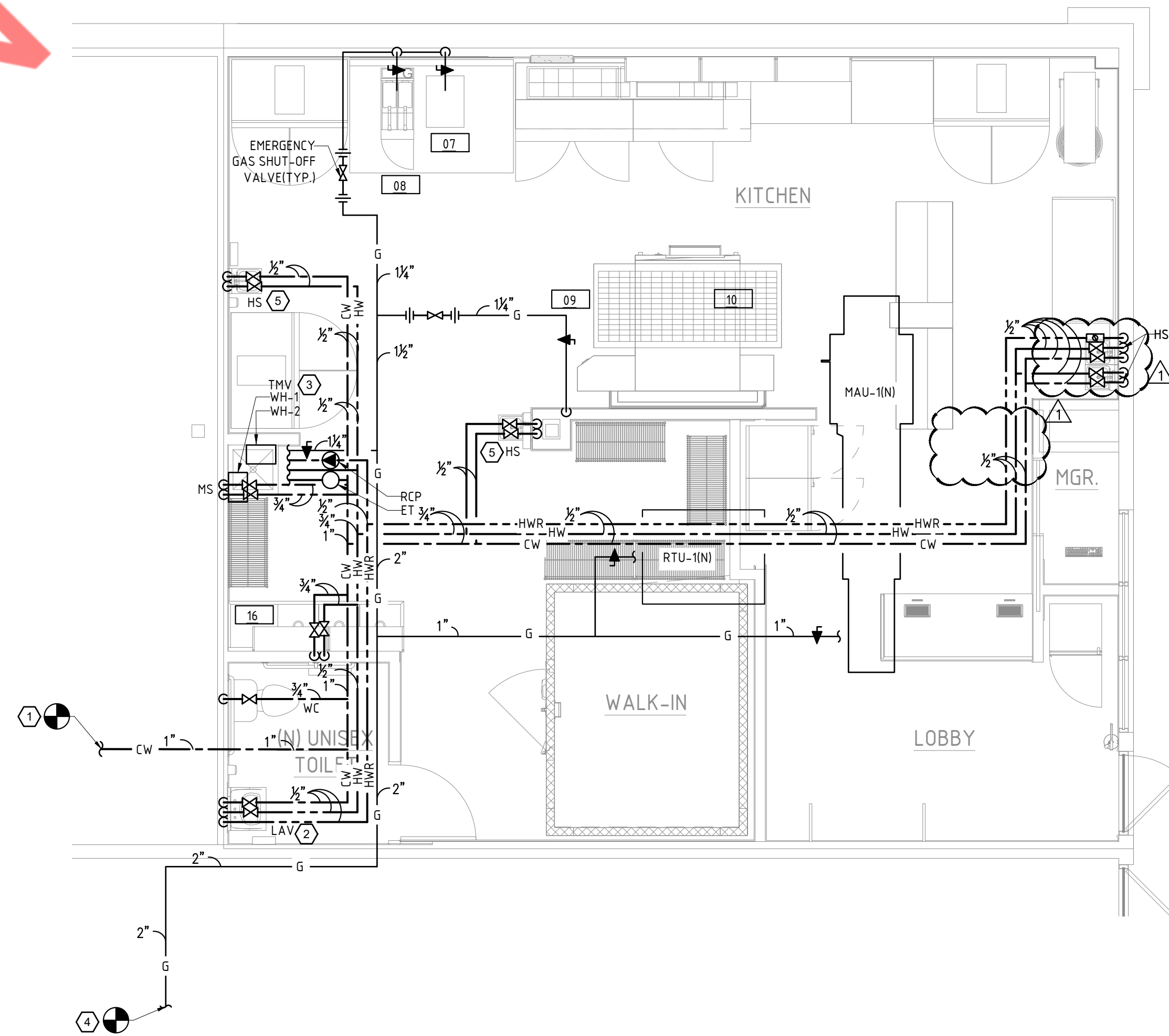
1 PLUMBING SANITARY FLOOR PLAN
1/4" = 1'-0"

P03

WATER SUPPLY KEYED NOTES:

- 1 EXTEND & CONNECT NEW 1" COLD WATER SUPPLY DISTRIBUTION LINE TO EXISTING WATER. CONTRACTOR TO VERIFY SIZE & LOCATION OF EXISTING LINE IN FIELD. CONFIRM REQUIREMENT OF WATER METER & RPZ WITH LANDLORD. IF EXISTING IS NOT PROVIDED, PROVIDE NEW AND ADD TO BASE BID.
- 2 PROVIDE BALANCING VALVE ON HOT WATER RETURN LINE TO LAVATORIES. HWR LINE MUST CONNECT TO HW LINE LESS THAN 2' AWAY FROM THE LAVATORY.
- 3 PROVIDE NEW GAS TYPE TANK WATER HEATER(DHW). REFER SHEET P05 FOR INSTALLATION DETAILS & P06 FOR SCHEDULE & CALCULATIONS.
- 4 CONNECT TO EXISTING GAS NETWORK WITH EXISTING GAS METER. CONTRACTOR TO CHECK WHETHER THE EXISTING GAS NETWORK IS IN OPERABLE CONDITION IS RATED FOR 1113 MBH & HAS 8" W.C. MINIMUM PRESSURE AT OUTLET. IF NOT, NOTIFY OWNER & ARCHITECT. PROVIDE PRESSURE REGULATOR IF PRESSURE AT OUTLET EXCEEDS 11" W.C.
- 5 PROVIDE THERMOSTATIC MIXING VALVES ON ALL HAND SINKS & LAVATORIES. LIMIT TEMPERATURE TO 110 DEG F.

