

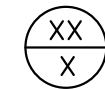


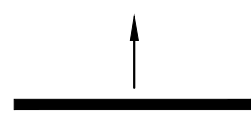
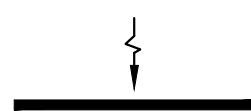
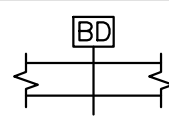
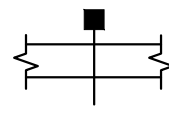
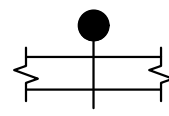
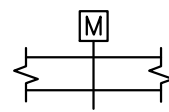
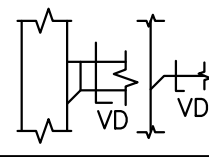
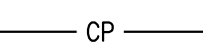

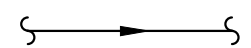
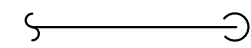
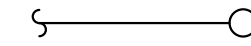




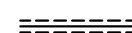
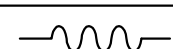
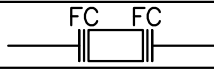
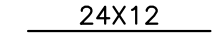
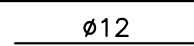

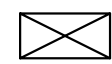
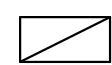



MECHANICAL SYMBOLS LIST			
 		EQUIPMENT SYMBOL	
		RISER SYMBOL	
AIR DEVICES			
		CEILING DIFFUSER SUPPLY	
		CEILING DIFFUSER RETURN	
		SIDEWALL/DUCT MOUNTED GRILLE--SUPPLY	
		SIDEWALL/DUCT MOUNTED GRILLE--RETURN	
DUCT ACCESSORIES			
		BACK DRAFT DAMPER	
		FIRE SMOKE DAMPER	
		FIRE DAMPER	
		MOTORIZED DAMPER W/ ACCESS DOOR	
		VOLUME DAMPER W/ ACCESS DOOR	
HVAC PIPING			
		NEW CONDENSATE PIPING	
		NEW REFRIGERANT PIPING	
		FLUID FLOW DIRECTION	
		PIPE TURNING DOWN	
		PIPE GOING UP	
CONTROLS AND SENSORS			
		THERMOSTAT	
		TEMPERATURE SENSOR	
		CO2 DETECTOR	
		DUCT SMOKE DETECTOR	
DUCTWORK			
		AIR DUCT W/ 1.5" ACOUSTICAL LINING	
		FLEXIBLE DUCT	
		FLEXIBLE CONNECTION	
		RECTANGULAR DUCT (WIDTH X DEPTH)	
		ROUND DUCT (DIAMETER)	
		ROUND DUCT CROSS SECTION	
		SUPPLY AIR RECTANGULAR DUCT CROSS SECTION	
		RETURN AIR RECTANGULAR DUCT CROSS SECTION	
		POINT OF NEW CONNECTION	
MECHANICAL ABBREVIATIONS			
AC		AIR CONDITIONER	
ACCU		AIR CONDITIONER CONDENSING UNIT	
AFF		ABOVE FINISHED FLOOR	
AL		ACOUSTIC LINING	
CFM		CUBIC FEET OF AIR PER MINUTE	
COP		COEFFICIENT OF PERFORMANCE	
CP		CONDENSATE PUMP	
DN		DOWN	
EER		ENERGY EFFICIENCY RATIO	
EF		EXHUAUST FAN	
FC		FLEXIBLE CONNECTION	
HSPF		HEATING SEASONAL PERFORMANCE FACTOR	
IEER		INTEGRATED ENERGY EFFICIENCY RATIO	
MD		MOTORIZED DAMPER	

FIELD VERIFY ALL CONDITIONS
<ul style="list-style-type: none">DESIGN DRAWINGS ARE SCHEMATIC. THIS 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.

MECHANICAL DRAWING LIST	
M-001	MECHANICAL GENERAL NOTES, SYMBOLS
M-002	MECHANICAL NOTES & SPECS (1 OF 3)
M-003	MECHANICAL SPECS (2 OF 3)
M-004	MECHANICAL SPECS (3 OF 3)
M-100	MECHANICAL FLOOR PLAN
M-101	ROOF MECHANICAL PLAN
M-301	HOOD DETAILS (1 OF 3)
M-302	HOOD DETAILS (2 OF 3)
M-301	HOOD DETAILS (3 OF 3)
M-501	MECHANICAL DETAILS (1 OF 3)
M-502	MECHANICAL DETAILS (2 OF 3)
M-503	MECHANICAL DETAILS (3 OF 3)
M-601	MECHANICAL SCHEDULES

GEORGIA 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 AND CONDUCTING SUCH TESTS WILL FILE DOCUMENTATION AND REPORTS OF TESTS THAT THE SYSTEM COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS.
- THE LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS AS REQUIRED BY THE INSULATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DUNNAGE STEEL AS REQUIRED.
- TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 2018 IMC 107 AND THE FOLLOWING SECTIONS OF THE 2018 IMC:
 - MECHANICAL VENTILATION - SECTION 403.
- THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
 - STANDARDS OF HEATING - 2018 IMC 309.1
 - DUCT CONSTRUCTION AND INSTALLATION- 2018 IMC 603
 - AIR INTAKES, EXHAUSTS AND RELIEFS - 2018 IMC 401.5
 - AIR FILTERS - 2018 IMC 605
- MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
- VENTILATION FOR ALL AREA SHALL COMPLY WITH 2018 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 2018 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 SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
- 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, 2018 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.
- REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK WILL 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 IN MAKING UP THE WORK PROPOSAL.
- 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 FACILITY. 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 INSULATION 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. ADVISE ARCHITECT AND 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 PLUMBING, 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
- ALL MATERIAL AND EQUIPMENT TO BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
- 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 ANY 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.

NOTE TO CONTRACTOR

- 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, RFI'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 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 ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.

EQUIPMENT/DEVICE COORDINATION NOTES:

- GENERAL CONTRACTOR TO CONFIRM FINAL EQUIPMENT SPECIFICATIONS FOR OWNER AND G.C. PROVIDE EQUIPMENT AND COMPARE ALL ELECTRICAL, PLUMBING, AND MECHANICAL REQUIREMENTS TO EQUIPMENT SHOWN ON THESE DRAWINGS. G.C. TO NOTIFY ARCHITECT AND ENGINEERS OF ANY DISCREPANCIES PRIOR TO ORDERING OR INSTALLING ELECTRICAL, PLUMBING, OR MECHANICAL INFRASTRUCTURE.
- G.C. TO CONFIRM ALL FINAL EQUIPMENT AND DEVICE SPECIFICATIONS, INCLUDING OWNER PROVIDED AND G.C.PROVIDED EQUIPMENTS/ DEVICES, COMPLY WITH NFPA AND FIRE SAFETY REQUIREMENTS IN ALL HAZARDOUS AREAS SUCH AS PRODUCTION AREA #111, STORAGE AREA #114, AND EVENT SPACE #110.

ISSUE & REVISION HISTORY

#	DESCRIPTION	(G.C. INDICATES SHEET WAS REVISIONED)
	INITIAL RELEASE	
	3/30/0093	
	FIRE PROTECTION ARCHITECTURAL RELEASE	
	5/30/0093	
	BD CHANGES	
	10/1/0093	

SIMPLE MAN DISTILLERY

PROJECT

SEAL

MECHANICAL GENERAL NOTES, SYMBOLS

DRAWING TITLE

Drawn By:		M-001
Checked By:		
PROJECT #		
3504		

GENERAL HVAC NOTES

GENERAL:

1. PROVIDE ALL MATERIAL AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
2. CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK (HVAC, PLUMBING, AND FIRE PROTECTION) ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
3. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.
4. WHEN MECHANICAL WORK (HVAC, PLUMBING, SHEET METAL, FIRE PROTECTION, ETC.) IS SUBCONTRACTED, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE SUBCONTRACTORS AND THE ASSOCIATED CONTRACTS. WHEN DISCREPANCIES ARISE PERTAINING TO WHICH CONTRACTOR PROVIDES A PARTICULAR ITEM OF THE MECHANICAL CONTRACT OR WHICH CONTRACTOR PROVIDES FINAL CONNECTIONS FOR A PARTICULAR ITEM OF THE MECHANICAL CONTRACT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE MECHANICAL CONTRACTOR, WHOSE DECISION SHALL BE FINAL.
5. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
6. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
7. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
8. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
9. ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND ELECTRICAL DIVISION OF THE SPECIFICATION.
10. PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.
11. 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.
12. 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.
13. 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.
14. 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.
15. MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHALL NOT BE SUPPORTED FROM A METAL DECK.
16. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED, SPECIFIED AND REQUIRED TO PROVIDE A VIBRATION-FREE INSTALLATION.
17. 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.
18. LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
19. ALL OPENINGS IN FIRE WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED WITH A PRODUCT SIMILAR TO 3M OR APPROVED EQUAL.
20. ALL AIR CONDITIONING CONDENSATE DRAIN LINES FROM EACH AIR HANDLING UNIT SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET, WITH "P" TRAP, AND PIPED TO THE NEAREST DRAIN. SEE THE DETAILS SHOWN IN THE DRAWINGS OR THE CONTRACT SPECIFICATIONS FOR THE DEPTH OF THE AIR CONDITIONING CONDENSATE TRAP.
21. REFER TO TYPICAL DETAILS FOR DUCTWORK, PIPING, AND EQUIPMENT INSTALLATION.
22. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED.
23. TESTING, ADJUSTING, AND BALANCING AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). TESTING, ADJUSTING, AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THE AABC STANDARDS.

HVAC DUCTWORK — SHEET METAL

1. CERTAIN ITEMS SUCH AS RISES AND DROPS IN DUCTWORK, ACCESS DOORS, VOLUME DAMPERS, ETC., ARE INDICATED ON THE CONTRACT DOCUMENT DRAWINGS FOR CLARITY FOR A SPECIFIC LOCATION REQUIREMENT AND SHALL

NOT BE INTERPRETED AS THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS.

2. CONTRACTOR TO CHECK AND CORRECT ANY AND ALL DEFICIENCIES IN EXISTING DUCTS. ALL NEW DUCTWORK WILL COMPLY WITH THE LATEST SMACNA GUIDELINES AND CONFORM WITH REQUIREMENTS OF THE LATEST HANDBOOKS PUBLISHED BY ASHRAE.
3. PROVIDE VOLUME DAMPER AT EACH TAP TO MAIN DUCT AND WHERE NECESSARY TO PROPERLY BALANCE SYSTEM.
4. SUPPLY AND RETURN DUCTWORK 20' FROM ALL AC UNITS SHALL BE LINED WITH 1.5" ACOUSTICAL LINING.
5. RE-INSULATE ALL DUCTWORK AND PIPING IN WHICH INSULATION HAS BEEN REMOVED OR DAMAGED WITH INSULATION EQUAL TO THE EXISTING INSULATION.
6. CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY SUPPLY DIFFUSERS AND RETURN AIR REGISTERS WHERE INDICATED ON THE DRAWING. COORDINATE LOCATION OF DIFFUSERS AND REGISTERS WITH REFLECTED CEILING PLAN.
7. IN CORRIDORS WHERE CEILING SPEAKERS AND AIR DIFFUSERS ARE INDICATED BETWEEN THE SAME LIGHT FIXTURES, INSTALL BOTH DEVICES AT THE QUARTER POINTS BETWEEN THE FIXTURES.
8. ALL DUCTWORK SHALL CLEAR DOORS AND WINDOWS.
9. ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS.
10. PROVIDE ALL 90-DEGREE SQUARE ELBOWS WITH DOUBLE RADIUS TURNING VANES UNLESS OTHERWISE INDICATED. ELBOWS IN DISHWASHER, KITCHEN, AND LAUNDRY EXHAUSTS SHALL BE OF UN-VANED SMOOTH RADIUS CONSTRUCTION WITH A RADIUS EQUAL TO 1-1/2 TIMES THE WIDTH OF THE DUCT. PROVIDE ACCESS DOORS UPSTREAM OF ALL ELBOWS WITH TURNING VANES.
11. COORDINATE DIFFUSER, REGISTER, AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS, LIGHTING, AND OTHER CEILING ITEMS AND MAKE MINOR DUCT MODIFICATIONS TO SUIT.
12. ALL AIR HANDLING UNITS SHALL OPERATE WITHOUT MOISTURE CARRYOVER.
13. LOCATE ALL MECHANICAL EQUIPMENT FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, CONTROLS, AND VALVING.
14. PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS (SUPPLY, RETURN, AND EXHAUST) CONNECTED TO AIR HANDLING UNITS, FANS, AND OTHER EQUIPMENT THAT REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.
15. UNLESS OTHERWISE NOTED, ALL DUCTWORK IS OVERHEAD, TIGHT TO THE UNDERSIDE OF THE STRUCTURE, WITH SPACE FOR INSULATION IF NEEDED.
16. RUNS OF FLEXIBLE DUCT SHALL NOT EXCEED 5 FT.
17. ALL DUCTWORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN DUCTS, INCLUDING DIVIDED DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
18. PROVIDE ACCESS DOORS IN DUCTWORK TO PROVIDE ACCESS FOR ALL SMOKE DETECTORS, FIRE DAMPERS, SMOKE DAMPERS, VOLUME DAMPERS, COILS, AND OTHER ITEMS LOCATED IN THE DUCTWORK THAT REQUIRE SERVICE AND/OR INSPECTION.
19. PROVIDE ACCESS DOORS IN DUCTWORK FOR THE OPERATION, ADJUSTMENT, AND MAINTENANCE OF ALL FANS, VALVES, AND MECHANICAL EQUIPMENT.
20. ALL DUCTS SHALL BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER GROUNDING STRAPS. GROUNDING STRAPS SHALL BE BOLTED OR SOLDERED TO BOTH THE EQUIPMENT AND THE DUCT.
21. SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING THE SMOKE DETECTOR IN DUCTWORK AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.
22. SEE SPECIFICATIONS FOR DUCTWORK GAUGES, BRACING, HANGERS, AND OTHER REQUIREMENTS.
23. EXTERIOR LOUVERS ARE INDICATED FOR SIZE, GENERAL LOCATION, AND PERFORMANCE ONLY. DETAILED LOUVER DESCRIPTIONS ARE PROVIDED IN THE ARCHITECTURAL SPECIFICATIONS.

PIPING

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PIPING SYSTEMS AS INDICATED ON THE DRAWINGS AND AS SPECIFIED AND REQUIRED BY CODE.
2. ELEVATIONS AS SHOWN ON THE DRAWINGS ARE TO THE BOTTOM OF ALL PRESSURE PIPING AND TO THE INVERT OF ALL GRAVITY PIPING UNLESS OTHERWISE NOTED.
3. UNLESS OTHERWISE NOTED, ALL PIPING IS OVERHEAD, TIGHT TO THE UNDERSIDE OF THE STRUCTURE OR SLAB, WITH SPACE FOR INSULATION IF REQUIRED.
4. INSTALL PIPING SO ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
5. ALL VALVES SHALL BE INSTALLED SO THAT THE VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON THE EQUIPMENT SIDE OF THE VALVE IS REMOVED.
6. ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE THE FULL SIZE OF THE PIPE BEFORE REDUCING IN SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS.
7. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
8. ALL PIPING SHALL CLEAR DOORS AND WINDOWS.
9. ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.

10. ALL PIPING SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

11. SLOPED REFRIGERANT PIPING 1% IN THE DIRECTION OF OIL RETURN. LIQUID LINES MAY BE INSTALLED LEVEL.
12. INSTALL HORIZONTAL REFRIGERANT HOT GAS DISCHARGE PIPING WITH 1/2" PER 10 FT. DOWNWARD SLOPE AWAY FROM THE COMPRESSOR.
13. INSTALL HORIZONTAL REFRIGERANT SUCTION LINES WITH 1/2" PER 10 FT. DOWNWARD SLOPE TO THE COMPRESSOR, WITH NO LONG TRAPS OR DEAD ENDS THAT MAY CAUSE OIL TO SEPARATE FROM THE SUCTION GAS AND RETURN TO THE COMPRESSOR IN DAMAGING SLUGS.
14. PROVIDE LINE SIZE LIQUID INDICATORS IN THE MAIN LIQUID LINE LEAVING THE CONDENSER OR RECEIVER. INSTALL MOISTURE-LIQUID INDICATORS IN LIQUID LINES BETWEEN FILTER DRYERS AND THERMOSTATIC EXPANSION VALVES, AND IN LIQUID LINE TO RECEIVER.
15. PROVIDE A LINE SIZE STRAINER UPSTREAM OF EACH AUTOMATIC VALVE. PROVIDE A SHUT-OFF VALVE ON EACH SIDE OF A STRAINER.
16. PROVIDE PERMANENT FILTER DRYERS IN LOW-TEMPERATURE SYSTEMS AND SYSTEMS USING HERMETIC COMPRESSORS.
17. PROVIDE REPLACEABLE CARTRIDGE FILTER DRYERS WITH A THREE-VALVE BYPASS ASSEMBLY FOR SOLENOID VALVES, ADJACENT TO RECEIVERS.
18. PROVIDE REFRIGERANT CHARGING VALVE CONNECTIONS IN THE LIQUID LINE BETWEEN THE RECEIVER SHUTOFF VALVE AND THE EXPANSION VALVE.

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 0101 — QUALITY OF WORK

1.1 WORKMANSHIP

- A. ALL WORK SHALL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.

- B. ALL DEFECTS WHICH DEVELOP OR ARE DISCOVERED WITHIN THIS PERIOD SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT OR BUILDING MANAGER AT NO ADDITIONAL COST TO THE OWNER.

- C. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE FROM THE SITE, ALL TOOLS, DEMOLISHED APPLIANCES AND ANY SURPLUS MATERIAL.

1.2 CODE COMPLIANCE

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

END OF SECTION 0101

SECTION 0102 —REQUIRED DOCUMENTS

1.1 SHOP DRAWINGS

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

1.2 SUBMITTALS

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

1.3 RECORD DRAWINGS

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

1.4 EQUIPMENT OPERATING INSTRUCTIONS

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

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

- C. THE INSTRUCTION BOOKLET SHALL BE ORGANIZED IN SECTIONS, WITH ONE SECTION PER SYSTEM. THE COVER OF THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND PHONE NUMBER OF THE PROJECT, ARCHITECT, ENGINEER, MECHANICAL CONTRACTOR AND SUBCONTRACTORS.

END OF SECTION 0102

SECTION 078413—PENETRATION FIRE—STOPPING

1.1 QUALITY ASSURANCE

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

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

1.2 PENETRATION FIRESTOPPING

- A. PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS: F-RATINGS PER ASTM E 814 OR UL 1479.

- B. PENETRATIONS IN HORIZONTAL ASSEMBLIES: F- AND T-RATINGS PER ASTM E 814 OR UL 1479:

- C. PENETRATIONS IN SMOKE BARRIERS: L-RATINGS PER UL 1479.

- D. W-RATINGS: PER UL 1479.

1.3 INSTALLATION

- A. IDENTIFICATION: PREPRINTED METAL OR PLASTIC LABELS.

1.4 FIELD QUALITY CONTROL

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

1.5 THROUGH-PENETRATION FIRESTOP SYSTEM SCHEDULE

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

FOR THE FOLLOWING SYSTEMS:

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

- a. LATEX SEALANT
- b. SILICONE SEALANT
- c. INTUMESCENT PUTTY
- d. MORTAR
- e. SILICONE FOAM
- f. PILLOWS/BAGS
- g. INTUMESCENT WRAP STRIPS
- h. INTUMESCENT COMPOSITE SHEET

1.6 MANUFACTURERS

1. HILTI CONSTRUCTION CHEMICAL, INC

2. TREMCO INC.

3. 3M FIRE PROTECTION PRODUCTS

END OF SECTION 078413

SECTION 230517 — SLEEVES AND SLEEVE SEALS FOR HVAC PIPING

1.1 SLEEVE-SEAL SYSTEMS

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

1. SEALING ELEMENTS: EPDM RUBBER OR NBR.

2. PRESSURE PLATES: CARBON STEEL, PLASTIC, STAINLESS STEEL.

3. CONNECTING BOLTS AND NUTS: CARBON STEEL WITH CORROSION-RESISTANT COATING, STAINLESS STEEL.

- B. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. ADVANCE PRODUCTS & SYSTEMS, INC.

2. CALPICO, INC.

3. METRAFLEX COMPANY (THE).

4. PIPELINE SEAL AND INSULATOR, INC.

5. PROCO PRODUCTS, INC.

1.2 SLEEVE-SEAL FITTINGS

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

1.3 GROUT

- A. NON-SHRINK, FACTORY PACKAGED.

1.4 SLEEVE AND SLEEVE-SEAL SCHEDULE

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

1. INTERIOR PARTITIONS:

- a. PIPING SMALLER THAN NPS 6 (DN 150): GALVANIZED-STEEL-PIPE SLEEVES, PVC-PIPE SLEEVES.

- b. PIPING NPS 6 (DN 150) AND LARGER: GALVANIZED-STEEL-SHEET SLEEVES.

END OF SECTION 230517

SECTION 230518 — ESCUTCHEONS FOR HVAC PIPING

PART 2 — PRODUCTS

2.1 ESCUTCHEONS

- A. ONE-PIECE, CAST-BRASS TYPE: WITH POLISHED, CHROME-PLATED AND ROUGH-BRASS FINISH AND SETSCREW FASTENER.

- B. ONE-PIECE, DEEP-PATTERN TYPE: DEEP-DRAWN, BOX-SHAPED BRASS WITH CHROME-PLATED FINISH AND SPRING-CLIP FASTENERS.

- C. ONE-PIECE, STAMPED-STEEL TYPE: WITH CHROME-PLATED FINISH AND SPRING-CLIP FASTENERS.

2.2 FLOOR PLATES

- A. ONE-PIECE FLOOR PLATES: CAST-IRON FLANGE WITH HOLES FOR FASTENERS.

PART 3 — EXECUTION

3.1 INSTALLATION

- A. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FINISHED FLOORS.

- B. INSTALL ESCUTCHEONS WITH ID TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF PIPING AND WITH OD THAT COMPLETELY COVERS OPENING.

1. ESCUTCHEONS FOR NEW PIPING:

- a. PIPING WITH FITTING OR SLEEVE PROTRUDING FROM WALL: ONE-PIECE, DEEP-PATTERN TYPE.

- b. INSULATED PIPING: ONE-PIECE, STAMPED-STEEL TYPE.

- c. BARE PIPING AT WALL AND FLOOR PENETRATIONS IN FINISHED SPACES: ONE-PIECE, CAST-BRASS TYPE WITH POLISHED, CHROME-PLATED FINISH OR STAMPED-STEEL TYPE.

- d. BARE PIPING AT CEILING PENETRATIONS IN FINISHED SPACES: ONE-PIECE, CAST-BRASS TYPE WITH POLISHED, CHROME-PLATED FINISH OR STAMPED-STEEL TYPE.

3.2 FIELD QUALITY CONTROL

- A. REPLACE BROKEN AND DAMAGED ESCUTCHEONS AND FLOOR PLATES USING NEW MATERIALS.

END OF SECTION 230518

SECTION 230529 — HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

1.1 PERFORMANCE REQUIREMENTS

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

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

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

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

SIMPLE MAN DISTILLERY

ISSUE & REVISION HISTORY

#	DESCRIPTION	(DOT INDICATES SHEET WAS REVISION)
INITIAL RELEASE	3/30/0093	
FIRE PROTECTION ARCHITECTURAL RELEASE	5/30/0093	
BD CHANGES	6/21/0093	

PROJECT

SEAL

MECHANICAL
NOTES & SPECS
(1 OF 3)

DRAWING TITLE

Drawn By:		M-002
Checked By:	WFF	
By PG		
PROJECT #	3504	
		9 OF 13

3.DESIGN SEISMIC-RESTRAINT HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT AND OBTAIN APPROVAL FROM AUTHORITIES HAVING JURISDICTION.

1.2 SUBMITTALS

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

1.3 QUALITY ASSURANCE

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

1.4 COMPONENTS

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

END OF SECTION 230529

SECTION 230548 – VIBRATION CONTROLS FOR HVAC PIPING AND EQUIPMENT

PART 1 – GENERAL

1.1 COMPONENTS

- A. VIBRATION ISOLATORS:
- ISOLATOR PADS: NEOPRENE, RUBBER, HERMETICALLY AND/OR SEALED COMPRESSED FIBERGLASS
 - MOUNTS: DOUBLE–DEFLECTION TYPE.
 - RESTRAINED MOUNTS: ALL DIRECTIONAL MOUNTINGS WITH SEISMIC RESTRAINT; CAST–DUCTILE–IRON HOUSING.
 - SPRING ISOLATORS: FREESTANDING, LATERALLY STABLE, OPEN–SPRING TYPE.
 - RESTRAINED SPRING ISOLATORS: FREESTANDING, STEEL, OPEN–SPRING TYPE WITH SEISMIC RESTRAINT.
 - HOUSED SPRING MOUNTS: DUCTILE–IRON OR STEEL HOUSING, WITH INTEGRAL, VERTICALLY ADJUSTABLE SEISMIC SNUBBERS.
 - ELASTOMERIC HANGERS: DOUBLE–DEFLECTION TYPE.
 - SPRING HANGERS: COMBINATION COIL–SPRING AND ELASTOMERIC–INSERT HANGERS WITH SPRING AND INSERT IN COMPRESSION.
 - SPRING HANGERS WITH VERTICAL–LIMIT STOP: COMBINATION COIL–SPRING AND ELASTOMERIC–INSERT HANGERS WITH SPRING AND INSERT IN COMPRESSION AND WITH VERTICAL–LIMIT STOP.
 - PIPE RISER RESILIENT SUPPORT: ALL–DIRECTIONAL, ACOUSTICAL PIPE ANCHOR.
 - RESILIENT PIPE GUIDES.
- B. AIR–MOUNTING SYSTEMS:
- AIR MOUNTS: FREESTANDING, SINGLE OR MULTIPLE, COMPRESSED–AIR BELLOW.
 - RESTRAINED AIR MOUNTS: HOUSED COMPRESSED–AIR BELLOW.
- C. RESTRAINED VIBRATION ISOLATION ROOF–CURB RAILS: FACTORY–ASSEMBLED, FULLY ENCLOSED, INSULATED, AIR–AND WATERTIGHT CURB RAIL; WITH SPRING ISOLATORS MOUNTED ON ELASTOMERIC ISOLATION PADS, AND SNUBBER BUSHINGS.
- D. VIBRATION ISOLATION EQUIPMENT BASES:
- STEEL BASE: FACTORY–FABRICATED, WELDED, STRUCTURAL–STEEL BASES AND RAILS.
 - INERTIA BASE: FACTORY–FABRICATED, WELDED, STRUCTURAL–STEEL BASES AND RAILS READY FOR FIELD–APPLIED, CAST–IN–PLACE CONCRETE

2. FIELD QUALITY CONTROL

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

PART–2 PRODUCTS

1.1 VIBRATION ISOLATORS & SEISMIC–RESTRAINT DEVICES

- A. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
- ACE MOUNTINGS CO., INC.
 - AMBER/BOOTH COMPANY, INC.
 - CALIFORNIA DYNAMICS CORPORATION.
 - HILTI, INC.
 - ISOLATION TECHNOLOGY, INC.
 - KINETICS NOISE CONTROL.
 - LOOS & CO.; CABLEWARE DIVISION.
 - MASON INDUSTRIES.
 - TOLCO INCORPORATED; A BRAND OF NIBCO INC.
 - UNISTRUT; TYCO INTERNATIONAL, LTD.

END OF SECTION 230548

SECTION 230593 – TESTING, ADJUSTING, AND BALANCING FOR HVAC

1.1 SUMMARY

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

- AIR SYSTEMS: CONSTANT–VOLUME SYSTEMS.
- MOTORS.
- CONDENSING UNITS.
- EXISTING SYSTEMS.

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.
- B. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL EXISTING AIR AND HYDRONIC SYSTEMS AS LISTED ABOVE 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.
- 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 S3ECTION 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.

- 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 S3ECTION 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.

- 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 S3ECTION 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.

- 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 S3ECTION WITH THE BUILDING MANAGER. BALANCING WORK SHALL NOT CONFLICT WITH OTHER WORK SO AS TO MAINTAIN COMPLETION WITHIN THE SPECIFIED TIME.
- G. ALL INSTRUMENTS USED FOR TAB SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND ACCURATELY CALIBRATED.
- H. TOLERANCES: PLUS OR MINUS 5 PERCENT OF DESIGN VALUES.
- I. INSPECTIONS: RANDOM CHECKS BY OWNER OR ARCHITECT TO VERIFY FINAL TESTING, ADJUSTING, AND BALANCING REPORT.
- J. ADDITIONAL TESTS: RANDOM TESTS WITHIN 90 DAYS OF COMPLETING TAB TO VERIFY BALANCE CONDITIONS AND SEASONAL TESTS.

END OF SECTION 230593

SECTION 230713 – DUCT INSULATION

1.1 QUALITY ASSURANCE

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

1.2 FIELD QUALITY CONTROL

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

1.3 INDOOR DUCT AND PLENUM INSULATION SCHEDULE;

- A. CONCEALED, RECTANGULAR, ROUND AND FLAT–OVAL, SUPPLY–RETURN, OUTDOOR–AND EXHAUST–AIR DUCT AND AIR PLENUM INSULATION:
- B. FLEXIBLE ELASTOMERIC, MINERAL–FIBER BLANKET, MINERAL–FIBER BOARD OR POLYOLEFIN WITH MINIMUM INSTALLED THERMAL RESISTANCE AS FOLLOWS:
- UNCONDITIONED SPACES WITHIN BUILDING: R–6
- WITHIN BUILDING ENVELOPE ASSEMBLY: R–8
- OUTSIDE OF BUILDING: R–8

1.4 ITEMS NOT INSULATED:

- FIBROUS–GLASS DUCTS.
- METAL DUCTS WITH DUCT LINER OR SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE ANDASHRAE/IESNA 90.1.
- FACTORY–INSILATED FLEXIBLE DUCTS.
- FACTORY–INSULATED PLENUMS AND CASINGS.
- FLEXIBLE CONNECTORS.
- VIBRATION–CONTROL DEVICES.
- FACTORY–INSULATED ACCESS PANELS AND DOORS.
- DUCTS THAT HAVE INTERNAL ACOUSTICAL LINING.

1.5 PRODUCTS

- A. THE FOLLOWING INSULATION MANUFACTURERS WILL BE ACCEPTABLE:

- JOHNS–MANVILLE
- OWENS–CORNING

1.6 ACOUSTICAL TREATMENT

- 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:
- 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.
 - RECTANGULAR FITTINGS AND ALL TRANSITION PIECES FROM RECTANGULAR TO ROUND SHALL BE NO. 16 GAUGE ALL WELDED CONSTRUCTION.
 - HORIZONTAL DUCTS SHALL BE SUPPORTED ON NOT MORE THAN 6' CENTERS. VERTICAL RISERS SHALL BE SUPPORTED AT EACH FLOOR.
 - 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.
 - 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.
 - 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:

USG	MAX. SIDE INCHES	TRANSVERSE JOINTS AND BRACING
22	UP TO 12	S SLIP, DRIVE SLIP, ONE INCH POCKET LOCK ON 8 FOOT CENTERS
22	13 TO 24	1"x1"x1/8" ANGLES ON 4 FOOT CENTERS
20	25 TO 35	1"x1"x1/8" ANGLES ON 2 FOOT CENTERS

- D. PROVIDE TAPPING IN DUCTS FOR THERMOMETERS WHERE SPECIFIED. IN ADDITION, PROVIDE AN AIRTIGHT PLUGGED TAPPING LOCATED AS FOLLOWS:

- UPSTREAM OF EACH REHEAT COIL AND VAV BOX.
- DOWNSTREAM OF EACH REHEAT COIL AND VAV BOX.

- E. FLAT OVAL OR ROUND DUCTWORK MAY BE PROVIDED IN LIEU OF RECTANGULAR DUCTWORK WITH THE REINFORCEMENT FOR FLAT SIDES SAME AS SPECIFIED FOR THE RECTANGULAR DUCTWORK, AND AS PER SMACNA FLAT OVAL DUCT CONSTRUCTION STANDARDS SHOWN IN FIG. 3–6 AND AS SHOWN IN FIG. 3–1 AND 3–2 FOR ROUND DUCTWORK.

- F. ALL DUCTWORK SHALL BE SEALED TO CLASS "A" AND LEAK TESTED TO MEAT SMACNA CLASS 6 FOR RECTANGULAR AND CLASS 3 FOR ROUND DUCTS.

1.2 MATERIALS

- A. SINGLE–WALL RECTANGULAR DUCTS AND FITTINGS.
- B. SINGLE–WALL ROUND AND FLAT–OVAL DUCTS AND FITTINGS.
- C. SHEET METAL MATERIALS:
- GALVANIZED SHEET STEEL.
 - STAINLESS–STEEL SHEETS.
 - ALUMINUM SHEETS.
 - FACTORY–APPLIED ANTI–MICROBIAL COATING.

D. DUCT LINER:

- FIBROUS GLASS, TYPE I, FLEXIBLE.
 - WITH ANTI–MICROBIAL EROSION–RESISTANT COATING.
- FLEXIBLE ELASTOMERIC.
- NATURAL FIBER.

E. SEALANT MATERIALS:

- TWO–PART TAPE SEALING SYSTEM.
- WATER–BASED JOINT AND SEAM SEALANT.
- SOLVENT–BASED JOINT AND SEAM SEALANT.
- FLANGED JOINT SEALANT.
- FLANGE GASKETS.
- 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:

- AIR OUTLETS AND INLETS.
- SUPPLY, RETURN, AND EXHAUST FANS.
- AIR–HANDLING UNITS.
- COILS AND RELATED COMPONENTS.
- RETURN–AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.
- SUPPLY–AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.
- DEDICATED EXHAUST AND VENTILATION COMPONENTS AND MAKEUP AIR SYSTEMS.

1.4 DUCT SCHEDULE

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

END OF SECTION 233113

SECTION 233713 – DIFFUSERS, REGISTERS, AND GRILLES

1.1 PRODUCTS

- A. DIFFUSERS, REGISTERS 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
- SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT BY ONE OF THE FOLLOWING:
 - CARNES.
 - HART & COOLEY INC.
 - KRUEGER.
 - METALAIRE, INC.
 - NAIROL INDUSTRIES INC.

- ALL DIFFUSERS SHALL HAVE CONTROLLING/EQUALIZING GRID AND OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

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

END OF SECTION 233713

PIPING INSULATION

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

SERVICE	INSULATION SCHEDULE – PIPING		
	SIZE	THICKNESS	MATERIAL FINISH
REFRIGERANT PIPING	1.5"		P–6
CONDENSER DRAIN PIPING (IF RUNNING THROUGH EXTERIOR WALL)	1.0"		P–6

- B. PIPING, VALVES AND FITTINGS TO BE INSULATED:

- LOW TEMPERATURE PIPING SYSTEMS – 0 TO 55 DEG F INCLUDING:
 - CONDENSATE DRAIN PIPING.

- PROTECTIVE COVERINGS SHALL BE INSTALLED ON AREAS OF INSULATION THAT ARE EXPOSED TO WEATHER OR SUBJECT TO MECHANICAL DAMAGE. THE PROTECTIVE COVERING SHALL BE:

- ARMA–CHEK SILVER™ MULTI–LAYER LAMINATE OF ALUMINUM, COATED WITH A UV PROTECTIVE FILM AND BACKED WITH A FLEXIBLE PVC FILM. THE MATERIAL SHOULD BE ADHERED WITH ARMAFLEX 520 ADHESIVE OR EQUIVALENT, AND ALL JOINS AND SEAMS SECURED WITH "ARMA–CHEK SILVER TAPE". INSTALLATION SHALL BE IN ALL CASES TO THE MANUFACTURER'S RECOMMENDATIONS. OR
- HIGH DENSITY RUBBER CLADDING OF THE "ARMA–CHECK R" TYPE BONDED USING AN APPROPRIATE FULL CONTACT ADHESIVE WITH A MINIMUM 50 MM OVERLAP AT ALL BUTT JOINTS AND LONGITUDINAL SEAMS. A WEATHER–PROOF MASTIC SEALANT SHALL BE APPLIED OVER ALL SEAMS AND JOINTS. ALL MATERIAL SHALL BE OVERLAPPED AND STAGGERED IN SUCH A WAY AS TO ENSURE A WATERSHED IS ALWAYS PROVIDED. INSTALLATION SHALL BE IN ALL CASES TO THE MANUFACTURER'S RECOMMENDATIONS. ALL EXCESS ADHESIVE VISIBLE ON THE SURFACE OF THE COMPLETED ASSEMBLY SHALL BE REMOVED USING AN APPROPRIATE CLEANING MATERIAL. OR
- METAL CLADDING, COMPRISED OF COATED SHEET METAL, WITH ALL EXTERNAL JOINTS AND FIXING MADE WEATHER–PROOF WITH SILICONE SEALANT.

C. MATERIAL:

- TYPE P–1: MINIMUM 4 LB DENSITY MOLDED FIBERGLASS, MAXIMUM 0.24 K–FACTOR AT 75 DEG F MEAN TEMPERATURE WITH FACTORY–APPLIED FIRE–RETARDANT FOIL–SKIRM–KRAFT FACING. ALL SERVICE JACKET. SIMILAR TO OWENS–CORNING 650 ASJ.
- TYPE P–3: MINIMUM 4 LB DENSITY MOLDED FIBERGLASS FITTING, MAXIMUM 0.23 K–FACTOR AT 75 DEG F MEAN TEMPERATURE SIMILAR TO EPOLUX HAMFAB MOLDED FITTINGS.

- TYPE P–4: MINIMUM 1 LB DENSITY FIBERGLASS FITTING INSERTS, MAXIMUM 0.27 K–FACTOR AT 75 DEG F MEAN TEMPERATURE SIMILAR TO MANVILLE HI–LO TEMP INSULATION INSERTS.

- TYPE P–6: MINIMUM 6 LB MOLDED FOAMED PLASTIC, MAXIMUM 0.27 K–FACTOR AT 75 DEG F MEAN TEMPERATURE, MAXIMUM 0.17 PERMEANCE. SIMILAR TO ARMSTRONG ARMAFLEX II.

D. FINISH:

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

- TYPE F–2: WHITE VAPOR BARRIER COATING WITH 10X10 OR 20X20 MESH WHITE GLASS, POLYESTER OR NYLON CLOTH REINFORCING MEMBRANE, MINIMUM 31 MIL DRY FILM THICKNESS, SIMILAR TO FOSTER TITE–FIT, UL LABEL.

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

- TYPE F–6: WHITE FINISHING AND INSULATING CEMENT APPLIED OVER HEXAGONAL WIRE MESH. CEMENT SIMILAR TO KEENE SUPERSLICK.

E. INSTALLATION:

- BEFORE APPLYING INSULATION ALL PRESSURE AND LEAK TESTS SHALL BE COMPLETED AND APPROVED.

- ALL INSULATION SHALL BE BUTTED FIRMLY TOGETHER. PROVIDE 2 IN. LAMP STRIPS AT ALL SEAMS SECURED WITH ADHESIVE. USE VAPOR BARRIER TAPE AND VAPORSEAL ADHESIVE WHERE REQUIRED. STAPLES NOT PERMITTED. REFRIGERANT PIPING INSULATION SHALL HAVE MITERED FITTINGS.

- ALL INSULATION AND VAPOR BARRIERS SHALL BE CONTINUOUS PASSING THROUGH SLEEVES, HANGERS, ETC., OR OTHER OPENINGS. PROVIDE SADDLES OR SHIELDS FOR PROTECTION AT ALL HANGINGS.

- INSULATION FOR STRAINERS OR OTHER FITTINGS OR ACCESSORIES REQUIRING SERVICING OR INSPECTION SHALL HAVE INSULATION REMOVABLE AND REPLACEABLE WITHOUT DAMAGE.

THERMOSTATIC CONTROLS:

A. GENERAL:

- THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE INDIVIDUALLY CONTROLLED BY THERMOSTATIC CONTROLS RESPONDING TO TEMPERATURE WITHIN THE ZONE. FOR THE PURPOSES OF SECTION 6.4.3.1, A DWELLING UNIT SHALL BE PERMITTED TO BE CONSIDERED A SINGLE ZONE.

B. DEAD BAND:

- WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEAD BAND OF AT LEAST 8°F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

C. SETBACK CONTROLS:

- THERMOSTATIC SETBACK CONTROLS SHALL BE CONFIGURED TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C).

D. AUTOMATIC SETBACK AND SHUTDOWN.

- AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR 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.

E. SETPOINT OVERLAP RESTRICTION:

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

ISSUE & REVISION HISTORY

#	DESCRIPTION	(DO NOT INDICATE SHEET WAS REVISION)
1	INITIAL RELEASE 3/30/0093	
2	FIRE PROTECTION ARCHITECTURAL RELEASE 5/30/0093	
3	BD CHANGES 10/1/0093	
4		
5		
6		
7		
8		
9		
10		

SIMPLE MAN DISTILLERY

PROJECT

SEAL

MECHANICAL
SPECS
(2 OF 3)

DRAWING TITLE

Drawn By:		M-003
Checked By:	MM	
PROJECT #	3504	
3 OF 13		

EQUIPMENT SPECIFICATIONS
AIR--COOLED, SPLIT--SYSTEM HEAT PUMP
25HCE4
1--1/2 TO 5 NOMINAL TONS

SYSTEM DESCRIPTION

OUTDOOR--MOUNTED, AIR--COOLED, SPLIT--SYSTEM HEAT PUMP UNIT
SUITABLE FOR GROUND OR ROOFTOP INSTALLATION. UNIT CONSISTS OF A
HERMETIC COMPRESSOR, AN AIR--COOLED COIL, PROPELLER--TYPE
CONDENSER FAN, AND A CONTROL BOX. UNIT WILL DISCHARGE SUPPLY AIR
UPWARD AS SHOWN ON CONTRACT DRAWINGS. UNIT WILL BE USED IN A
REFRIGERATION CIRCUIT TO MATCH UP TO A PACKAGED FAN COIL OR COIL
UNIT.