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

NOTES

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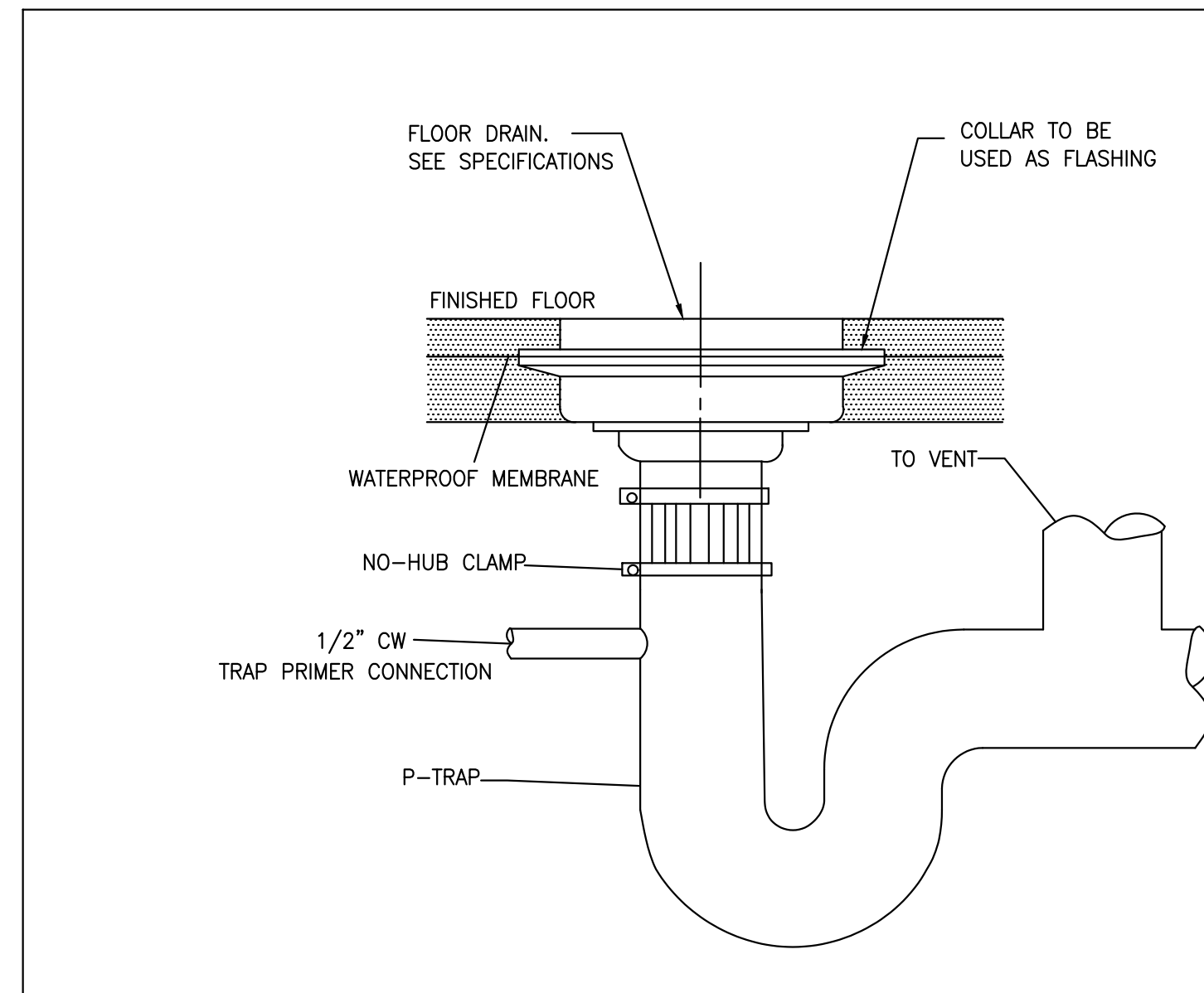
PROJECT

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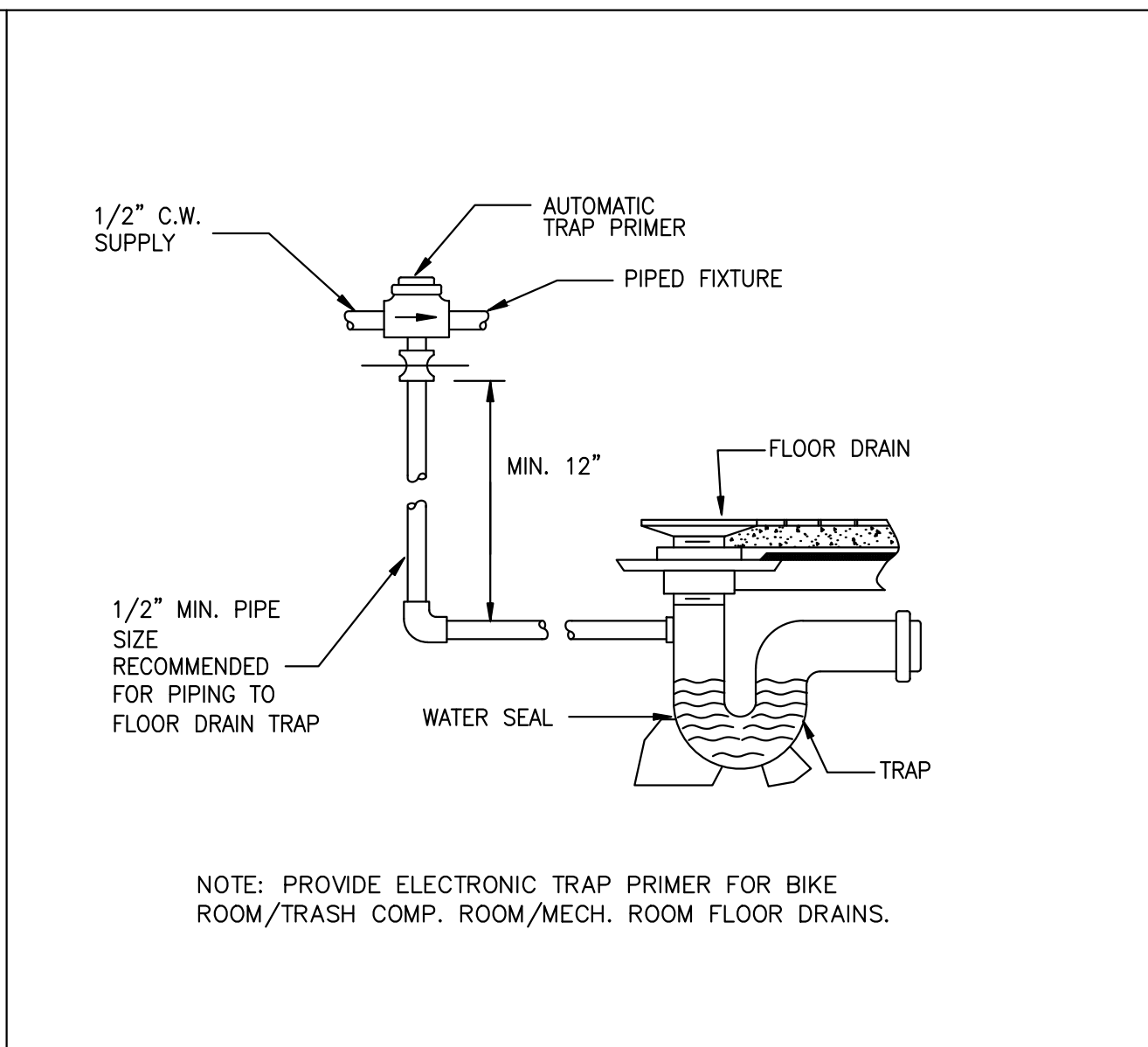
PERMIT
PLUMBING WATER & GAS
FLOOR PLAN
04.26.2024
REV