QUALITY ASSURANCE

UNIT WILL BE RATED IN ACCORDANCE WITH THE LATEST EDITION OF AHRI
STANDARD 240.
UNIT WILL BE CERTIFIED FOR CAPACITY AND EFFICIENCY, AND LISTED IN THE
LATEST AHRI DIRECTORY.
UNIT CONSTRUCTION WILL COMPLY WITH LATEST EDITION OF ANSI/ ASHRAE AND
WITH NEC.
UNIT WILL BE CONSTRUCTED IN ACCORDANCE WITH UL STANDARDS AND WILL
CARRY THE UL LABEL OF APPROVAL. UNIT WILL HAVE C--UL APPROVAL.
UNIT CABINET WILL BE CAPABLE OF WITHSTANDING FEDERAL TEST METHOD
STANDARD NO. 141 (METHOD 6061) 500--HR SALT SPRAY TEST.
AIR--COOLED CONDENSER COILS ARE PRESSURE TESTED AND THE OUTDOOR
UNIT IS LEAK TESTED.
UNIT CONSTRUCTED IN ISO9001 APPROVED FACILITY.

DELIVERY, STORAGE, AND HANDLING

UNIT WILL BE SHIPPED AS SINGLE PACKAGE ONLY AND IS STORED AND
HANDLED PER UNIT MANUFACTURER'S RECOMMENDATIONS.

WARRANTY (FOR INCLUSION BY SPECIFYING ENGINEER)
U.S. AND CANADA ONLY.

PRODUCTS
EQUIPMENT

FACTORY ASSEMBLED, SINGLE PIECE, AIR--COOLED HEAT PUMP UNIT.
CONTAINED WITHIN THE UNIT ENCLOSURE IS ALL FACTORY WIRING, PIPING,
CONTROLS, COMPRESSOR, REFRIGERANT CHARGE PURONR (R--410A), AND
SPECIAL FEATURES REQUIRED PRIOR TO FIELD START--UP.

UNIT CABINET

UNIT CABINET WILL BE CONSTRUCTED OF GALVANIZED STEEL, BONDERIZED, AND
COATED WITH A POWDER COAT PAINT.
AVAILABLE WITH DENSE GRILLE ONLY.

FANS

CONDENSER FAN WILL BE DIRECT--DRIVE PROPELLER TYPE, DISCHARGING AIR
UPWARD.
CONDENSER FAN MOTORS WILL BE TOTALLY ENCLOSED, 1--PHASE TYPE WITH
CLASS B INSULATION AND PERMANENTLY LUBRICATED BEARINGS.
SHAFTS WILL BE CORROSION RESISTANT.
FAN BLADES WILL BE STATICALLY AND DYNAMICALLY BALANCED.
CONDENSER FAN OPENINGS WILL BE EQUIPPED WITH STEEL WIRE SAFETY
GUARDS.

COMPRESSOR

COMPRESSOR WILL BE HERMETICALLY SEALED
COMPRESSOR WILL BE MOUNTED ON RUBBER VIBRATION ISOLATORS

CONDENSER COIL

CONDENSER COIL WILL BE AIR COOLED.
COIL WILL BE CONSTRUCTED OF ALUMINUM FINS MECHANICALLY BONDED TO
COPPER TUBES WHICH ARE THEN CLEANED, DEHYDRATED, AND SEALED.

REFRIGERATION COMPONENTS

REFRIGERATION CIRCUIT COMPONENTS WILL INCLUDE LIQUID--LINE SHUTOFF VALVE
WITH SWEAT CONNECTIONS, VAPOR--LINE SHUTOFF VALVE WITH SWEAT
CONNECTIONS, SYSTEM CHARGE OF PURONR (R--410A) REFRIGERANT, POE
COMPRESSOR OIL, ACCUMULATOR, AND REVERSING VALVE.

ISSUE & REVISION HISTORY

#	DESCRIPTION	(DOF INDICATES SHEET WAS REVISED)
INITIAL RELEASE 3/00/0003		
FIRE PROTECTION ARCHITECTURAL RELEASE 5/00/0003		
BD CHANGES 06/00/0003		

SIMPLE MAN DISTILLERY

PROJECT

SEAL

MECHANICAL
SPECS
(3 OF 3)

DRAWING TITLE

Drawn By:		M-004
Checked By:		
PROJECT #	3504	




EQUIPMENT / DEVICE COORDINATION NOTES:

- 1) GENERAL CONTRACTOR TO CONFIRM FINAL EQUIPMENT SPECIFICATIONS FOR OWNER AND G.C. PROVIDE EQUIPMENT AND COMPARE ALL ELECTRICAL, PLUMBING, AND MECHANICAL REQUIREMENTS TO EQUIPMENT SHOWN ON THESE DRAWINGS. G.C. TO NOTIFY ARCHITECT AND ENGINEERS OF ANY DISCREPANCIES PRIOR TO ORDERING OR INSTALLING ELECTRICAL, PLUMBING, OR MECHANICAL INFRASTRUCTURE.
- 2) G.C. TO CONFIRM ALL FINAL EQUIPMENT AND DEVICE SPECIFICATIONS, INCLUDING OWNER PROVIDED AND G.C.PROVIDED EQUIPMENTS/ DEVICES, COMPLY WITH NFPA AND FIRE SAFETY REQUIREMENTS IN ALL HAZARDOUS AREAS SUCH AS PRODUCTION AREA #111, STORAGE AREA #114, AND EVENT SPACE #110.

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

1. BEFORE STARTING DEMOLITION, PROVIDE NECESSARY PROTECTIVE DEVICES WHERE REQUIRED AND IN STRICT ACCORDANCE WITH OSHA AND ICRA REGULATIONS.
2. TAKE NECESSARY PRECAUTIONS TO PREVENT DUST AND DIRT MIGRATING TO OCCUPIED AREAS OF THE BUILDING. THIS INCLUDES BLANKING OFF ANY RETURN AIR GRILLES/ DUCTS IN THE WORK AREA. PROVIDE TEMPORARY EXHAUST FANS, DUCTED DIRECTLY TO OUTDOORS, TO MAINTAIN NEGATIVE PRESSURE WITHIN THE WORK AREA.
3. KEEP ALL ADJACING AREAS ADJACENT TO THE WORK AREAS CLEAN AND FREE OF DEBRIS.
4. ALL DEMOLISHED MATERIALS SHALL BE REMOVED AND DISPOSED OF OFF SITE.
5. REPAIR/ REPLACE EXISTING EQUIPMENT/ MATERIALS NOT SCHEDULED OR NOTED TO BE DEMOLISHED BUT BECOME DAMAGED DURING THE PROGRESS OF THE WORK. MAKE ANY AND ALL SUCH REPAIRS, REPLACEMENTS, MODIFICATIONS TO RESTORE THE DAMAGED ITEMS TO THEIR ORIGINAL CONDITION AT THE TIME OF DAMAGE, TO THE SATISFACTION OF AND AT NO ADDITIONAL COST TO THE OWNER.
6. COORDINATE CUTTING, PATCHING OF EXISTING WALLS, CEILINGS, AND FLOORS AFFECTED BY MECHANICAL DEMOLITION WITH G.C.
7. CAP AND SEAL AIR TIGHT ALL POINTS AT WHICH DUCTWORK IS REMOVED FROM DUCTWORK THAT WILL REMAIN. RE-INSULATE REMAINING DUCTWORK TO MAINTAIN VAPOR BARRIER.
8. DURING CONSTRUCTION, AFTER CONNECTION OF NEW DUCTWORK TO EXISTING SYSTEMS, PROVIDE AN APPROPRIATE FILTERED AIR DUCTS TO ALL AIR DUCTS IN EXISTING SYSTEMS FROM CONSTRUCTION DUST AND DEBRIS. IF EXISTING SYSTEM IS CONTAMINATED DURING THE CONSTRUCTION, THE ENTIRE EXISTING DUCT SYSTEM SHALL BE CLEARED.
9. EXISTING PIPING SERVING OTHER FLOORS SHALL REMAIN AND MUST BE PROTECTED.
10. OUTDOOR AIR INTAKE, EXHAUST OPENINGS SHALL BE PROVIDED WITH CLASS 1 MOTORIZED DAMPERS. THE DAMPERS SHALL HAVE AN AIR LEAKAGE RATE NOT GREATER THAN 4 CFM/FT2 OF DAMPER SURFACE AREA AT 1.0 INCH WATER GAUGE (249 PA) AND SHALL BE LABELED BY AN APPROVED AGENCY AND LISTED IN ACCORDANCE WITH ASHRAE 62.1 SOD.
11. PROVIDE MINIMUM R-8 INSULATION FOR OUTDOOR AIR INTAKE DUCT AND R-6 INSULATION FOR SUPPLY AND RETURN DUCT.
12. PROVIDE 1" CONDENSATE DRAIN FOR ALL AHUS.
13. PROVIDE WEATHER PROOF COATING FOR ALL EXTERIOR PIPING INSULATION.
14. ALL EQUIPMENT SHALL MAINTAIN MINIMUM CLEARANCE FROM THE COMBUSTIBLE MATERIAL AS PER MANUFACTURE RECOMMENDATION.
15. PROVIDE 18" AIR GAP CUT AT ALL ELBOWS AND BOTTOM OF RISER AND EVERY 15 FEET HORIZONTAL KITCHEN EXHAUST DUCT.
16. KITCHEN EXHAUST DUCT SHALL BE CONSTRUCTED OF 0.0575-INCH NO.16 GAUGE STEEL.
17. DUCT TO EXHAUST FAN CONNECTIONS SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET OF THE FAN FOR SIDE-INLET UTILITY FANS. APPROVED FLEXIBLE CONNECTIONS MAY BE PROVIDED.
18. VIBRATION ISOLATION CONNECTOR FOR CONNECTING A DUCT TO A FAN SHALL CONSIST OF NON-COMBUSTIBLE PACKING IN A METAL SLEEVE JOINT OF APPROVED DESIGN OR SHALL BE A COATED-FABRIC FLEXIBLE DUCT CONNECTOR LISTED AND LABELED FOR THE APPLICATION. VIBRATION ISOLATION CONNECTORS SHALL BE INSTALLED ONLY AT THE CONNECTION OF A DUCT TO A FAN INLET OR OUTLET.
19. PROVIDE VIBRATION ISOLATION TO EXHAUST FAN.
20. PROVIDE FIRE WRAP TO KITCHEN EXHAUST FAN AS PER MANUFACTURERS RECOMMENDATIONS
21. PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/ BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS.
22. PROVIDE VOLUME DAMPER AT EACH SUPPLY, RETURN AND EXHAUST DUCTWORK BRANCH.
23. PROVIDE CORO-DAMPED DAMPERS IN INACCESSIBLE CEILINGS.

- 1 PROVIDE MANUAL SHUTOFF CONTROL (SWITCH WITH BREAK-GLASS TYPE) OUTSIDE OF THE ROOM (IFC 5004.3.1). LOCATION TO BE APPROVED BY THE JURISDICTION, BUT TYPICALLY LOCATED AT THE FIRE ALARM PANEL. SWITCH WITH BREAK-GLASS TYPE OR OTHER APPROVED MANNER LABELED: 'VENTILATION SYSTEM EMERGENCY SHUTOFF'
- 2 CONTRACTOR TO VERIFY THE EXACT LOCATION OF STORM LINE ON THE FIELD & CONNECT 1" CD TO STORM LINE. INSTALL THE CONDENSATE DRAIN WITH 1/4" SLOPE. PROVIDE 1" INSULATION TO CONDENSATE DRAIN.
- 3 PROVIDE CONDENSATE PUMP AND SECONDARY DRIP PAN UNDER AIR HANDLING UNIT WITH WATER LEAKAGE SENSOR AND ALARM TO SHUT THE UNIT.
- 4 EXTEND FULL SIZE SUPPLY & RETURN DUCTWORK FROM AC UNITS TO SPACE. EXTEND AS SHOWN. ACOUSTICALLY LINE THE FIRST 10'-0" OF BOTH SUPPLY AND RETURN MAIN DUCTS.
- 5 TYPE-II HOOD. RUN SHEET METAL DUCT FROM CONNECTION ON HOOD TO RESPECTIVE EXHAUST FAN. OFFSET AND TRANSITION AT CONNECTIONS AS NEEDED. VERIFY DIMENSIONS PRIOR TO FABRICATION OR INSTALLATION. USE FACTORY-MANUFACTURED PIPE AND FITTINGS ONLY. VERIFY LOCATION ON SITE WITH MOST RECENT RETURN PLANS.
- 6 PROVIDE REMOTE TEMP SENSOR MOUNTED IN RETURN DUCT AND WIRE BACK TO T-STAT.
- 7 LOCATION OF DIGITAL THERMOSTAT CONTROL. INSTALL AND WIRE NEW 7-DAY PROGRAMMABLE THERMOSTAT. COORDINATE EXACT LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN. PROVIDE LOCKABLE COVER.
- 8 ALL EXPOSED DUCTWORK SHALL BE 1" INTERNALLY LINED. INTERNAL INSULATION SHALL BE UL-181 LISTED. INCREASE THE DUCT SIZE BY 2 UNCH DIA TO ACCOMMODATE THE INSULATION
- 9 HOOD CONTROLLER UNIT. REFER SHEET H-100.00 FOR CONNECTION REQUIREMENT. COORDINATE WITH CAPTIVE AIRE ON THE REQUIRED LOCATION AND CONNECTION REQUIREMENTS.
- 10 3"Ø COMBUSTION AND EXHAUST AIR TERMINATION OF WATER HEATER PIPE EXHAUST UP THROUGH SHAFT. TERMINATE AS PER MANUFACTURER RECOMMENDATION. USE SCHEDULE 40 CPVC PIPES.
- 11 MOTORIZED DAMPER SHALL BE INTERLOCKED WITH OAF-1.
- 12 INTERLOCK MOTORIZED DAMPER WITH RESPECTIVE AC UNITS.
- 13 PROVIDE TIME CLOCK FOR TXF-1 FANS.
- 14 PROVIDE DOOR UNDERCUT FOR THE REST ROOM AREA.
- 15 KITCHEN EXHAUST AIR SHALL BE MINIMUM 10 FT. AWAY FROM ANY OUTSIDE AIR INTAKES.
- 16 EXISTING ELECTRIC UNIT HEATER WH-3(E) SHALL REMAIN AND TO BE REUSED. CONTRACTOR TO FIELD VERIFY THE EXISTING LOCATION OF THE UNIT HEATER AND RELOCATE TO THE WOMEN REST ROOM. IF THERE IS ANY DISCREPANCY FOUND INFORM TO RESPECTIVE ENGINEER/OWNER.
- 17 INTERLOCK EF-2 WITH RESPECTIVE PROCESS CONTROLS (PROCESS HEAT WILL SHUT OFF IF THE VENTILATION FANS ARE IN SHUT DOWN).
- 18 THE MECHANICAL VENTILATION SYSTEM SHALL BE DESIGNED TO PROVIDE AN ALARM NOTIFICATION UPON LOSS OF AIRFLOW (NFFA 30 17.11.11)
- 19 THE VENT ON THE ROOF SHOULD HAVE A WARNING PLACARD STATING THE FLAMMABLE HAZARD AND STATING THE REQUIRED STANDOFF.
- 20 VENT OUTLETS (THAT COULD CONTAIN FLAMMABLE VAPORS) SHALL BE LOCATED SO THAT VAPORS WILL NOT BE TRAPPED BY EAVES OR OTHER OBSTRUCTIONS. BE AT LEAST 5 FT FROM BUILDING OPENINGS, AND AT LEAST 15 FT FROM POWERED VENTILATION AIR INTAKE DEVICES (NFFA 30 27.8.1.3)
- 21 CONTRACTOR TO VERIFY AT SITE THE EXACT LOCATION OF BARREL FILLING AND SHALL PLACE THE EXHAUST GRILLE FOR SPOT VENTILATION ACCORDINGLY.
- 22 HYDROCARBONS (HC) LE-0-100% TRANSMITTER WITH PLUG-IN STYLE SENSOR AND J-BOX FOR ETHANOL DETECTION. LOCATE SENSOR 12" AFF. LOCATE THE SENSOR AS RECOMMENDED BY MANUFACTURER. (RKI INSTRUMENTS/65-2667RK-HC M2A OR EQUIVALENT.)
- 23 HORN AND XENON STROBE COMBO (EXPLOSION PROOF). (RATING - CLASS 1, DIVISION 1, ZONE 1, 24 VDC. LOCATE AS RECOMMENDED BY MANUFACTURER. (RKI INSTRUMENTS/51-0040-RED OR EQUIVALENT)
- 24 FOUR CHANNEL GAS DETECTION SYSTEM CONTROLLER FOR STORAGE VENTILATION CONTROL WITH LARGE RED STROBE LIGHT. (RKI INSTRUMENTS - BEACON 410A OR EQUIVALENT.). LOCATE OUTSIDE OF STORAGE SPACE AS SHOWN ON PLAN.

ISSUE & REVISION HISTORY		
#	DESCRIPTION	QDOT INDICATES SHEET WAS REVISED
	INITIAL RELEASE 3/30/2023	
	FIRE PROTECTION ARCHITECTURAL RELEASE 5/30/2023	
	BD CHANGES 8/21/2023	●
	REVISION #1 - CLIENT REVISIONS 9/22/2023	●
	REVISION #2 - CLIENT REVISIONS 10/26/2024	●
	REVISION #3 - BLDG DEPT RESPONSE 3/28/2024	●

SIMPLE MAN DISTILLERY

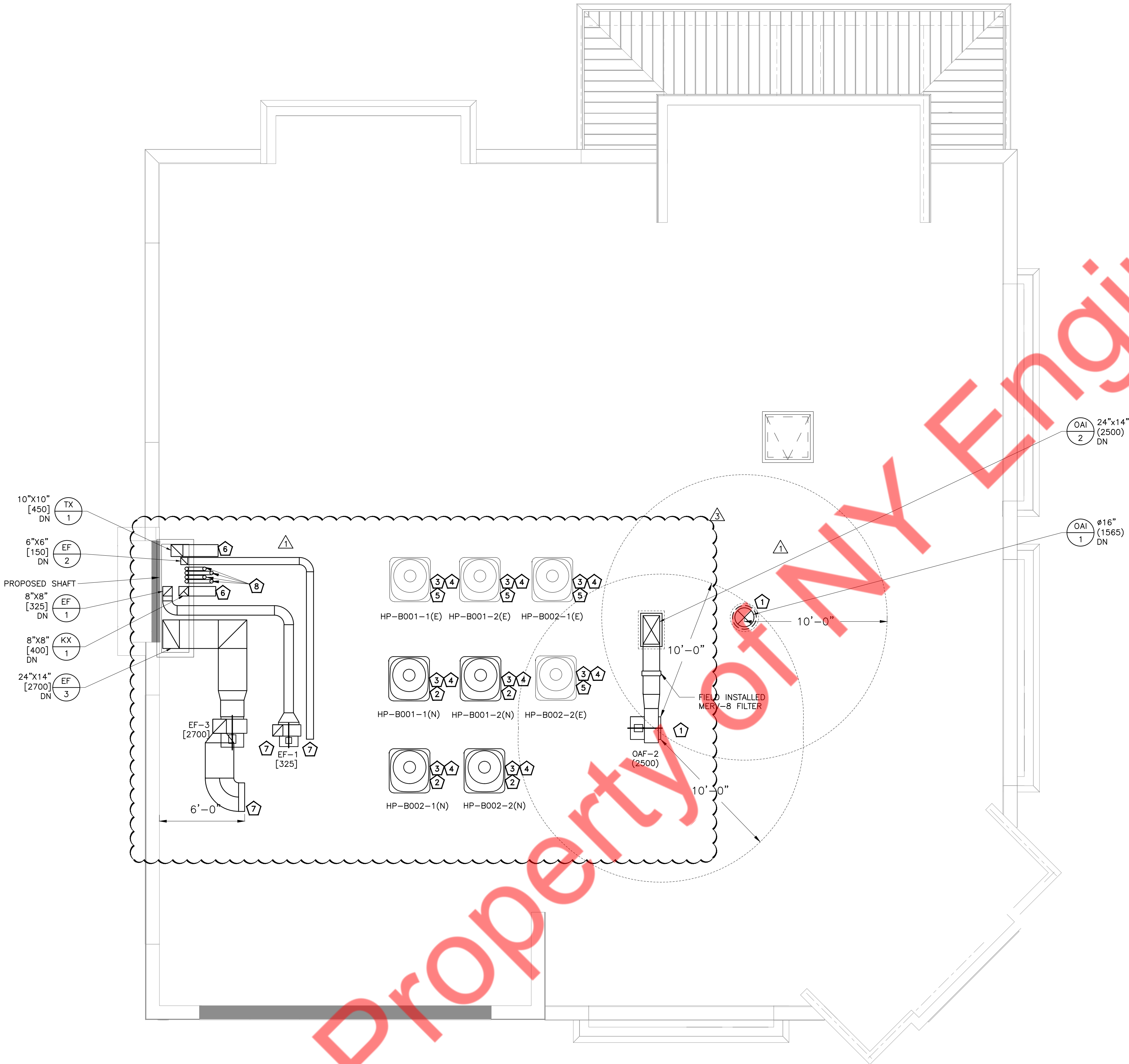
PROJECT

SEAL

MECHANICAL
FLOOR PLAN

DRAWING TITLE

Drawn By:	M-100
MKS	
Checked By:	
JLB, PG	
PROJECT #	
3504	5 OF 13



- GENERAL NOTES:
- BEFORE STARTING DEMOLITION, PROVIDE NECESSARY PROTECTIVE DEVICES WHERE REQUIRED AND IN STRICT ACCORDANCE WITH OSHA AND ICRA REGULATIONS.
 - TAKE NECESSARY PRECAUTIONS TO PREVENT DUST AND DIRT MIGRATING TO OCCUPIED AREAS OF THE BUILDING. THIS INCLUDES BANKING OFF ANY RETURN AIR GRILLES/ DUCTS IN THE WORK AREA. PROVIDE TEMPORARY EXHAUST FANS, DUCTED DIRECTLY TO OUTDOORS, TO MAINTAIN NEGATIVE PRESSURE WITHIN THE WORK AREA.
 - KEEP ALL ADJOINING AREAS ADJACENT TO THE WORK AREAS CLEAN AND FREE OF DEBRIS.
 - ALL DEMOLISHED MATERIALS SHALL BE REMOVED AND DISPOSED OF OFF SITE.
 - REPAIR/ REPLACE EXISTING EQUIPMENT/ MATERIALS NOT SCHEDULED OR NOTED TO BE DEMOLISHED BUT BECOME DAMAGED DURING THE PROGRESS OF THE WORK. MAKE ANY AND ALL SUCH REPAIRS, REPLACEMENTS, MODIFICATIONS TO RESTORE THE DAMAGED ITEMS TO THEIR ORIGINAL CONDITIONS AT THE TIME OF DAMAGE, TO THE SATISFACTION OF AND AT NO ADDITIONAL COST TO THE OWNER.
 - COORDINATE CUTTING, PATCHING OF EXISTING WALLS, CEILINGS, AND FLOORS AFFECTED BY MECHANICAL DEMOLITION WITH G.C.
 - CAP AND SEAL AIR TIGHT ALL POINTS AT WHICH DUCTWORK IS REMOVED FROM DUCTWORK THAT WILL REMAIN. RE-INSULATE REMAINING DUCTWORK TO MAINTAIN VAPOR BARRIER.
 - DURING CONSTRUCTION, AFTER CONNECTION OF NEW DUCTWORK TO EXISTING SYSTEMS, PROVIDE TEMPORARY ROLL FILTER MEDIA ON ALL AIR DEVICES TO PROTECT EXISTING SYSTEMS FROM CONSTRUCTION DUST AND DEBRIS. IF EXISTING SYSTEM IS CONTAMINATED DURING THE CONSTRUCTION, THE ENTIRE EXISTING DUCT SYSTEM SHALL BE CLEANED.
 - EXISTING PIPING SERVING OTHER FLOORS SHALL REMAIN AND MUST BE PROTECTED.
 - OUTDOOR AIR INTAKE, EXHAUST OPENINGS SHALL BE PROVIDED WITH CLASS 1 MOTORIZED DAMPERS. THE DAMPERS SHALL HAVE AN AIR LEAKAGE RATE NOT GREATER THAN 4 CFM/FT² OF DAMPER SURFACE AREA AT 1.0 INCH WATER GAUGE (249 PA) AND SHALL BE LABELED BY AN APPROVED AGENCY WHEN TESTED IN ACCORDANCE WITH AMCA 500D.
 - PROVIDE MINIMUM R-8 INSULATION FOR OUTDOOR AIR INTAKE DUCT AND R-6 INSULATION FOR SUPPLY AND RETURN DUCT.
 - PROVIDE 1" CONDENSATE DRAIN FOR ALL AHUS.
 - PROVIDE WEATHER PROOF COATING FOR ALL EXTERIOR PIPING INSULATION.
 - ALL EQUIPMENT SHALL MAINTAIN MINIMUM CLEARANCE FROM THE COMBUSTIBLE MATERIAL AS PER MANUFACTURE RECOMMENDATION.
 - PROVIDE CLEAN OUT AT ALL ELBOWS AND BOTTOM OF RISER AND EVERY 15 FEET HORIZONTAL KITCHEN EXHAUST DUCT.
 - KITCHEN EXHAUST DUCT SHALL BE CONSTRUCTED OF 0.0575-INCH NO.16 GAUGE STEEL.
 - DUCT TO EXHAUST FAN CONNECTIONS SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET OF THE FAN FOR SIDE-INLET UTILITY FANS. APPROVED FLEXIBLE CONNECTIONS MAY BE PROVIDED.
 - A VIBRATION ISOLATION CONNECTOR FOR CONNECTING A DUCT TO A FAN SHALL CONSIST OF NON-COMBUSTIBLE PACKING IN A METAL SLEEVE JOINT OF APPROVED DESIGN OR SHALL BE A COATED-FABRIC FLEXIBLE DUCT CONNECTOR LISTED AND LABELED FOR THE APPLICATION. VIBRATION ISOLATION CONNECTORS SHALL BE INSTALLED ONLY AT THE CONNECTION OF A DUCT TO A FAN INLET OR OUTLET.
 - PROVIDE VIBRATION ISOLATION TO EXHAUST FAN.
 - PROVIDE FIRE WRAP TO KITCHEN EXHAUST DUCT AS PER MANUFACTURERS RECOMMENDATIONS
 - PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/ BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS.
 - PROVIDE WEATHER PROOF COATING FOR ALL EXTERIOR PIPING INSULATION.
 - PROVIDE WEATHER PROOF COATING FOR ALL EXTERIOR DUCTING.

- KEY NOTES:
- OUTSIDE AIR INTAKE SHALL BE 10 FEET AWAY FROM LOT LINE AND EXHAUST AND 12 INCHES ABOVE SNOW LEVEL. TERMINATE WITH GOOSENECK AND BIRD SCREEN.
 - INSTALL NEW OUTDOOR CONDENSING UNITS ON THE ROOF WITH ALL REQUIRED ACCESSORIES. COORDINATE EXACT LOCATION IN FIELD.
 - INSTALL REFRIGERANT PIPING BETWEEN INDOORS AND OUTDOORS AS PER THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE INSULATION AS PER 2015 IECC SECTION C404.4
 - PROVIDE STRUCTURAL SUPPORTS AS REQUIRED.COORDINATE WITH STRUCTURAL ENGINEER.
 - EXISTING UNIT SHALL REMAIN AND TO BE REUSED. IF THERE IS ANY DESCRIPANCY FOUND PLEASE INFORM RESPECTIVE ENGINEER/OWNER.
 - ALL EXHAUST TERMINATIONS SHALL BE LOCATED MINIMUM 3 FEET FROM LOT LINE, MINIMUM 10 FEET FROM OUTSIDE AIR INTAKE AND 3 FEET AWAY FROM OPERABLE OPENING INTO BUILDING AND 12 INCHES ABOVE SNOW LEVEL. TERMINATE WITH GOOSENECK AND BIRD SCREEN.
 - FLAMMABLE EXHAUST TO BE TERMINATED 30 FEET FROM LOT LINES, 10 FEET FROM OPERABLE OPENINGS, 6 FEET FROM EXTERIOR WALL AND ROOF AND 12 INCHES ABOVE SNOW LEVEL. TERMINATE WITH GOOSENECK AND BIRD SCREEN.
 - 3"Ø COMBUSTION AND EXHAUST AIR TERMINATION OF WATER HEATER PIPE. TERMINATE AS PER MANUFACTURER RECOMMENDATION REFER DETAIL SHEET M-503 #7. USE SCHEDULE 40 CPVC PIPES.

- EQUIPMENT / DEVICE COORDINATION NOTES:
- GENERAL CONTRACTOR TO CONFIRM FINAL EQUIPMENT SPECIFICATIONS FOR OWNER AND G.C. PROVIDE EQUIPMENT AND COMPARE ALL ELECTRICAL, PLUMBING, AND MECHANICAL REQUIREMENTS TO EQUIPMENT SHOWN ON THESE DRAWINGS. G.C. TO NOTIFY ARCHITECT AND ENGINEERS OF ANY DISCREPANCIES PRIOR TO ORDERING OR INSTALLING ELECTRICAL, PLUMBING, OR MECHANICAL INFRASTRUCTURE.
 - G.C. TO CONFIRM ALL FINAL EQUIPMENT AND DEVICE SPECIFICATIONS, INCLUDING OWNER PROVIDED AND G.C.PROVIDED EQUIPMENTS/ DEVICES, COMPLY WITH NFPA AND FIRE SAFETY REQUIREMENTS IN ALL HAZARDOUS AREAS SUCH AS PRODUCTION AREA #111, STORAGE AREA #114, AND EVENT SPACE #110.

ISSUE & REVISION HISTORY	
#	DESCRIPTION (DOT INDICATES SHEET WAS REVISED)
INITIAL RELEASE	3/30/2023
FIRE PROTECTION ARCHITECTURAL RELEASE	5/30/2023
BID CHANGES	8/27/2023
REVISION #1 - CLIENT REVISIONS	9/22/2023
REVISION #2 - CLIENT REVISIONS	12/9/2024
REVISION #3 - BLDG DEPT RESPONSE	3/26/2024

SIMPLE MAN DISTILLERY

ROOF
MECHANICAL
PLAN

Drawn By:	MM
Checked By:	J.B. PG
PROJECT #	3504

M-101

HOOD INFORMATION – JOB#5619634

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)							HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP		END TO END	ROW
1	Combi Oven	6024 VHB	CAPTIVEAIRE	4' 0"	700 DEG	II	N/A	100	400			4'	8"	400	1146	-0.061'	430 SS 100%	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S)					LIGHT(S)				UTILITY CABINET(S)					FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM		ELECTRICAL	SWITCHES		
												TYPE	SIZE	MODEL #	QUANTITY		
1	Combi Oven						0									NO	213 LBS

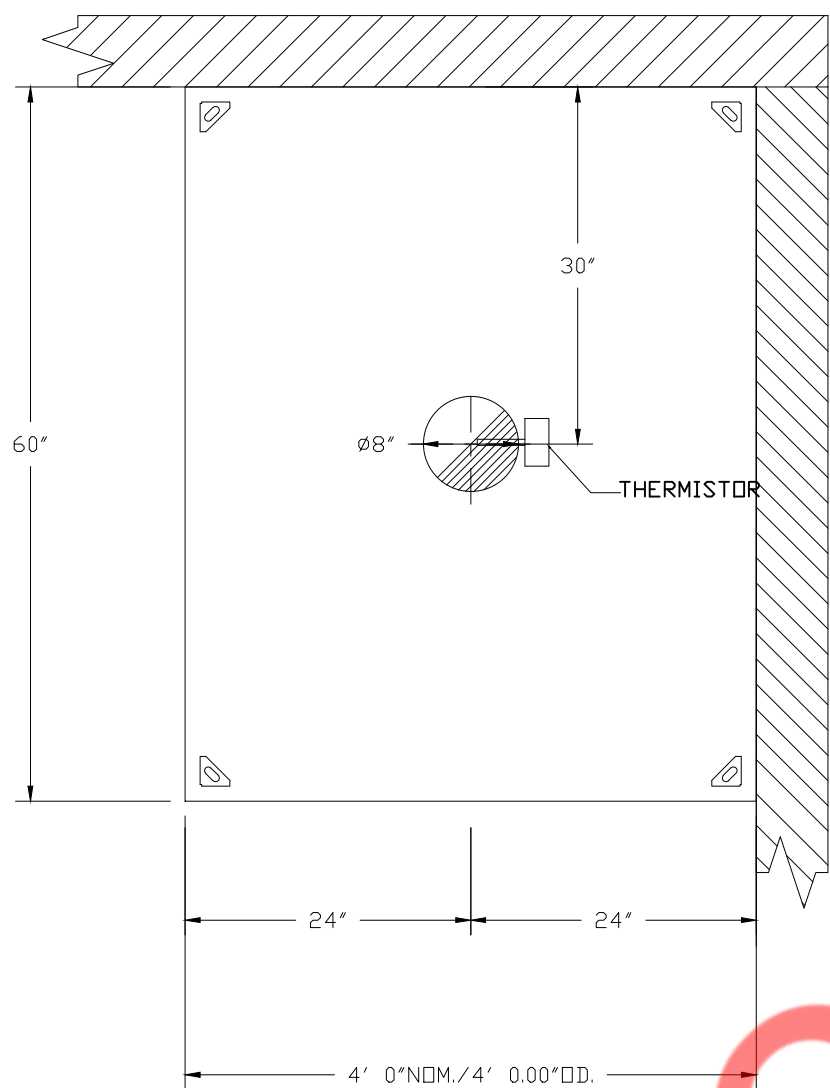
HOOD OPTIONS

HOOD NO	TAG	OPTION				
1	Combi Oven	FIELD WRAPPER	18.00'	HIGH	FRONT, LEFT, RIGHT.	

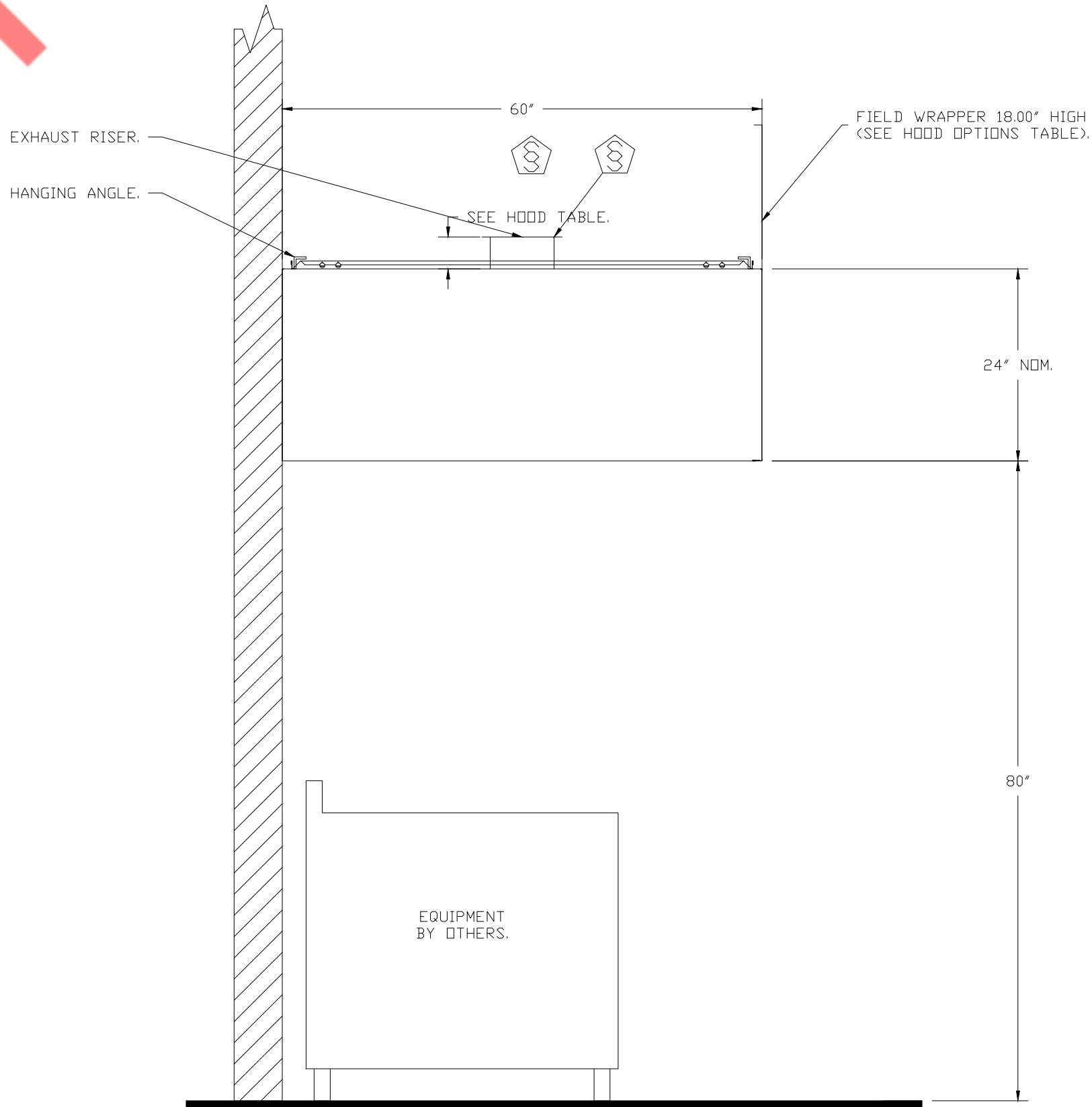
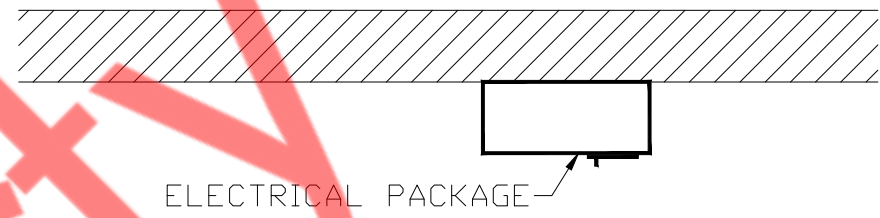
VERIFY CEILING HEIGHT

___' - ___"

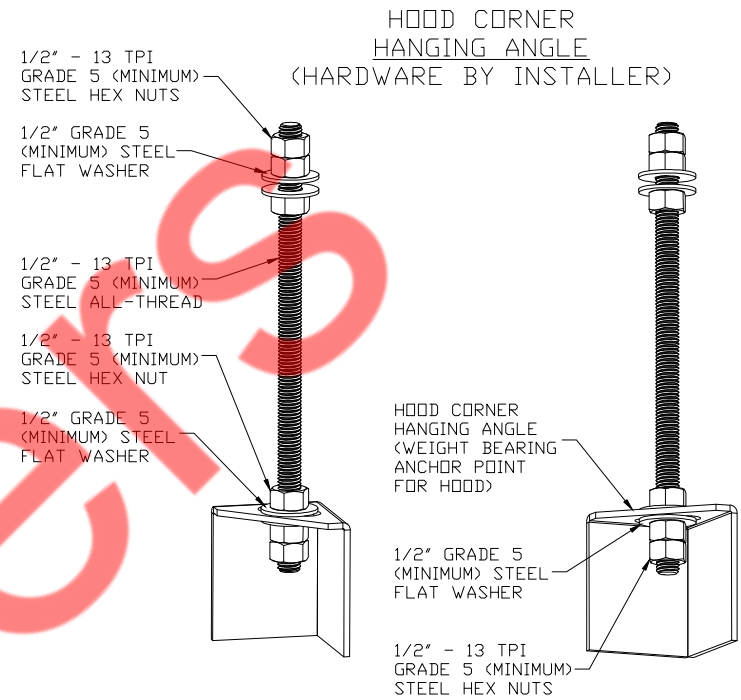
HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS



PLAN VIEW – HOOD #1 (Combi Oven)
4' 0.00" LONG 6024VHB



SECTION VIEW – MODEL 6024VHB
HOOD – #1 (Combi Oven)



ASSEMBLY INSTRUCTIONS

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

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE
Florida Gulf Coast Office
4519 George Road, Suite 150, Tampa, FL 33634 PHONE: (813) 435-3388 FAX: (919) 747-5642 EMAIL: reg62@captiveaire.com

Simple Man Distillery

DATE: 8/29/2022

DWG.#:

5619634

DRAWN BY: celso.saenz

SCALE:

3/4" = 1'-0"

MASTER DRAWING

SHEET NO.

1

ISSUE & REVISION HISTORY

#	DESCRIPTION	(DOT INDICATES SHEET WAS REVISED)
1	INITIAL RELEASE 3/00/0093	
2	FIRE PROTECTION ARCHITECTURAL RELEASE 5/00/0093	
3	BD CHANGES 8/21/0093	

SIMPLE MAN DISTILLERY

PROJECT

SEAL

HOOD DETAILS
(1 OF 3)

DRAWING TITLE

Drawn By: JWF
Checked By: J.B. PG
PROJECT # 3504

M-301

7 OF 13

EXHAUST FAN INFORMATION - JOB#5619634

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	WEIGHT (LBS)	SONES
1	EF-1	1	SIF10DD	CAPTIVEAIRE	400	0.500	1550	TEAD-ECM	0.250	0.1430	1	115	2.9	65	9.862224764439874

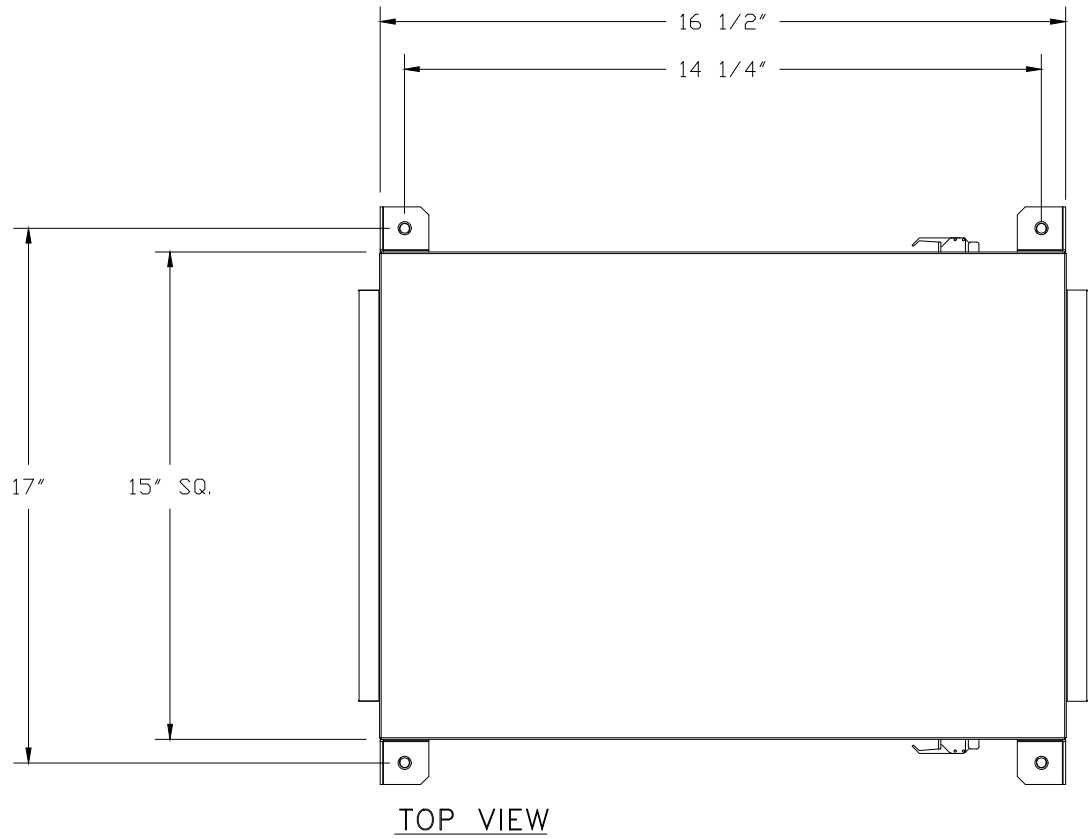
FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	EF-1	1	HANGING SPRING VIBRATION ISOLATORS (SET OF 4), FOR INDOOR OR OUTDOOR USE WITH SQUARE INLINE FANS (HSA75)
		1	1 12-BDD DAMPER
		1	SIF9-10 - STRAIGHT DISCHARGE, SQUARE DUCT CONNECTION
		1	SIF9-10 - INLET -SQUARE DUCT CONNECTION
		1	SIF - HORIZONTAL OVERHEAD MOUNT - PRE-INSTALLED MOUNTS (9-10)
		1	ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -RTC- (TELCD MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY

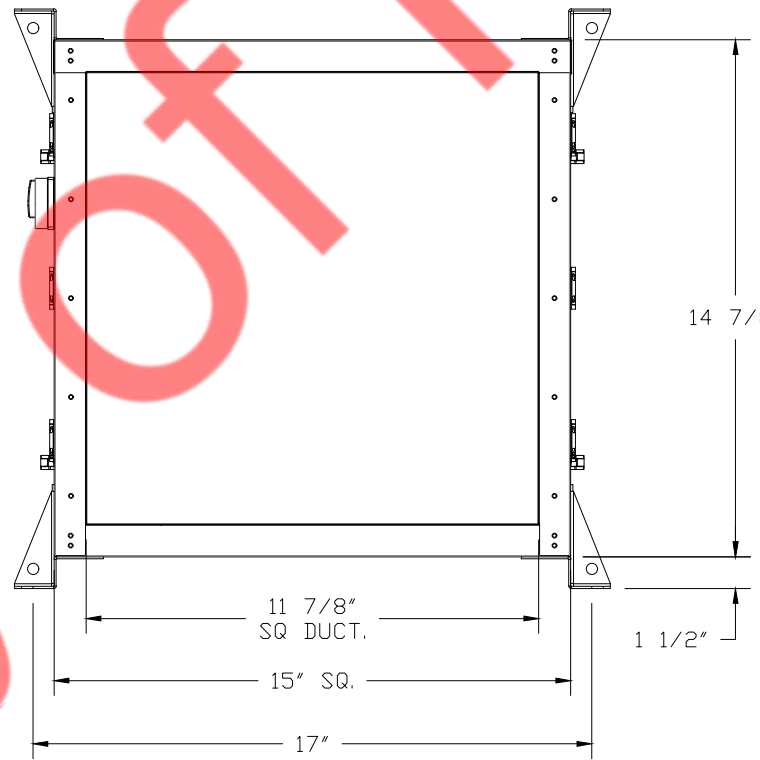
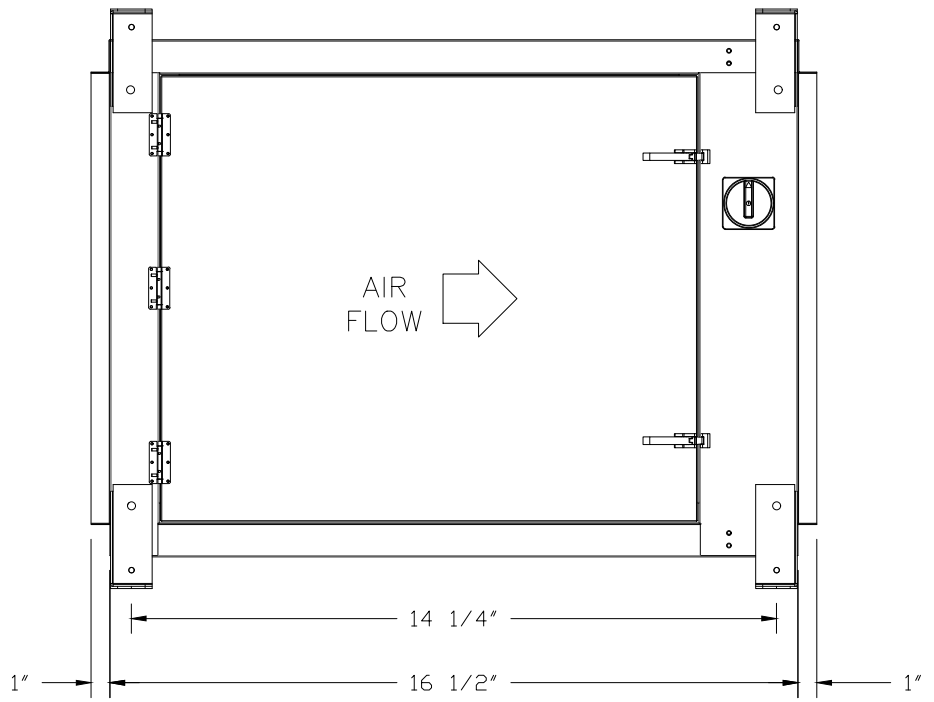
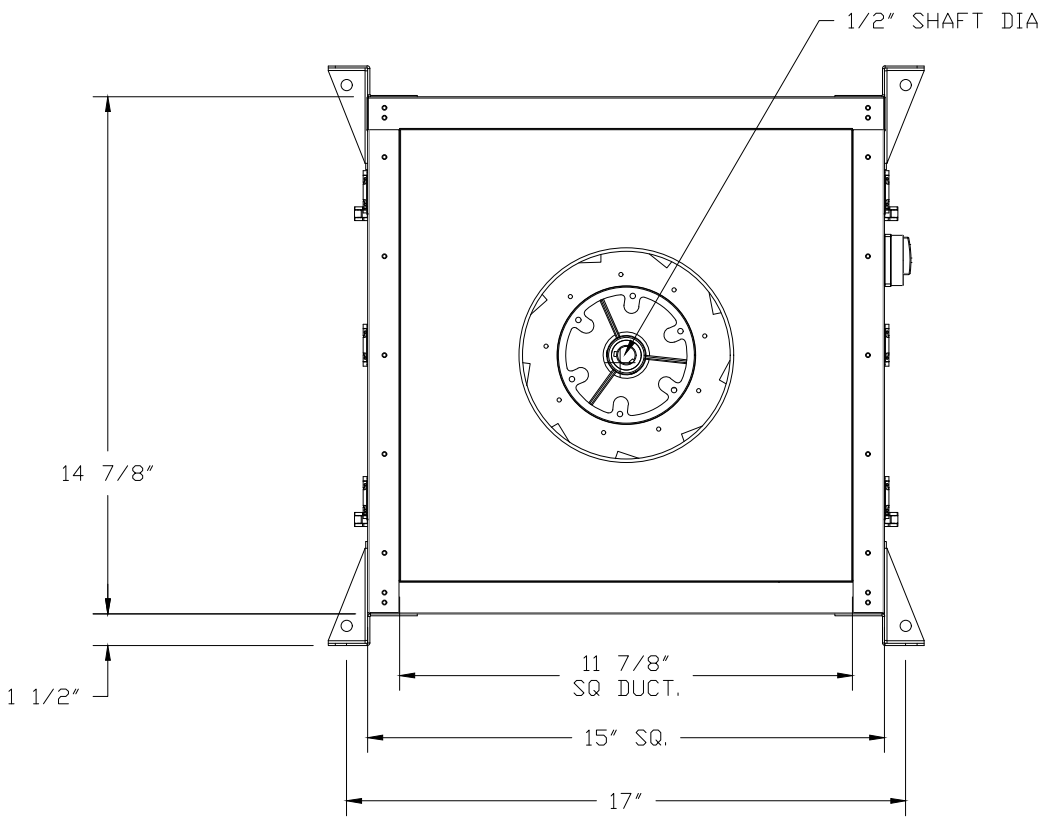
FAN ACCESSORIES

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

FAN #1 SIF10DD - EXHAUST FAN (EF-1)



TOP VIEW

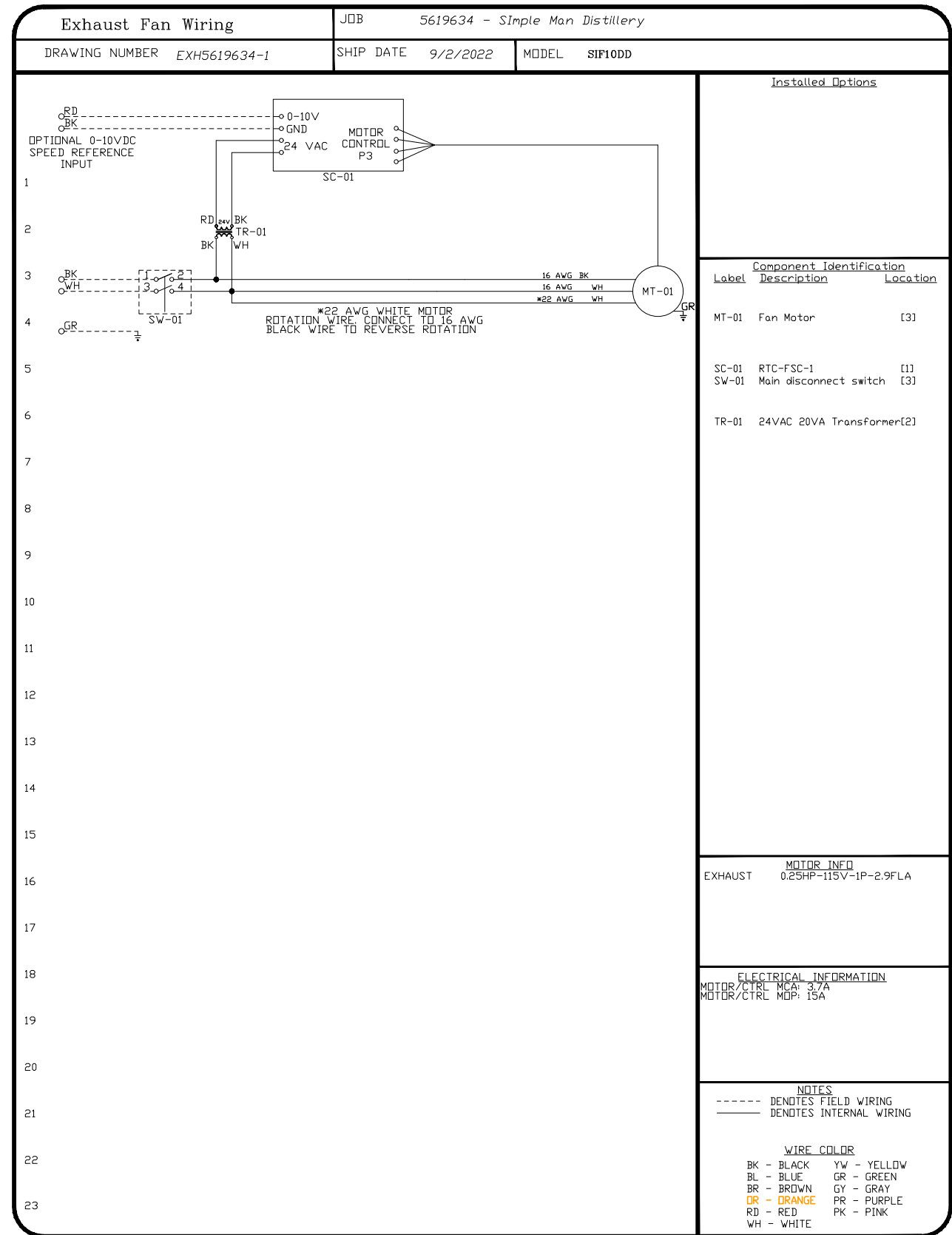


FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- TWO ACCESS DOORS FOR EASY ACCESS.
- BACKWARD INCLINED NON-OVERLOADING WHEELS.
- UL705 LISTING.
- AMCA AIR & SOUND CERTIFIED.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).

OPTIONS

HANGING SPRING VIBRATION ISOLATORS (SET OF 4), FOR INDOOR OR OUTDOOR USE WITH SQUARE INLINE FANS (HSA75).
1 12-BDD DAMPER.
SIF9-10 - STRAIGHT DISCHARGE, SQUARE DUCT CONNECTION.
SIF9-10 - INLET -SQUARE DUCT CONNECTION.
SIF - HORIZONTAL OVERHEAD MOUNT - PRE-INSTALLED MOUNTS (9-10).
ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -RTC- (TELCD MOTOR), CCW ROTATION.
2 YEAR PARTS WARRANTY.



Simple Man Distillery

DATE: 8/29/2022

DWG.#:
5619634

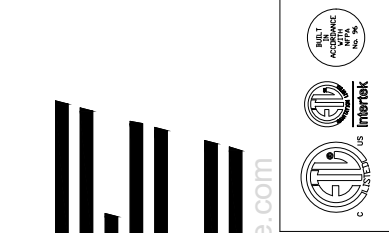
DRAWN BY: celso.saenz

SCALE:
3/4" = 1'-0"

MASTER DRAWING

SHEET NO.
2

REVISIONS	
DESCRIPTION	DATE



CAPTIVE
AIR
ENGINEERING
AIR CONDITIONING CENTER

Florida Gulf Coast Office

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

ISSUE & REVISION HISTORY

#	DESCRIPTION	(DOT INDICATES SHEET WAS REVISED)
	INITIAL RELEASE 3/30/2023	
	FIRE PROTECTION ARCHITECTURAL RELEASE 5/30/2023	
	BD CHANGES 8/16/2023	

SIMPLE MAN DISTILLERY

PROJECT

SEAL

HOOD DETAILS
(2 OF 3)

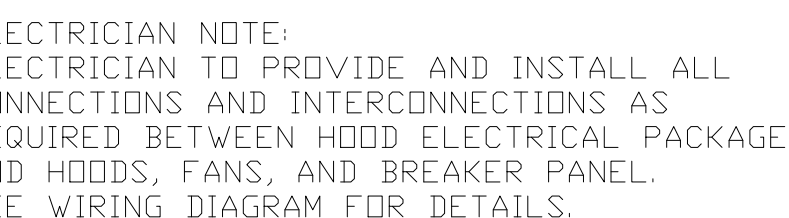
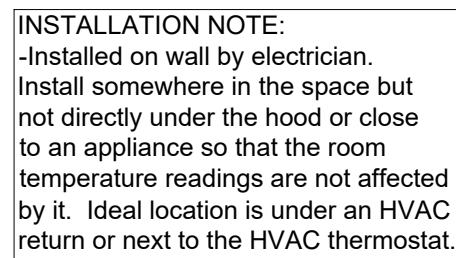
DRAWING TITLE

Drawn By: WAF
Checked By: J.B. PG
PROJECT # 3504

M-302

8 OF 13

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	Φ	HP	VOLT	FLA
1		SC-110010D	WALL MOUNT IN SS BOX	05 - SS WALL MOUNT BOX	1 FAN	SMART CONTROLS THERMOSTATIC CONTROL	EF-1 Dven	EXHAUST	1	0.250	115	2.9

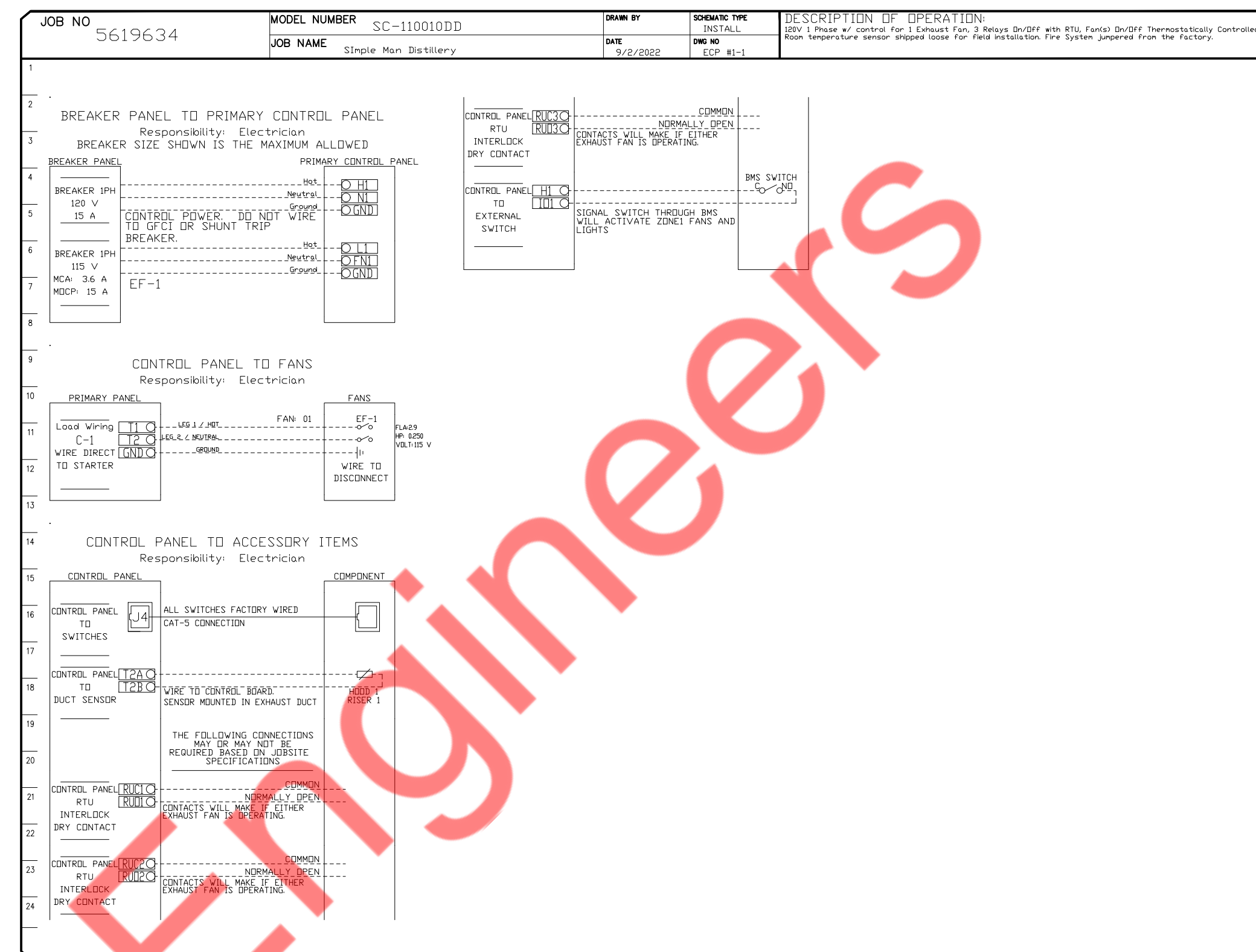


All Hood/Fan/EMS/UDS/PCU electrical connections and interconnections to be provided and installed by Electrician. Electrician to provide, install, and land wiring between hood lights, hood temp sensors, remote Ansul system microswitches, and any other component requiring an electrical connection to the Captive-Aire electrical package. Failure by the Electrician to make ALL required electrical connections and interconnections will result in the electrical controls not working properly. Any loss or failed test as a result of electrical controls not working properly is the responsibility of the Electrician. Light bulbs for kitchen hoods to be provided and installed by electrician.

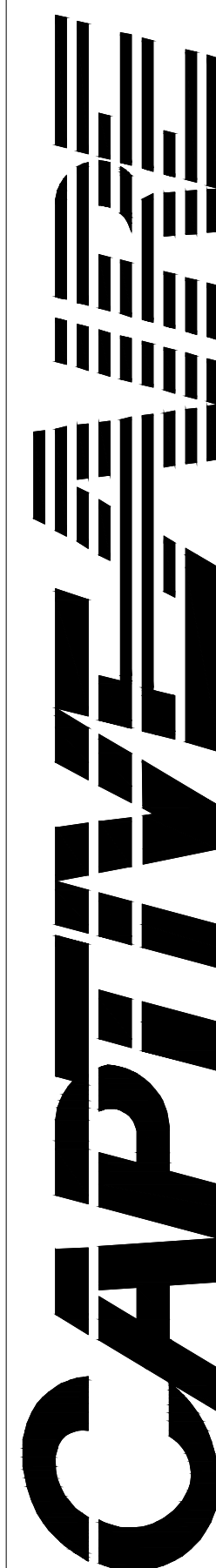


NOTES: One Thermistor per Exhaust Riser
: Each thermistor has 2 wires that connect to control cabinet
(SEE WIRING DRAWINGS FOR FURTHER DETAILS)

Sensor allows for automatic activation of fans whenever cooking operations are occurring per IMC 507.2.1



REVISIONS		
	DESCRIPTION	DATE:
△		
△		
△		
△		



Florida Gulf Coast Office

1510 George Road Suite 150 Tampa FL 33634 PHONE: (813) 435-3388 FAX: (813) 747-5612 EMAIL: reg62@captiveaire.com

#	DESCRIPTION
	INITIAL RELEASE 3/30/2023
	FIRE PROTECTION ARCHITECTURAL RELEASE 5/30/2023
	IHD CHANGES 8/01/2023

SIMPLE MAN DISTILLERY

PROJECT

SEA

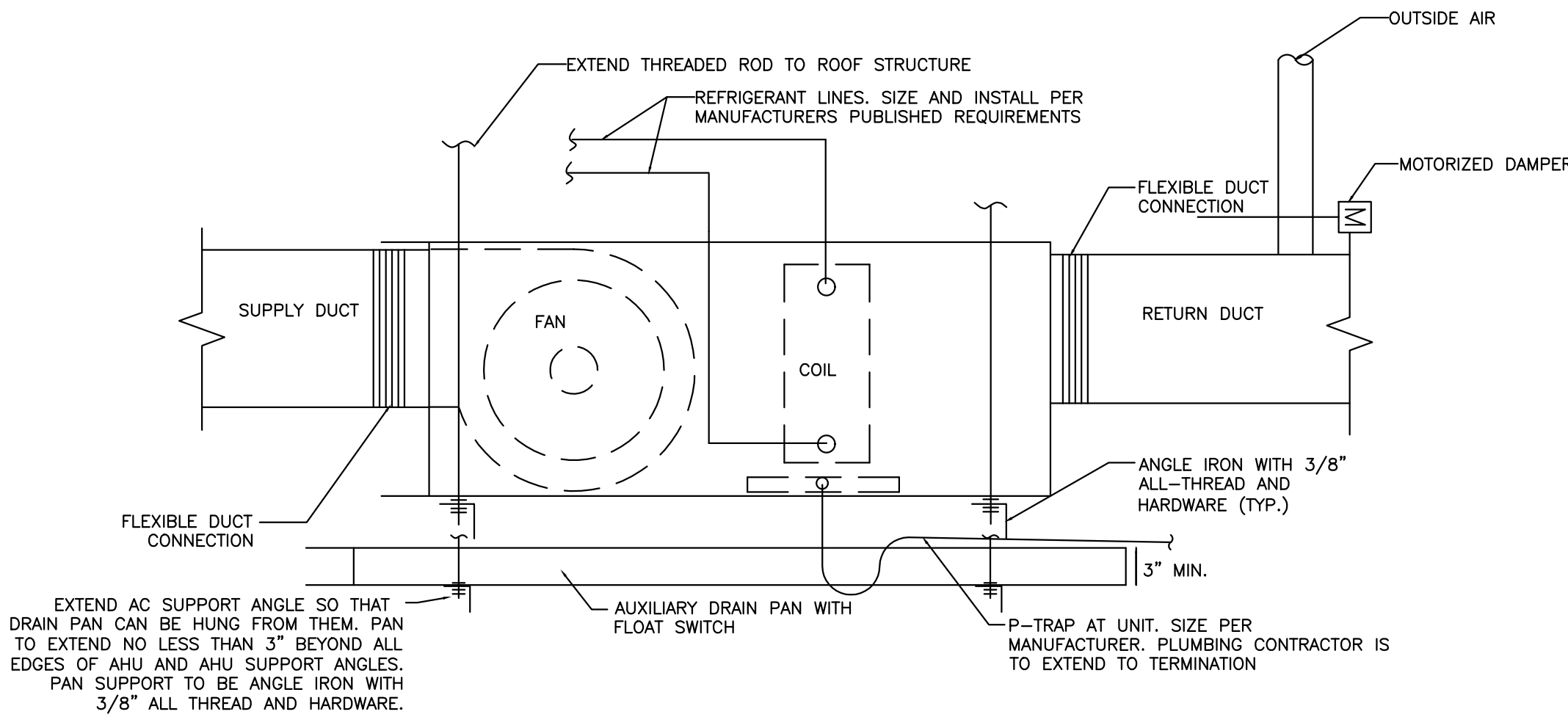
HOOD DETAILS
(3 OF 3)

DRAWING TITLE

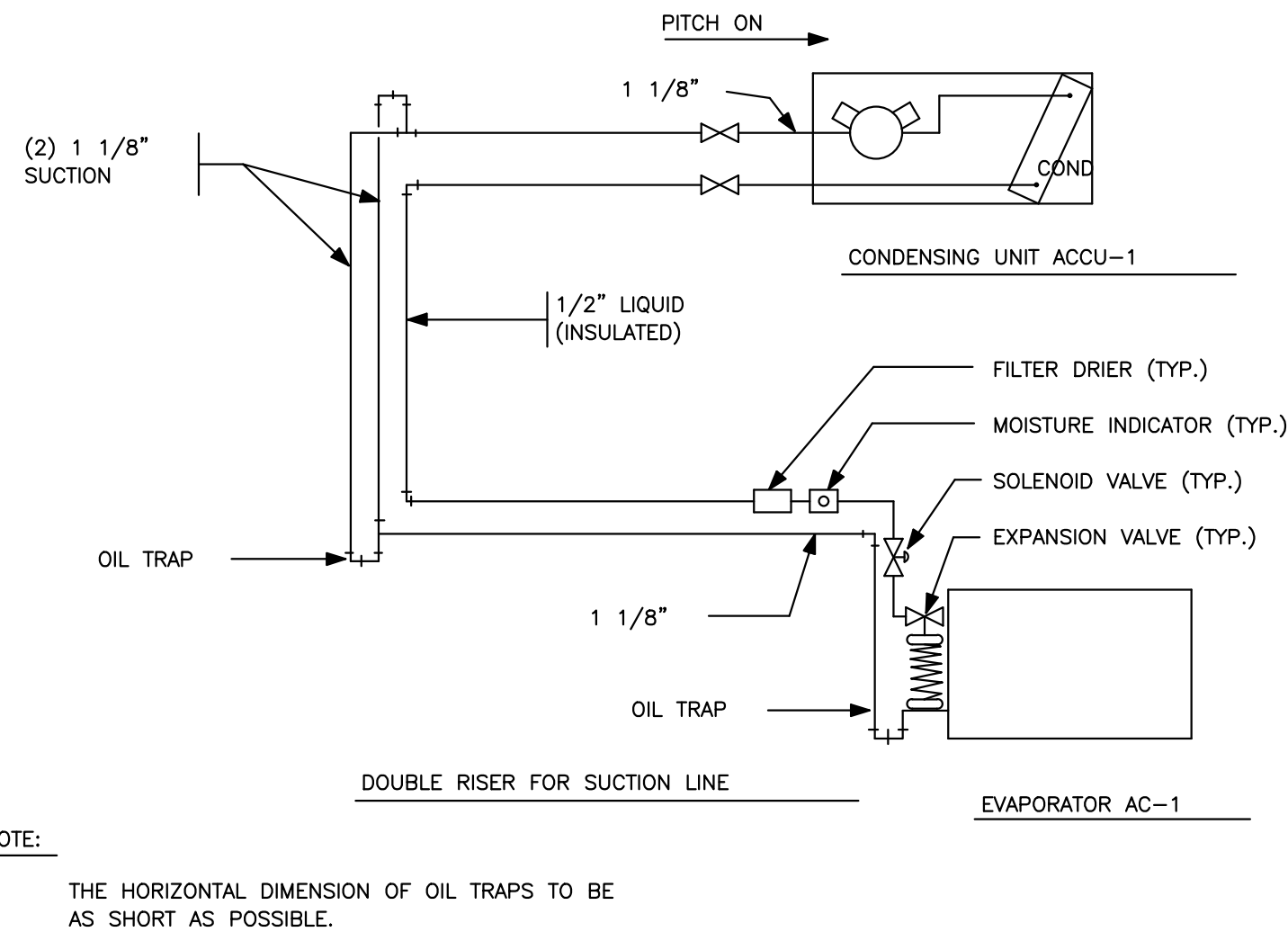
Drawn By: MMF
Checked By: JLB, PG
PROJECT # 3504

M-303

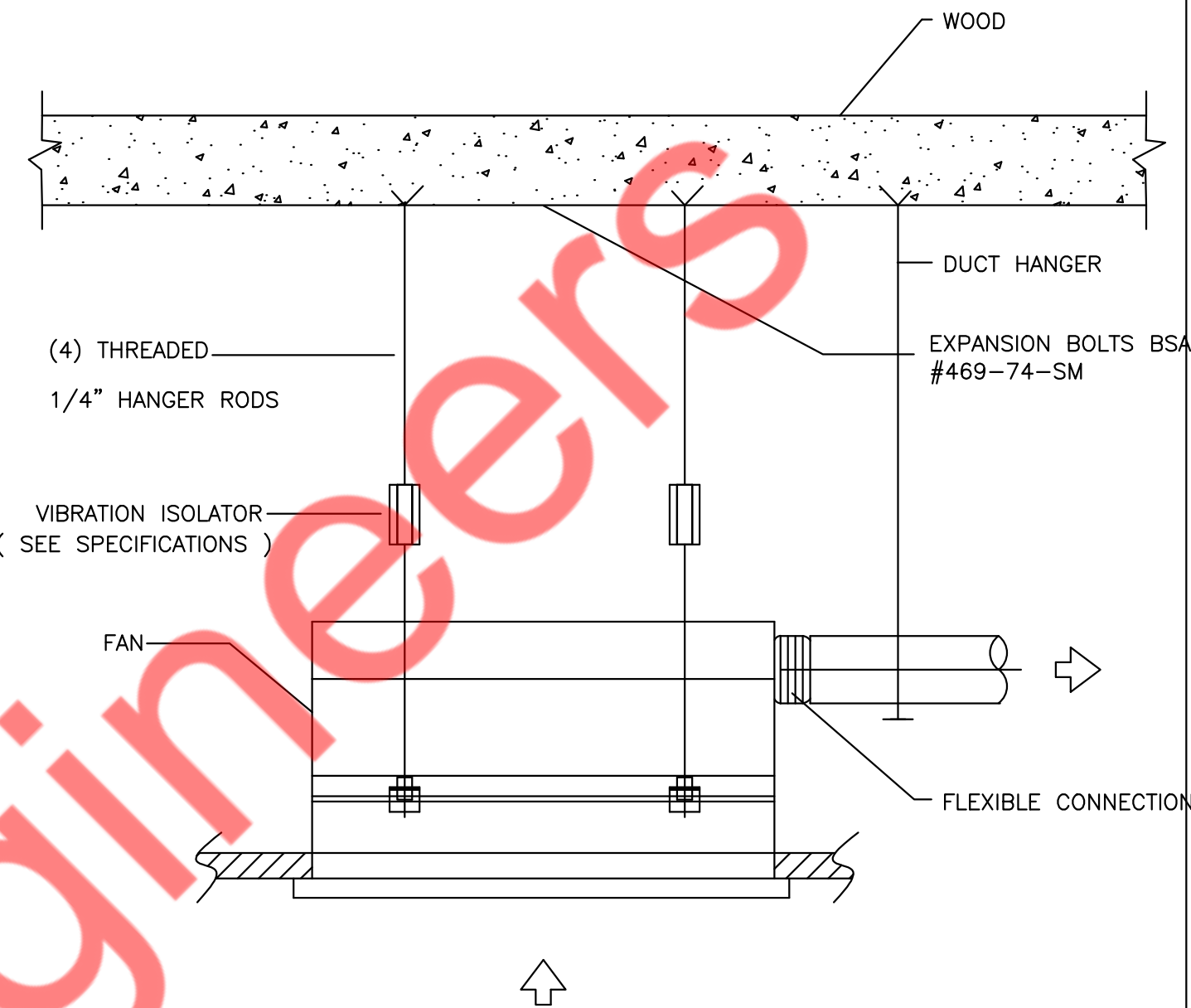
9 OF 13



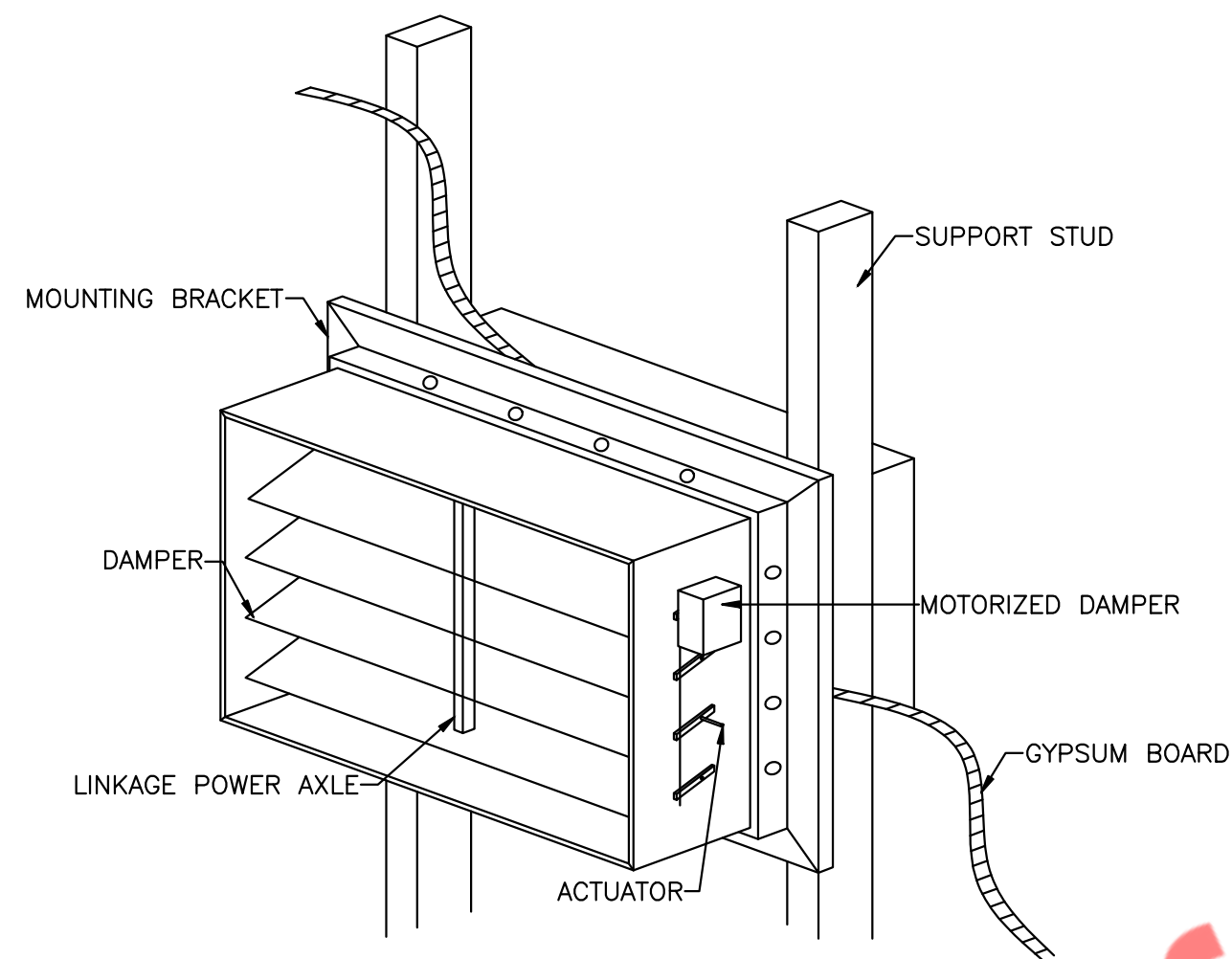
1 AIR HANDLER DETAIL
M-501 N.T.S



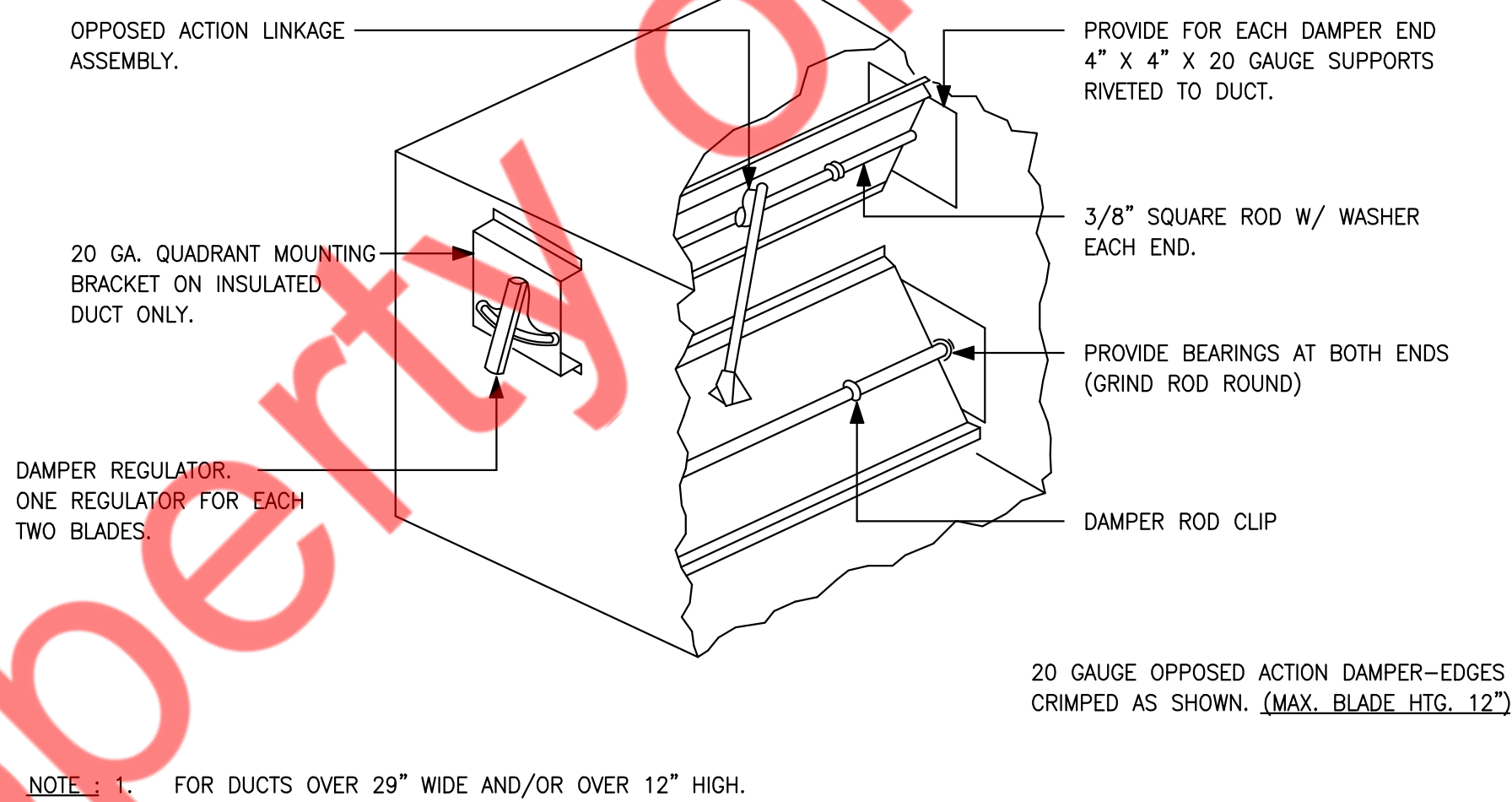
2 REFRIGERANT PIPING SCHEMATIC
M-501 N.T.S