REV	NOTE	DATE
1	CLIENT CHANGES	04.26.2024

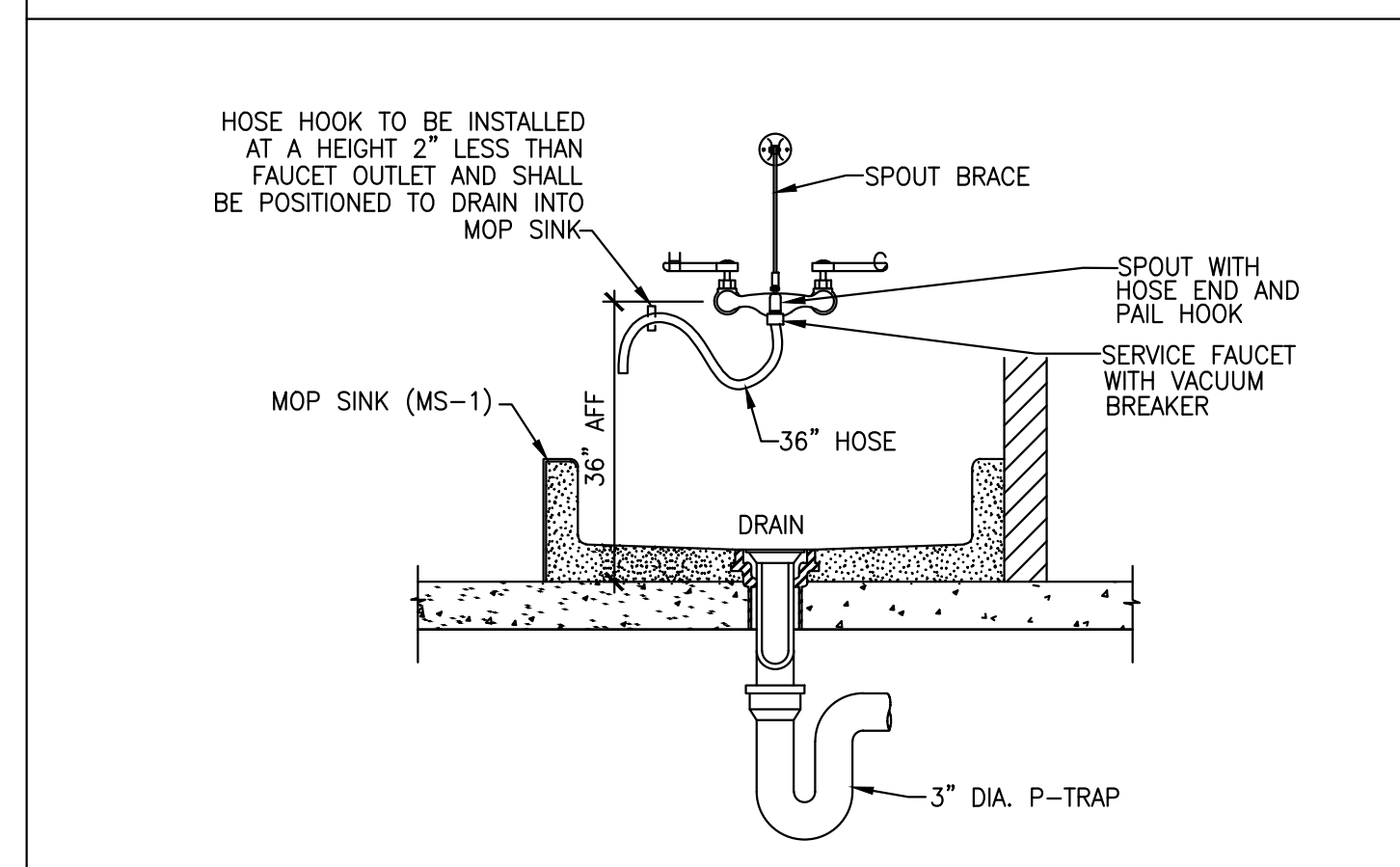
P04



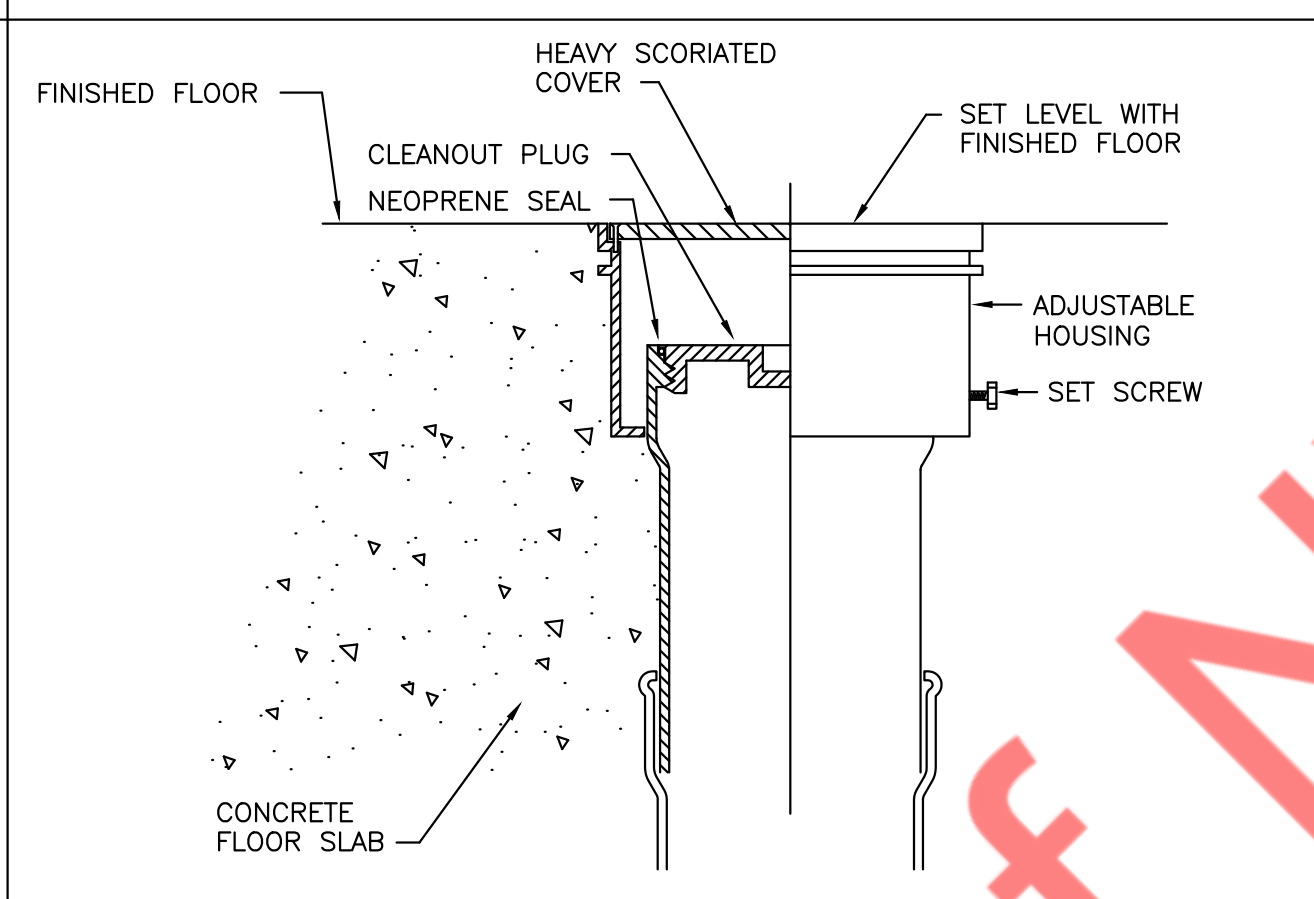