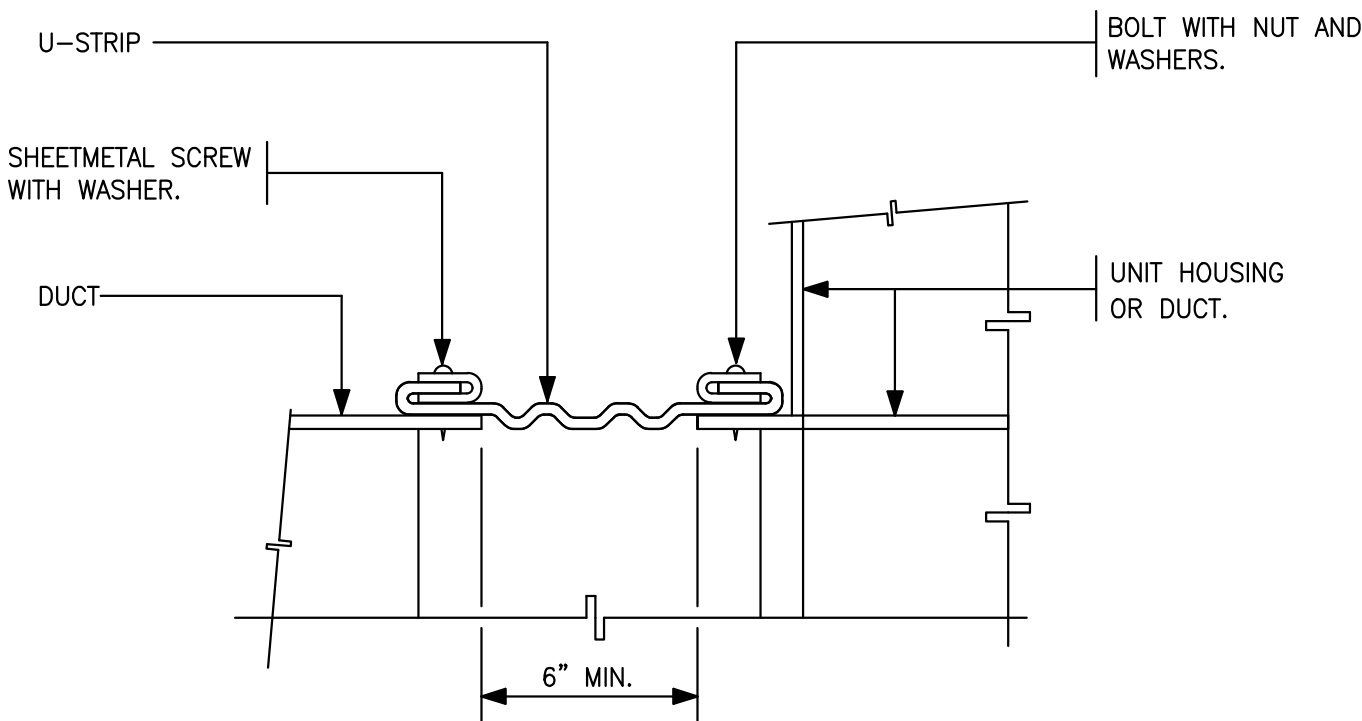
3 CEILING FAN HANGING SUPPORT DETAIL
M-501 N.T.S



4 MOTORIZED DAMPER DETAIL
M-501 N.T.S



5 LOW PRESSURE BALANCING DAMPER
M-501 N.T.S



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

#	DESCRIPTION	(DOT INDICATES SHEET WAS REVISED)
1	INITIAL RELEASE 3/30/2023	
2	FIRE PROTECTION ARCHITECTURAL RELEASE 5/30/2023	
3	BD CHANGES 10/10/2023	
4		
5		
6		
7		
8		
9		
10		

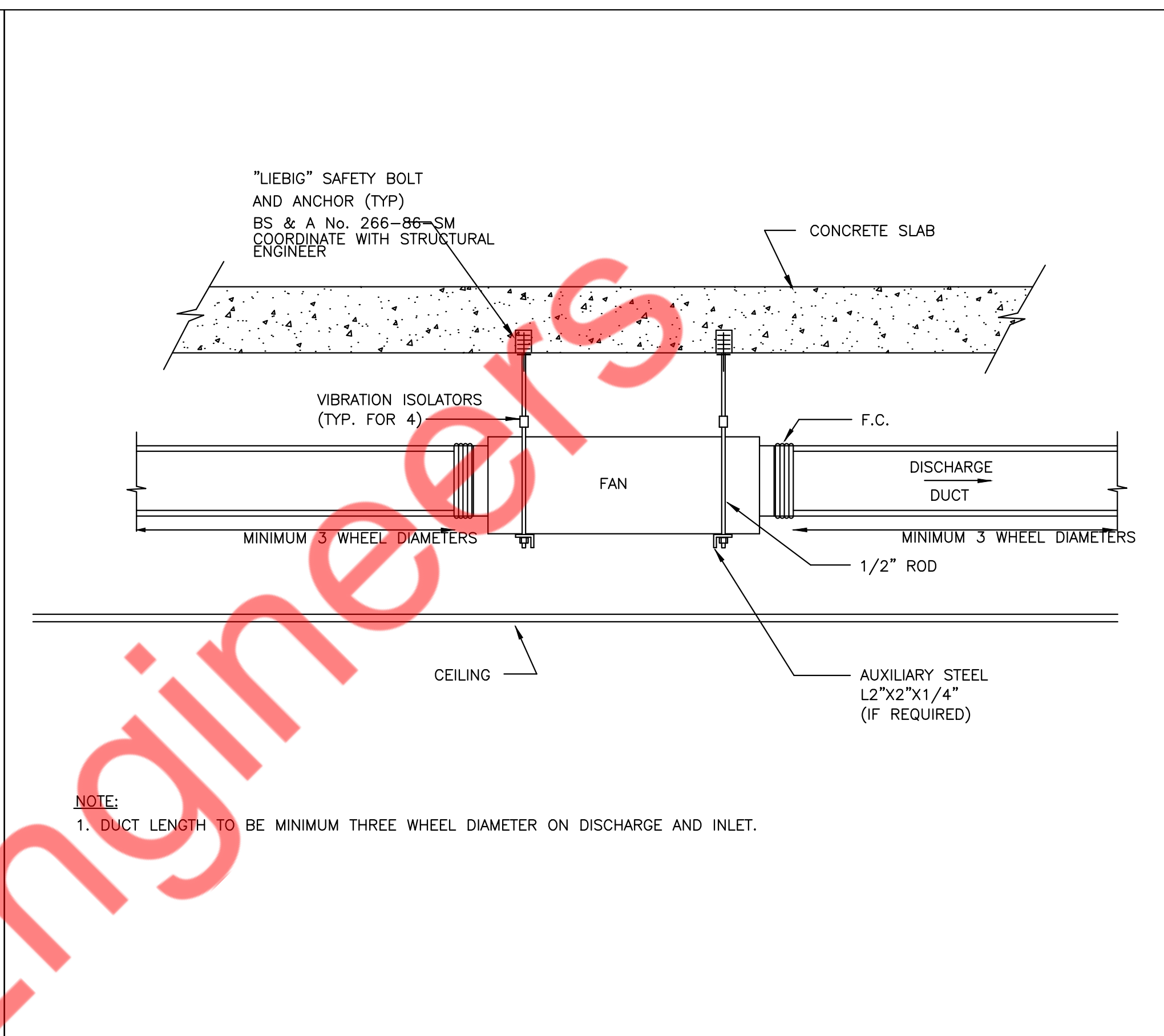
SIMPLE MAN DISTILLERY

PROJECT

SEAL

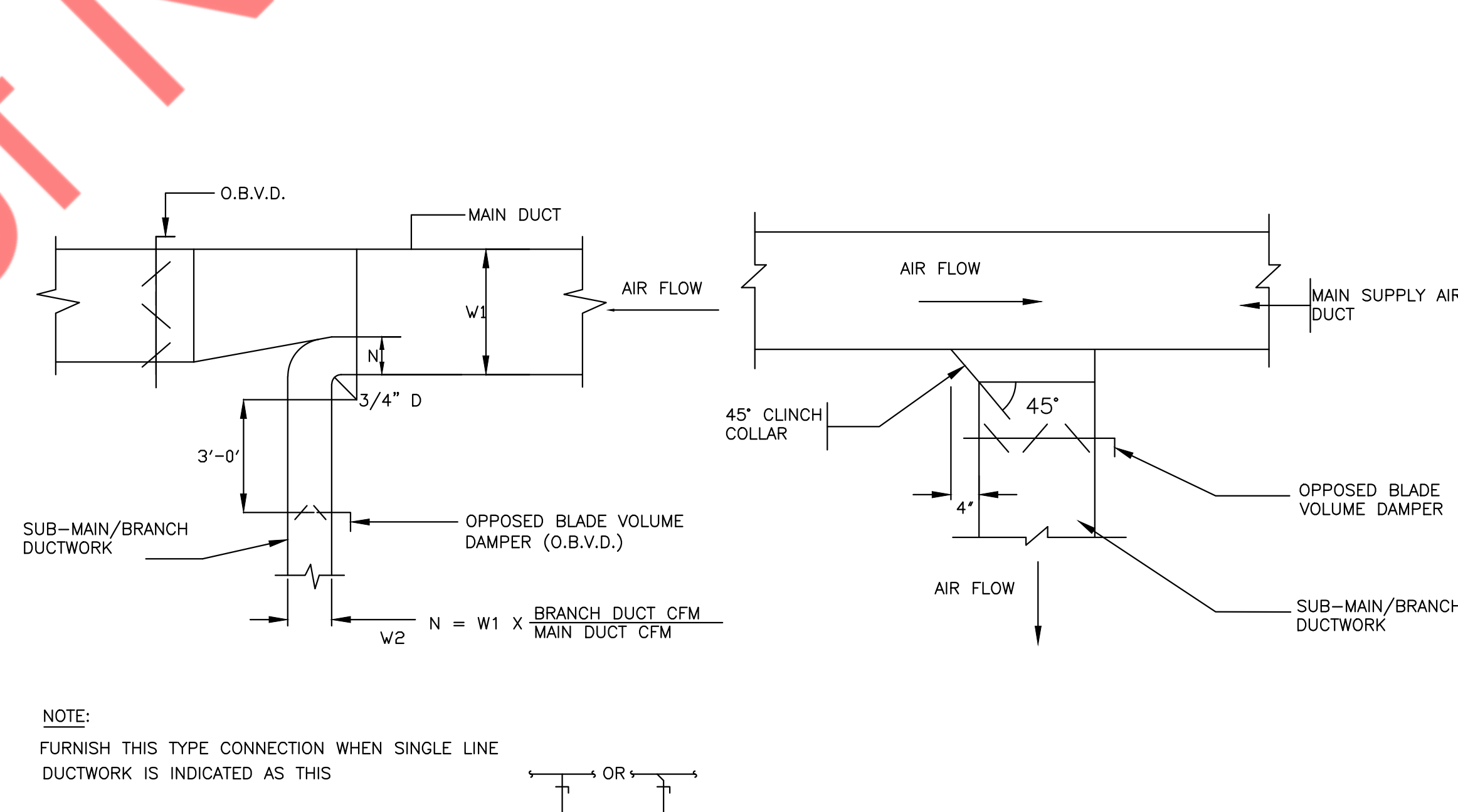
MECHANICAL
DETAILS
(1 OF 3)
DRAWING TITLE

Drawn By: MAF
Checked By: J.B. PG
PROJECT # 3504
M-501
10 OF 13

B.9

2
M-502

INLINE FAN SUPPORT DETAIL
N.T.S



5
M-502 SUPPLY AIR DUCTWORK SUB-MAIN/BRANCH DUCT CONNECTION
N.T.S

Drawn By:	M-502
CHKF	
Checked By:	
JLB, PG	
PROJECT #	
3504	11 OF 13

NOTES :

- FOR WALL STRUCTURE - SEE ARCH. DWG.S.
- COPPER DUCT SLEEVE AND COPPER SHIELDED PARTITION SHALL BE SOLIDLY CONNECTED EACH OTHER.

1 WALL PENETRATION DETAIL
M-503 N.T.S

2 CONDENSING UNIT DETAIL
M-503 N.T.S

3 FUNNEL DRAIN INSTALLATION DETAIL
M-503 N.T.S

4 VIBRATION ISOLATOR DETAIL
M-503 N.T.S

5 A.C. UNIT INSTALLATION DETAIL
M-503 N.T.S

6 METHOD OF HANGING REFRIGERANT PIPING
M-503 N.T.S

7 METHOD OF HANGING REFRIGERANT PIPING
M-503 N.T.S

COMBUSTION AIR TERMINATION AND EXHAUST AIR TERMINATION MUST BE LOCATED IN THE SAME PRESSURE ZONES.

Notes:

- Support Horizontal Pipe Every Four Feet. Support Vertical Pipe Every Six Feet.
- Increase The 12 Inch Minimum Above Grade To Keep Terminal Openings Above Anticipated Snow Levels.
- See Figure 11 from "Vent Pipe Termination" on page 23 to properly locate the inlet and exhaust terminals.

ISSUE & REVISION HISTORY	
#	DESCRIPTION
1	INITIAL RELEASE
2	FIRE PROTECTION ARCHITECTURAL RELEASE
3	BD CHANGES
4	BD CHANGES
5	BD CHANGES
6	BD CHANGES
7	BD CHANGES
8	BD CHANGES
9	BD CHANGES
10	BD CHANGES

SIMPLE MAN DISTILLERY

MECHANICAL DETAILS
(3 OF 3)

Drawn By: MWF
Checked By: J.B. PG
PROJECT # 3504
19 OF 13

M-503

[illegible]

A vertical chain with two triangles labeled 3.

NOTES:

NOTES F

NOTES:

--	--

1) GENERAL CONTRACTOR TO CONFIRM FINAL EQUIPMENT SPECIFICATIONS FOR OWNER AND G.C. PROVIDE EQUIPMENT AND COMPARE ALL ELECTRICAL, PLUMBING, AND MECHANICAL REQUIREMENTS TO EQUIPMENT SHOWN ON THESE DRAWINGS. G.C. TO NOTIFY ARCHITECT AND ENGINEERS OF ANY DISCREPANCIES PRIOR TO ORDERING OR INSTALLING ELECTRICAL, PLUMBING, OR MECHANICAL INFRASTRUCTURE.

2) G.C. TO CONFIRM ALL FINAL EQUIPMENT AND DEVICE SPECIFICATIONS, INCLUDING OWNER PROVIDED AND G.C. PROVIDED EQUIPMENTS, DEVICES, COMPLY WITH HALL AND FIRE SAFETY REQUIREMENTS IN ALL HAZARDOUS AREAS SUCH AS PRODUCTION AREA #111, STORAGE AREA #114, AND EVENT SPACE #110.

#	DESCRIPTION	(DOT INDICATES SHEET HAS REVISED)
	INITIAL RELEASE 3/30/2023	
	FIRE PROTECTION ARCHITECTURAL RELEASE 5/30/2023	
	BID CHANGES 8/21/2023	
3	REVISION # 3 - BLDG DEPT RESPONSE 3/28/2024	●

SIMPLE MAN DISTILLERY






















































































PROJECT

SEAL

MECHANICAL SCHEDULES

DRAWING TITLE

Checked By: **M-601**
JLB, PG
PROJECT #
3504

ELECTRICAL SYMBOLS LIST				GENERAL NOTES (APPLY TO ALL "E" DRAWINGS)			
SWITCHES AND CONTROLS		POWER AND TELECOMMUNICATION		ELECTRICAL ABBREVIATIONS			
	20A SPST TOGGLE SWITCH U.O.N. "a" DENOTES LIGHTING FIXTURE CONTROLLED.		JUNCTION BOX WITH BLANK COVER PLATE, FLUSH IN FLOOR.	A	AMPERES	EA	EACH
	20A 3--WAY TOGGLE SWITCH U.O.N. "a" DENOTES LIGHTING FIXTURE CONTROLLED		JUNCTION BOX WITH BLANK COVER PLATE, WALL MOUNTE, +18" AFF OR AS NOTED.	A/C, AC	AIR CONDITIONING UNIT	EC	EMPTY CONDUIT/ ELECTRICAL CONTRACTOR
	20A 4--WAY TOGGLE SWITCH U.O.N. "a" DENOTES LIGHTING FIXTURE CONTROLLED		JUNCTION BOX WITH BLANK COVER PLATE, CEILING MOUNTED..	AF	AMPERE FRAME/AMP FUSE	EF	EXHAUST FAN
	DIMMER SWITCH, LUTHRON MAESTRO SERIES. "a" DENOTES LIGHTING FIXTURE CONTROLLED.		DUPLEX CONVENIENCE RECEPTACLE, +18" AFF OR AS NOTED.	AFF	ABOVE FINISHED FLOOR	EM	EMERGENCY
	WALL OCCUPANCY SENSOR, NUMBER INDICATES TYPE; SEE OCCUPANCY SENSOR SCHEDULE.		DUPLEX DEDICATED RECEPTACLE, +18" AFF OR AS NOTED.	AS	AMP SWITCH	EMT	ELECTRICAL METALLIC TUBING
	WALL MOUNTED VACANCY SENSOR SWITCH, WATTSTOPPER CS--50PIR SERIES.		DUPLEX CONVENIENCE RECEPTACLE - 20A--1P, 125V, NEMA 5--20R MOUNTED FLUSH IN CELING.	AIC	AMPS INTERRUPTING CAPACITY	EQUIP	EQUIPMENT
	WALL MOUNTED SPRING WOUND TIME SWITCH TORK		DUPLEX CONVENIENCE GFI RECEPTACLE, +18" AFF OR AS NOTED.	AT	AMP TRIP	ER	EXISTING TO BE RELOCATED
	DIMMER SWITCH		DUPLEX DEDICATED GFI RECEPTACLE, +18" AFF OR AS NOTED.	ATS	AUTOMATIC TRANSFER SWITCH	ETR	EXISTING TO REMAIN
	OCCUPANCY SENSOR SWITCH		ELECTRICAL FLOOR BOX	AUTO	AUTOMATIC	EWF	ELECTRIFIED WORKSTATION FURNITURE
	COMBINATION OF DIMMER AND OCCUPANCY SENSOR SWITCH		RECEPTACLE FOR DRYER	AWG	AMERICAN WIRE GAUGE	EWH	ELECTRIC WATER HEATER
	ASCO CONTACTOR C--25 TORK TIMER T--25 STACKED.		NETWORK INTERFACE DEVICE. NID IS 'ONT' BOX WHICH INCLUDES BOTH 'ONT' AND ITS SISTER BOX AS PER VERIZON STANDARDS.	C	CONDUIT	FA	FIRE ALARM
	DOOR SWITCH		QUAD RECEPTACLE	C/B,CB	CIRCUIT BREAKER	FBO	FURNISHED BY OTHERS, INSTALLED & WIRED BY EC
	PHOTOCELL IN NEMA 3R ENCLOSURE.		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.	CKT	CIRCUIT	FDR	FEEDER
	WALL MOUNTED PHOTOCELL MOUNTED IN NEMA 3R ENCLOSURE.		TELEPHONE OUTLET, WALL--MOUNTED +48" AFF UNO TEL / DATA OUTLET TO BE PROVIDED WITH 1" CONDUIT U.O.N. TO H.C. AND TERMINATED WITH 90 DEGREE REE ELBOW AND BUSHING. TEL / DATA OUTLET PLATE SHALL BE PROVIDED WITH 1 1/4"DIAMETER GROMMETED OPENING.	CLG	CEILING	FIBO	FURNISHED & INSTALLED BY OTHERS. WIRED BY EC
	BELL PUSH		TELEPHONE OUTLET, WALL--MOUNTED +48" AFF UNO TEL / DATA OUTLET TO BE PROVIDED WITH 1" CONDUIT U.O.N. TO H.C. AND TERMINATED WITH 90 DEGREE ELBOW AND BUSHING. TEL / DATA OUTLET PLATE SHALL BE PROVIDED WITH 1 1/4" DIAMETER GROMMETED OPENING.	COMM	COMMUNICATION	FIXT	FIXTURE
	CEILING OCCUPANCY SENSOR, NUMBER INDICATES TYPE; SEE OCCUPANCY SENSOR SCHEDULE. 'A' LETTER REFERES TO WIRING DIAGRAM.		TELEPHONE OUTLET, WALL--MOUNTED +48" AFF UNO TEL / DATA OUTLET TO BE PROVIDED WITH 1" CONDUIT U.O.N. TO H.C. AND TERMINATED WITH 90 DEGREE ELBOW AND BUSHING. TEL / DATA OUTLET PLATE SHALL BE PROVIDED WITH 1 1/4" DIAMETER GROMMETED OPENING.	CT	CURRENT TRANSFORMER	FL	FLOOR
	WALL OCCUPANCY SENSOR, NUMBER INDICATES TYPE; SEE OCCUPANCY SENSOR SCHEDULE.		TELEPHONE OUTLET, WALL--MOUNTED +48" AFF UNO TEL / DATA OUTLET TO BE PROVIDED WITH 1" CONDUIT U.O.N. TO H.C. AND TERMINATED WITH 90 DEGREE ELBOW AND BUSHING. TEL / DATA OUTLET PLATE SHALL BE PROVIDED WITH 1 1/4" DIAMETER GROMMETED OPENING.	CU	COPPER	FLUOR	FLUORESCENT
	WALL VACANCY SENSOR, NUMBER INDICATES TYPE; SEE OCCUPANCY SENSOR SCHEDULE.		TELEPHONE OUTLET, WALL--MOUNTED +48" AFF UNO TEL / DATA OUTLET TO BE PROVIDED WITH 1" CONDUIT U.O.N. TO H.C. AND TERMINATED WITH 90 DEGREE ELBOW AND BUSHING. TEL / DATA OUTLET PLATE SHALL BE PROVIDED WITH 1 1/4" DIAMETER GROMMETED OPENING.	°C	DEGREE CELSIUS	G	GROUND
	CEILING VACANCY SENSOR, NUMBER INDICATES TYPE; SEE OCCUPANCY SENSOR SCHEDULE.		TELEPHONE OUTLET, WALL--MOUNTED +48" AFF UNO TEL / DATA OUTLET TO BE PROVIDED WITH 1" CONDUIT U.O.N. TO H.C. AND TERMINATED WITH 90 DEGREE ELBOW AND BUSHING. TEL / DATA OUTLET PLATE SHALL BE PROVIDED WITH 1 1/4" DIAMETER GROMMETED OPENING.	°F	DEGREE FAHRENHEIT	GFI	GROUND FAULT INTERRUPTER
	CEILING MOUNTED DAYLIGHT SENSOR.		TELEPHONE OUTLET, WALL--MOUNTED +48" AFF UNO TEL / DATA OUTLET TO BE PROVIDED WITH 1" CONDUIT U.O.N. TO H.C. AND TERMINATED WITH 90 DEGREE ELBOW AND BUSHING. TEL / DATA OUTLET PLATE SHALL BE PROVIDED WITH 1 1/4" DIAMETER GROMMETED OPENING.	DIA	DIAMETER	GP	GENERAL PURPOSE
WIRING SYSTEMS			CABLE TV OUTLET, WALL--MOUNTED AT 18" AFF UNO.	DISC	DISCONNECT	HC	HUNG CEILING
	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.	MOTORS AND CONTROLS		DN	DOWN	HP	HORSEPOWER
	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.		AC INDOOR UNIT MOTOR AS NOTED WITH LIQUID TIGHT FLEXIBLE CONNECTION WITH JUNCTION BOX AND MOTOR SWITCH.	DP	DISTRIBUTION PANEL	HWH	HOW WATER HEATER
	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.		AC OUTDOOR UNIT MOTOR AS NOTED WITH CONTROLLER AND DISCONNECT SWITCH WITH WEATHER PROOF.	DWH	DOMESTIC WATER HEATER	HZ	HERTZ
	CONDUIT TURNING UP, SEE FLOOR PLANS FOR CONDITIONS.		NON FUSED DISCONNECT SWITCH AMPERAGE, AND NUMBER OF POLES AS NOTED.	DWG	DRAWING	IC	INTERRUPTING CAPACITY
	CONDUIT TURNING DOWN, SEE FLOOR PLANS FOR CONDITION.		30A NON FUSED DISCONNECT SWITCH	JB	JUNCTION BOX	PP	POWER PANEL
	CONDUIT AND WIRE TO BUILDING GROUND.		60A NON FUSED DISCONNECT SWITCH	KCMIL	ONE THOUSAND CIRCULAR MILS	PVC	POLYVINYL CHLORIDE
	CABLE TRAY, WIDTH AND MOUNTING AS NOTED.		100A NON FUSED DISCONNECT SWITCH	KV	KILOVOLT	PWR	POWER
	UNDERGROUND		200A NON FUSED DISCONNECT SWITCH	KVA	KILOVOLT--AMPERES	R	REMOVE
	EXISTING		COMBINATION MAGNETIC STARTER AND DISCONNECT SWITCH, FURNISHED BY HVAC/CONTRACTOR, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.	KW	KILOWATTS	RE	RELOCATED EXISTING
	NEW		FUSED DISCONNECT SWITCH AND FUSE AMPERAGE AS INDICATED. TOP NUMBER DENOTS SWITCH SIZE AND BOTTOM NUMBER DENOTES FUSE.	LP	LIGHTING PANEL	REC	RECEPTACLE
	CEILING MOUNTED SMOKE DETECTOR.		COMBINATION SOLID--STATE MOTOR STARTER.	LTG	LIGHTING	RGS	RIGID GALVANIZED STEEL
	COMBINATION OF SMOKE AND CO DETECTOR.		MOTORIZED DAMPER.	MAX	MAXIMUM	RR	REMOVE & RELOCATE
ELECTRICAL DRAWING LIST			FIRE SMOKE DAMPER	MC	MOTOR CONTROLLER	SECT	SECTION
E--001	ELECTRICAL SYMBOL LIST, ABBREVIATIONS & GENERAL NOTES		THERMAL OVERLOAD SWITCH AT MOTOR. PROVIDE THERMAL ELEMENTS AS PER MOTOR RATING.	MCB	MAIN CIRCUIT BREAKER	SPDT	SINGLE POLE DOUBLE THROW
E--002	ELECTRICAL SPECIFICATIONS SHEET 1 OF 2		MANUAL MOTOR SWITCH	MER	MECHANICAL EQUIPMENT ROOM	SPST	SINGLE POLE SINGLE THROW
E--003	ELECTRICAL SPECIFICATIONS SHEET 2 OF 2		DUPLEX PUMP. NUMBER INDICATES HP RATING OF PUMP.	MIN	MINIMUM	SPEC	SPECIFICATION
E--101	ELECTRICAL LIGHTING PLAN		ELECTRICAL HEATER, NUMBER DENOTES HEATER RATING	MLO	MAIN LUGS ONLY	SW	SWITCH
E--102	ELECTRICAL POWER PLAN		KEYED NOTE REFERENCE	MTD	MOUNTED	SWBD	SWITCHBOARD
E--103	ROOF ELECTRICAL PLAN		DETAIL REFERENCE: DETAIL NUMBER INDICATED ON TOP; DRAWING NUMBER INDICATED ON BOTTOM	MTS	MANUAL TRANSFER SWITCH	SYM	SYMMETRICAL
E--104	ELECTRICAL DETAILS SHEET 1 OF 2		POWER DISTRIBUTION	N	NEUTRAL	SYS	SYSTEMS
E--105	ELECTRICAL DETAILS SHEET 2 OF 2		MAJOR ELECTRICAL COMPONENT OR DEVICE. VOLTAGE AND AMPERAGE AS NOTED.	NE	NEW DEVICE TO REPLACE EXISTING	TELE	TELEPHONE
E--106	ELECTRICAL SCHEDULE & RISER DIAGRAM		BRANCH PANELBOARD, 208Y/120V--SURFACE OR FLUSH MOUNTED	NIC	NOT IN CONTRACT	TEMP	TEMPERATURE
			DISTRIBUTION PANELBOARD, 208Y/120V--SURFACE OR FLUSH MOUNTED.	NL	NIGHT LIGHT	TXF	TOILET EXHAUST FAN
			ELECTRICAL DRAWING LIST	NTS	NOT TO SCALE	TYP	TYPICAL
			ELECTRICAL DRAWING LIST	OC	ON CENTER	UON	UNLESS OTHERWISE NOTED
			ELECTRICAL DRAWING LIST	P	POLES	V	VOLT/VOLTAGE
			ELECTRICAL DRAWING LIST	PB	PULLBOX	VA	VOLT AMPERE
			ELECTRICAL DRAWING LIST	PC	PERSONAL COMPUTER	VAV	VARIABLE AIR VOLUME
			ELECTRICAL DRAWING LIST	ø	PHASE	VFD	VARIABLE FREQUENCY DRIVE
			ELECTRICAL DRAWING LIST	PNL	PANEL	VP	VAPORPROOF
			ELECTRICAL DRAWING LIST	W	WATT	WP	WEATHER PROOF
			ELECTRICAL DRAWING LIST	W	WIRE	XFMR	TRANSFORMER
			ELECTRICAL DRAWING LIST	WH	WALL HEATER	ZRT	ZONE REGISTER TERMINALS
			ELECTRICAL DRAWING LIST	E	EXISTING	IG	ISOLATED GROUND

ISSUE & REVISION HISTORY

#	DESCRIPTION	(DOT INDICATES SHEET WAS REVISED)
1	INITIAL RELEASE 3/30/0093	
2	FIRE PROTECTION ARCHITECTURAL RELEASE 5/30/0093	
3	BD CHANGES 6/27/0093	
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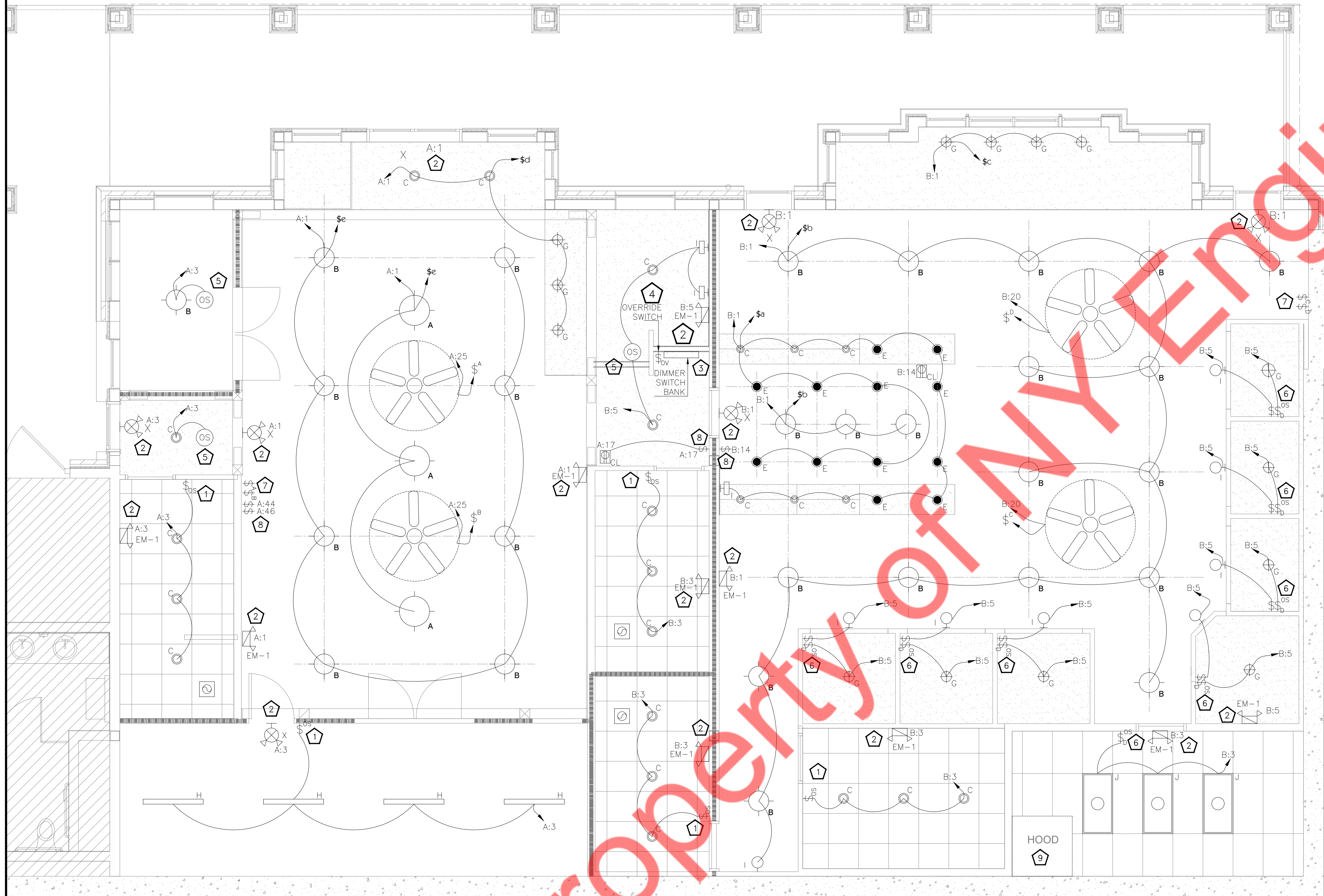
PROJECT

ELECTRICAL SYMBOLS LIST, ABBREVIATIONS & GENERAL NOTES

DRAWING TITLE

	<p>A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIR DOCUMENT #1, LATEST EDITION, AND THE SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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. IF TRAIL ALARM OR 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.</p> <p>G. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.</p> <p>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.</p> <p>I. SEAL OPENINGS THROUGH PARTITIONS, WALLS AND FLOORS WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL, UNLESS OTHERWISE NOTED.</p> <p>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.</p> <p>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.</p> <p>L. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE BASED 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.</p> <p>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.</p> <p>N. ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.</p> <p>O. INSURANCE: PROVIDE IN ACCORDANCE WITH OWNER/BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.</p> <p>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 CERTIFICATE OF INSPECTION AND APPROVAL.</p>			
2. GENERAL PROVISIONS FOR ELECTRICAL WORK:	<p>A. DEFINITIONS:</p> <ol style="list-style-type: none"> "PROVIDE": TO FURNISH, 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. "WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION. "WIRING": RACEWAY, FITTINGS, WIRE, BOXES, AND RELATED ITEMS. "CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILING, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES. "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE. "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT. <p>B. 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.</p> <p>C. QUALITY ASSURANCE</p> <ol style="list-style-type: none"> 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. 	<p>2) GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AS DEFINED IN PARAGRAPH 2.C.</p> <p>3) CURRENT CHARACTERISTICS:</p> <ol style="list-style-type: none"> SERVICE: 120/208 VOLT, 3 PHASE, 4 WIRE, 60 HERTZ WITH GROUNDED NEUTRAL. DISTRIBUTION: 120/208 VOLT, 3 PHASE, 4 WIRE, 60 HERTZ WITH GROUNDED NEUTRAL. <p>4) HEIGHTS OF OUTLETS:</p> <ol style="list-style-type: none"> FROM FINISHED FLOOR TO CENTERLINE OF OUTLETS FOR: <ul style="list-style-type: none"> 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 EXCEPTIONS: AT JUNCTION OF DIFFERENT WALL FINISH MATERIALS, ON MOLDING OR BREAK IN WALL SURFACE, IN VIOLATION OF CODE, OR AS NOTED OR DIRECTED. <p>D. PRODUCT DELIVERY, STORAGE AND HANDLING</p> <ol style="list-style-type: none"> MOVING OF EQUIPMENT: WHERE NECESSARY, SHIP IN CARTED SECTIONS OF SIZE TO PERMIT PASSING THROUGH AVAILABLE SPACES. 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. <p>E. MATERIALS</p> <ol style="list-style-type: none"> 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. CABLE TAGS: TAG EACH CONDUCTOR PASSING THROUGH SPLICE OR PULLBOX WITH A WHITE LINEN TAG, INDICATING POINT OF ORIGIN AND TERMINATION OF THE CIRCUIT. INSERTS AND SUPPORTS: <ol style="list-style-type: none"> INSERTS: STEEL, SLOTTED TYPE, FACTORY PAINTED. <ul style="list-style-type: none"> 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. SUPPORTS FROM BUILDING CONSTRUCTION: INSERTS, BEAM CLAMPS, STEEL FISHPATES (IN CONCRETE FILL ONLY), CANTILEVER BRACKETS OR OTHER MEANS. SUBMIT FOR REVIEW. GROUPED LINES AND SERVICES: TRAPEZE HANGERS OF BOLTED ANGLES OR CHANNELS. WHERE BUILDING CONSTRUCTION IS INADEQUATE: PROVIDE ADDITIONAL FRAMING. SUBMIT FOR REVIEW. <p>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 MARKED SURFACES OF STEEL EQUIPMENT AND RACEWAYS. A FIELD-APPLIED ZINC BASED PRIME COAT SHALL BE UTILIZED FOR STEEL OR IRONWORK.</p> <p>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.</p> <p>H. FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH ARCHITECT.</p> <p>I. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.</p>	<p>3. SCOPE OF WORK:</p> <ol style="list-style-type: none"> SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS, EQUIPMENT, SERVICES AND FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMING WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED. 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. 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 WARRANTY SHALL BE DONE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL NOT PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR. 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. CONTRACTOR SHALL PERFORM ALL CONTROLLED INSPECTIONS IN ACCORDANCE WITH THE BUILDING CODE. SECURE ALL REQUIRED PERMITS AND APPROVALS AND TRANSMIT SAME TO OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES. 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. 	<p>4. SHOP DRAWINGS</p> <ol style="list-style-type: none"> 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. INDICATE ON EACH SHOP DRAWINGS SUBMITTED: <ol style="list-style-type: none"> PROJECT NAME AND LOCATION NAME OF ARCHITECT AND ENGINEER ITEM IDENTIFICATION APPROVAL STAMP OF PRIME CONTRACTOR SUBMISSIONS: <ol style="list-style-type: none"> 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. 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. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING: <ol style="list-style-type: none"> SAFETY/DISCONNECT SWITCHES FUSES CIRCUIT BREAKERS PANEL BOARDS/LOAD CENTER (INCLUDING DIMENSIONS, SCHEDULES, AND CATALOG CUTS). RACEWAYS WIRE AND CABLE WALL SWITCHES INSERTION RECEPTACLES MOMENTARY CONTACT SWITCHES TIME SWITCHES LIGHTING FIXTURES. ASSIST AND

Checked By: JLB, PG
PROJECT # 3504



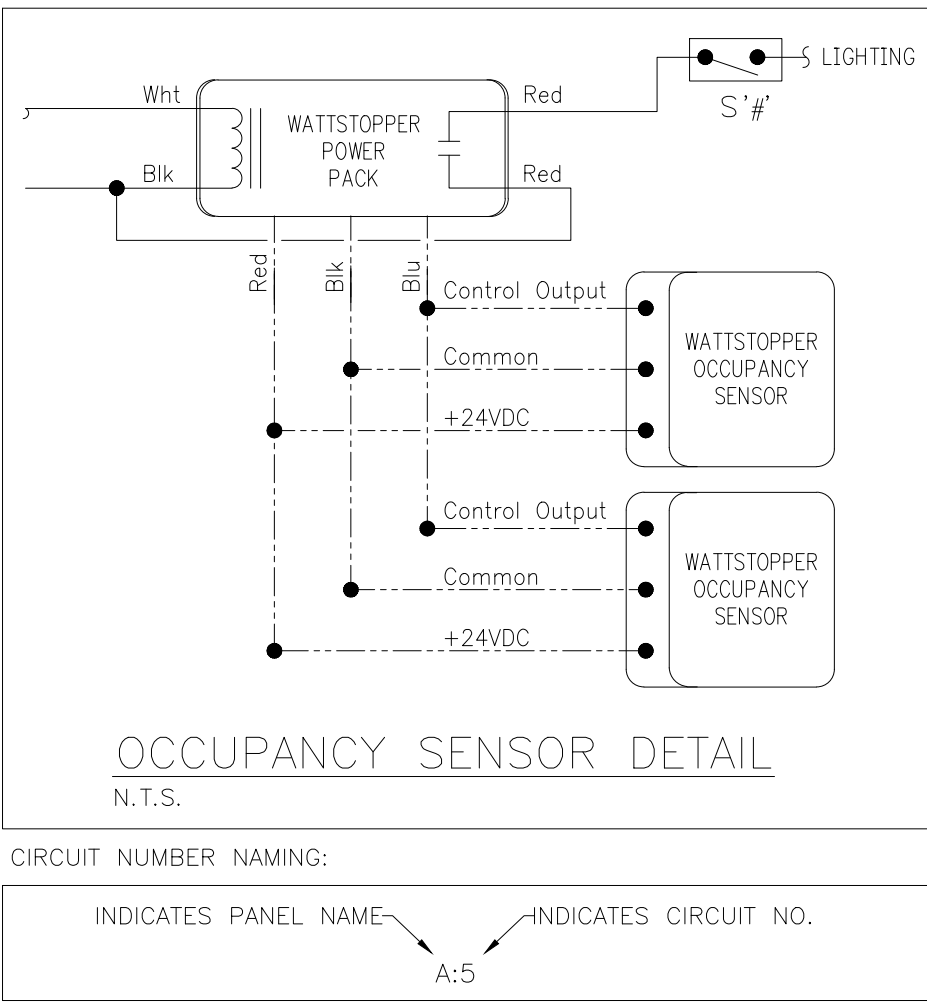
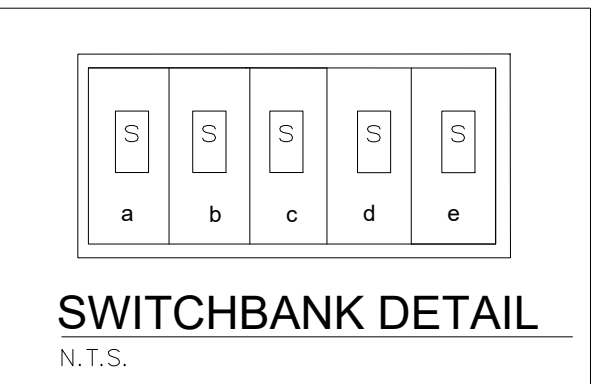
1 ELECTRICAL LIGHTING PLAN
1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO DWG. E-001 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS. E-002 & E-003 FOR ELECTRICAL SPECIFICATIONS.
2. E.C. SHALL COORDINATE WITH ARCHITECT/LIGHTING CONSULTANT'S DRAWINGS FOR LIGHT FIXTURE DESCRIPTION, HEIGHTS AND LOCATION PRIOR TO ROUGH-IN.
3. E.C. TO COORDINATE WITH ARCHITECT/ LIGHTING CONSULTANT FOR EXACT LIGHTING CONTROL AND DIMMING REQUIREMENTS FOR ALL THE LIGHTING FIXTURES.
4. E.C. SHALL COORDINATE FINAL FIXTURE MAKE AND MODEL WITH ARCHITECT.
5. ALL EMERGENCY AND EXIT LIGHTS SHALL BE CONNECTED TO NEAREST LIGHTING CIRCUIT IN THE AREA AHEAD OF ALL LIGHTING CONTROL MEANS IN ORDER TO BE ENERGIZED ALL THE TIME.
6. E.C. SHALL PROVIDE ADDITIONAL LIGHTING CONTROLS AS PER AHJ REQUIREMENTS IF ANY TO COMPLETE THE PERMIT REQUIREMENTS.
7. ALL DIMMING SWITCHES SHALL BE 0-10V.
8. E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR FINAL SELECTION OF LIGHT FIXTURE & LIGHTING CONTROL.
9. ALL ELECTRICAL DEVICES/EQUIPMENTS (SWITCHES, CIRCUIT BREAKERS, MOTOR CONTROLLERS, AND FUSES ETC.) IN CLASSIFIED HAZARDOUS AREAS PER NFPA LIKE LIQUID STORAGE ROOM, PRODUCTION AREA AND EVENT SPACE SHALL COMPLY WITH ALL NFPA REQUIREMENTS AS PER CLASSIFICATIONS MENTIONED IN CODE AND AS PER NEC 501.115 AND CONDUITS SHALL BE SEALED AS PER NEC 501.15

KEY NOTE:

- 1 WALL MOUNTED OCCUPANCY SENSOR. EC. TO COORDINATE FINAL LOCATION IN THE FIELD.
- 2 WIRE ALL EMERGENCY AND EXIT FIXTURE AHEAD OF SWITCHING & CONTROL FOR CONTINUOUS OPERATIONS.
- 3 DIMMER SWITCH BANK (DIMMABLE 0-10V). ELECTRICAL CONTRACTOR TO COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER. DIMMER SWITCHES SHALL BE RATED FOR TOTAL LOAD OF SWITCHED CIRCUIT AND LAMP TYPE AS REQUIRED. DIMMER SHALL BE PROVIDED WITH AN ON/OFF SWITCH. SEE DETAIL ON THIS SHEET.
- 4 TIME CLOCK OVERRIDE SWITCH. E.C. TO COORDINATE FINAL LOCATION IN THE FIELD.
- 5 PROVIDE LOW VOLTAGE OCCUPANCY SENSOR EQUAL TO WATTSTOPPER DT-305. PROVIDE WATTSTOPPER BZ POWER PACK(S) AS REQUIRED. INTERCONNECT OCCUPANCY SENSORS SO THAT ANY SENSOR WILL TRIGGER ALL LIGHTS. SET OFF TIME FOR 20 MINUTES.
- 6 WALL MOUNTED OCCUPANCY SENSOR WITH DIMMER SWITCH (DIMMABLE 0-10V). EC. TO COORDINATE FINAL LOCATION IN THE FIELD.
- 7 LOCATION OF FAN CONTROL SWITCHES. EC. TO COORDINATE FINAL LOCATION IN THE FIELD.
- 8 SWITCH FOR CEILING RECEPTACLES. E.C TO COORDINATE EXACT LOCATION WITH ARCHITECT/ OWNER.
- 9 HOOD LIGHTS SHALL BE PROVIDED BY HOOD MANUFACTURER. E.C. TO PROVIDE POWER AND PROVISION FOR HOOD CONTROL PANEL.