1 FLOOR DRAIN DETAIL
P05 N.T.S



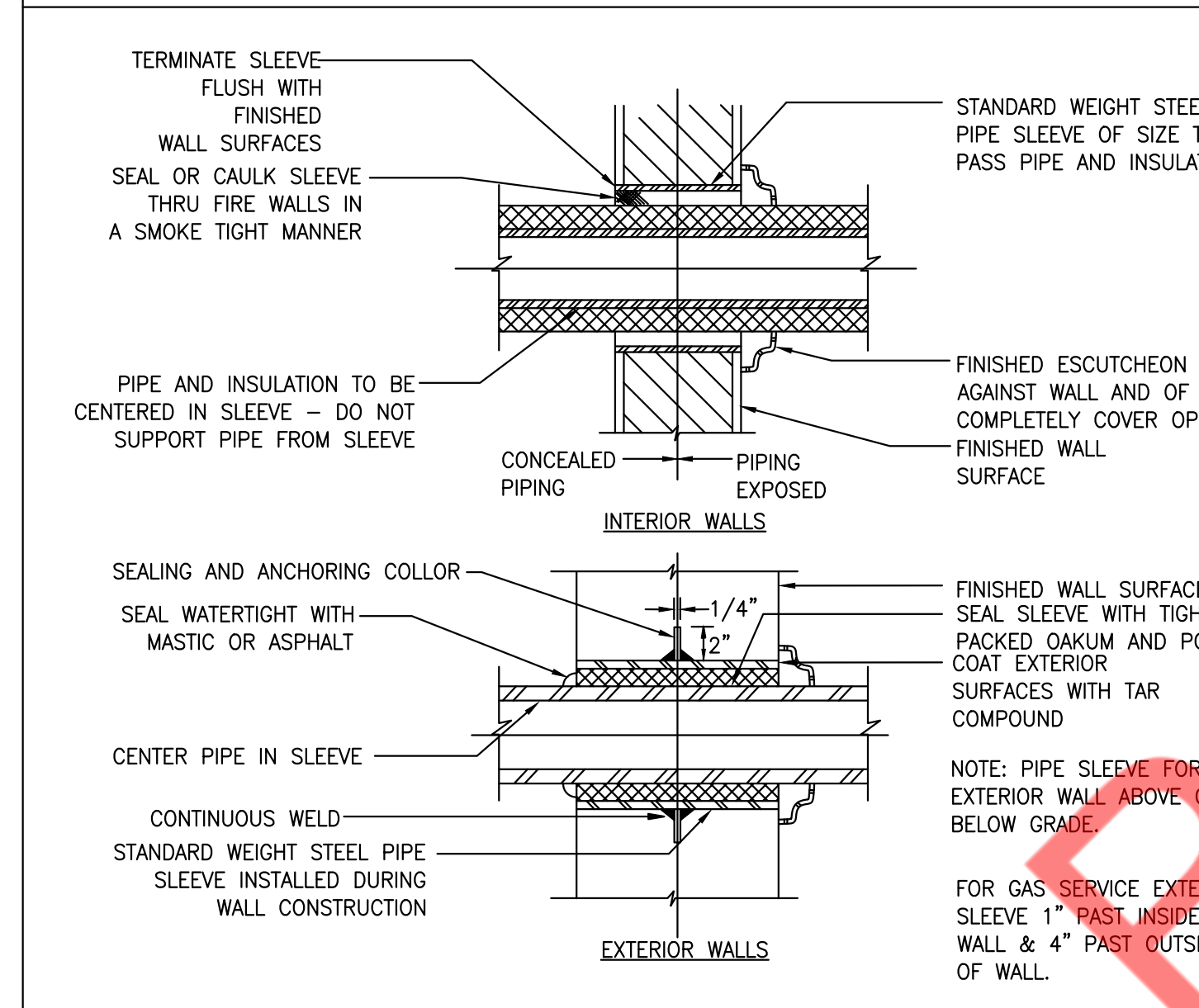
2 FLOW CONTROL TRAP PRIMER DETAIL
P05 N.T.S