LIGHTING FIXTURE SCHEDULE:

Fixture Type	Fixture Symbol	Discription	Manufacturer/ Model Number	Wattage	QUANTITY
A		DECORATIVE CHANDELIER LIGHT	TBD	45W	3
B		DECORATIVE PENDANT LIGHT BASELITE-FA-FAP 16 LED	BASELITE/FAP16 (DIMMABLE 0-10V).	45W	28
C		6" RECESSED LED FIXTURE	LITHONIA LIGHTING / LDN 6 (DIMMABLE 0-10V)	19W	23
E		6" LED FIXTURE	LITHONIA LIGHTING / LDN 6 (DIMMABLE 0-10V)	19W	12
G		BOOTH DECORATIVE PENDANT LIGHT	TBD	20W	14
H		LED STRIP LIGHT	TBD	20W	4
I		WALL MOUNT BOOTH LIGHTS	KICHLER / 11251AZT30	15W	10
J		4" X DIRECT /INDIRECT LED LIGHT	LSI/ SFP24-LED-50-UE-DIM-35-U (DIMMABLE 0-10V)	30W	3
X		WALL MOUNTED EMERGENCY EXIT LIGHT	EXITRONIX / VLED-U-EK-EL90	03W	6
EM-1		COMBO LED EXIT SIGN W/LIGHT HEADS	EXITRONIX / EBU-W-LED-51-52	05W	10

NOTE:
ALL THE LUMINARIES IN THE HAZARDOUS AREAS SHALL BE HAZARDOUS CLASSIFIED AND SHALL COMPLY WITH NEC 501.130. COORDINATE WITH ARCHITECT/OWNER FOR FINAL SELECTION BEFORE PURCHASE OF ANY LIGHT FIXTURES/LUMINARIES

ISSUE & REVISION HISTORY

#	DESCRIPTION	(DOT INDICATES SHEET WAS REVISED)
1	INITIAL RELEASE	3/30/2023
2	FIRE PROTECTION ARCHITECTURAL RELEASE	5/30/2023
3	BD CHANGES	10/10/2023
4		
5		
6		
7		
8		
9		

SIMPLE MAN DISTILLERY

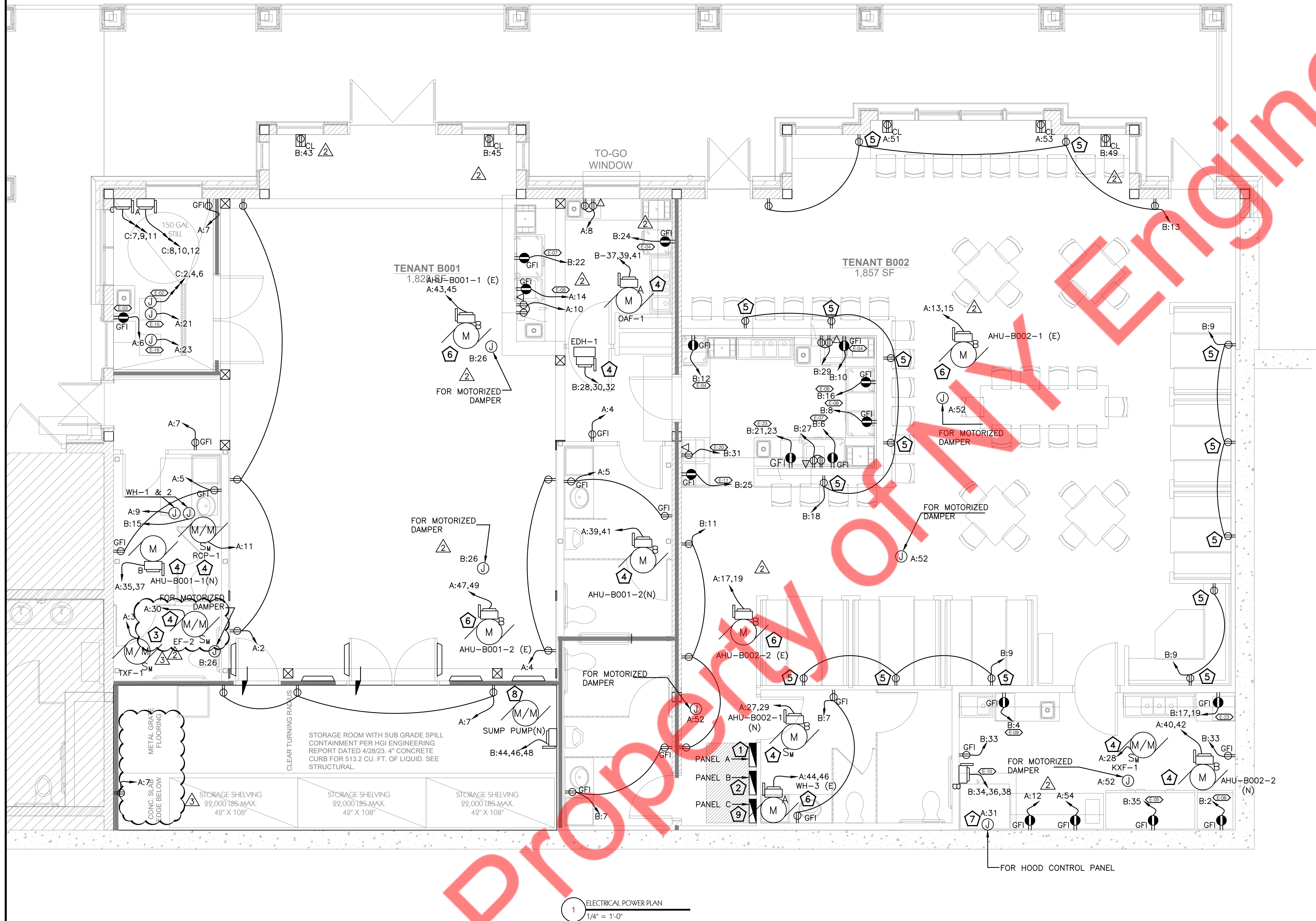
PROJECT

SEAL

ELECTRICAL
LIGHTING PLAN

DRAWING TITLE

Drawn By:	WAF	E-101
Checked By:	JB, PG	
PROJECT #	3504	
		4 OF 9



GENERAL NOTES:

1. REFER TO DWG. E-001 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS. E-002 & E-003 FOR ELECTRICAL SPECIFICATIONS.
2. E.C. SHALL COORDINATE WITH ARCHITECT DRAWINGS FOR OUTLET HEIGHTS PRIOR TO ROUGH-IN.
3. ELECTRICAL CONTRACTOR TO COORDINATE FAULT CURRENT (Isc) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK
4. E.C. TO COORDINATE WITH EQUIPMENT MANUFACTURER FOR EXACT POWER REQUIREMENTS FOR ALL THE MECHANICAL EQUIPMENTS.
5. ALL 120V, 15A AND 20A RECEPTACLES IN KITCHEN AREA SHALL BE "GFCI" IN ACCORDANCE WITH NEC ARTICLE 210.8(B). PROVIDE GFI RATED BREAKER AT PANEL FOR KITCHEN EQUIPMENT.
6. ALL ELECTRICAL DEVICES/EQUIPMENTS (SWITCHES, CIRCUIT BREAKERS, MOTOR CONTROLLERS, AND FUSES ETC.) IN CLASSIFIED HAZARDOUS AREAS PER NFPA LIKE LIQUID STORAGE ROOM, PRODUCTION AREA AND EVENT SPACE SHALL COMPLY WITH ALL NFPA REQUIREMENTS AS PER CLASSIFICATIONS MENTIONED IN CODE AND AS PER NEC 501.115 AND CONDUITS SHALL BE SEALED AS PER NEC 501.15

KEY NOTES:

- 1 NEW 400A(MCB), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A" FOR THE PROJECT SPACE. E.C. SHALL COORDINATE EXACT LOCATION WITH OWNER/ARCHITECT IN FIELD.
- 2 NEW 400A(MCB), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B" FOR THE PROJECT SPACE. E.C. SHALL COORDINATE EXACT LOCATION WITH OWNER/ARCHITECT IN FIELD.
- 3 TOILET EXHAUST FANS SHALL BE CIRCUITED AND CONTROLLED ALONG WITH THE LIGHT FIXTURES IN THE SAME ROOM.
- 4 EC. SHALL COORDINATE FINAL LOCATION OF ALL MECHANICAL EQUIPMENT WITH RESPECTIVE CONTRACTOR.
- 5 PROVIDE DUPLEX RECEPTACLES WITH TWO USB CHARGING PORTS.
- 6 E.C. SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR THE ELECTRICAL CONNECTION AND LOCATION OF ALL THE EXISTING HVAC UNITS. E.C. SHALL VERIFY THE OPERABLE CONDITION OF EXISTING ELECTRICAL FIXTURES IN FIELD. REPLACE IF FOUND IN OPERABLE, BASE BID ACCORDINGLY.
- 7 E.C. TO PROVIDE POWER AND NECESSARY WIRING FOR THE HOOD CONTROL PANEL.
- 8 E.C. SHALL COORDINATE WITH PLUMBING CONTRACTOR FOR THE ELECTRICAL CONNECTION AND LOCATION OF SUMP PUMP.
- 9 NEW 225A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "C" FOR THE PROJECT SPACE. E.C. SHALL COORDINATE EXACT LOCATION WITH OWNER/ARCHITECT IN FIELD.

KITCHEN EQUIPMENT SCHEDULE

EQ-NUM	QTY.	EQUIPMENT NAME	VOLTAGE	PHASE	AMPS	KW
E-02	1	CHILLER	208	3	9.6	3.46
E-03	1	REVERSE OSMOSIS	115	1	7.2	0.83
E-04	3	ONE DOOR UNDER COUNTER COOLER	115	1	2.5	0.29
E-05	1	THREE DOOR FRIDGE	115	1	6.2	0.71
E-06	1	ONE DOOR FREEZER	115	1	7.5	0.86
E-07	2	TWO DOOR UNDER COUNTER COOLER	115	1	2	0.23
E-08	3	ONE DOOR UNDER COUNTER FREEZER	115	1	2.5	0.29
E-09	1	ICE MACHINE	115	1	5	0.58
E-10	1	COMBI OVEN	208	3	45.5	16.37
E-11	1	COFFEE MACHINE	208	1	28.7	5.97
E-15	1	MASH PUMP	115	1	10	1.15
E-16	1	SPIRITS PUMP	115	1	10	1.15
E-20	1	DRINK PRINTER	115	1	2	0.23
E-23	2	UNDER COUNTER DISHWASHER	208	1	13	2.70

ISSUE & REVISION HISTORY

#	DESCRIPTION	(GFI INDICATES SHEET WAS REVISED)
INITIAL RELEASE	3/30/2023	
FIRE PROTECTION ARCHITECTURAL RELEASE	5/30/2023	
BD CHANGES	10/7/2023	
REV 9: CODE COMMENTS	10/9/2023	•
REV 3: CLIENT CHANGES	5/3/2024	•

SIMPLE MAN DISTILLERY

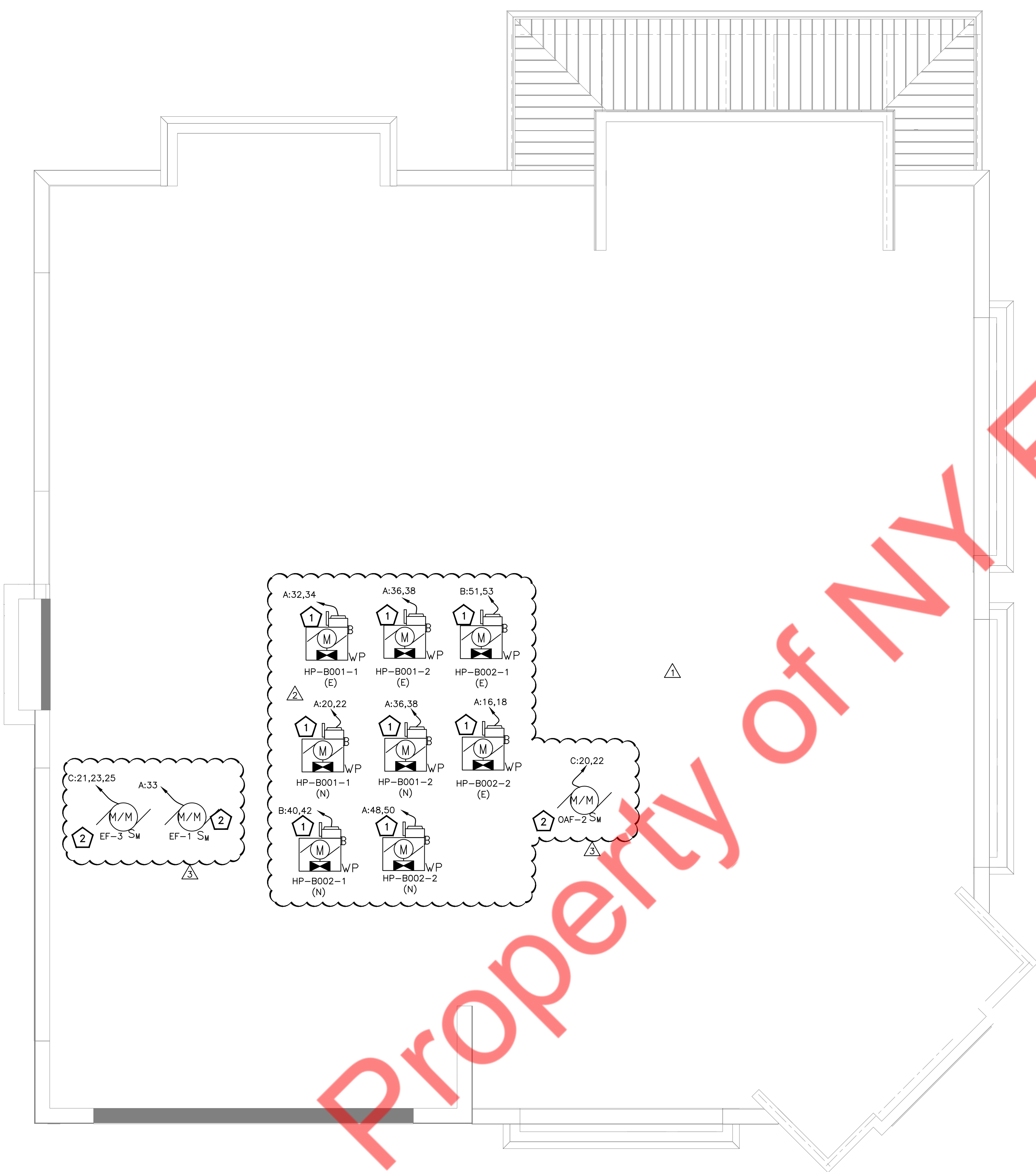
PROJECT

SEAL

ELECTRICAL
POWER PLAN

DRAWING TITLE

Drawn By:	WAF	E-102
Checked By:	J.B. PG	
PROJECT #	3504	
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KEY NOTES:

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

2 EC. SHALL COORDINATE FINAL LOCATION OF ALL MECHANICAL EQUIPMENT WITH RESPECTIVE CONTRACTOR.

3

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

ISSUE & REVISION HISTORY	
#	DESCRIPTION (DOT INDICATES SHEET WAS REVISED)
INITIAL RELEASE	3/30/2023
FIRE PROTECTION ARCHITECTURAL RELEASE	5/30/2023
BD CHANGES	8/27/2023
REV 1: CLIENT REVISIONS	9/05/2023
REV 2: CODE COMMENTS	10/10/2023
REV 3: CLIENT CHANGES	11/30/2024

SIMPLE MAN DISTILLERY

PROJECT

SEAL

ROOF
POWER PLAN

DRAWING TITLE

Drawn By:	WAF
Checked By:	JB, PG
PROJECT #	3504

E-103

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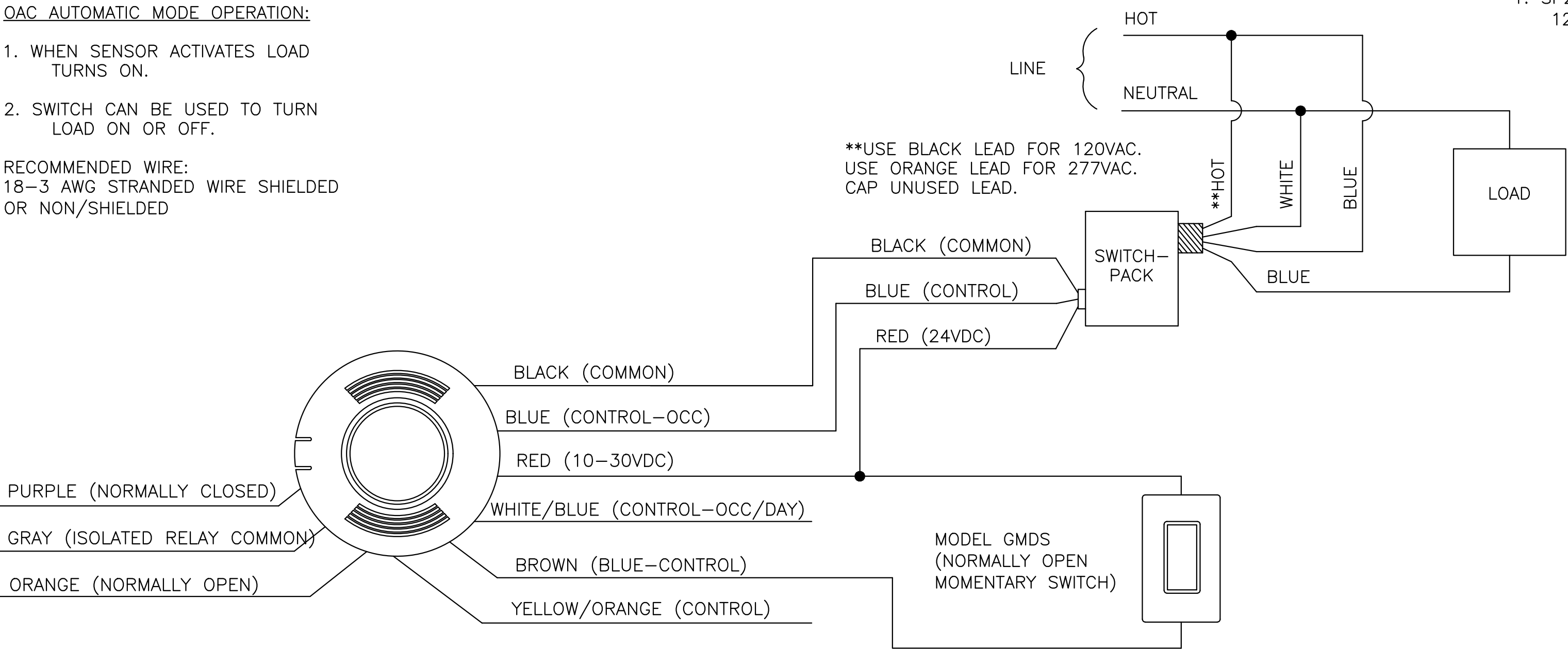
OAC AND VAC MANUAL MODE OPERATION:

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

OAC AUTOMATIC MODE OPERATION:

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

RECOMMENDED WIRE:
18-3 AWG STRANDED WIRE SHIELDED OR NON/SHIELDED

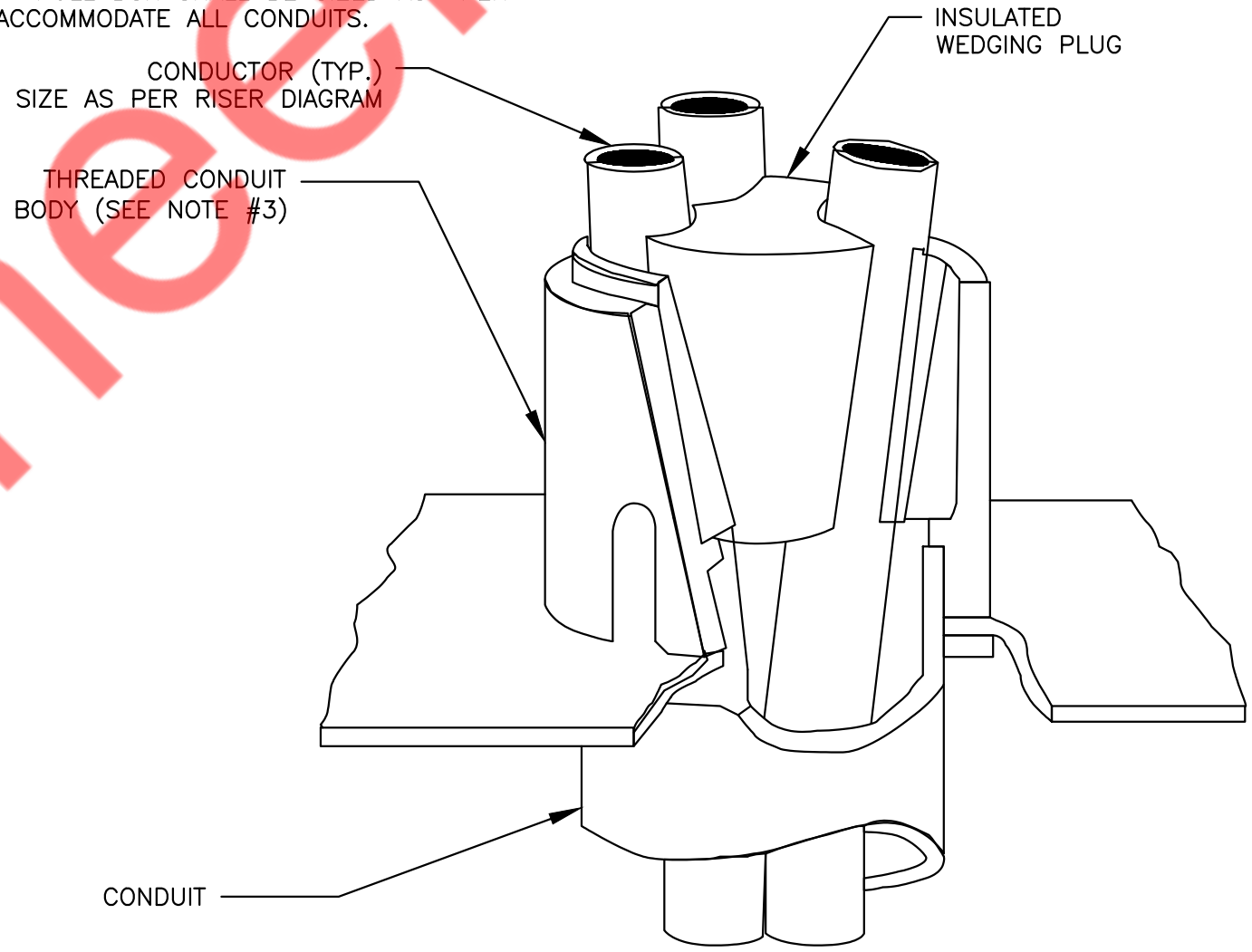


NOTES:

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

NOTES:

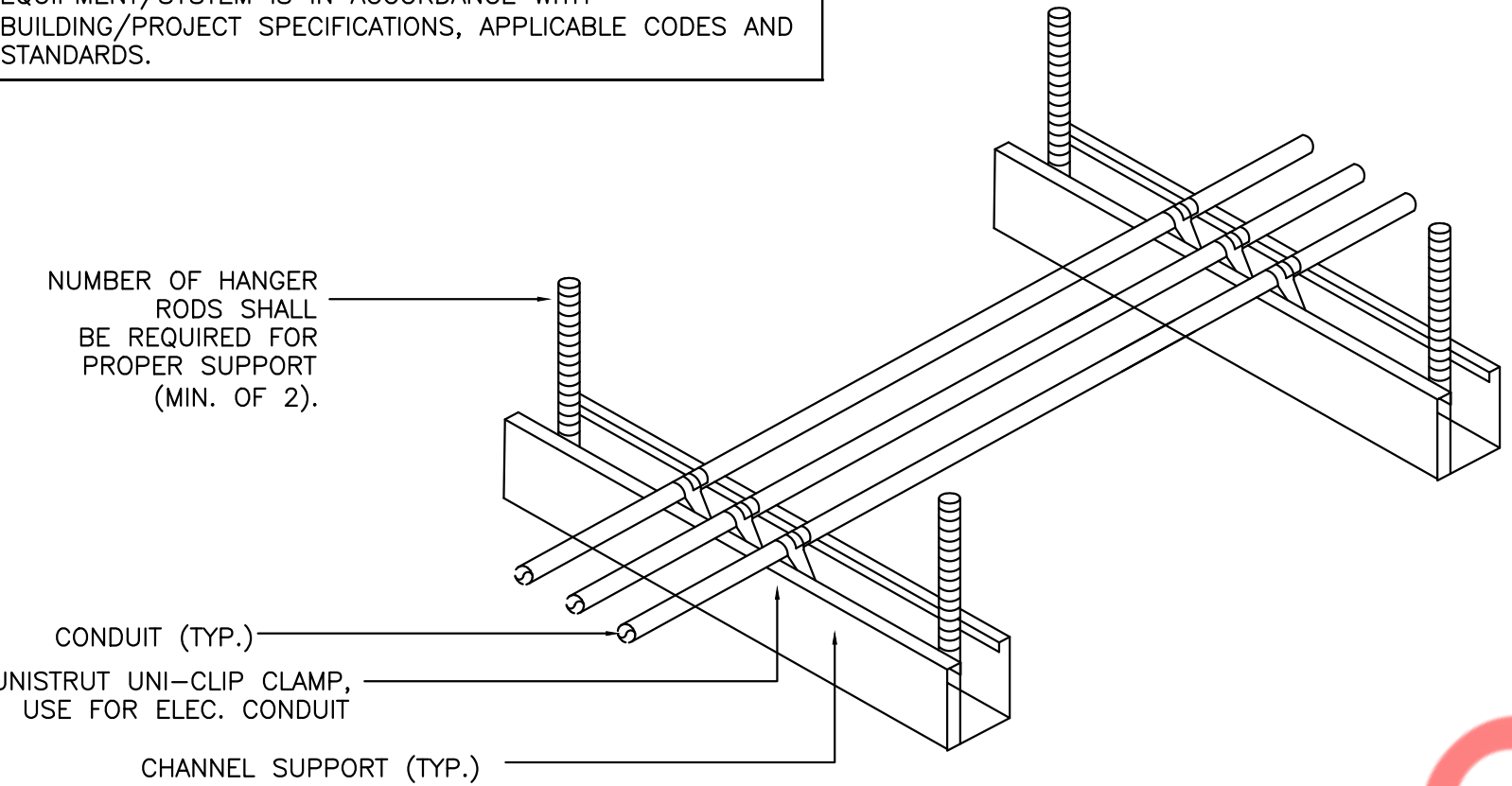
- ALL CONDUCTORS IN VERTICAL RACEWAYS SHALL BE SUPPORTED IN ACCORDANCE WITH ARTICLE 300.19 OF NEC. CABLE SUPPORTS SHALL BE LOCATED AT THE INTERVALS REQUIRED BY THE NEC.
- CABLE SUPPORT SYSTEM SHALL BE AS MANUFACTURED BY O-Z GEDNEY WITH pOZI-GRIP "S-STYLE" WEDGING PLUG OR APPROVED EQUAL.
- FOR THREADLESS CONDUIT (RIGID, IMC OR EMT), ATTACH CONDUIT BODY TO MALE THREADS OF A SET SCREW OR COMPRESSION CONNECT, AS PERMITTED BY SPECIFICATIONS.
- PROVIDE PULL BOX AT EACH LOCATION OF CABLE SUPPORTS. PULL BOX SHALL BE SIZED AS PER CODE TO ACCOMMODATE ALL CONDUITS.



1 OCCUPANCY - AUTO ON/OFF.
E-104 WIRING DIAGRAM - LOW VOLTAGE CEILING SENSOR
N.T.S

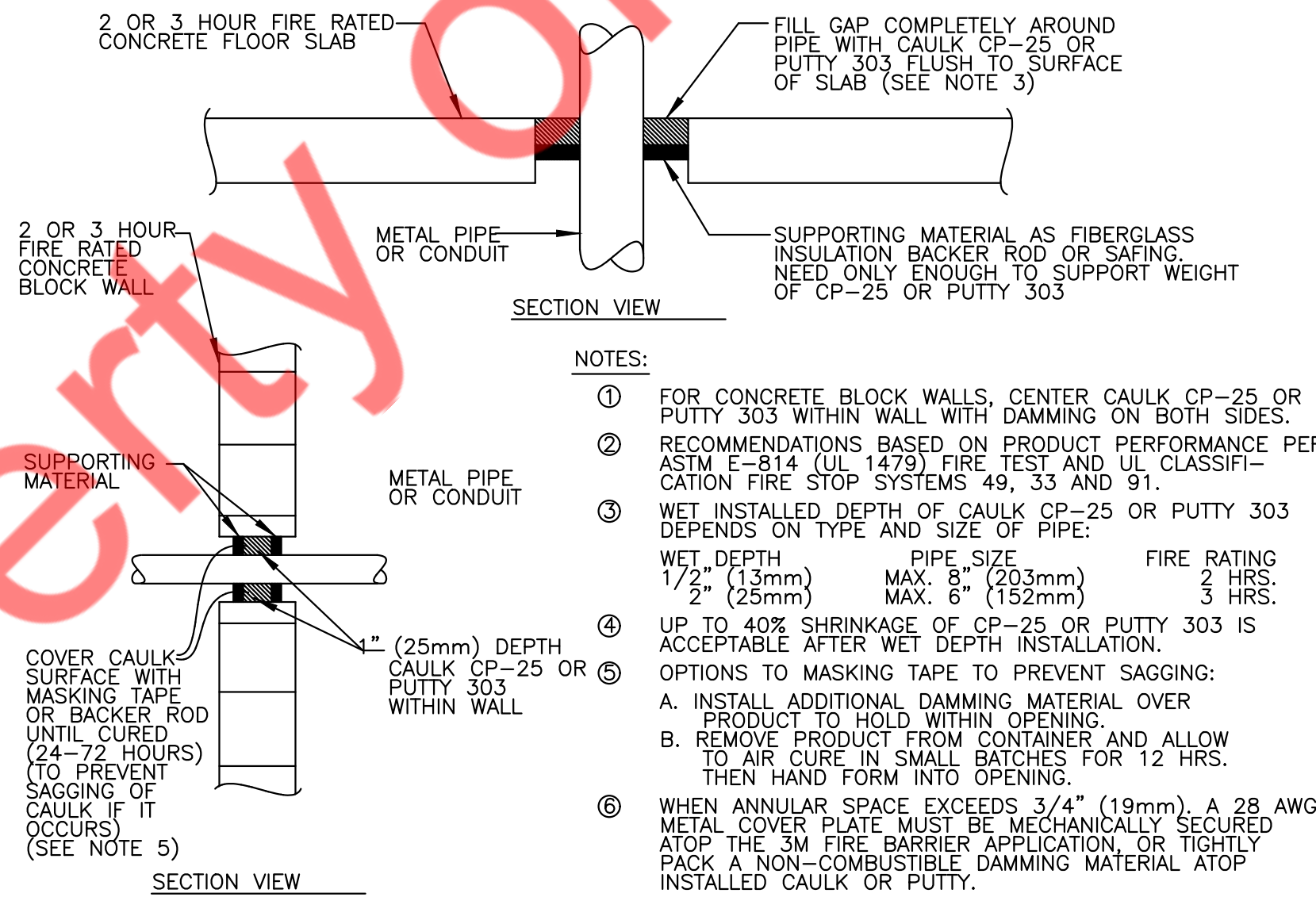
2 VERTICAL CABLE SUPPORT DETAIL
E-104 N.T.S

NOTE:
THIS INFORMATION MAY NOT CONTAIN ALL DETAILS REQUIRED FOR CONSTRUCTION. APPROPRIATE MODIFICATION MAY BE REQUIRED TO ENSURE SUITABILITY OF THESE DRAWINGS FOR THE SPECIFIC APPLICATION. IT IS THE USER'S RESPONSIBILITY TO ENSURE INSTALLATION OF THE EQUIPMENT/SYSTEM IS IN ACCORDANCE WITH BUILDING/PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS.



NOTES:

- ALL CONDUIT MAY BE COMBINED ON SAME SUPPORT CHANNEL WHERE PRACTICAL.
- SUPPORT CHANNEL LENGTH SHALL NOT BE DETERMINED UNTIL ALL PIPING, CONDUIT, ETC. TO BE SUPPORTED IS COORDINATED.
- SUPPORT CHANNEL SPACING SHALL BE NO MORE THAN 10'-0".
- UNISTRUT AND CONDUIT INSTALLATION MAY BE REVERSED.

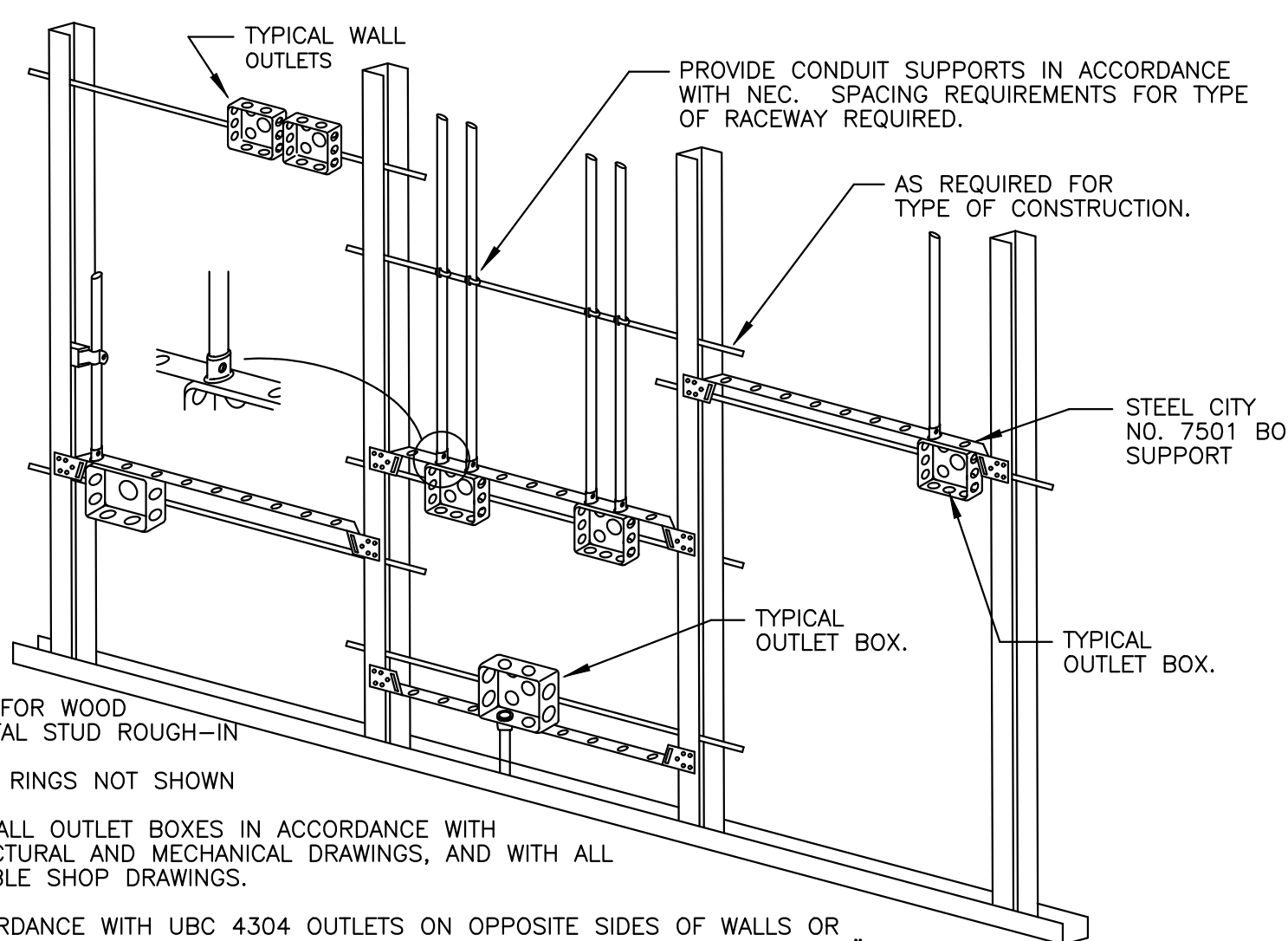


NOTES:

- FOR CONCRETE BLOCK WALLS, CENTER CAULK CP-25 OR PUTTY 303 WITHIN WALL WITH DAMMING ON BOTH SIDES.
- RECOMMENDATIONS BASED ON PRODUCT PERFORMANCE PER ASTM E-814 (UL 1478) FIRE TEST AND UL CLASSIFICATION FIRE STOP SYSTEMS 49, 33 AND 91.
- WET INSTALLED DEPTH OF CAULK CP-25 OR PUTTY 303 DEPENDS ON TYPE AND SIZE OF PIPE:
WET DEPTH: PIPE SIZE: FIRE RATING
1/2" (13mm) MAX. 8" (203mm) 2 HRS.
2" (25mm) MAX. 6" (152mm) 3 HRS.
- UP TO 40% SHRINKAGE OF CP-25 OR PUTTY 303 IS ACCEPTABLE AFTER WET DEPTH INSTALLATION.
- OPTIONS TO MASKING TAPE TO PREVENT SAGGING:
A. INSTALL ADDITIONAL DAMMING MATERIAL OVER PRODUCT TO HOLD WITHIN OPENING.
B. REMOVE PRODUCT FROM CONTAINER AND ALLOW TO AIR CURE IN SMALL BATCHES FOR 12 HRS. THEN HAND FORM INTO OPENING.
- WHEN ANNULAR SPACE EXCEEDS 3/4" (19mm), A 28 AWG METAL COVER PLATE MUST BE MECHANICALLY SECURED ATOP THE 3M FIRE BARRIER APPLICATION, OR TIGHTLY PACK A NON-COMBUSTIBLE DAMMING MATERIAL ATOP INSTALLED CAULK OR PUTTY.