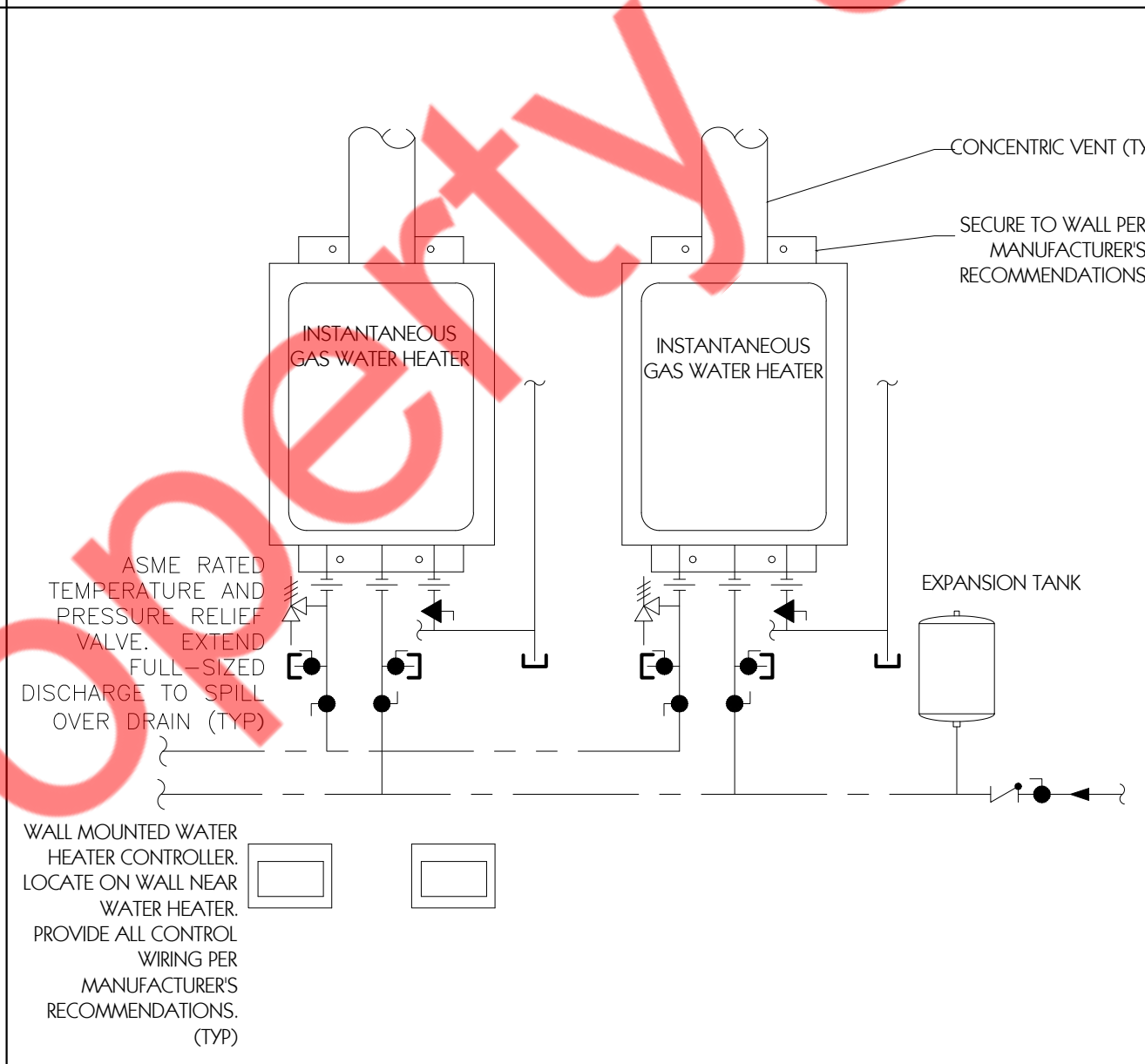
4 MOP SINK DETAIL
P05 N.T.S



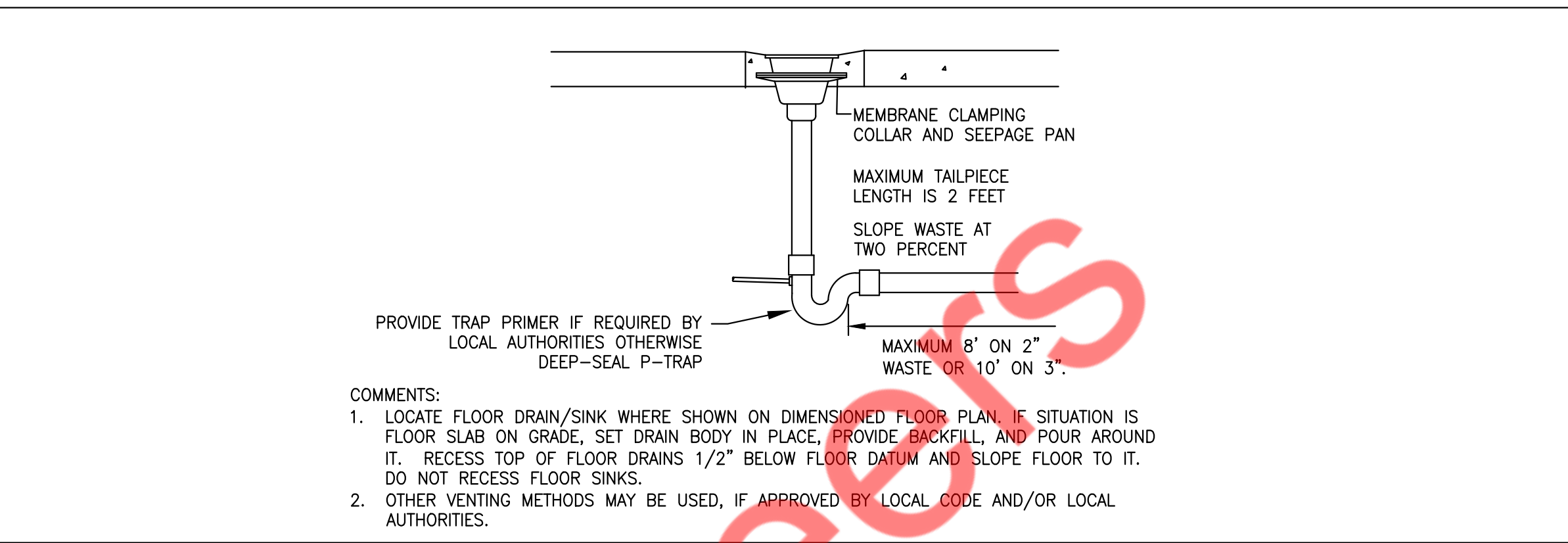
5 FLOOR CLEANOUT DETAIL
P05 N.T.S



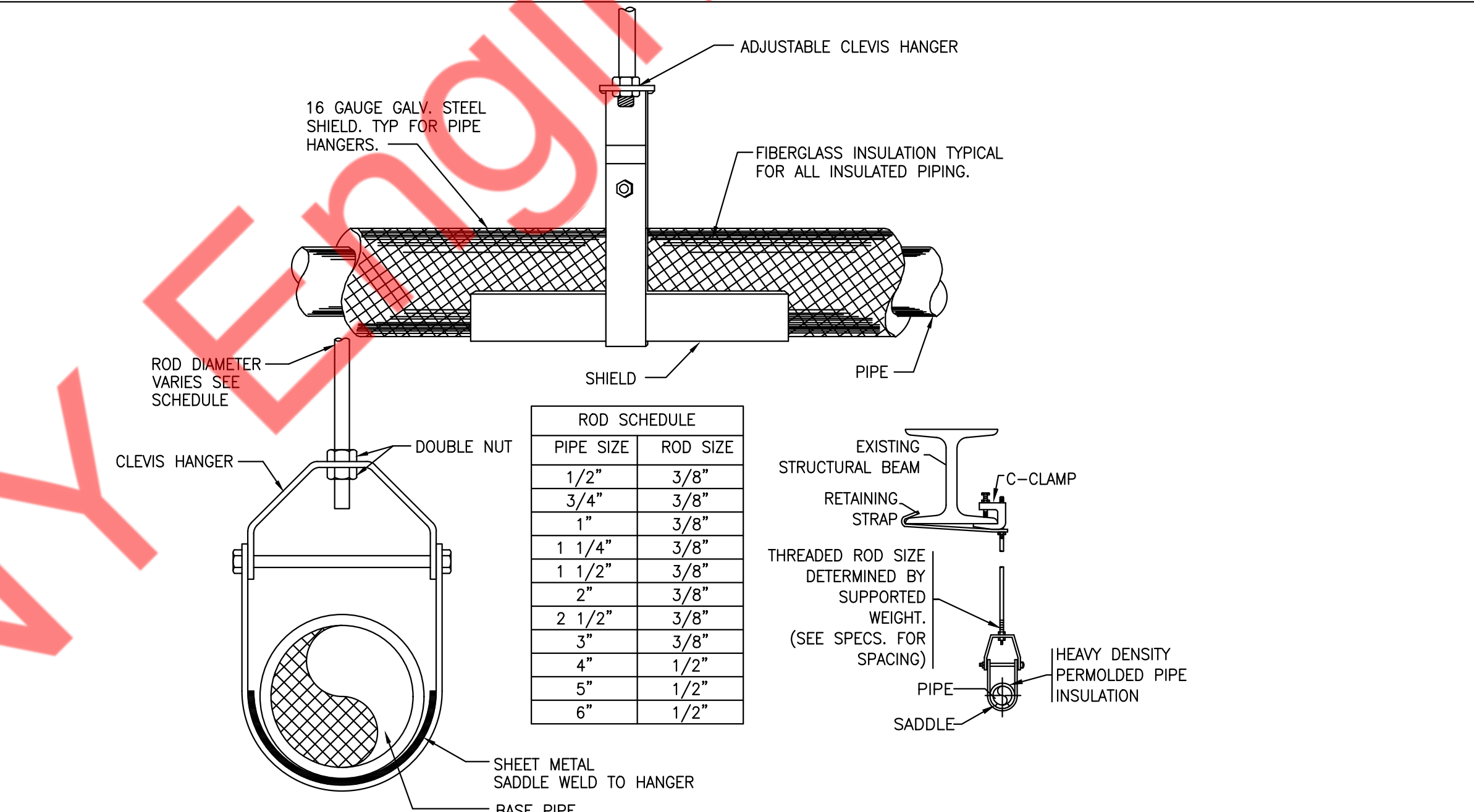
7 PIPE SLEEVE THRU WALL SECTION
P05 N.T.S



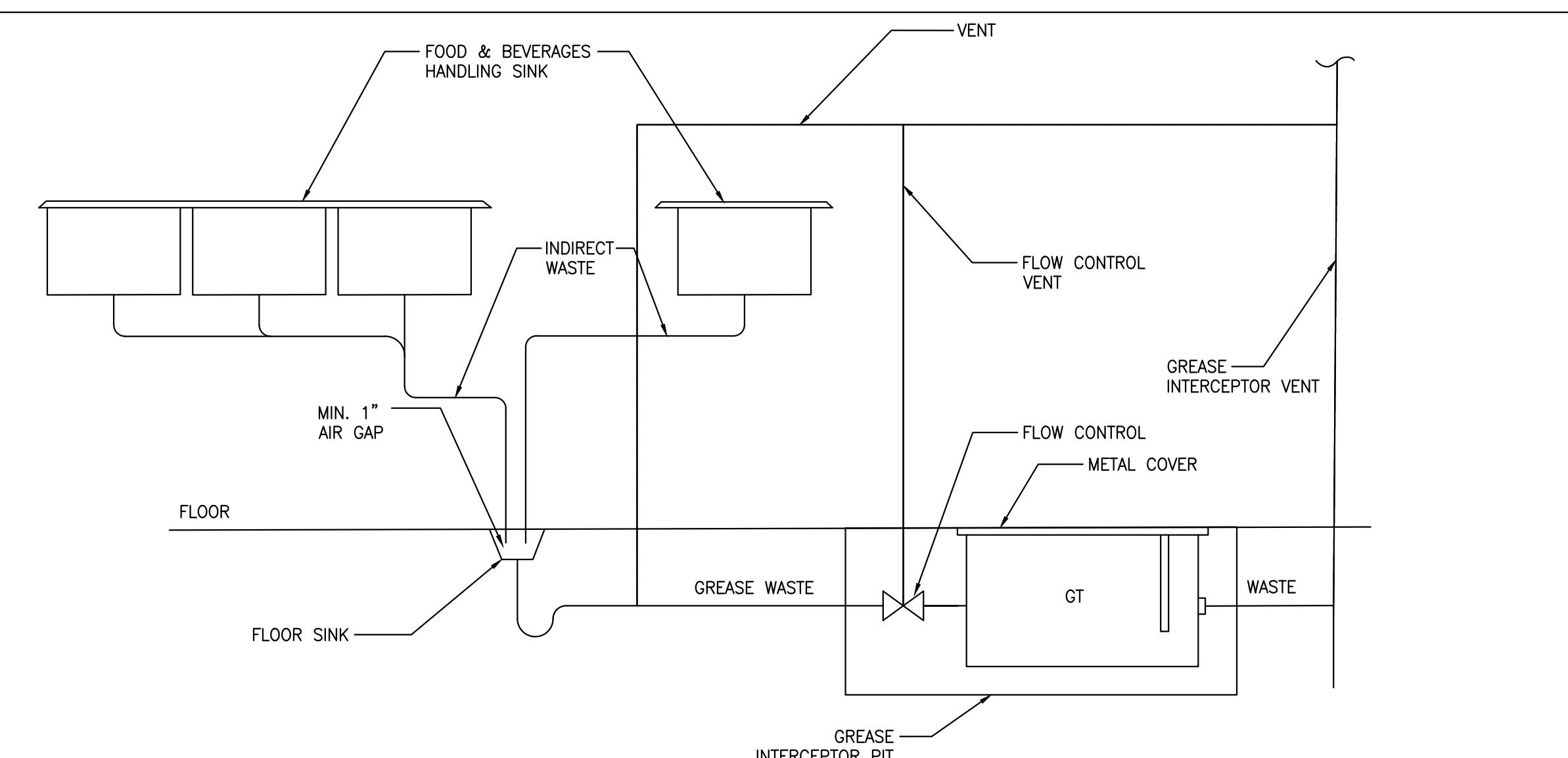
8 WATER HEATER DETAIL
P05 N.T.S



3 FLOOR SINK DETAILS
P05 N.T.S



6 HANGER DETAIL
P05 N.T.S



9 GREASE TRAP INSTALLATION DETAIL
P05 N.T.S

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PROJECT

PIZZAWALAS

PERMIT
PLUMBING DETAILS

04.26.2024
REV

REV	NOTE	DATE

P05

PLUMBING FIXTURE SCHEDULE										
LEGEND	PLUMBING FIXTURE	CONNECTION SIZE - INCHES						MANUFACTURER / MODEL	REMARKS	
		TRAP	SOIL/WASTE	VENT	COLD WATER	HOT WATER	THERMOSTATIC MIXING VALVE			
WC	WATER CLOSET	4"	4"	2"	3/4"	-	-	-	FLUSH TANK	
LAV	LAVATORY	2"	2"	2"	1/2"	1/2"	PROVIDE	-	-	
MS	MOP SINK	3"	3"	2"	3/4"	3/4"	-	-	-	
HS	WALL MOUNTED HAND SINK	2"	2"	2"	1/2"	1/2"	PROVIDE	REGENCY	P-TRAP	
HD	HUB DRAIN	-	3"	-	-	-	-	ZURN Z-1019	-	
FS	FLOOR SINK	-	3"	-	-	-	-	ZURN EZ-PV3	-	
FD	FLOOR DRAIN	-	3"	-	-	-	-	ZURN Z1900-NH3-2	PROVIDE A BARRIER TRAP PROTECTION DEVICE IN ACCORDANCE WITH ASSE 1072.	

NOTE: CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES SPECIFICATIONS AND MOUNTING HEIGHT INSTALLATION.

GREASE TRAP CALCULATION										
FIXTURE	QUANTITY	DIMENSIONS			VOLUME		PERCENTAGE USAGE(%)	ACTUAL USAGE (GALLONS)	FLOW RATE(GPM)	
		LENGTH(IN)	WIDTH(IN)	DEPTH(IN)	CUBIC INCHES	GALLONS			1 MIN.	2 MIN.
3-COMPARTMENT SINK	1	18	18	14	13608	58.9	0.75	44.1	44.1	22.05
MOP SINK	1	24	24	12	6912	29.92	0.75	22.44	22.44	11.22
HAND SINK	4	4	9	9	324	1.40	0.75	1.05	4.2	2.1
FLOOR DRAIN	2									0.5
TOTAL:									71.74	36.2

GREASE TRAP SCHEDULE							
ITEM	LOCATION	SERVICE	LIQUID CAPACITY (GALLONS)	FLOW CAPACITY (GPM)	GREASE CAPACITY (LBS)	MANUFACTURER AND MODEL	REMARKS
GT	FLOOR RECESSED	KITCHEN WASTE	20	50	127	SCHIER GBZ	SIZE- 23"(L) X 35"(W) X 13-3/4"(H) FLOOR RECESSED

NOTES:
1. CONTRACTOR TO PROVIDE ALL REQUIRED ACCESSORIES FOR SATISFACTORY WORKING OF GREASE TRAP AS PER SITE CONDITIONS.
2. INSTALL GREASE TRAP PER LOCAL CODE & MANUFACTURER'S INSTRUCTIONS.

KITCHEN EQUIPMENT FIXTURE SCHEDULE										
LEGEND	PLUMBING FIXTURE	CONNECTION SIZE - INCHES						MANUFACTURER / MODEL	REMARKS	
		TRAP	SOIL/WASTE	VENT	COLD WATER	HOT WATER	GAS			THERMOSTATIC MIXING VALVE
7	STOCKPOT BURNER	-	-	-	-	-	1"	-	TRUE	-
8	FRYER	-	-	-	-	-	1"	-	VULCAN LG 400	-
9,10	PIZZA CONVEYOR OVENS	-	-	-	-	-	1-1/4"	-	XLT OVENS	-
16	3-COMPARTMENT SINK	-	-	-	3/4"	3/4"	-	-	REGENCY	3-BOWL SINK W/1NOS 24" DRAINBOARD 18X18X14 I.W. FROM SINK SPILLS INTO FLOOR SINK

NOTE: CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL KITCHEN EQUIPMENT FIXTURES SPECIFICATIONS AND MOUNTING HEIGHT INSTALLATION.