NOTES:

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



3 CONDUIT SUPPORT DETAIL
E-104 N.T.S

4 FIRE STOP DETAIL
E-104 N.T.S

5 DETAIL TYPICAL ROUGH-IN REQUIREMENTS
E-104 N.T.S

ISSUE & REVISION HISTORY		
#	DESCRIPTION	(DOT INDICATES SHEET WAS REVISED)
1	INITIAL RELEASE	3/30/2003
2	FIRE PROTECTION ARCHITECTURAL RELEASE	5/30/2003
3	BD CHANGES	10/10/2003

SIMPLE MAN DISTILLERY

PROJECT

SEAL

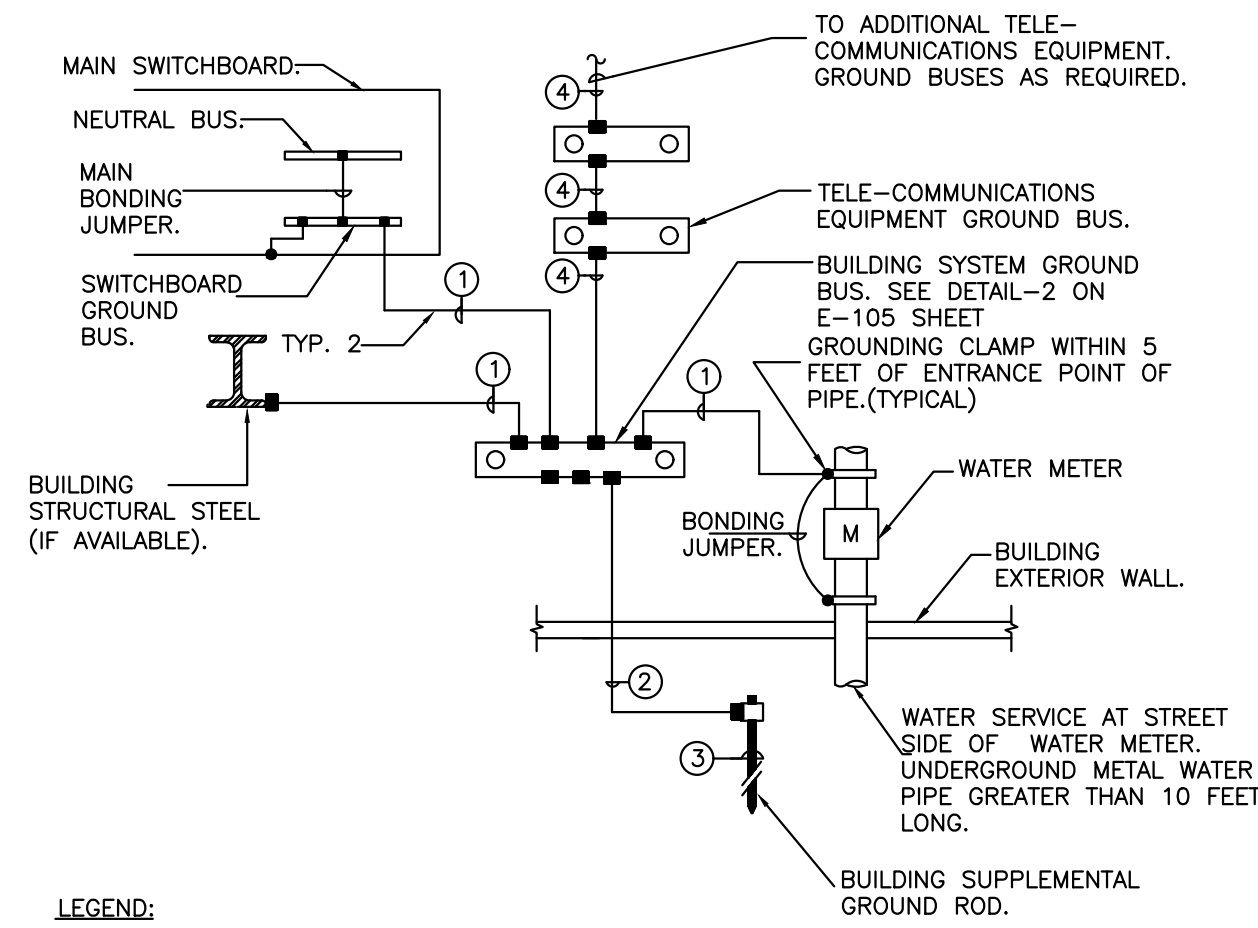
ELECTRICAL
DETAILS
SHEET 1 OF 2

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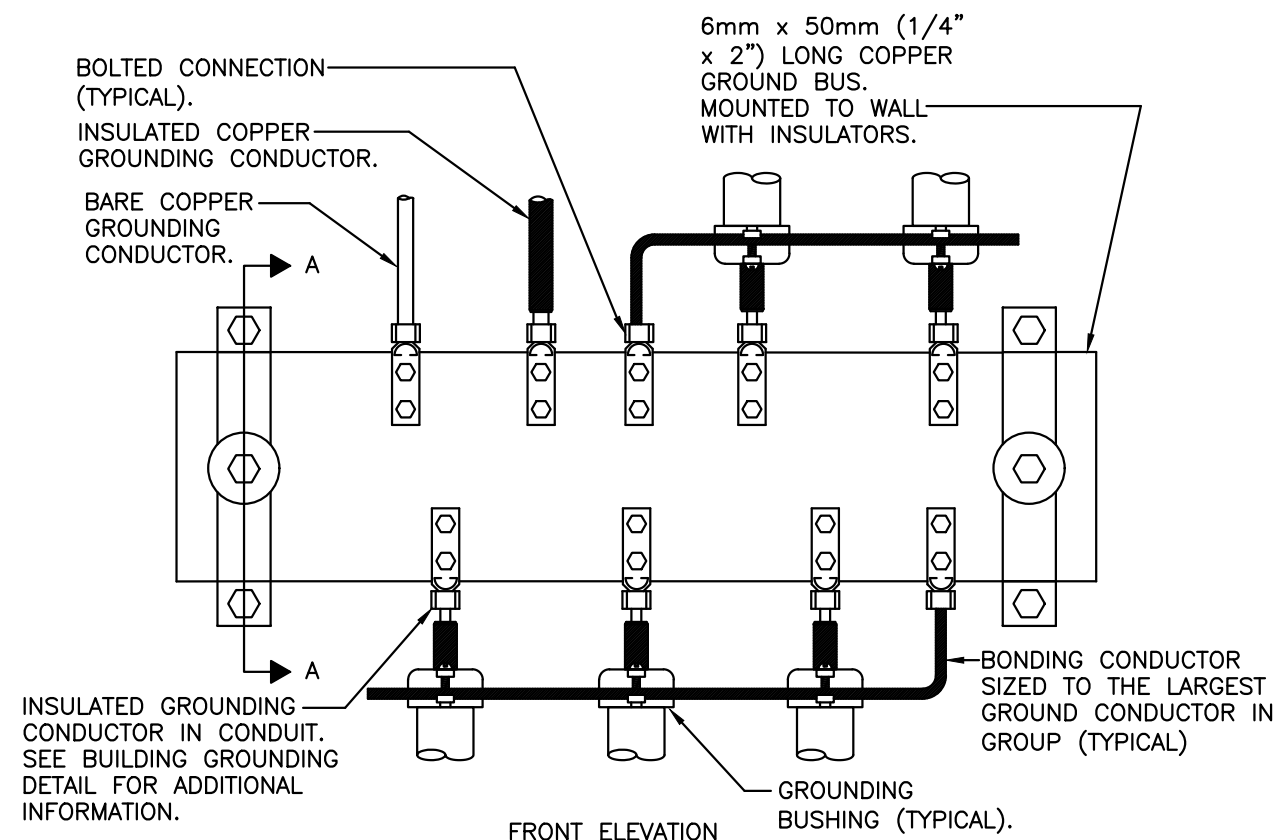
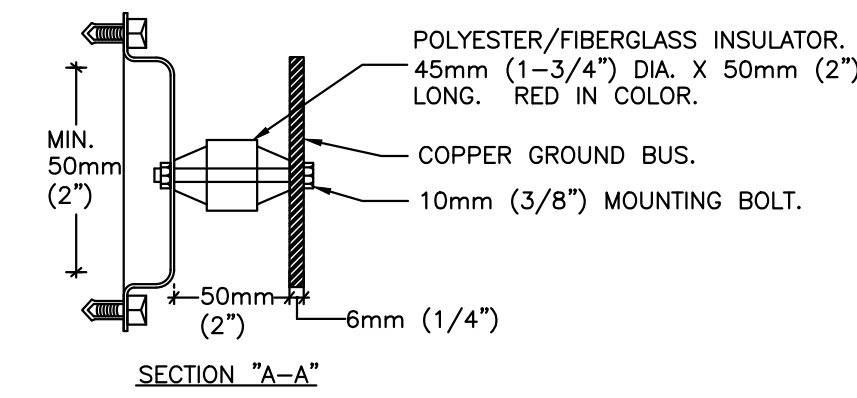
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- LEGEND:
- INDICATES BOLTED CONNECTION.
 - INDICATES EXOTHERMIC WELD CONNECTION, COMPATIBLE WITH MATERIALS BEING JOINED.
 - ① INSULATED COPPER GROUNDING ELECTRODE CONDUCTOR IN CONDUIT SIZED AS PER NEC ARTICLE 250.66.
 - ② 4/0 AWG BARE COPPER GROUND CONDUCTOR.
 - ③ 3/4" x 10'-0" LONG COPPER-CLAD GROUND ROD DRIVEN WITH TOP 12" BELOW GRADE.
 - ④ 2/0 AWG INSULATED COPPER GROUND CONDUCTOR IN 30mm CONDUIT.



- NOTES:
1. REFER TO BUILDING GROUNDING ELECTRODE SYSTEM DETAIL FOR EXACT CONFIGURATION.
 2. ALL GROUNDING SYSTEM SHALL COMPLY WITH N.E.C. SECTIONS 250.50 & 250.52(A),(B)&(C).
- BUILDING ELECTRICAL SYSTEMS GROUND BUS

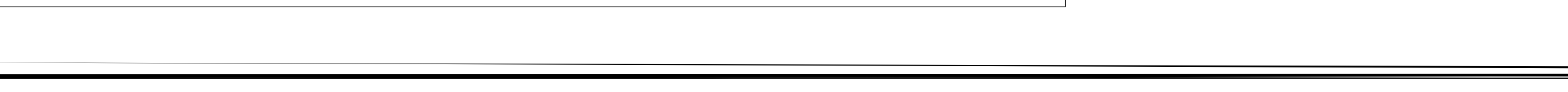
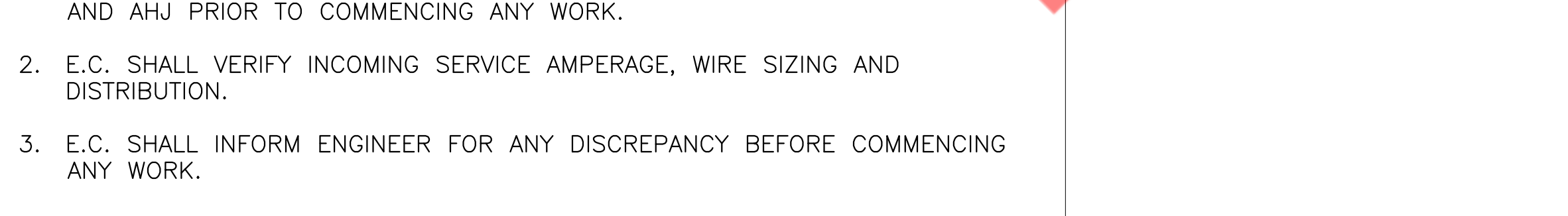
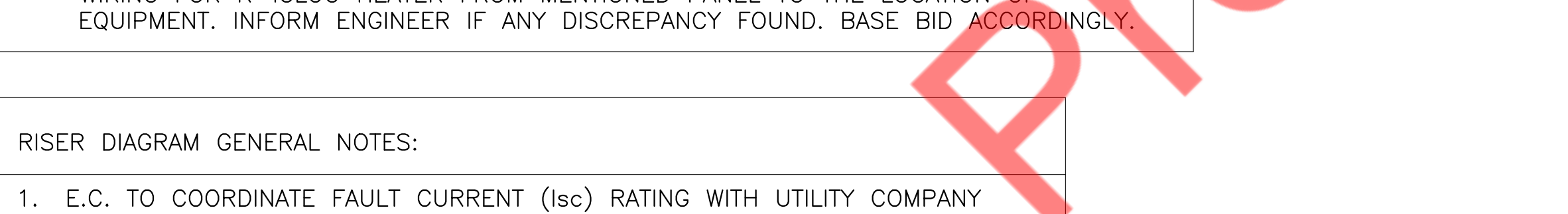
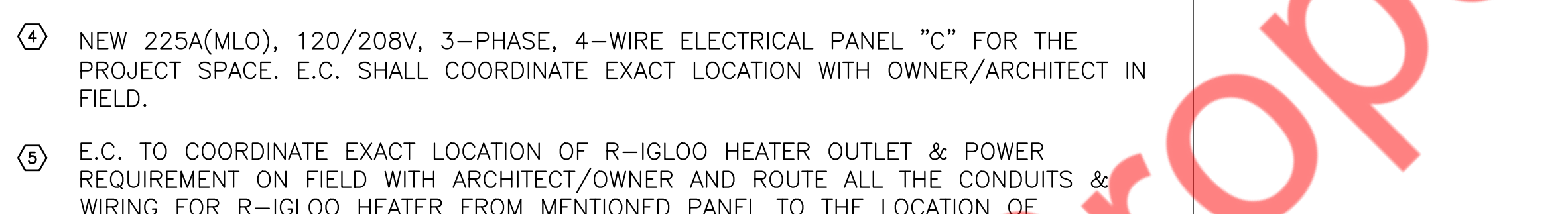
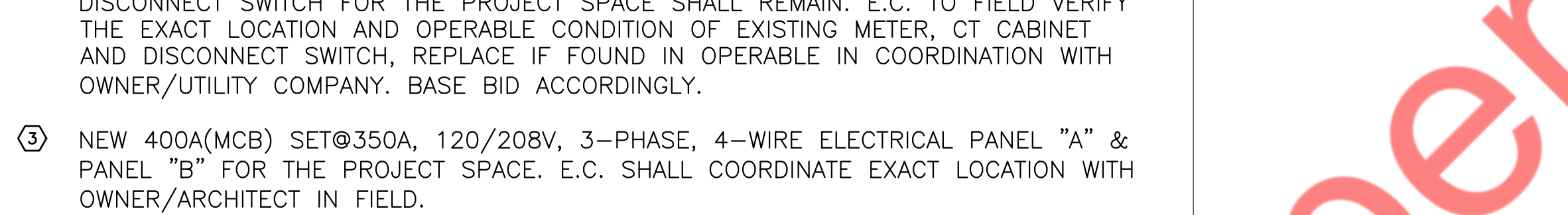
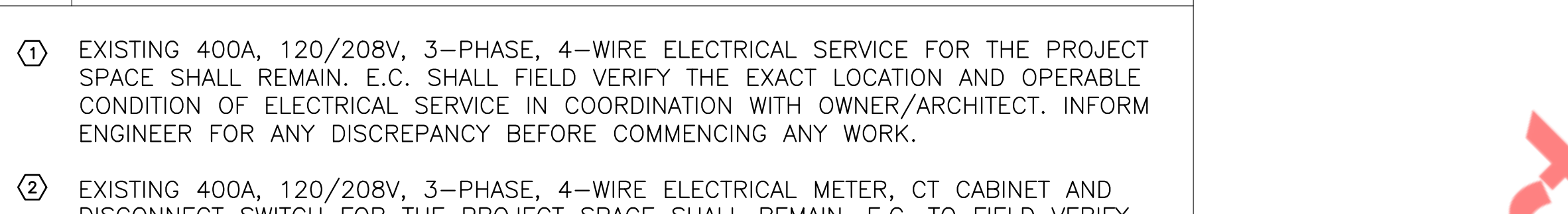
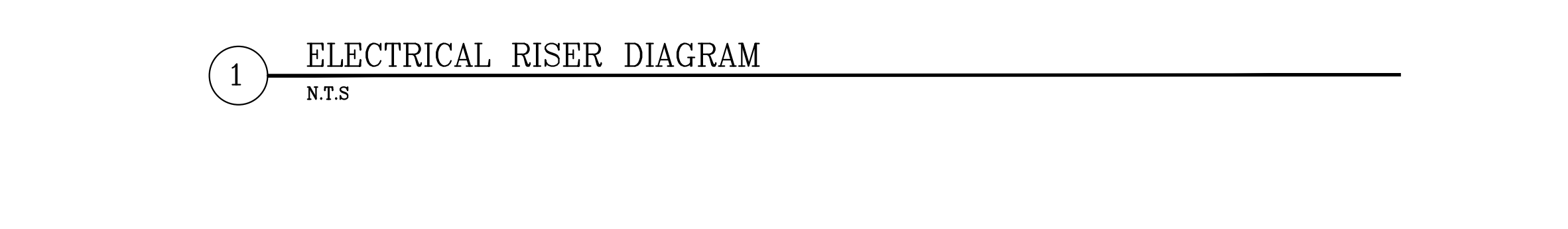
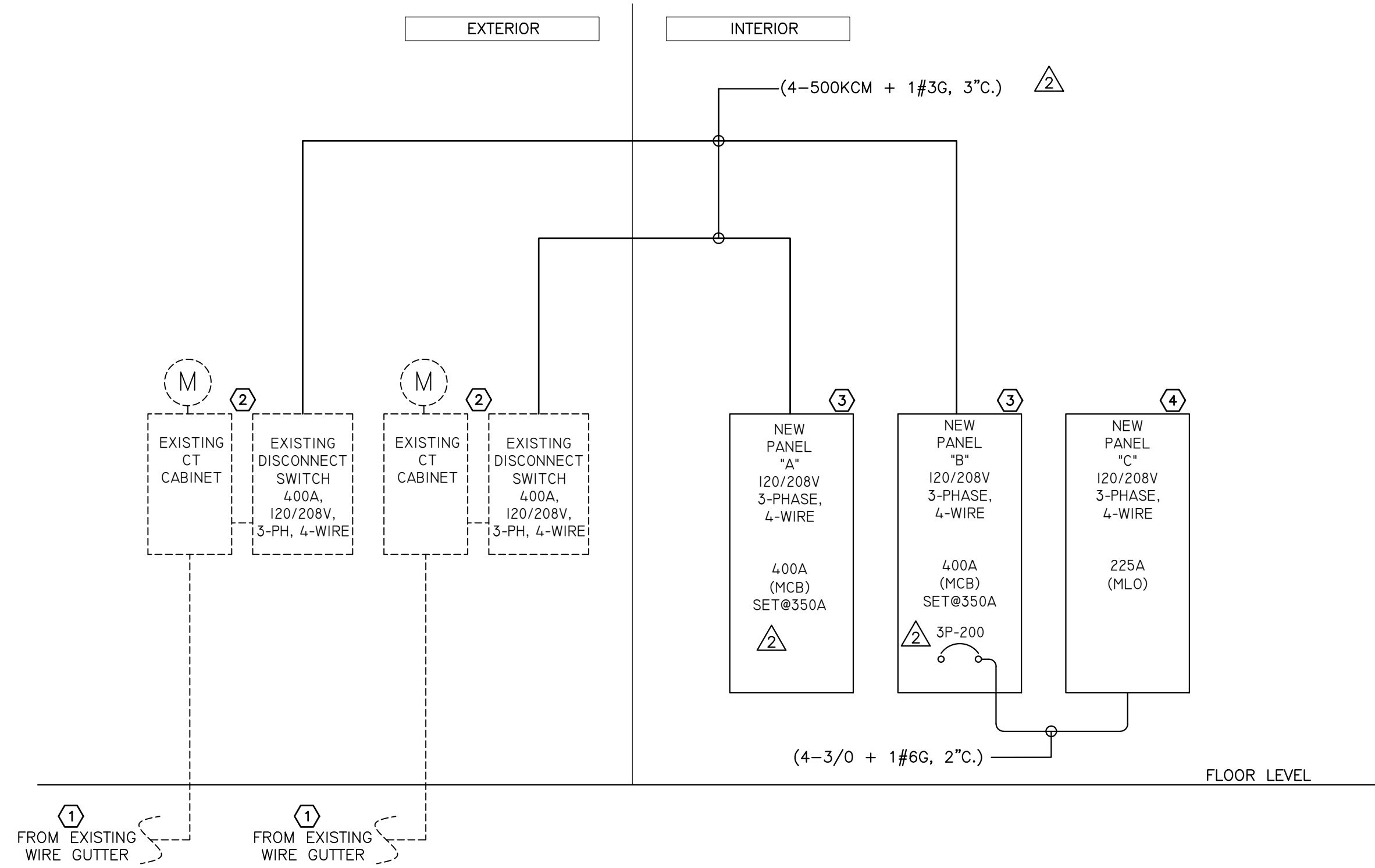
ISSUE & REVISION HISTORY	
#	DESCRIPTION
1	INITIAL RELEASE 3/30/2003
2	FIRE PROTECTION ARCHITECTURAL RELEASE 5/30/2003
3	BD CHANGES 10/1/2003

SIMPLE MAN DISTILLERY

ELECTRICAL
DETAILS
SHEET 2 OF 2

Drawn By:
Checked By:
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3504

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PANEL: A (NEW)										MOUNTING: SURFACE					
208Y/120		VOLTS,		3	PHASE,		4	WIRE		PANEL LOCATION: RESTROOM CORRIDOR					
MAIN CB: 400 A (SET @350A)				MLO: NA		BUS: 400A		MIN,		FED FROM: EXISTING 400A SERVICE					
NOTE: L: LIGHTING, H: HVAC LOAD, M: MOTOR LOAD, R: RECEPTACLES, O: OTHER/MISC, R: REFRIGERATION															
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.	
						A	B	C							
1	20	EVENT SPACE & ENTRANCE LIGHTING	L	1.17	2#12, #12G, 3/4"	1.71			2#12, #12G, 3/4"	0.54	R	EVENT SPACE RECEPTACLE	20	2	
3	20	PRODUCTION, RESTROOM, JANITOR AND STORAGE LIGHTING	L	0.68	2#12, #12G, 3/4"		1.04		2#12, #12G, 3/4"	0.36	R	EVENT SPACE RECEPTACLE	20	4	
5	20	RESTROOM RECEPTACLE	R	0.36	2#12, #12G, 3/4"			1.19	2#12, #12G, 3/4"	0.83	E	R.O. FILTER	20	6	
7	20	STORAGE & JANITOR ROOM RECEPTACLE	R	0.90	2#12, #12G, 3/4"	1.26			2#12, #12G, 3/4"	0.36	R	POS SYSTEM	20	8	
9	20	WH-1	O	0.80	2#12, #12G, 3/4"			1.16	2#12, #12G, 3/4"	0.36	R	POS SYSTEM	20	10	
11	20	CP-1	M	0.50	2#12, #12G, 3/4"			1.50	2#12, #12G, 3/4"	1.00	R	PREP TABLE RECEPTACLES	20	12	
13	2P-60	AHU-B002-1 (E)	H	5.24	2#6, #10G, 3/4"	5.53			2#12, #12G, 3/4"	0.29	E	E-08 ONE DOOR UNDERCOUNTER FREEZER	20	14	
15	17		H	5.24			7.38		2#8, #10G, 3/4"	2.14	H	HP-B002-2 (E)	2P-40	16	
17	2P-60	AHU-B002-2 (E)	H	5.24	2#6, #10G, 3/4"			7.38	2#8, #10G, 3/4"	2.14	H	HP-B002-2 (E)	2P-40	18	
19			H	5.24		7.86		3.77	2#8, #10G, 3/4"	2.62	H	HP-B001-1 (N)	2P-40	20	
21	20	E-15 MASH PUMP	E	1.15	2#12, #12G, 3/4"			3.77	2#8, #10G, 3/4"	2.62	H	HP-B001-2 (N)	2P-40	22	
23	20	E-16 SPIRITS PUMP	E	1.15	2#12, #12G, 3/4"			3.77	2#8, #10G, 3/4"	2.62	H	HP-B001-2 (N)	2P-40	24	
25	20	COMMERCIAL GRADE CEILING FAN	L	0.12	2#12, #12G, 3/4"	2.74			2#8, #10G, 3/4"	2.62	H	HP-B001-2 (N)	2P-40	26	
27	2P-60	AHU-B002-01 (N)	H	5.60	2#6, #10G, 3/4"		5.93		2#12, #12G, 3/4"	0.33	M	KKF-1	20	28	
29			H	5.60				5.75	2#12, #12G, 3/4"	0.15	M	EF-2	20	30	
31	20	JB FOR HOOD CONTROL PANEL	O	1.00	2#12, #12G, 3/4"	3.14			2#8, #10G, 3/4"	2.14	H	HP-B001-1 (E)	2P-40	32	
33	20	EF-1	M	0.13	2#12, #12G, 3/4"		2.27		2#8, #10G, 3/4"	2.14	H	HP-B001-2 (E)	2P-40	34	
35	2P-60	AHU-B001-01 (N)	H	5.60	2#6, #10G, 3/4"			7.74	2#8, #10G, 3/4"	2.14	H	HP-B001-2 (E)	2P-40	36	
37			H	5.60		7.74			2#8, #10G, 3/4"	2.14	H	HP-B001-2 (E)	2P-40	38	
39	2P-60	AHU-B001-02 (N)	H	5.60	2#6, #10G, 3/4"		11.19		2#6, #10G, 3/4"	5.60	H	AHU-B002-02 (N)	2P-60	40	
41			H	5.60				11.19	2#6, #10G, 3/4"	5.60	H	AHU-B002-02 (N)	2P-60	42	
43	2P-60	AHU-B001-1 (E)	H	5.24	2#6, #10G, 3/4"	7.64			2#12, #12G, 3/4"	2.40	M	WH-3 (E)	2P-20	44	
45			H	5.24			7.64		2#12, #12G, 3/4"	2.40	M	WH-3 (E)	2P-20	46	
47	2P-60	AHU-B001-2 (E)	H	5.24	2#6, #10G, 3/4"			7.86	2#8, #10G, 3/4"	2.62	H	HP-B002-2 (N)	2P-40	48	
49			H	5.24		7.86			2#8, #10G, 3/4"	2.62	H	HP-B002-2 (N)	2P-40	50	
51	20	SHOW WINDOW RECEPTACLE	R	1.30	2#12, #12G, 3/4"		1.70		2#12, #12G, 3/4"	0.40	M	MOTORISED DAMPER	20	52	
53	20	SHOW WINDOW RECEPTACLE	R	1.30	2#12, #12G, 3/4"			2.30	2#12, #12G, 3/4"	1.00	R	PREP TABLE RECEPTACLES	20	54	
TOTAL LOAD (KVA)						45.49	47.09	48.68							
LOAD CLASSIFICATION			CONNECTED LOAD (KVA)			DEMAND FACTOR			DEMAND LOAD (KVA)			PANEL TOTAL LOAD			
TOTAL LIGHTING			L	1.97			125%			2.47			TOTAL CONNECTED LOAD		
TOTAL RECEPTACLE			L	7.48			100%			7.48			136.26 KVA		
TOTAL HVAC			H	115.27			100%			115.27			135.55 KVA		
TOTAL MOTOR			M	6.31			100%			6.31			378.66 AMP		
TOTAL KITCHEN/EQUIPMENTS			E	3.42			65%			2.22			TOTAL DEMAND CURRENT		
TOTAL OTHER/MISCELLANEOUS			O	1.80			100%			1.80			309.19 AMP		
												MAIN CIRCUIT BREAKER RATING			
												324.65 AMP			

PANEL: B (NEW)										MOUNTING: SURFACE					
208Y/120		VOLTS,		3	PHASE,		4	WIRE		PANEL LOCATION: RESTROOM CORRIDOR					
MAIN CB: 400A (SET@350A)				MLO: N/A		BUS: 400A		MIN.		FED FROM: EXISTING 400A SERVICE					
NOTE: L: LIGHTING, H: HVAC LOAD, M: MOTOR LOAD, R: RECEPTACLES, O: OTHER/MISC, R: REFRIGERATION															
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.	
						A	B	C							
1	20	EVENT SPACE & ENTRANCE LIGHTING	L	1.00	2#12, #12G, 3/4"C	1.23			2#12, #12G, 3/4"C	0.23	E	E-06 ONE DOOR FREEZER	20	2	
3	20	RESTROOMS & KITCHEN LIGHTING	L	0.50	2#12, #12G, 3/4"C		1.08		2#12, #12G, 3/4"C	0.58	E	E-09 ICE MACHINE	20	4	
5	20	BAR & SEATING AREA LIGHTING	L	0.50	2#12, #12G, 3/4"C			0.73	2#12, #12G, 3/4"C	0.23	E	E-07 TWO DOOR UNDERCOUNTER COOLER	20	6	
7	20	RESTROOMS RECEPTACLES	R	1.08	2#12, #12G, 3/4"C	1.31			2#12, #12G, 3/4"C	0.23	E	E-08 ONE DOOR UNDERCOUNTER FREEZER	20	8	
9	20	SEATING AREA RECEPTACLES	R	1.44	2#12, #12G, 3/4"C		1.67		2#12, #12G, 3/4"C	0.23	E	E-04 ONE DOOR UNDERCOUNTER COOLER	20	10	
11	20	CORRIDOR AREA RECEPTACLES	R	1.08	2#12, #12G, 3/4"C			1.31	2#12, #12G, 3/4"C	0.23	E	E-04 ONE DOOR UNDERCOUNTER COOLER	20	12	
13	20	ENTRANCE AREA SEATING RECEPTACLES	R	0.72	2#12, #12G, 3/4"C	2.22			2#12, #12G, 3/4"C	1.50	R	SHOW WINDOW RECEPTACLE	20	14	
15	20	WH-2	O	0.80	2#12, #12G, 3/4"C		1.03		2#12, #12G, 3/4"C	0.23	E	E-08 ONE DOOR UNDERCOUNTER FREEZER	20	16	
17	2P-20	E-23 UNDER COUNTER DISHWASHER	E	1.35	2#12, #12G, 3/4"C			2.25	2#12, #12G, 3/4"C	0.90	R	BAR SEATING AREA RECEPTACLES	20	18	
19			E	1.35		1.47			2#12, #12G, 3/4"C	0.12	L	COMMERCIAL GRADE CEILING FAN	20	20	
21	2P-20	E-23 UNDER COUNTER DISHWASHER	E	1.35	2#12, #12G, 3/4"C		1.58		2#12, #12G, 3/4"C	0.23	E	E-07 TWO DOOR UNDERCOUNTER COOLER	20	22	
23			E	1.35			1.58		2#12, #12G, 3/4"C	0.23	E	E-04 ONE DOOR UNDERCOUNTER COOLER	20	24	
25	20	E-11 COFFEE MACHINE	E	3.30	2#12, #12G, 3/4"C	3.60			2#12, #12G, 3/4"C	0.30	M	MOTORISED DAMPER	20	26	
27	20	E-20 DRINK PRINTER	R	0.36	2#12, #12G, 3/4"C		7.70			7.34	E			28	
29	20	COOLER POS	R	0.36	2#12, #12G, 3/4"C			7.70	3#4, #8G, 1"C	7.34	E	EDH-1	3P-80	30	
31	20	COOLER POS	R	0.36	2#12, #12G, 3/4"C		7.70			7.34	E			32	
33	20	KITCHEN RECEPTACLES	R	0.36	2#12, #12G, 3/4"C		5.82			5.46	E			34	
35	20	E-05 THREE DOOR REFRIGERATOR	E	0.71	2#12, #12G, 3/4"C			6.18	3#8, #10G, 3/4"C	5.46	E	E-10 COMBI OVEN	3P-50	36	
37			M	0.29		5.75				5.46	E			38	
39	3P-20	OAF-1	M	0.29	3#12, #12G, 3/4"C		2.91		2#8, #10G, 3/4"C	2.62	H	HP-B002-1 (N)	2P-40	40	
41			M	0.29			2.91			2.62	H			42	
43	20	SHOW WINDOW RECEPTACLE	R	1.30	2#12, #12G, 3/4"C	1.55			3#12, #12G, 3/4"C	0.25	M		3P-20	44	
45	20	SHOW WINDOW RECEPTACLE	R	1.30	2#12, #12G, 3/4"C		1.55			0.25	M	SUMP PUMP (SP-1)	3P-20	46	
47	20	SPARE						0.25		0.25	M			48	
49	20	SHOW WINDOW RECEPTACLE	R	1.30	2#12, #12G, 3/4"C	29.00			4#3/0, #6G, 2"C	27.70	O			50	
51	2P-40	HP-B002-1 (E)	H	2.14	2#8, #10G, 3/4"C	18.34				16.20	O	PANEL-C	3P-200	52	
53			H	2.14			18.09			15.95	O			54	
TOTAL LOAD (KVA)						53.83	41.68	41.00							
LOAD CLASSIFICATION						CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)	PANEL TOTAL LOAD						
TOTAL LIGHTING						L	2.12	125%	2.65	TOTAL CONNECTED LOAD					
TOTAL RECEPTACLE						R	12.06	100%	12.06	136.50 KVA					
TOTAL HVAC						H	9.53	100%	9.53	TOTAL DEMAND LOAD					
TOTAL MOTOR						M	1.91	100%	1.91	118.23 KVA					
TOTAL KITCHEN/EQUIPMENTS						E	50.24	65%	32.66	TOTAL CONNECTED CURRENT					
TOTAL OTHER/MISCELLANEOUS						O	0.80	100%	0.80	379.33 AMP					
										TOTAL DEMAND CURRENT					
										328.58 AMP					
										MAIN CIRCUIT BREAKER RATING					
										345.01 AMP					

PLUMBING SYMBOLS LIST	
---V---	VENT PIPING
---SAN---	UNGD. SANITARY PIPING
---GSAN---	UNGD. GREASE WASTE PIPING
---SAN---	SANITARY PIPING
---GSAN---	GREASE WASTE PIPING
---EX.V---	EXISTING VENT PIPING
---EX.SAN---	EXISTING UNGD. SANITARY PIPING
---EX.GSAN---	EXISTING UNGD. GREASE SANITARY PIPING
---EX.SAN---	EXISTING SANITARY PIPING
---EX.GSAN---	EXISTING GREASE SANITARY PIPING
-----	COLD WATER PIPING
-----	HOT WATER PIPING
-----	HOT WATER RETURN PIPING
---F---	FILTERED WATER PIPING
---EX.CW---	EXISTING COLD WATER PIPING
---G---	GAS PIPING
---EX.G---	EXISTING GAS PIPING
---P---	P--TRAP
---O---	PIPE UP
---D---	PIPE DROP
---C---	PIPE CAP
---T---	CONTROL VALVE
---F---	GAS VALVE
---B---	BACKFLOW PREVENTER
---S---	FLOOR SINK
---D---	FLOOR DRAIN
---C---	POINT OF CONNECTION
---O---	CLEANOUT
---B---	BALANCING VALVE

PLUMBING ABBREVIATIONS	
CO	CLEANOUT
SAN	SANITARY
GSAN	GREASE SANITARY
V	VENT
W	WASTE
LAV	LAVATORY
WC	WATER CLOSET
KS	KITCHEN SINK
DW	DISHWASHER
EX.	EXISTING
HD	HUB DRAIN
FD	FLOOR DRAIN
TD	TRENCH DRAIN
3CS	3 COMPARTMENT SINK
UR	URINAL
MS	MOP SINK
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
FW	FILTERED WATER
TYP.	TYPICAL
DN	DOWN
AFF	ABOVE FINISH FLOOR
BFP	BACK FLOW PREVENTER
WH	WATER HEATER
ET	EXPANSION TANK
RCP	RECIRCULATION PUMP
WM	WATER SUB--METER
PRV	PRESSURE REDUCING VALVE
UNGD	UNDERGROUND
SP	NON--COMBUSTIBLE SUMP PUMP

PLUMBING DRAWING LIST

P--001	PLUMBING NOTES & SPECIFICATIONS (1 OF 2)
P--002	PLUMBING NOTES & SPECIFICATIONS (2 OF 2)
P--101	PLUMBING WASTE AND VENT FLOOR PLAN
P--102	PLUMBING WATER AND GAS FLOOR PLAN
P--103	PLUMBING ROUGH--IN FLOOR PLAN
P--501	PLUMBING DETAILS
P--601	PLUMBING RISERS AND SCHEDULES

BUILDING DEPARTMENT PLUMBING NOTES

- ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT, WATER) AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF 2018 INTERNATIONAL PLUMBING CODE.
- INSTALLATION OF UNDERGROUND PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION IPC 702.2
- PROTECTION OF PIPING AND PLUMBING SYSTEM COMPONENTS AS PER SECTION IPC 305.
- TRENCHING, EXCAVATION AND BACKFILL AS PER SECTION IPC 306.
- RODENT PROOFING AS PER IPC 304.
- MATERIALS USED IN PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION IPC 303, IPC 605, IPC 702, IPC 902.
- EQUIPMENT CONNECTIONS AND JOINING OF PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF IPC CHAPTERS 4, 5, 6, 7, 8 AND 9.
- DEEP SEAL TRAPS FOR FLOOR DRAINS SHALL BE PROVIDED AS PER IPC 1002, AND CLEAN--OUTS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION IPC 708.
- VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION IPC 308.
- WATER SUPPLY SYSTEMS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 SECTION IPC 601, 602, 603, 604, 606, 607, 608, 610, 611 AND 613.
- THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 7 SECTION IPC 701, 704, 705, 706, 707, 708, 709 AND 710.
- VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 9 SECTIONS IPC 901 THROUGH IPC 919.
- INSPECTION AND TESTING OF PLUMBING PIPING SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION IPC 107 AND 312.

NOTE: FIRE PROTECTION SET WILL BE A DEFERRED SUBMITTAL.

EQUIPMENT / DEVICE COORDINATION NOTES:

- GENERAL CONTRACTOR TO CONFIRM FINAL EQUIPMENT SPECIFICATIONS FOR OWNER AND G.C. PROVIDE EQUIPMENT AND COMPARE ALL ELECTRICAL, PLUMBING, AND MECHANICAL REQUIREMENTS TO EQUIPMENT SHOWN ON THESE DRAWINGS. G.C. TO NOTIFY ARCHITECT AND ENGINEERS OF ANY DISCREPANCIES PRIOR TO ORDERING OR INSTALLING ELECTRICAL, PLUMBING, OR MECHANICAL INFRASTRUCTURE.
- G.C. TO CONFIRM ALL FINAL EQUIPMENT AND DEVICE SPECIFICATIONS, INCLUDING OWNER PROVIDED AND G.C.PROVIDED EQUIPMENTS / DEVICES, COMPLY WITH NFPA AND FIRE SAFETY REQUIREMENTS IN ALL HAZARDOUS AREAS SUCH AS PRODUCTION AREA #111, STORAGE AREA #114, AND EVENT SPACE #110.



PLUMBING SPECIFICATIONS

- BASIC PLUMBING REQUIREMENTS, MATERIALS AND METHODS
 - SCOPE

A. 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.

B. 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.

C. 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.

D. THE GENERAL CONDITIONS OF THE CONTRACT AND ALL DIVISION 1 REQUIREMENTS APPLY TO THE WORK OF THIS SECTION.

E. 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.

F. IN ALL AREAS SUBJECT TO FREEZING CONDITIONS, THE CONTRACTOR SHALL PROVIDE FREEZE PROTECTION FOR ALL DOMESTIC WATER PIPING INSTALLED UNDER HIS CONTRACT.

G. 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.

H. COLOR AND FINISH SELECTIONS FOR ALL MATERIALS, INCLUDING PAINTING OF PIPING, SHALL BE AS DIRECTED AND/OR APPROVED BY THE ARCHITECT.

I. 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.

J. 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.

K. 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.
 - SUBMITTALS

A. 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

B. 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.

C. 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.

D. 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.

E. SUBMIT PROOF OF APPROVAL AND/OR CONFIRMATION OF SATISFACTORY TEST RESULTS TO THE OWNER AND THE ARCHITECT.

F. 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.

G. 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.

H. 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.
 - SUBSTITUTIONS

A. 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.

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

A. PURNISH: 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.
- DRAWINGS

A. 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.

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

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

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

E. 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.

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

A. SANITARY AND VENT PIPING:
 - ABOVE GRADE PIPING SHALL BE HUBLESS CAST IRON PIPE WITH STAINLESS STEEL COUPLINGS AND ELASTOMERIC GASKETS WITH A MINIMUM NO. OF BANDS PER COUPLING AS PER CISPI 301.
 - SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE OVER 3" (I.D.) AND 1/4" PER FOOT OF RUN FOR PIPE 3" AND SMALLER (I.D.). VENT PIPING SHALL BE PITCHED TO DRAIN.
 - ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.