HOT WATER HEATER						
TAG No.	QUANTITY	FIXTURES SERVING	INPUT MBH	(GPM @ RISE)	MANUFACTURER & MODEL NO.	REMARKS
WH-1 & 2	2	3-COMP SINK, LAVATORY, HAND SINK, MOP SINK.	199	4.4 GPM @ 90F	RINNAI CU199I	-DIMENSIONS 18.5"(L) X 26.37"(H) X 11.41"(W) -HEATERS SHALL HAVE 150PSI MAX WORKING PRESSURE.

WATER HEATER CALCULATIONS			
FIXTURE	QUANTITY	GPM	TOTAL GPM
3-COMPARTMENT SINK	1	2	2
MOP SINK	1	1.5	1.5
HAND SINK	4	0.5	2
LAVATORY	1	0.5	0.5
TOTAL			6

THERMOSTATIC MIXING VALVE SCHEDULE									
ITEM	SERVING	SERVICE	PIPE SIZE (INCHES)	CAPACITY RANGE (GPM)		TEMP. RANGE (°F)		MANUFACTURER & MODEL NO.	REMARKS
				MIN.	MAX.	MIN.	MAX.		
MIXING VALVE	ALL LAVATORIES AND HAND SINK	HOT WATER	1"	0.5	12	80	120	WATTS MODEL LFMMVM1	-LEAD FREE COPPER SILICON ALLOY BODY -ASSE 1070 LISTED

EXPANSION TANK SCHEDULE						
TAG	LOCATION	SERVICE	CAPACITY (GALLONS)	MANUFACTURER & MODEL	DIMENSION (DIA X HEIGHT)	NO. OF EXPANSION TANK
ET	KITCHEN AREA	HW	2	THERM-X-TROL ST-5	8" X 13"	1

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PROJECT

PIZZAWALAS

PERMIT
PLUMBING SCHEDULE

04.26.2024

REV

REV	NOTE	DATE

P06

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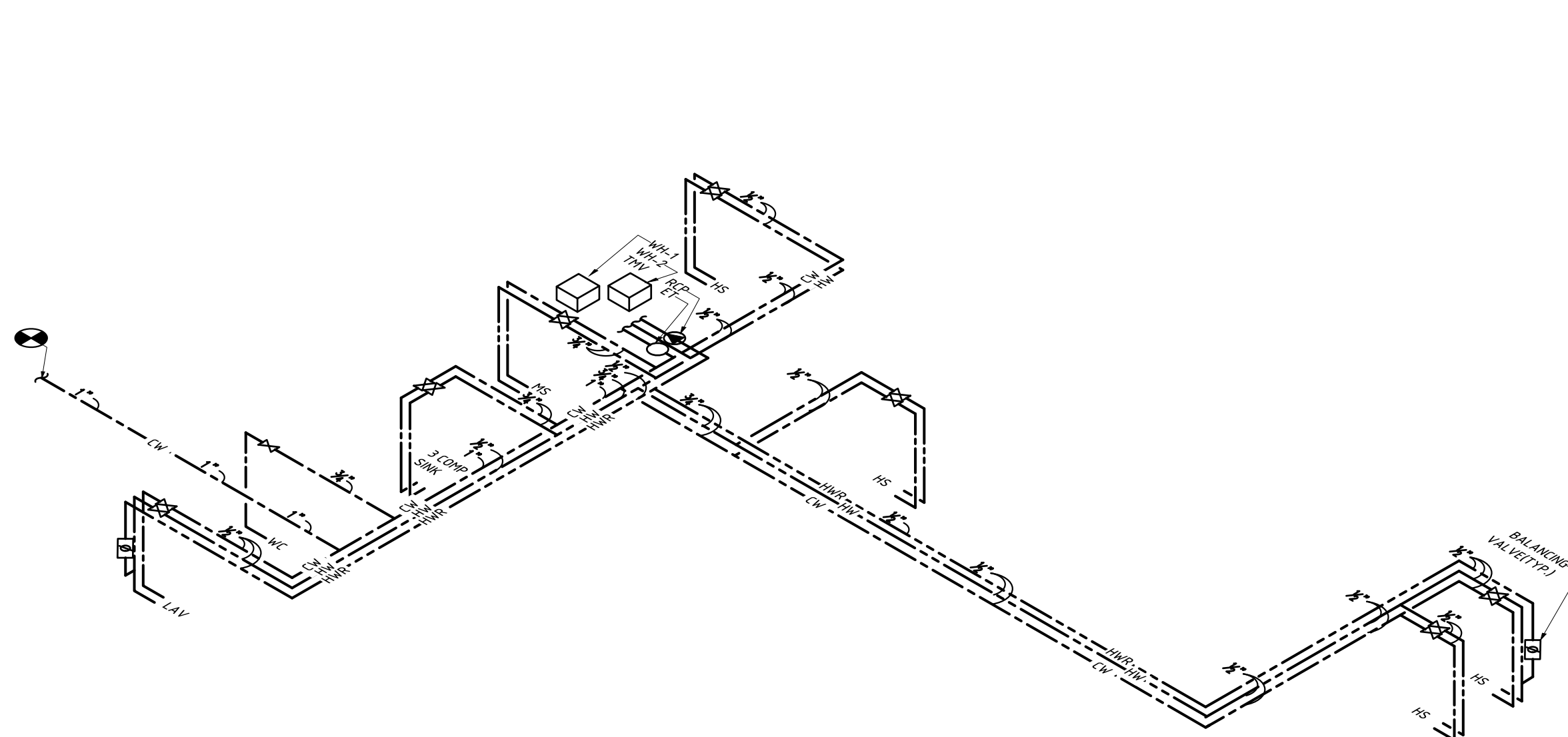
PERMIT
PLUMBING ISOMETRIC RISERS