B. DOMESTIC WATER PIPING:
 - ABOVE GRADE WATER PIPING SHALL BE TYPE 'L' HARD--DRAWN COPPER TUBE.
 - FITTINGS IN DOMESTIC WATER PIPING SHALL BE WROUGHT COPPER OR CAST BRASS.
 - JOINTS SHALL BE MADE WITH LEAD--FREE SOLDER.
 - THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE INSULATED INCLUDING ALL VALVES, FITTINGS, ETC.
 - COMPLY WITH NSF 61 FOR MATERIALS FOR WATER--SERVICE PIPING AND SPECIALTIES FOR DOMESTIC WATER.
 - ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE FIRE--RETARDANT, FACTORY--APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY--APPLIED VAPOR BARRIER.
 - INSULATION REQUIREMENT SHOULD COMPLY SECTION C404.4 REFER WITH 2015 INTERNATIONAL ENERGY CONSERVATION CODE TABLE C403.2.10.

MINIMUM PIPE INSULATION THICKNESS					
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)		
	CONDUCTIVITY BTU·IN./ (H·FT²·°F)	MEAN RATING TEMPERATURE, °F	<1	1 to <1½	1½ to <4
141--200	0.25--0.29	125	1.5	1.5	2.0
105--140	0.21--0.28	100	1.0	1.0	1.5
40--60	0.21--0.27	75	0.5	0.5	1.0

- WATER--HEATING EQUIPMENT AND HOT WATER STORAGE TANKS SHALL MEET THE MINIMUM PERFORMANCE REQUIREMENTS GIVEN IN THE IECC 2015, SECTION C404.2, TABLE C404.2. THE EFFICIENCY SHALL BE VERIFIED THROUGH DATA FURNISHED BY THE MANUFACTURER OF THE EQUIPMENT OR THROUGH CERTIFICATION UNDER AN APPROVED CERTIFICATION PROGRAM.
- HW SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER INTERNATIONAL ENERGY CONSERVATION CODE 2015 C404.5.1, THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER FOLLOWING TABLE.

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

- AS PER IECC 2015 EDITION, C404.7 WATER DISTRIBUTION SYSTEM HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED--WATER SUPPLY PIPE BACK TO THE HEATED--WATER SOURCE THROUGH A COLD--WATER SUPPLY PIPE SHALL BE A DEMAND RECIRCULATION WATER SYSTEM. PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
 - THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE.
 - THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD--WATER PIPING TO 104°F(40°C).

- AS PER IECC 2015, C404.6.1, HEATED--WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. CONTROLS FOR CIRCULATING HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.
- MIXING VALVES
 - VALVE BODY SHALL BE MADE OF CAST BRASS. THE INTERNAL COMPONENTS SHALL BE MADE OF BRASS OR STAINLESS STEEL.
 - TYPES A, C & D VALVES: VALVE SHUTS OFF IN FULL COLD POSITION AND MUST PASS THROUGH COLD RANGE BEFORE DELIVERING WARM, AND/OR HOT WATER. TEMPERATURE LIMIT SET AT 105°F MAXIMUM DELIVERY TEMPERATURE. IF ONE SUPPLY SHOULD FAIL, THE OTHER WILL AUTOMATICALLY AND INSTANTLY SHUT DOWN. DELIVERY CAPACITY IS 5GPM @ 45 PSIG DIFFERENTIAL.
 - TYPES OF VALVES: TYPE A-- THERMOSTATICALLY OPERATED BY MEANS OF BI--METALLIC STRIP, OR EXPANSION BELLOW; TYPE B--SINGLE HANDLE MECHANICAL MIXER, OR INDIVIDUAL HOT AND COLD CONTROL VALVES; TYPE C-- PRESSURE BALANCING SHOWER VALVE/PISTON OPERATED MIXING VALVE; TYPE D-- BALANCED PRESSURE OPERATION, WITH INTEGRAL DIAL THERMOMETER INDICATING DELIVERED WATER TEMPERATURE.
- EACH ELEMENT SHALL BE CONTROLLED BY AN INDIVIDUALLY MOUNTED THERMOSTAT AND HIGH TEMPERATURE CUT--OFF SWITCH. ALL INTERNAL CIRCUITS SHALL BE FUSED. THE OUTER JACKET SHALL BE OF BAKED ENAMEL FINISH AND SHALL BE PROVIDED WITH FULL SIZE CONTROL COMPARTMENT FOR PERFORMANCE OF SERVICE AND MAINTENANCE THROUGH HINGED FRONT PANEL AND SHALL ENCLOSE THE TANK WITH FOAM INSULATION. ELECTRICAL JUNCTION BOX WITH HEAVY DUTY TERMINAL BLOCK SHALL BE PROVIDED. THE DRAIN VALVE SHALL BE LOCATED IN THE FRONT FOR EASE OF SERVICING.
- 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 APPROVED SUPPORTS.
 - PROVIDE SEISMIC RESTRAINTS IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND STANDARDS AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
 - UNLESS OTHERWISE INDICATED OR REQUIRED BY AUTHORITIES HAVING JURISDICTION, THE FOLLOWING SHALL BE PROVIDED WITH SEISMIC RESTRAINTS AS REQUIRED BY THE BOCA NATIONAL BUILDING CODE, SECTION 1610.6.4: ALL EQUIPMENT AND MACHINERY, ALL NEW PIPING 2--1/2" AND LARGER (1--1/4" AND LARGER IN BOILER/MECHANICAL ROOMS) WITH HANGERS GREATER THAN 12" IN LENGTH FROM THE TOP OF PIPE TO THE STRUCTURE.
 - SUPPORTS SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPING MANUFACTURER.
- GAS WATER HEATER
 - TANKS SHALL 34 GALLON CAPACITY AND SHALL HAVE 160 PSI WORKING PRESSURE AND BE EQUIPPED WITH GLASS LINING PERMANENTLY BONDED TO TANK INTERIOR SURFACE.
 - BURNER SHALL BE ALUMINIZED STEEL OR CAST IRON, ADJUSTABLE, OR SELF--ADJUSTING AIR--GAS MIXTURE CONTROL.
 - INSTALL THE WORK OF THIS SECTION IN ACCORDANCE WITH NFPA 54, NFPA 211, AND THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, UNLESS OTHERWISE SPECIFIED.
 - THE OUTER JACKET SHALL BE STEEL WITH BAKED ENAMEL/ACRYLIC FINISH AND SHALL BE PROVIDED WITH ACCESS DOOR FOR SERVICING CONTROLS AND BURNER.
 - THE DRAIN VALVE SHALL BE LOCATED IN THE FRONT FOR EASE OF SERVICING.
- GAS PIPING
 - ALL GAS PIPING WORK SHALL COMPLY WITH INTERNATIONAL FUEL GAS CODE 2018, LOCAL UTILITY GAS REQUIREMENTS.
 - FURNISH AND INSTALL ALL NECESSARY GAS PIPING TO ALL EQUIPMENT REQUIRING GAS SUPPLY.
 - 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.
 - HOT WATER RE--CIRCULATING PUMP
 - IN--LINE PUMP: SINGLE STAGE VOLUTE TYPE PUMP SHALL BE MADE OF CAST IRON OR 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.

ISSUE & REVISION HISTORY

#	DESCRIPTION	(DOT INDICATES SHEET WAS REVISION)
INITIAL RELEASE	3/30/2023	
FIRE PROTECTION ARCHITECTURAL RELEASE	5/30/2023	
BID CHANGES	8/5/2023	
REVISION #1 - CLIENT REVISIONS	9/5/2023	●
REVISION #2 - CLIENT REVISIONS	1/9/2024	
REVISION #3 - BLDG DEPT RESPONSE	3/26/2024	

SIMPLE MAN DISTILLERY

PROJECT

SEAL

PLUMBING NOTES AND SPECIFICATIONS (1 OF 2)

DRAWING TITLE

Drawn By:		P-001
Checked By:	WAF	
	JAB, PG	
PROJECT #	3504	
		1 OF 7

- H. VALVES:
1. PROVIDE GATE VALVES, BUTTERFLY OR BALL VALVES FOR SHUT-OFF DUTY ON MAIN AND BRANCH SUPPLY LINES. FOR ALL PIPE RUNS 2" AND SMALLER, PROVIDE BALL FOR ALL PIPE RUNS LARGER THAN 2" AND SMALLER THAN 4", PROVIDE GATE VALVES. PIPING 4" AND LARGER, PROVIDE BUTTERFLY VALVES FOR SHUT-OFF DUTY.
 2. ALL FIXTURES WITH THE EXCEPTION O FLUSHOMETER-EQUIPPED WATER CLOSETS AND URINALS SHALL HAVE STOP VALVES TO CONTROL SUPPLY TO THE FIXTURE. WHERE SUPPLIES ARE EXPOSED PROVIDE CHROME-PLATED STOPS WITH CHROME-PLATED ESCUTCHEONS ON PIPING PENETRATIONS.
 3. ALL PLUMBING FIXTURES AND EQUIPMENT TO HAVE SHUT-OFF VALVES ON SUPPLY LINES.
 4. ALL BRANCH LINES TO HAVE SHUT-OFF VALVES.
 5. ALL VALVES SHALL BE ACCESSIBLE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR VALVE ACCESS.
 6. PROVIDE GLOBE VALVES FOR THROTTLING/BALANCING OF THE HOT WATER CIRCULATING SYSTEM.
- I. SLEEVES AND ESCUTCHEONS:
1. SLEEVES THROUGH STRUCTURAL CONCRETE MEMBERS AND SLEEVES FOR WALLS BELOW GRADE AND FLOORS ON GRADE SHALL BE STANDARD WEIGHT GALVANIZED SCHEDULE 40 STEEL PIPE. SLEEVES THROUGH OTHER THAN STRUCTURAL COMPONENTS OF THE BUILDING SHALL BE 20 GAGE GALVANIZED SHEET METAL WITH LOCK SEAM JOINTS. USG THERMAFIBER SAFING INSULATION SHALL BE INSTALLED BETWEEN PIPE AND SLEEVE.
 2. PIPE ESCUTCHEON PLATES SHALL BE INSTALLED WHERE EXPOSED PIPING PASSES THROUGH WALLS, CEILINGS, AND FLOORS AND SHALL BE MINIMUM 20 GAGE STEEL. PROVIDE CHROME PLATED ESCUTCHEON PLATES IN FINISHED AREAS.
- 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 SCORIATED 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 BASE 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 OTHERAPPROVED 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.
 - AD. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN ALL PLUMBING V.T.R.S AND ALL OUTDOOR AIR INTAKES. OFFSET VENT STACKS AND STACK VENTS IF AND AS REQUIRED BELOW ROOF TO MAINTAIN SUCH CLEARANCE WHETHER OR NOT SUCH OFFSET IS INDICATED ON THE DRAWINGS. PROVIDE ALL REQUIRED SEISMIC SUPPORTS.

2. INSTALLATION

2.01 GENERAL

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

2.02 ABOVE GRADE

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

2.03 INSULATION (PIPE AND FITTINGS)

A. PIPING

COVER ALL HOT WATER PIPE WITH 1" THICK FOR PIPE SIZE UP TO 1½" AND ½" THICK FOR PIPE SIZE 1½" AND GREATER WITH MANVILLE MICRO-LOK AP-T PLUS FIBERGLASS INSULATION. COVER ALL COLD WATER PIPE WITH ½" THICK FOR PIPE SIZE UP TO 1½" AND 1" THICK FOR PIPE SIZE 1½" AND GREATER WITH 1" MANVILLE MICRO-LOK AP-T PLUS FIBERGLASS INSULATION. FITTINGS AND VALVES SHALL BE INSULATED. INSTALL ALL INSULATION AS PER MANUFACTURERS RECOMMENDATIONS. ALL INSULATION MATERIAL SHALL COMPLY WITH THE 2018 INTERNATIONAL BUILDING CODE REQUIREMENT OF A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DEVELOPED RATING NOT TO EXCEED 50. ALL PIPE INSULATION SHALL COMPLY WITH 2018 INTERNATIONAL ENERGY CONSERVATION CODE.

3. TESTING

- A. AT THE COMPLETION OF THE PLUMBING WORK, COMPLETELY TEST THE ENTIRE INSTALLATION OF ALL SYSTEMS FOR PROPER OPERATION AND COMPLIANCE WITH APPLICABLE CODES AND LOCAL REQUIREMENTS. CORRECT ALL DEFICIENCIES FOUND.
 - B. TESTING OF THE INSTALLED SYSTEMS SHALL BE MADE BY THE CONTRACTOR IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER.
 - C. THE CONTRACTOR SHALL NOT COVER UP OR PERMANENTLY CONCEAL PIPING, DEVICES OR ANY PORTION OF NEWLY CONSTRUCTED PLUMBING SYSTEM(S) UNTIL SUCH SYSTEM, OR PORTION OF THE SYSTEM, HAS BEEN TESTED IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER AND INSPECTED BY THE LOCAL INSPECTOR AND APPROVED IN WRITING, EXCEPT PIPING PASSING THROUGH FLOORS, WALLS, PARTITIONS, OR BEAMS, FOR DISTANCES EQUAL TO THE THICKNESS OF SUCH FLOOR, WALL, PARTITION OR BEAM.
 - D. THIS CONTRACTOR SHALL NOTIFY THE VARIOUS DEPARTMENTS, BUREAUS AND INDIVIDUALS AT LEAST TWO WEEKS IN ADVANCE OF THE TIME THAT THE TESTS ARE TO BE CONDUCTED.
 - E. ALL DEFECTIVE PARTS SHALL BE REPLACED OR CORRECTED BY THIS CONTRACTOR AND AN EXTRA TEST OR TESTS SHALL BE MADE UNTIL THE OPERATION IS SATISFACTORY. ALL ARRANGEMENTS AND EXPENSES NECESSARY TO CONDUCT ALL TESTS REQUIRED BY THESE SPECIFICATIONS AND THE VARIOUS AGENCIES HAVING JURISDICTION OVER THE WORK INSTALLED UNDER THIS CONTRACT SHALL BE MADE BY THIS CONTRACTOR. NO EXTRA COMPENSATION WILL BE ALLOWED FOR THESE TESTS, THE COST THEREOF BEING INCLUDED IN THE LUMP SUM BID FOR THIS CONTRACT.
 - F. WHERE ANY EVIDENCE OF STOPPAGE IS FOUND IN PIPING OR EQUIPMENT, THIS CONTRACTOR SHALL DISCONNECT, CLEAN, REPAIR AND RECONNECT ALL OBSTRUCTED PIPING OR EQUIPMENT AND SHALL ALSO PAY FOR ALL NECESSARY CUTTING AND REPAIRS TO ADJOINING WORK.
 - G. ALL PIPING AND EQUIPMENT SHALL BE THOROUGHLY CLEANED INSIDE AND OUT, OF DIRT, CUTTINGS, OILS AND OTHER FOREIGN SUBSTANCES AND SHALL BE LEFT CLEAN.
 - H. ALL REQUIRED TESTS SHALL BE WITNESSED BY LOCAL AUTHORITIES AND THE OWNER'S REPRESENTATIVE.
 - I. ALL EQUIPMENT WILL BE FACTORY TESTED.
 - J. CONTRACTOR SHALL IDENTIFY TO THE OWNER'S REPRESENTATIVE ANY LEAKS OR DAMAGE THAT OCCURS AS A RESULT OF SYSTEM TESTING. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO LIMIT ANY POTENTIAL DAMAGE. CORRECTIVE ACTION REQUIRED AS A RESULT OF TESTING SHALL BE PERFORMED IMMEDIATELY AND AT THE CONTRACTOR'S EXPENSE.
 - K. REPORT IN WRITING TO AUTHORITIES HAVING JURISDICTION, THE ARCHITECT AND THE OWNER THE RESULTS OF ALL TESTING.
 - L. TESTING REQUIREMENTS
 - a. TEST ALL DOMESTIC WATER PIPING HYDROSTATICALLY TO 125 PSIG.
 - b. HYDROSTATIC TEST PRESSURES SHALL REMAIN CONSTANT WITH NO VARIATION FOR 120 MINUTES.
 - c. TESTS SHALL BE WITNESSED BY THE BUILDING ENGINEER.
 - d. THE PLUMBING CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DUE TO TEST FAILURES AND LEAKAGE IN THE TEST AREA AND ADJACENT TENANT OR ESB SPACES.
 - M. REFILL ENTIRE POTABLE HOT AND COLD WATER SUPPLY SYSTEM WITH CHLORINE SOLUTION (HTH OLIN CHEMICAL CORP.) AT A STRENGTH TO MEET STANDARDS OF THE DEPARTMENT OF HEALTH, AND FOR A PERIOD OF RETENTION AS STIPULATED.
 - N. THOROUGHLY FLUSH PIPING SYSTEM WITH FRESH WATER IMMEDIATELY PRIOR TO FINAL ACCEPTANCE.
 - O. INSPECTION & TESTING SHALL BE AS PER 2018 INTERNATIONAL PLUMBING CODE SECTION 312.
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.

ISSUE & REVISION HISTORY

#	DESCRIPTION	(DOT INDICATES SHEET WAS REVISED)
	INITIAL RELEASE	
	3/30/2023	
	FIRE PROTECTION ARCHITECTURAL RELEASE	
	5/30/2023	
	BD CHANGES	
	6/27/2023	
1	REVISION #1 - CLIENT REVISIONS	
	9/22/2023	
2	REVISION #2 - CLIENT REVISIONS	
	1/22/2024	
3	REVISION #3 - BLDG DEPT RESPONSE	
	3/28/2024	

SIMPLE MAN DISTILLERY

PROJECT

SEAL

PLUMBING
NOTES AND
SPECIFICATIONS
(2 OF 2)

DRAWING TITLE

Drawn By:		P-002
Checked By:	MM	
	JB, PG	
PROJECT #	3504	
		2 OF 7

WASTE AND VENT PLAN KEY NOTES:

1. ROUTE INDIRECT WASTE FROM RO FILTER TO HUB DRAIN WITH APPROVED AIR GAP.
2. CONNECT NEW 4" SANITARY PIPING TO EXISTING 4" SANITARY NETWORK. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND INVERT ON SITE.
3. CONNECT NEW 3" VENT PIPING TO EXISTING 4" VENT NETWORK. CONTRACTOR TO FIELD VERIFY EXACT SIZE AND LOCATION ON SITE.
4. CONNECT NEW 2" VENT PIPING TO EXISTING 4" VENT NETWORK. CONTRACTOR TO FIELD VERIFY EXACT SIZE AND LOCATION ON SITE.
5. CONNECT NEW 4" GREASE SANITARY PIPING TO EXISTING 4" GREASE SANITARY NETWORK. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND INVERT ON SITE.
6. ROUTE INDIRECT WASTE FROM ICE BIN TO FLOOR SINK WITH APPROVED AIR GAP.
7. ROUTE INDIRECT WASTE FROM OVEN TO FLOOR SINK WITH APPROVED AIR GAP.
8. ROUTE INDIRECT WASTE FROM ICE MAKER TO FLOOR SINK WITH APPROVED AIR GAP.
9. ROUTE INDIRECT WASTE FROM 3 COMPARTMENT SINK TO FLOOR SINK WITH APPROVED AIR GAP.
10. CONNECT NEW 2" SANITARY PIPING TO EXISTING 4" SANITARY NETWORK. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND INVERT ON SITE.
11. CONNECT NEW 3" SANITARY PIPING TO EXISTING 4" SANITARY NETWORK. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND INVERT ON SITE.
12. ROUTE INDIRECT WASTE FROM DISHWASHER TO FLOOR SINK WITH APPROVED AIR GAP.
13. VENT PIPE RUNNING BELOW SLAB.
14. CONNECT NEW 3" GREASE SANITARY PIPING TO EXISTING 4" GREASE SANITARY NETWORK. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION AND INVERT ON SITE.
15. EXISTING 4" SANITARY PIPE DROP TO BE RELOCATED IN NEAREST WALL AND TIE-BACK IN UNDERSLAB SEWER LINE.
16. EXISTING 4" GREASE SANITARY PIPE DROP TO BE RELOCATED IN NEAREST WALL AND TIE-BACK IN UNDERSLAB GREASE SEWER LINE.
17. SUMP PIT TO RECEIVE TO RECEIVE WASTE WATER FROM A HOLDING TANK FOR SPRINKLER DISCHARGE. HOLDING TANK AND DRAINAGE FIXTURES/NETWORK DRAINING TO THE SUMP PIT WILL BE DESIGNED BY HGI (FIRE PROTECTION CONTRACTOR). COORDINATE LOCATION OF SUMP PIT WITH HGI BEFORE CONSTRUCTION.
18. PROVIDE TRAFFIC-RATED COVER ON TOP OF THE PIT. COVER MUST BE ABLE TO WITHSTAND LOADED FORKLIFT TO BE USED IN STORAGE AREA.
19. SUMP PUMP SHOULD BE CAPABLE TO HANDLE FLAMMABLE WASTE FLUIDS DURING OPERATION. CONFIRM SELECTION OF SUMP PUMP MODEL WITH HGI (FIRE PROTECTION CONTRACTOR) PRIOR TO PURCHASE. REFER SHEET P-601 FOR SUMP PUMP SCHEDULE.
20. THERE IS A STORAGE PLATFORM ABOVE FALSE CEILING. DO NOT PASS ANY VENT PIPES THROUGH THIS SPACE.
21. THERE ARE TWO WATER HEATERS ABOVE FALSE CEILING. PLACE FUNNEL DRAIN ON THE PLATFORM. ROUTE INDIRECT WASTE FROM WATER HEATERS TO FUNNEL DRAIN. DRAIN FUNNEL DRAIN TO LAV-1 P-TRAP BELOW.

GENERAL NOTE:

1. PROVIDE TRAP PRIMER FOR ALL FLOOR DRAINS.
2. CONTRACTOR TO FIELD VERIFY THE EXISTING SANITARY PIPING SIZE, LOCATION & INVERT ON SITE.
3. CONTRACTOR TO COORDINATE WITH KITCHEN CONSULTANT/ARCHITECT FOR FINAL EQUIPMENT SELECTION.
4. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
5. BEFORE INSTALLATION OR PURCHASING OF THE WATER HEATERS, CONTRACTOR TO VERIFY WITH STRUCTURAL ENGINEER THAT THERE IS SUFFICIENT SPACE & WEIGHT LIMIT ON THE STORAGE PLATFORM FOR BOTH WATER HEATERS & THEIR ACCESSORIES. INFORM OWNER IF THIS IS NOT THE CASE.

EQUIPMENT / DEVICE COORDINATION NOTES:

1. GENERAL CONTRACTOR TO CONFIRM FINAL EQUIPMENT SPECIFICATIONS FOR OWNER AND G.C. PROVIDE EQUIPMENT AND COMPARE ALL ELECTRICAL, PLUMBING, AND MECHANICAL REQUIREMENTS TO EQUIPMENT SHOWN ON THESE DRAWINGS. G.C. TO NOTIFY ARCHITECT AND ENGINEERS OF ANY DISCREPANCIES PRIOR TO ORDERING OR INSTALLING ELECTRICAL, PLUMBING, OR MECHANICAL INFRASTRUCTURE.
2. G.C. TO CONFIRM ALL FINAL EQUIPMENT AND DEVICE SPECIFICATIONS, INCLUDING OWNER PROVIDED AND G.C. PROVIDED EQUIPMENTS / DEVICES, COMPLY WITH NFPA AND FIRE SAFETY REQUIREMENTS IN ALL HAZARDOUS AREAS SUCH AS PRODUCTION AREA #111, STORAGE AREA #114, AND EVENT SPACE #110.

ISSUE & REVISION HISTORY

#	DESCRIPTION	(DOT INDICATES SHEET WAS REVISED)
INITIAL RELEASE	3/30/2023	
FIRE PROTECTION ARCHITECTURAL RELEASE	5/30/2023	
RD CHANGES	8/27/2023	
REVISION #1 - CLIENT REVISIONS	9/05/2023	●
REVISION #2 - CLIENT REVISIONS	1/29/2024	●
REVISION #3 - BLDG DEPT RESPONSE	3/05/2024	●

SIMPLE MAN DISTILLERY

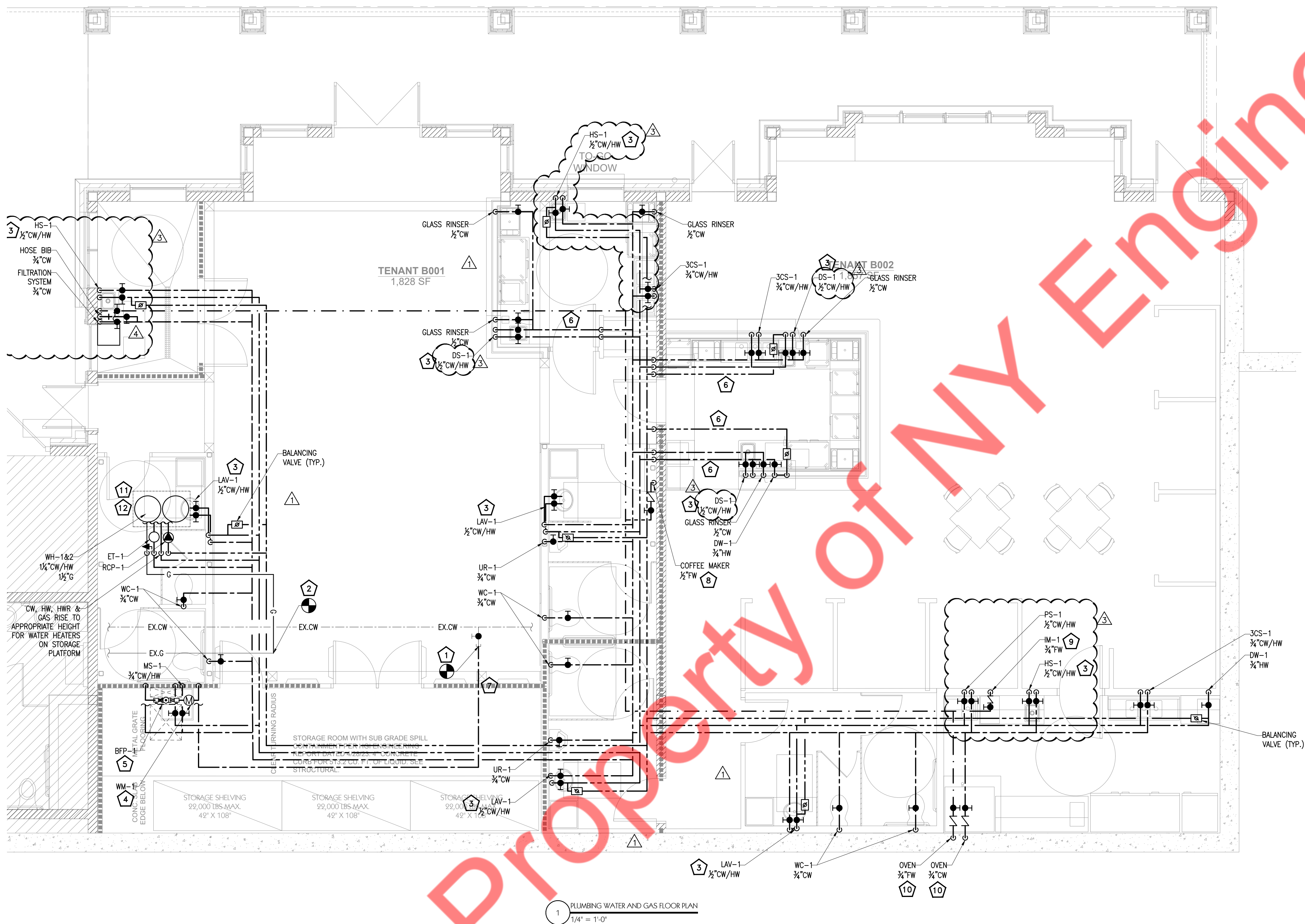
PROJECT

SEAL

PLUMBING
WASTE AND
VENT FLOOR
PLAN

DRAWING TITLE

Drawn By:	WAF	P-101
Checked By:	J.B. PG	
PROJECT #	3504	
		3 OF 7



WATER AND GAS PLAN KEY NOTES:

- CONNECT NEW 2" WATER PIPING TO EXISTING WATER STUBOUT. CONTRACTOR TO FIELD VERIFY EXACT SIZE AND LOCATION ON SITE.
- CONNECT NEW 1-1/2" GAS PIPING TO EXISTING GAS STUBOUT. CONTRACTOR TO FIELD VERIFY EXACT SIZE AND LOCATION ON SITE.
- PROVIDE THERMOSTATIC MIXING VALVE FOR ALL HAND SINKS, KITCHEN SINKS AND PUBLIC LAVATORIES.
- NEW 2" APPROVED WATER SUB-METER WITH REMOTE ENCODER. CONTRACTOR TO CONFIRM THE REQUIREMENT OF SUB-METER FROM OWNER/ARCHITECT AND PROVIDE NEW IF NOT EXISTING.
- NEW 2" RPZ WATTS MODEL LF009 WITH QUARTER TURN (QT) VALVE. INSTALL BFP ASSEMBLY AS PER LOCAL REGULATIONS AND MANUFACTURER'S INSTRUCTIONS. CONTRACTOR TO FIELD VERIFY AND PROVIDE NEW IF NOT EXISTING.
- WATER PIPES RUNNING THROUGH FLOOR OR BELOW FLOOR.
- NO TAP-OFF TO BE TAKEN BEFORE BFP.
- PROVIDE ASSE 1022 APPROVED DUAL CHECK WITH ATMOSPHERIC VENT SECONDARY BFP FOR COFFEE MAKER.
- PROVIDE ASSE 1022 APPROVED DUAL CHECK WITH ATMOSPHERIC VENT SECONDARY BFP FOR ICE MAKER.
- PROVIDE ASSE 1024 APPROVED DUAL CHECK SECONDARY BFP FOR OVEN.
- THERE IS A STORAGE PLATFORM ABOVE FALSE CEILING. DO NOT PASS ANY PLUMBING PIPES THROUGH THIS SPACE.
- PROVIDE TWO GAS HOT WATER HEATERS (WH-1 & 2), EXPANSION TANK (ET-1) & RE-CIRCULATION PUMP (RCP-1) ON TOP OF THE STORAGE PLATFORM ABOVE RESTROOM. PLACE FUNNEL DRAIN ON THE PLATFORM. ROUTE INDIRECT WASTE FROM WATER HEATERS TO FUNNEL DRAIN. DRAIN FUNNEL DRAIN TO LAV-1 P-TRAP BELOW.

GENERAL NOTE:

- CW/HW/HWR PIPING TO BE PROVIDED WITH INSULATION AS PER INTERNATIONAL ENERGY CONSERVATION CODE 2015 (REFER SHEET P-001).
- PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
- CONTRACTOR TO COORDINATE WITH KITCHEN CONSULTANT/ARCHITECT FOR FINAL EQUIPMENT SELECTION.
- CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
- PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, SHUT-OFF VALVES AS REQUIRED.
- BEFORE INSTALLATION OR PURCHASING OF THE WATER HEATERS, CONTRACTOR TO VERIFY WITH STRUCTURAL ENGINEER THAT THERE IS SUFFICIENT SPACE & WEIGHT LIMIT ON THE STORAGE PLATFORM FOR BOTH WATER HEATERS & THEIR ACCESSORIES. INFORM OWNER IF THIS IS NOT THE CASE.

EQUIPMENT / DEVICE COORDINATION NOTES:

- GENERAL CONTRACTOR TO CONFIRM FINAL EQUIPMENT SPECIFICATIONS FOR OWNER AND G.C. PROVIDE EQUIPMENT AND COMPARE ALL ELECTRICAL, PLUMBING, AND MECHANICAL REQUIREMENTS TO EQUIPMENT SHOWN ON THESE DRAWINGS. G.C. TO NOTIFY ARCHITECT AND ENGINEERS OF ANY DISCREPANCIES PRIOR TO ORDERING OR INSTALLING ELECTRICAL, PLUMBING, OR MECHANICAL INFRASTRUCTURE.
- G.C. TO CONFIRM ALL FINAL EQUIPMENT AND DEVICE SPECIFICATIONS, INCLUDING OWNER PROVIDED AND G.C. PROVIDED EQUIPMENTS / DEVICES, COMPLY WITH NFPA AND FIRE SAFETY REQUIREMENTS IN ALL HAZARDOUS AREAS SUCH AS PRODUCTION AREA #111, STORAGE AREA #114, AND EVENT SPACE #110.

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FIRE PROTECTION ARCHITECTURAL RELEASE	5/30/2023	
RD CHANGES	8/27/2023	
REVISION #1 - CLIENT REVISIONS	9/05/2023	
REVISION #2 - CLIENT REVISIONS	1/29/2024	
REVISION #3 - BLDG DEPT RESPONSE	3/05/2024	

SIMPLE MAN DISTILLERY

PROJECT

SEAL

PLUMBING
WATER AND
GAS FLOOR
PLAN

DRAWING TITLE

Drawn By:

MB

Checked By:

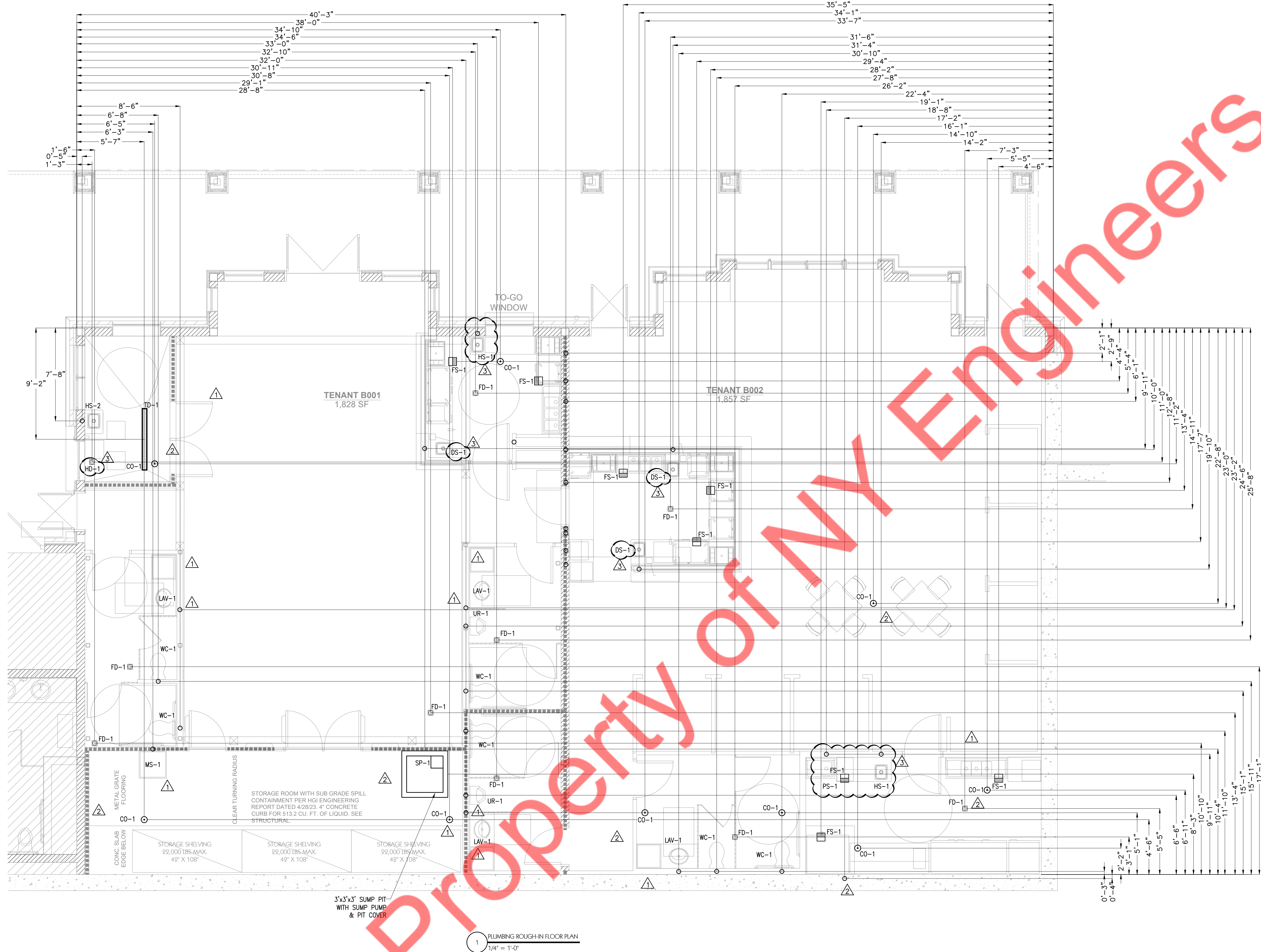
JB, PG

PROJECT #

3504

P-102

4 OF 7



GENERAL NOTE:

- CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
- CONTRACTOR TO COORDINATE ON LOCATION OF ALL PLUMBING ROUGH-INS WITH INFORMATION PROVIDED ON ARCHITECTURAL AND STRUCTURAL DRAWINGS AND EQUIPMENT ACTUALLY SUPPLIED AND TO CONFIRM CORRECTNESS OF DIMENSIONS INDICATED HEREIN.



EQUIPMENT / DEVICE COORDINATION NOTES:

- GENERAL CONTRACTOR TO CONFIRM FINAL EQUIPMENT SPECIFICATIONS FOR OWNER AND G.C. PROVIDE EQUIPMENT AND COMPARE ALL ELECTRICAL, PLUMBING, AND MECHANICAL REQUIREMENTS TO EQUIPMENT SHOWN ON THESE DRAWINGS. G.C. TO NOTIFY ARCHITECT AND ENGINEERS OF ANY DISCREPANCIES PRIOR TO ORDERING OR INSTALLING ELECTRICAL, PLUMBING, OR MECHANICAL INFRASTRUCTURE.
- G.C. TO CONFIRM ALL FINAL EQUIPMENT AND DEVICE SPECIFICATIONS, INCLUDING OWNER PROVIDED AND G.C. PROVIDED EQUIPMENTS / DEVICES, COMPLY WITH NFPA AND FIRE SAFETY REQUIREMENTS IN ALL HAZARDOUS AREAS SUCH AS PRODUCTION AREA #111, STORAGE AREA #114, AND EVENT SPACE #110.

ISSUE & REVISION HISTORY

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REVISION #2 - CLIENT REVISIONS	1/29/2024	•
REVISION #3 - BLDG DEPT RESPONSE	3/05/2024	•

SIMPLE MAN DISTILLERY

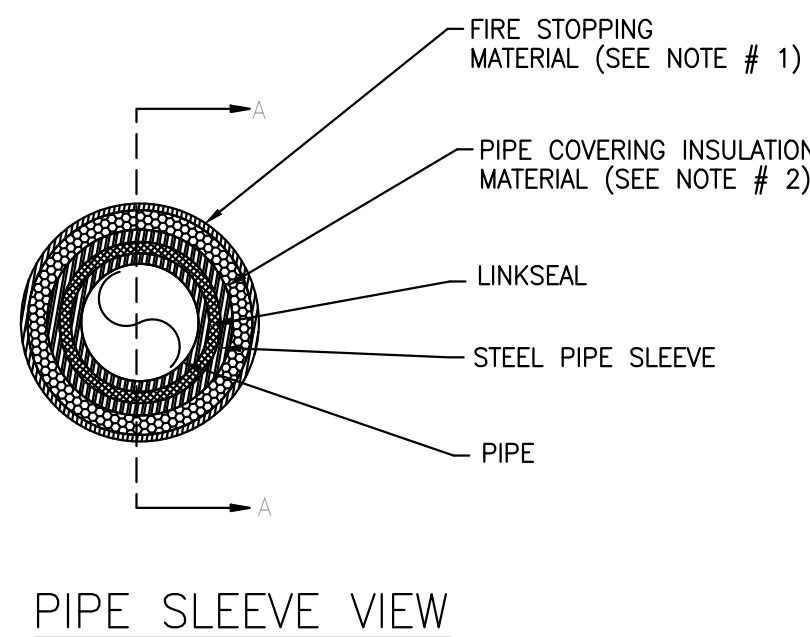
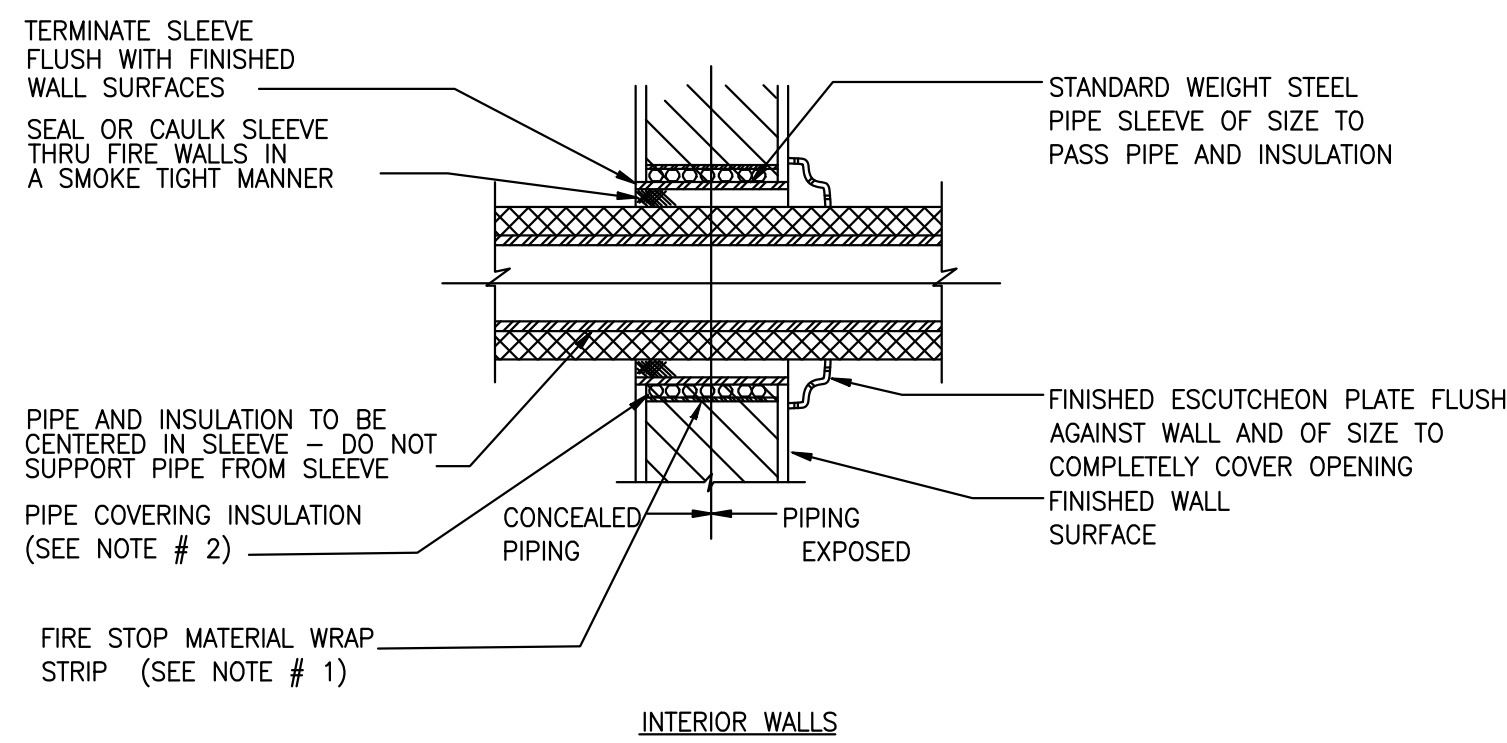
PROJECT

SEAL

PLUMBING
ROUGH-IN
FLOOR PLAN

DRAWING TITLE

Drawn By:	WAF	P-103
Checked By:	J.B. PG	
PROJECT #	3504	



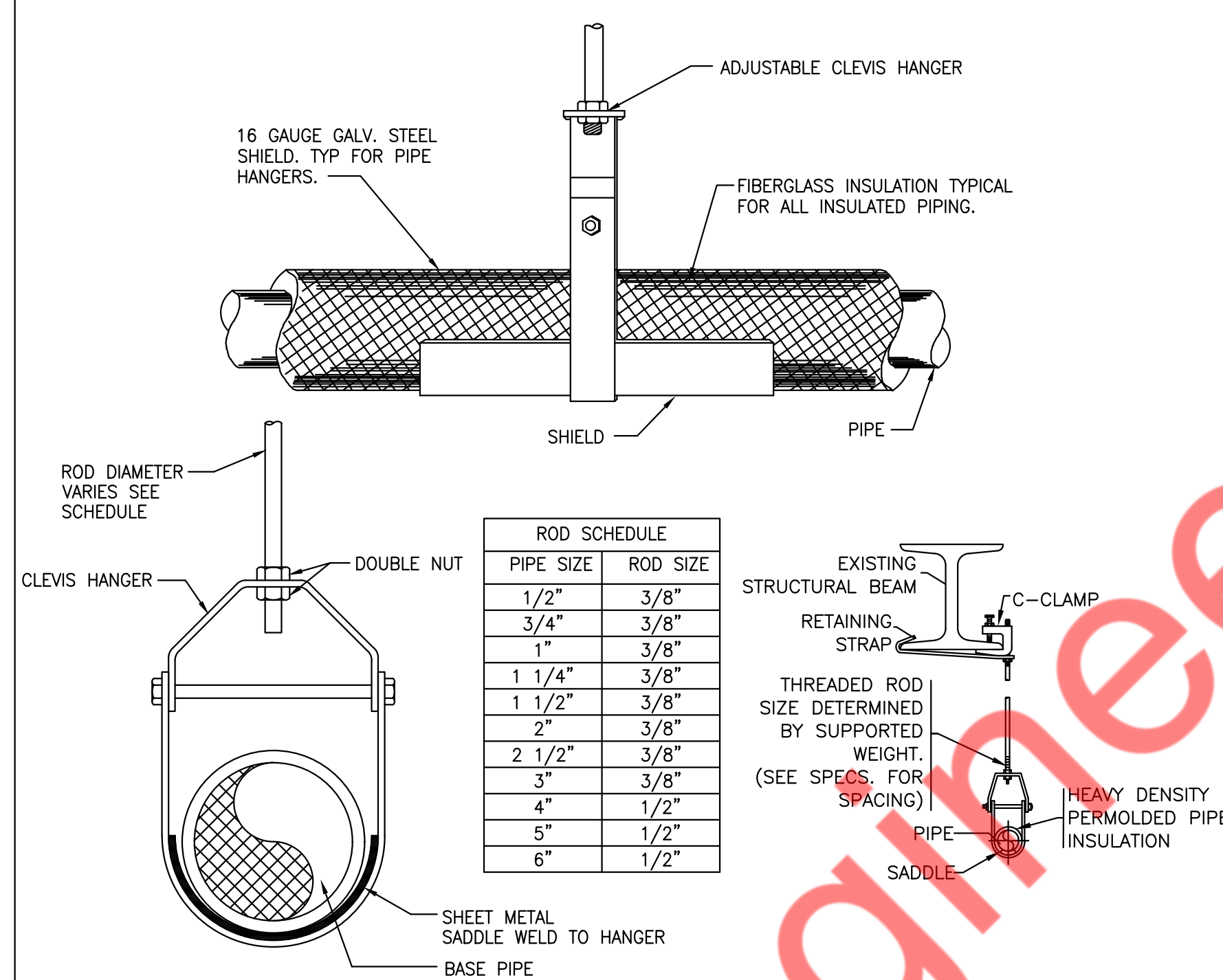
NOTES:

- FIRESTOP MATERIAL WRAP STRIP SHALL BE 1/4" THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL SUPPLIED IN 2 IN. WIDE STRIPS AND WRAP AROUND THE PIPE AS PER UL MATERIAL LISTED 3M COMPANY FS-195+ OR FILL CAVITY WITH CAULK OR SEALANT MIN. 1/4" DIA. CONTINUOUS BEAD APPLIED TO THE WRAP STRIP/WALL INTERFACE AND TO THE EXPOSED OF THE WRAP STRIP LAYER APPROX. 3/4" FROM WALL SURFACE. AS PER UL LISTED 3M COMPANY CP25WB+, IC 15WB+, FIRE DAM 150+CAULK.
- PIPE COVERING INSULATION SHALL BE 2" THICK HOLLOW CYLINDRICAL HEAVY DENSITY GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKETED. AS PER UL CLASSIFICATION AND MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

PIPE SLEEVE THRU WALL SECTION

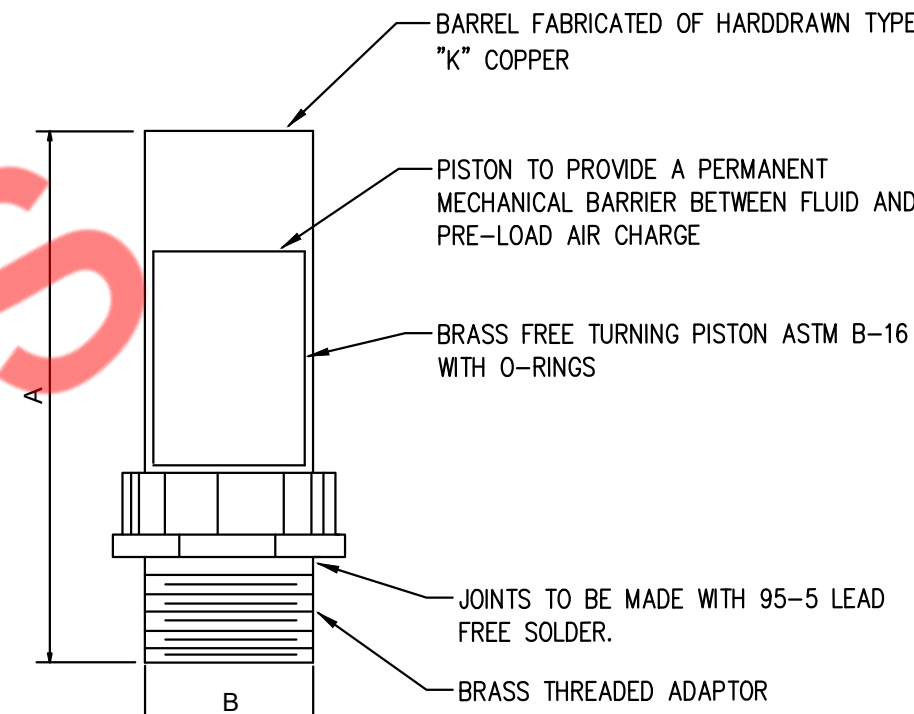
1
P-501
N.T.S

PIPE SLEEVE THRU WALL SECTION



2
P-501
N.T.S

HANGER DETAIL

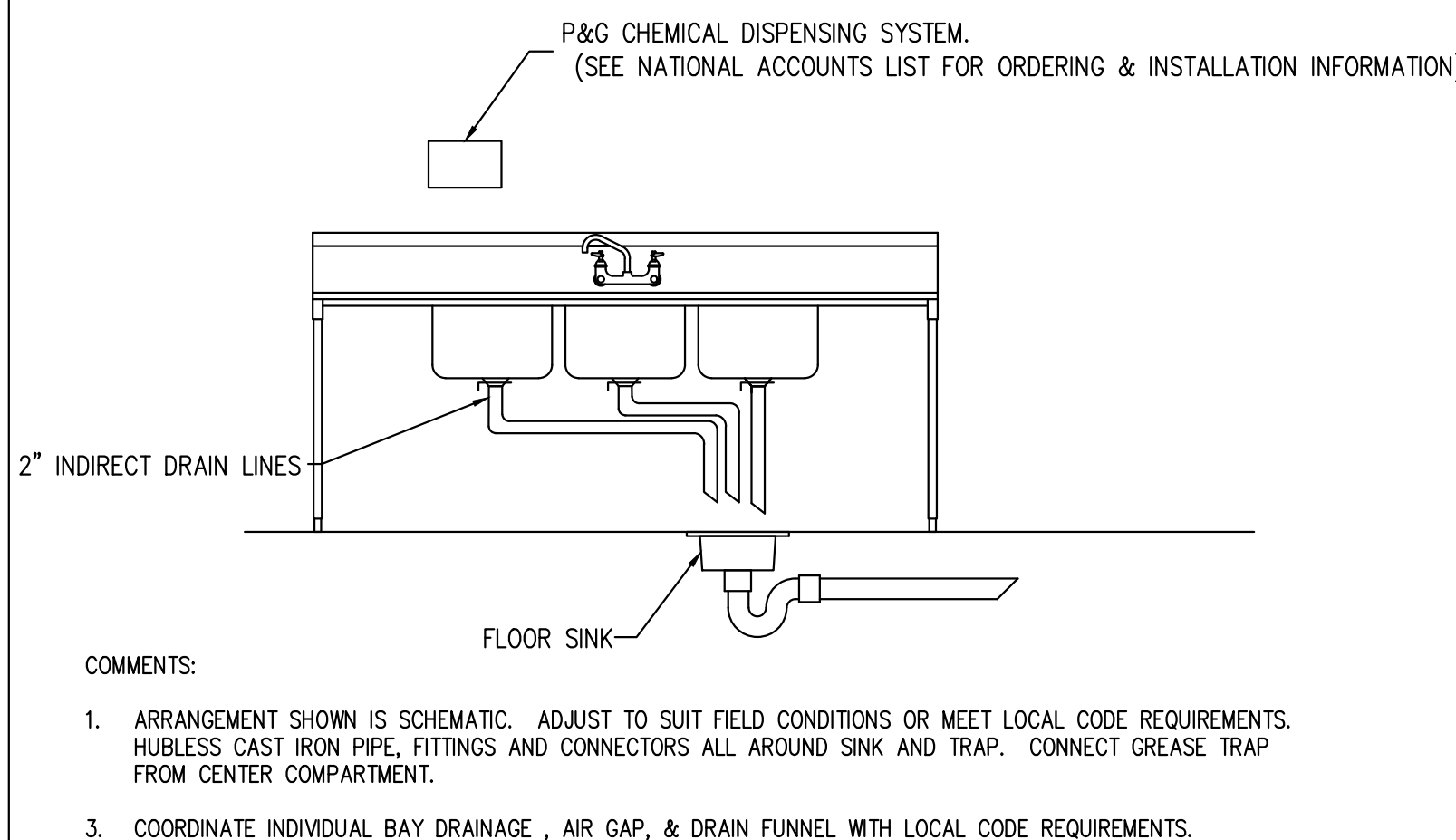


PIPE SIZE	P.D.I. SYMBOL	FIXTURE UNIT RATINGS	A SIZE	B SIZE
1/2"	A	1 - 11	5"	1/2"
3/4"	B	12 - 32	5"	3/4"
1"	C	33 - 60	7"	1"
1-1/4"	D	61 - 113	7"	1-1/4"
1-1/2"	E	114 - 154	9"	1-1/2"
2"	F	155 - 330	9"	2"

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

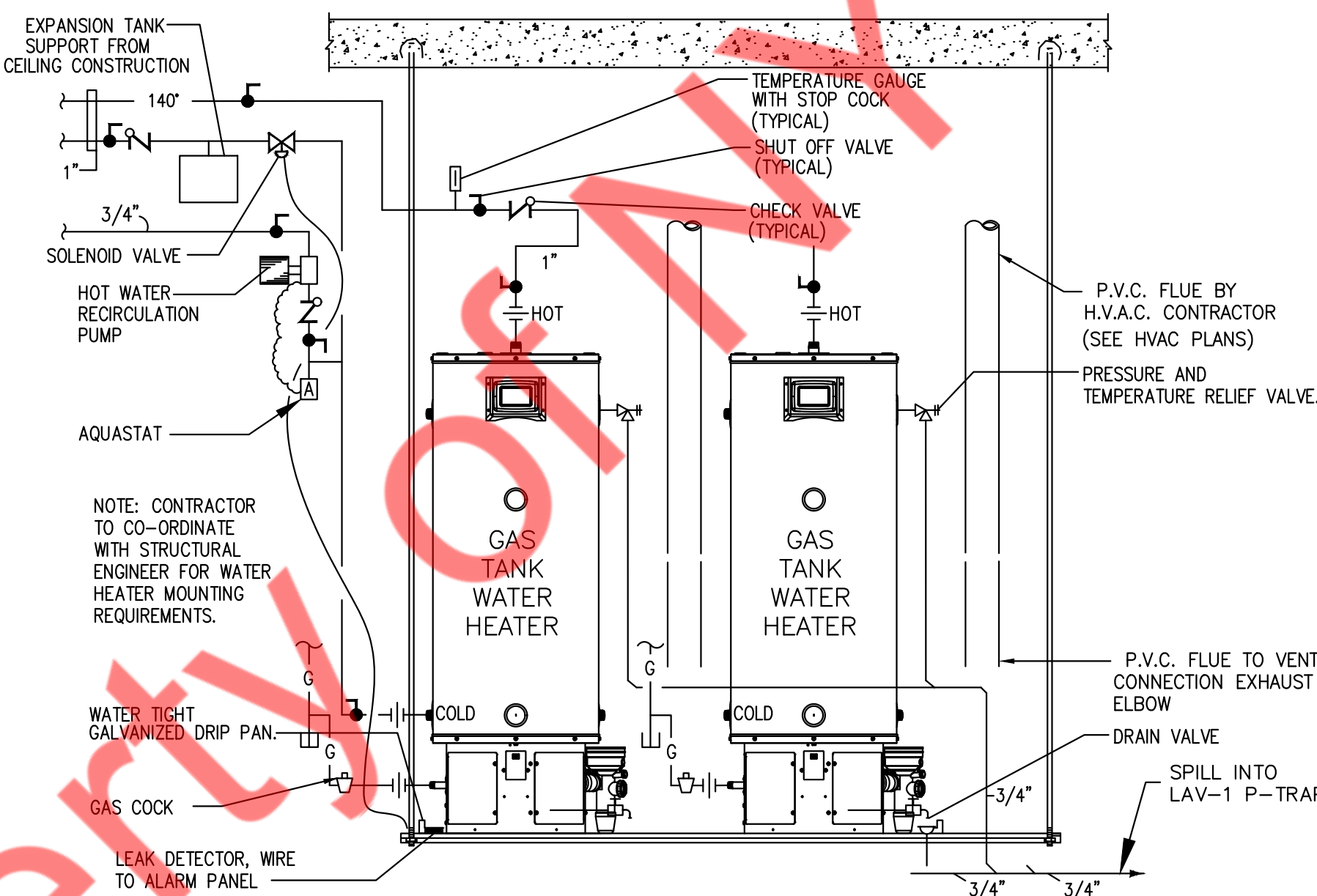
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N.T.S

WATER HAMMER ARRESTOR DETAILS



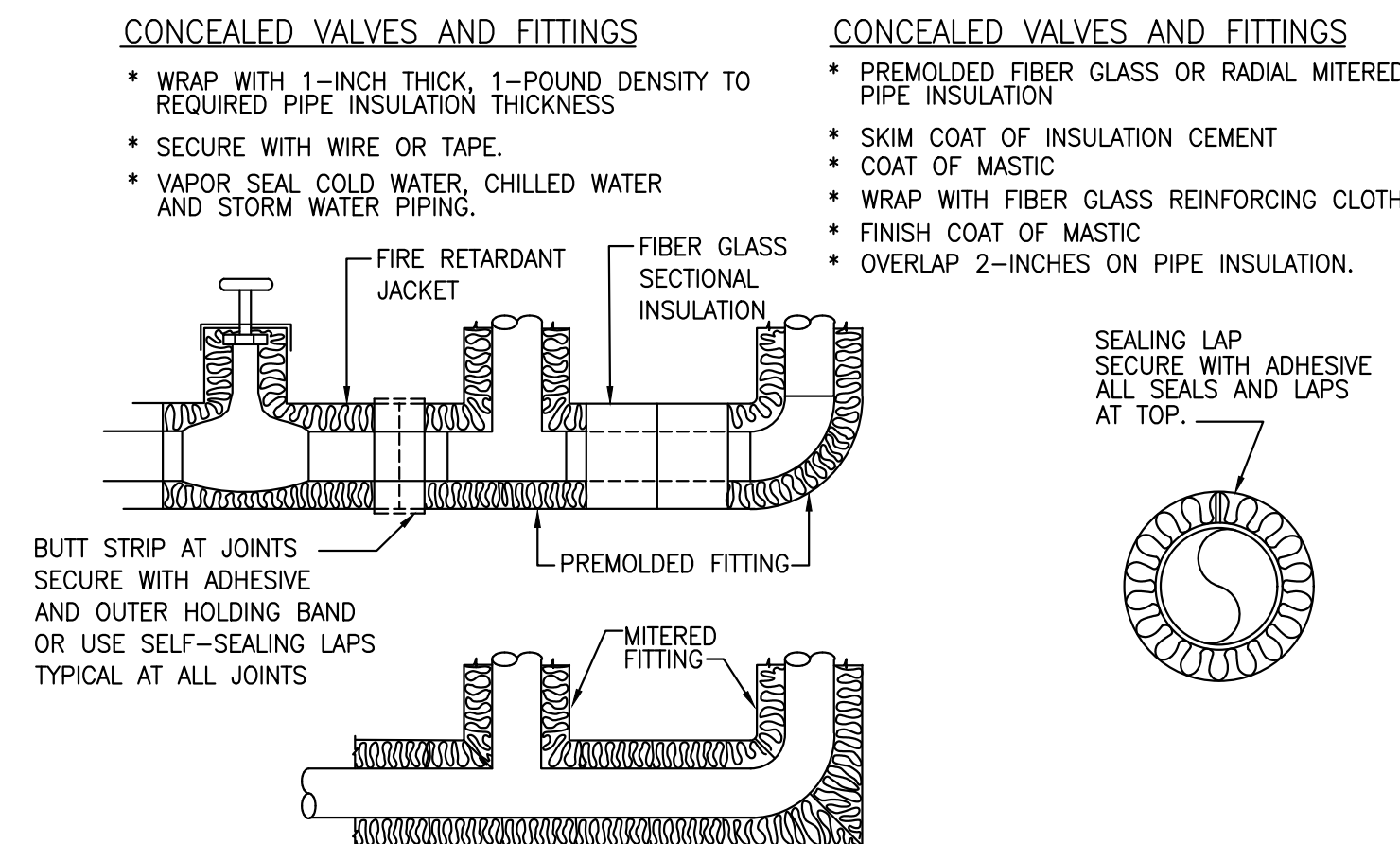
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P-501
N.T.S

3 COMPARTMENT SINK DETAILS



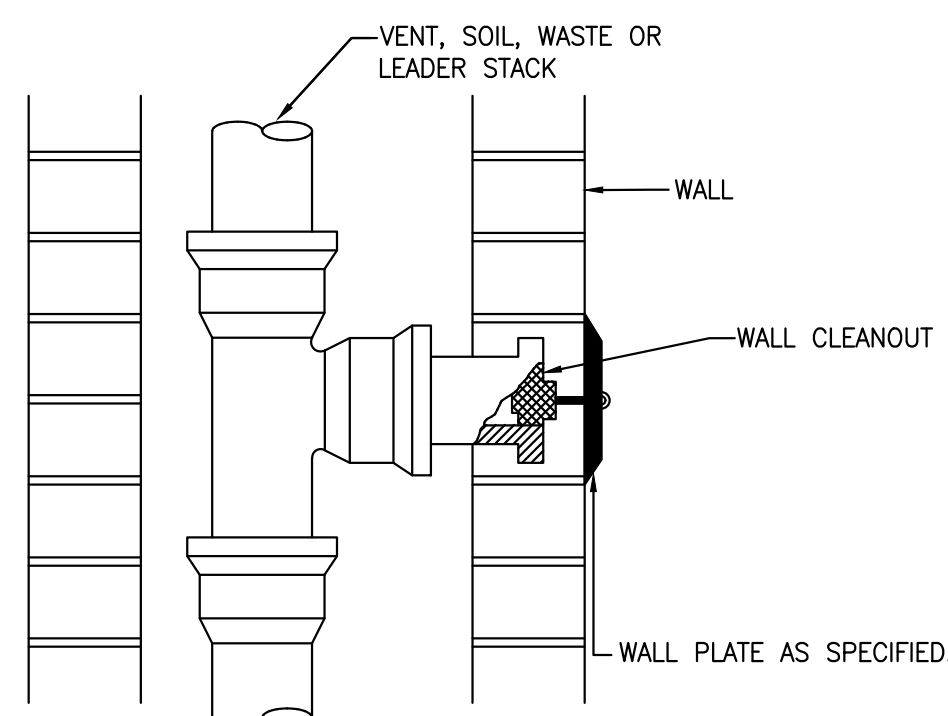
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P-501
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GAS FIRED HOT WATER HEATER (STORAGE PLATFORM MOUNTED)



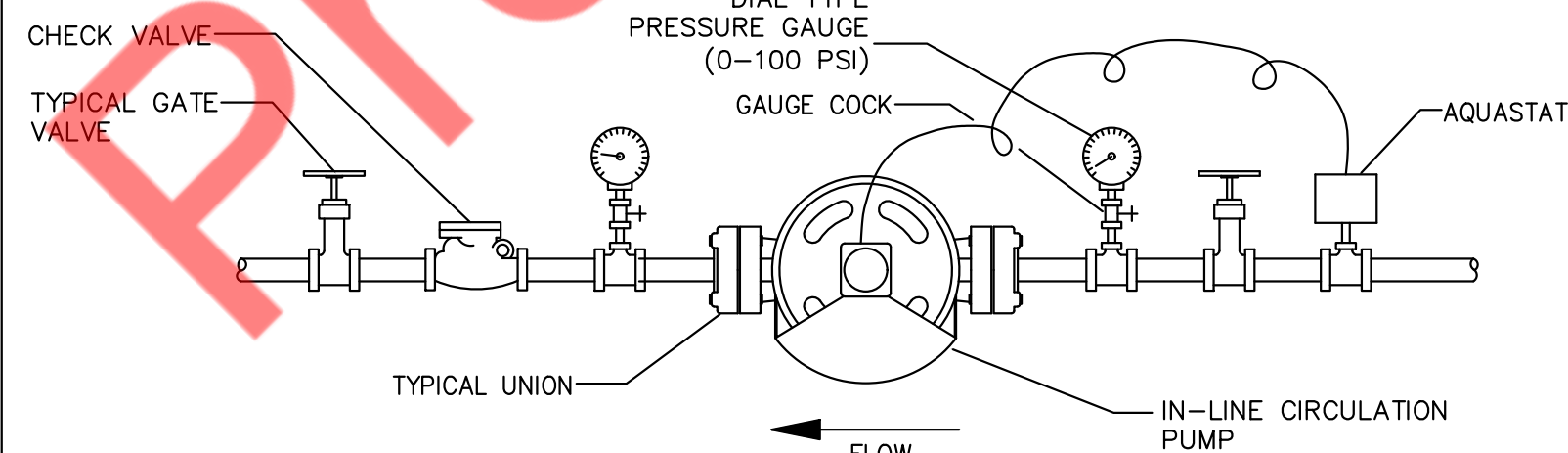
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P-501
N.T.S

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



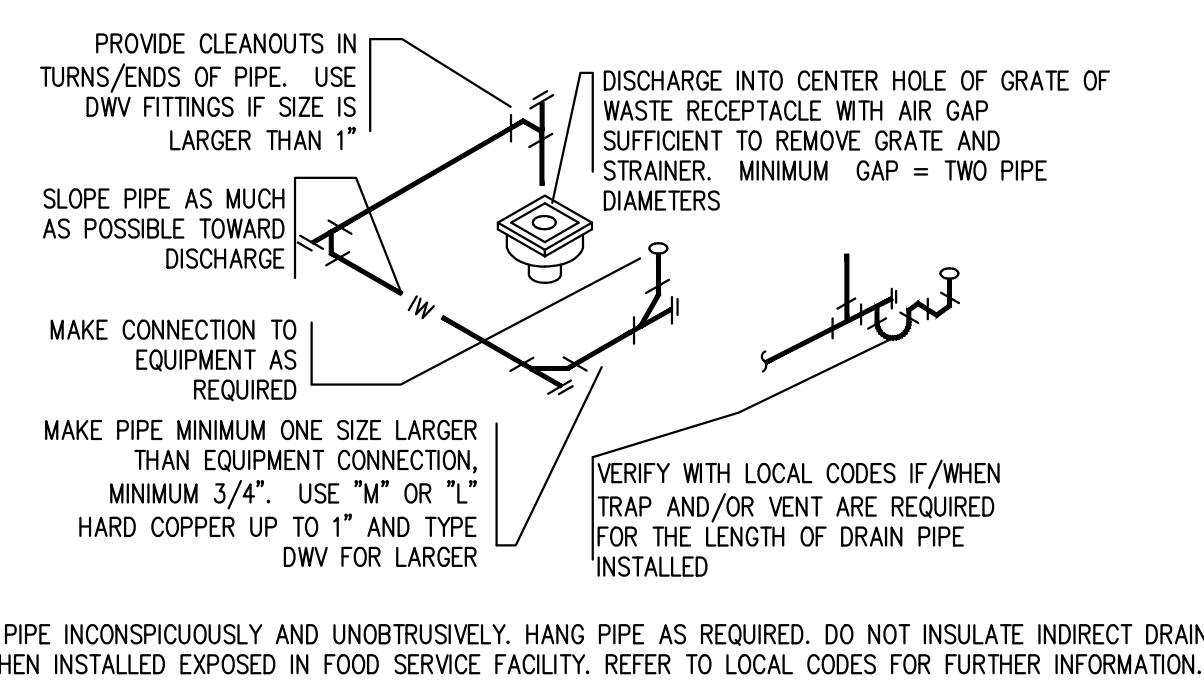
7
P-501
N.T.S

WALL CLEANOUT DETAILS



8
P-501
N.T.S

INLINE RECIRCULATING PUMP DETAIL



9
P-501
N.T.S

INDIRECT WASTE DETAILS

#	DESCRIPTION	(DOT INDICATES SHEET WAS REVISED)
1	INITIAL RELEASE 3/30/2003	
2	FIRE PROTECTION ARCHITECTURAL RELEASE 5/30/2003	
3	BD CHANGES 6/27/2003	
4	REVISION #1 - CLIENT REVISIONS 9/22/2003	
5	REVISION #2 - CLIENT REVISIONS 1/29/2004	
6	REVISION #3 - BLDG DEPT RESPONSE 3/26/2004	

SIMPLE MAN DISTILLERY

PROJECT

SEAL

PLUMBING DETAILS

DRAWING TITLE

Drawn By:
Checked By:
PROJECT #
3504

P-501

6 OF 7

PLUMBING FIXTURE SCHEDULE									
LEGEND	PLUMBING FIXTURE	CONNECTION SIZE - INCHES							REMARKS
		TRAP	SOIL/WASTE	VENT	COLD WATER	HOT WATER	FILTER WATER	THERMOSTATIC MIXING VALVE	
WC-1	WATER CLOSET	-	4"	2"	1"	-	-	-	FLUSH VALVE
UR-1	URINAL	-	2"	2"	3/4"	-	-	-	FLUSH VALVE
LAV-1	LAVATORY	2"	2"	2"	1/2"	1/2"	-	PROVIDE	P-TRAP
MS-1	MOP SINK	3"	3"	2"	3/4"	3/4"	-	PROVIDE	P-TRAP
3CS-1	3-COMPARTMENT SINK	-	3"	2"	3/4"	3/4"	-	PROVIDE	I.W. FROM 3CS-1 SPILLS INTO FLOOR SINK
DS-1	DROP SINK	2"	2"	2"	1/2"	1/2"	-	PROVIDE	P-TRAP
HS-1 HS-2	HAND SINK	2"	2"	2"	1/2"	1/2"	-	PROVIDE	P-TRAP
IM-1	ICE MACHINE	-	3"	2"	-	-	1/2"	-	I.W. FROM IM-1 SPILLS INTO FLOOR SINK
OVEN	OVEN	-	3"	2"	3/4"	-	3/4"	-	I.W. FROM OVEN SPILLS INTO FLOOR SINK
DW-1	DISHWASHER	-	3"	2"	-	3/4"	-	-	I.W. FROM DW-1 SPILLS INTO FLOOR SINK
PS-1	PREP SINK	2"	2"	2"	1/2"	1/2"	-	PROVIDE	P-TRAP
FS-1	FLOOR SINK	3"	3"	2"	-	-	-	-	P-TRAP
FD-1	FLOOR DRAIN	3"	3"	2"	-	-	-	-	P-TRAP
TD-1	TRENCH DRAIN	3"	3"	2"	-	-	-	-	P-TRAP
HD-1	HUB DRAIN	3"	3"	2"	-	-	-	-	P-TRAP

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

SUMP PUMP SCHEDULE													
TAG	QUANTITY	SERVICE	LOCATION	PUMP PERFORMANCE DATA			PUMP CONSTRUCTION DATA		MOTOR DATA /PUMP			MANUFACTURER MODEL	REMARKS
				GPM	TDH (FT)	WATER TEMP. (°F)	PUMP TYPE	IMPELLER MATERIAL	HP	V/PH/HZ	WEIGHT (LBS)		
SP-1	1	HAZARDOUS WASTE WATER	STORAGE ROOM	130	18	—	SUBMERSIBLE	CAST IRON	1	208/3/60	96	LIBERTY MODEL XFL105M-5	-PROVIDE CONTROLS AND ALARM NEMA 1 RATED MOTOR. -SIMPLEX SUMP PUMP INSIDE 3'X3'X3' DEEP PIT -PROVIDE TRAFFIC RATED COVER ON TOP OF SUMP PIT.

HOT WATER HEATER							
TAG No.	MAX INPUT (MBH)	CAPACITY (GALLONS)	FIXTURES SERVING	QUANTITY	RECOVERY CAP. (GPH @100°F RISE)	TYPE	REMARKS
WH-1 & 2	260	34	3-COMPARTMENT SINK, KITCHEN SINK, MOP SINK, HAND SINK, LAVATORY, DISHWASHER	2	165 GPH	GAS STORAGE TYPE WATER HEATER (PLATFORM MOUNTED)	-DIMENSIONS 48.5"H X 22"DIA -MOUNTED ON STORAGE PLATFORM (SIMILAR TO FLOOR MOUNTED)

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

EXPANSION TANK SCHEDULE					
ITEM	SERVICE	QTY	GALLONS	MAKE	REMARKS
EXPANSION TANK (ET-1)	HOT WATER	1	6.4	AMTROL ST-12C-DD	DIMENSIONS- 18"(H)x12"(DIA.) SHIPPING WEIGHT- 19 LBS

GAS SCHEDULE				
TAG	QTY.	DESCRIPTION	SIZE	MBH
WH-1 & 2	2	WATER HEATER	1 1/2"	130
TOTAL LOAD				260

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

NOTES:

- GAS PIPING TO BE SCHEDULE 40 STEEL PIPE W/125 CAST IRON SCREWED FITTINGS
- GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR.
- VERIFY ALL EQUIPMENT BTUS'S PRIOR TO INSTALLATION. ADJUST PIPE SIZE ACCORDING INTERNATIONAL FUEL GAS CODE, 2018, TABLE 402.4(2)

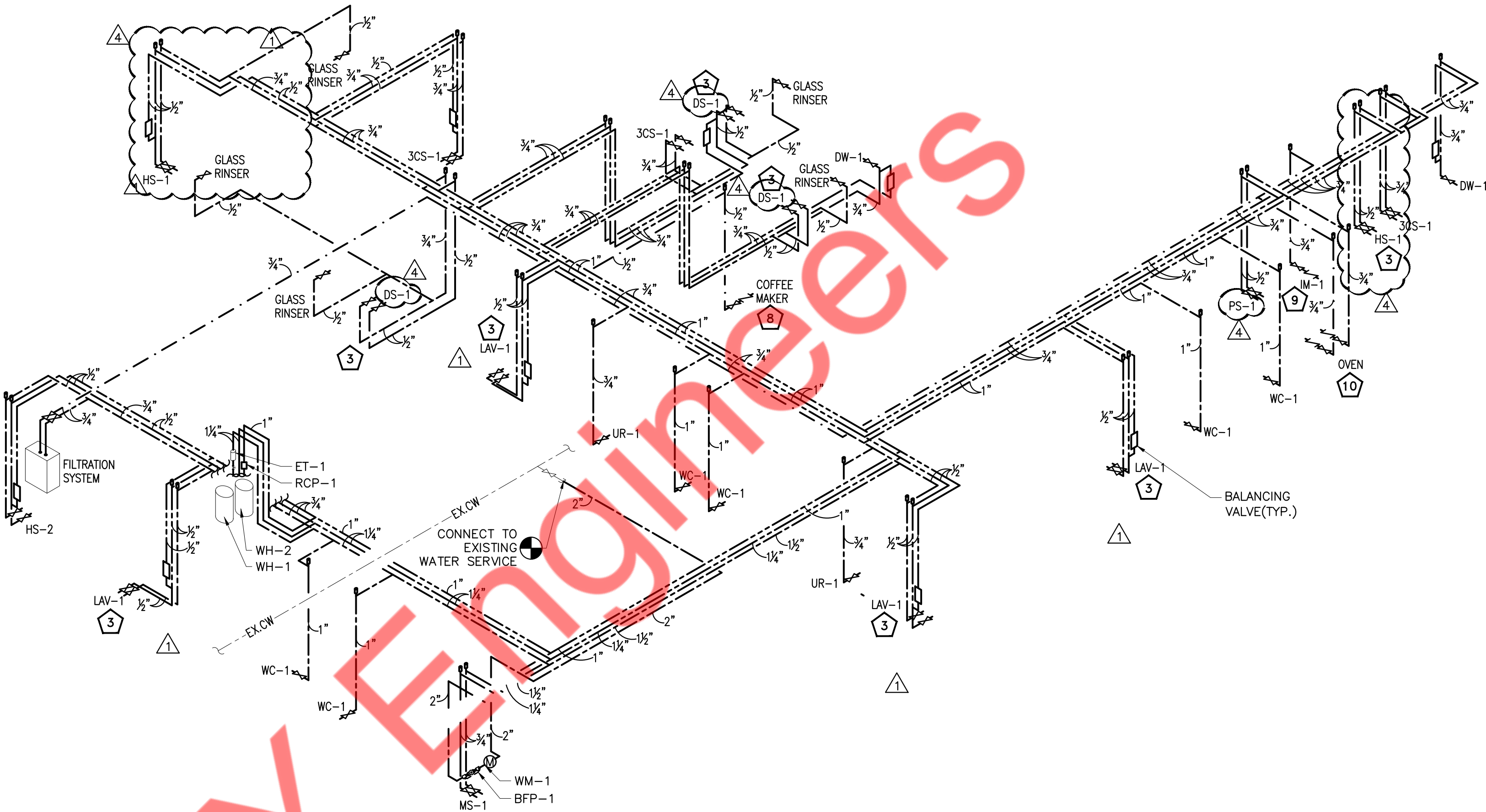
MAXIMUM EQUIVALENT LENGTH OF PIPE= 350FT.

GAS PIPE SIZING PER IFGC 2018, TABLE 402.4(2)

GAS INLET PRESSURE= LESS THAN 2 PSI.

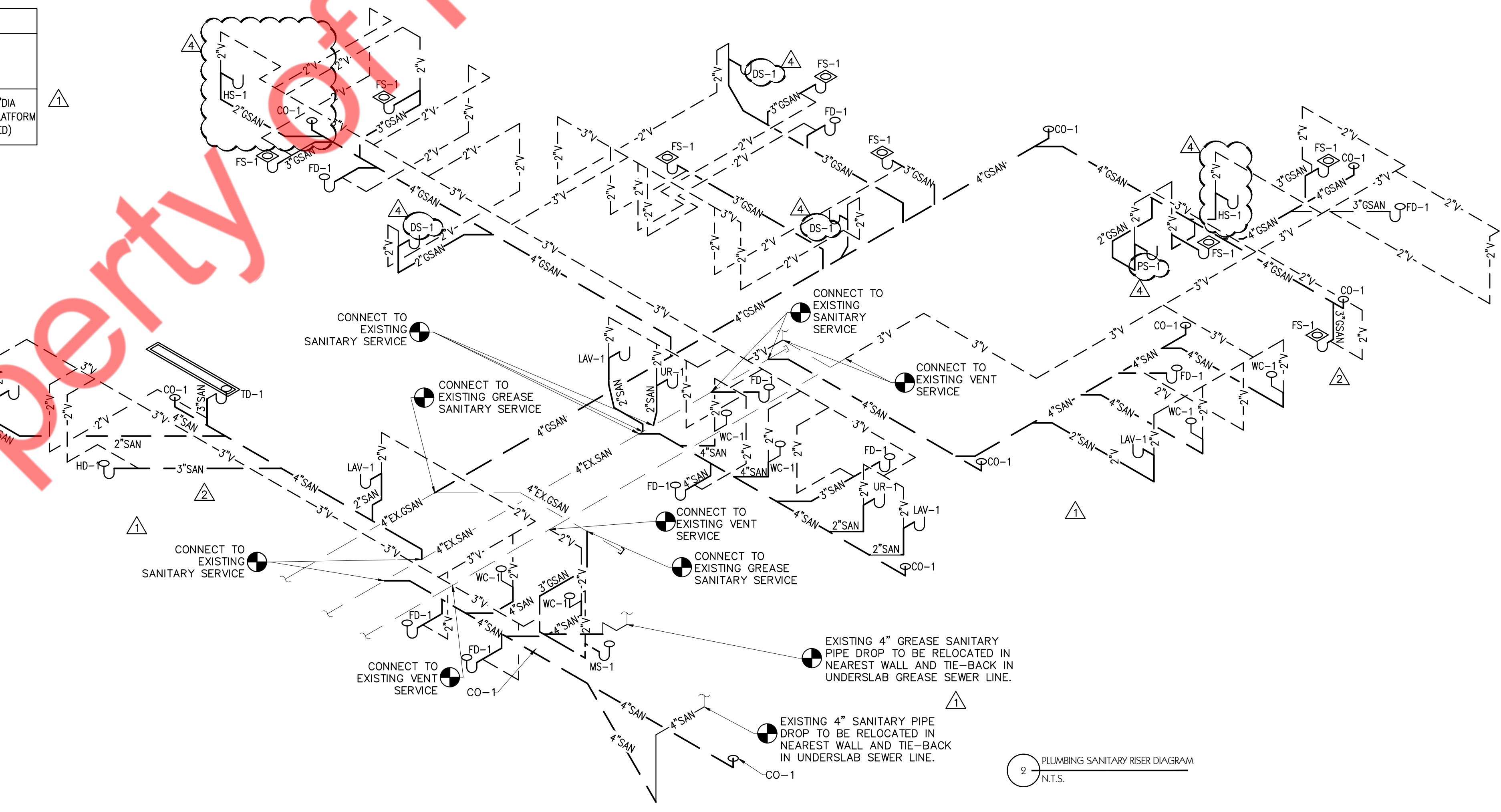
PRESSURE DROP= 0.5 IN. W.C.

SPECIFIC GRAVITY= 0.6



1 PLUMBING WATER RISER DIAGRAM
N.T.S.

REFER PLUMBING WATER FLOOR PLAN ON SHEET P-102 FOR WATER PLAN KEY NOTES



2 PLUMBING SANITARY RISER DIAGRAM
N.T.S.

ISSUE & REVISION HISTORY	
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1	INITIAL RELEASE 3/30/2023
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6	REVISION #3 - BLDG DEPT RESPONSE 3/26/2024

SIMPLE MAN DISTILLERY

PROJECT

SEAL

PLUMBING RISERS AND SCHEDULES

DRAWING TITLE

Drawn By:	WAF	P-601
Checked By:	J.B. PG	
PROJECT #	3504	