04.26.2024

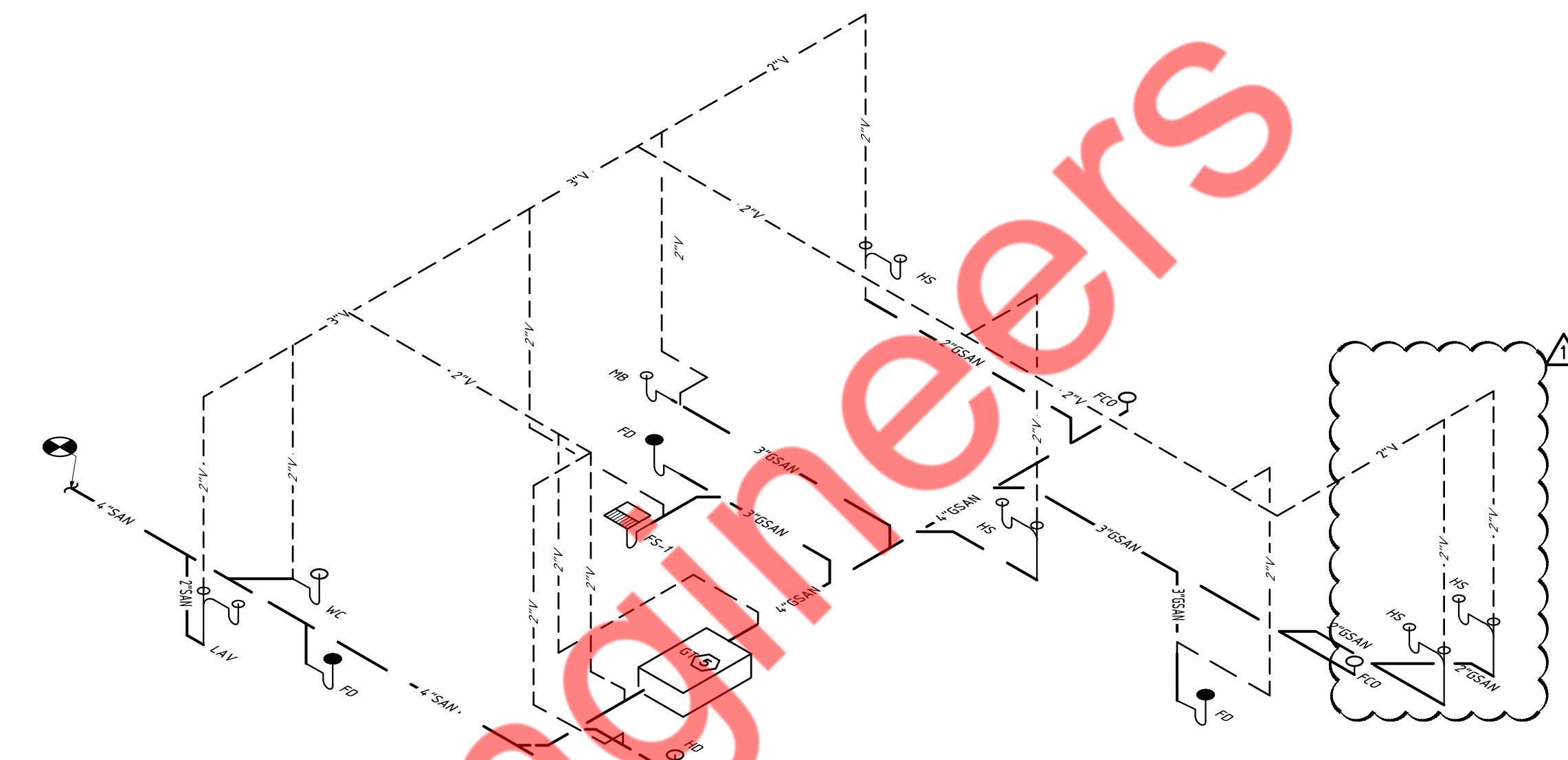
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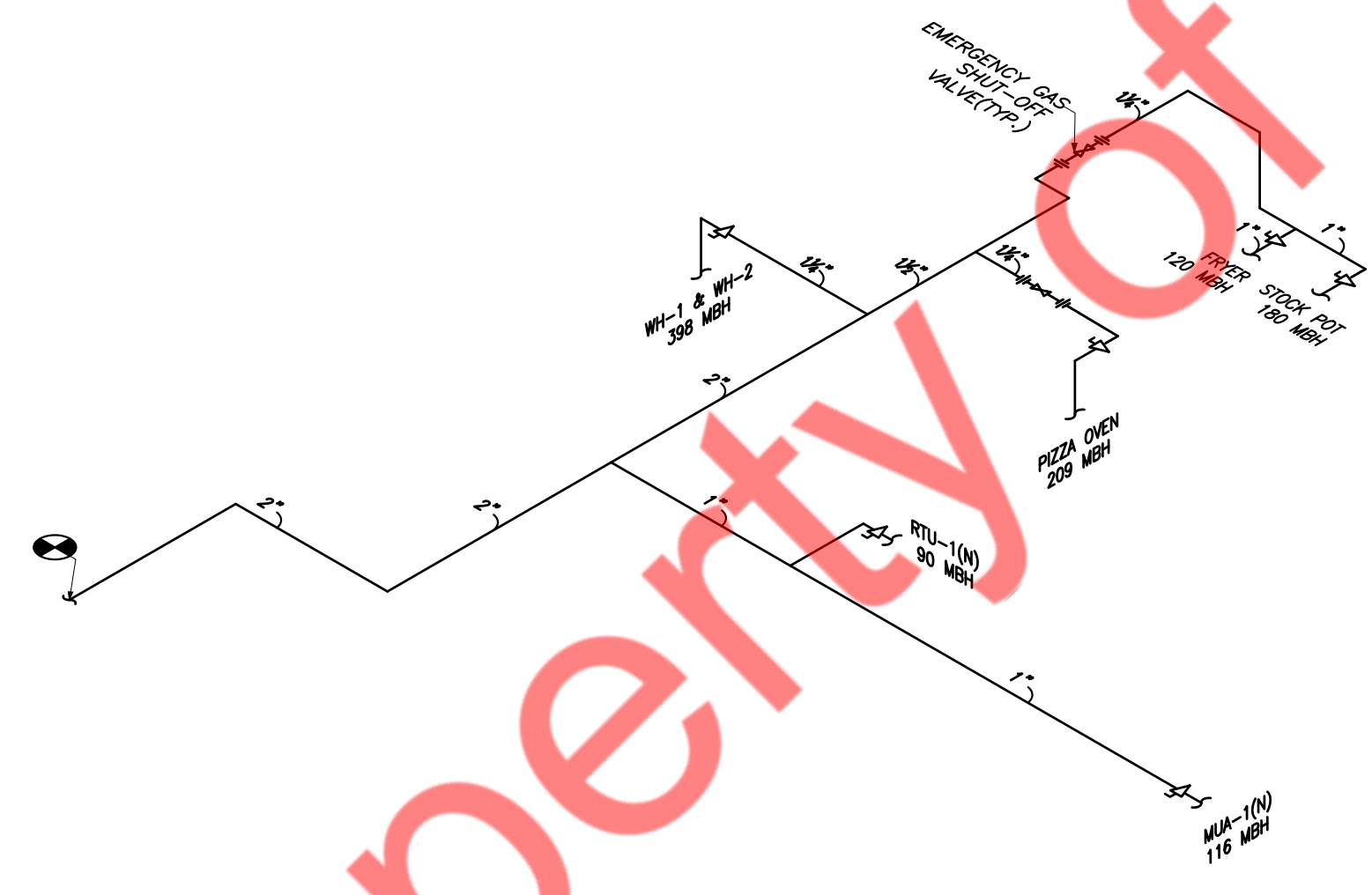
P07



01 WATER RISER DIAGRAM
NO SCALE



02 SANITARY RISER DIAGRAM
NO SCALE



03 GAS RISER DIAGRAM
NO SCALE

GAS LOAD SUMMARY	
EQUIPMENT	MBH LOAD
WH-1 & 2	398
RTU-1(N)	90
FRYER	120
STOCK POT	180
MAU-1(N)	116
PIZZA OVEN	209
TOTAL LOAD	1113

GAS PIPE SIZING PER TABLE 402.4(2) - 2021 INTERNATIONAL FUEL GAS CODE (IFGC 2021)
GAS INLET PRESSURE- LESS THAN 2 PSI.
PRESSURE DROP- 0.5" WC
SPECIFIC GRAVITY- 0.60
EQUIVALENT LENGTH OF PIPE = 90 FT

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 IFGC 2021 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 SCREWD FITTINGS
 2. GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR.
 3. VERIFY ALL EQUIPMENT BTUS'S PRIOR TO INSTALLATION. ADJUST PIPE SIZE ACCORDING TO INTERNATIONAL FUEL GAS CODE(IFGC 2021), TABLE 402.4(2).
 4. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF EXISTING GAS METER LOCATION, PRESSURE AND CAPACITY. UPGRADE IF REQUIRED.
 5. CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AND LONGEST LENGTH OF RUN FROM METER TO FARTHEST APPLIANCE PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN.

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