Snappy Clean

LAUNDRY LLC

SOUTHSIDE PLAZA
404 Southwest Nichols Street
Lees Summit
Missouri, 64063

CODE NOTES

A. ALL CONSTRUCTION FOR THIS PROJECT SHALL BE PERFORMED UNDER THE PROVISIONS OF FOLLOWING LIST OF CODES, AS AMENDED BY THE CITY OF LEES SUMMIT, MISSOURI:
- A.1. 2018 INTERNATIONAL BUILDING CODE
- A.2. 2018 INTERNATIONAL PLUMBING CODE
- A.3. 2018 INTERNATIONAL MECHANICAL CODE
- A.4. 2018 INTERNATIONAL FUEL GAS CODE
- A.5. 2018 INTERNATIONAL RESIDENTIAL CODE
- A.6. 2018 INTERNATIONAL FIRE CODE
- A.7. 2017 NATIONAL ELECTRICAL CODE
- A.8. ICC/ANSI A117.1-2017, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

B. USE, OCCUPANCY CLASSIFICATION, AND TYPE OF CONSTRUCTION:
- B.1. TENANT USE: SELF SERVICE LAUNDROMAT
- B.2. TENANT OCCUPANCY CLASSIFICATION: B - BUSINESS
- B.3. BUILDING TYPE OF CONSTRUCTION: VB

C. TENANT SQUARE FOOT CALCULATIONS:
- C.1. GROSS TENANT AREA = 2,803 SF
- C.2. OCCUPIED AREA = INSIDE FACE OF WALLS = 2,634 SF

D. FIRE PROTECTION SYSTEMS:
- D.1. AUTOMATIC SPRINKLER SYSTEMS: NONE PROVIDED.
- D.2. FIRE ALARM AND DETECTION SYSTEMS: NONE PROVIDED.

E. TENANT OCCUPANT LOAD (TABLE 1003.2.2.2):
- E.1. 2634 SF ÷ 150SF/P = 17.56 = 18 OCCUPANTS

GENERAL NOTES

1. MAINTAIN ACCESS TO EXISTING WALKWAYS, CORRIDORS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. DO NOT CLOSE OR OBSTRUCT WALKWAYS, CORRIDORS, OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM TENANT.

2. DEFINITIONS:
- 2.1. REMOVE AND DISCARD: DETACH ITEMS FROM EXISTING CONSTRUCTION AND LEGALLY DISPOSE OF THEM OFF-SITE.
- 2.2. REMOVE AND SALVAGE: DETACH ITEMS FROM EXISTING CONSTRUCTION AND TURN OVER TO TENANT UNDAMAGED.
- 2.3. RELOCATE: DETACH ITEMS FROM EXISTING CONSTRUCTION, MOVE ITEMS INTACT AND UNDAMAGED, AND REINSTALL THEM WHERE INDICATED.
- 2.4. EXISTING TO REMAIN: EXISTING ITEMS OF CONSTRUCTION THAT ARE NOT TO BE REMOVED, BUT ARE TO REMAIN IN PLACE AND BE UNDAMAGED.
- 2.5. REMOVE AND RECLAIM: DETACH ITEMS FROM EXISTING CONSTRUCTION. AT CONTRACTORS OPTION ITEM MAY BE REUSED AS PART OF NEW WORK. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INVENTORY ITEMS TO DETERMINE IF ITEMS WILL FUNCTION AND APPEAR LIKE THE NEW ITEMS SPECIFIED AND CALLED OUT ON THESE DOCUMENTS. IF ITEMS ARE REUSED, CONTRACTOR IS TO CLEAN, REPAIR, OR OTHERWISE BRING ITEMS TO LIKE NEW CONDITION. MODIFY REUSED ITEMS AS REQUIRED AND SUPPLEMENT WITH MATERIALS, AND INCIDENTALS NECESSARY TO EXECUTE A COMPLETE WORKMANLIKE JOB. IF CONTRACTOR CHOOSES TO NOT REUSE ITEM, LEGALLY DISPOSE OF ITEM OFF-SITE AND REPLACE WITH NEW TO MATCH EXISTING.
- 2.6. PROVIDE: THE MEANING OF THE WORD "PROVIDED" INCLUDES, BUT IS NOT LIMITED TO, FURNISHED, DELIVERED, INSTALLED, FINISHED, MADE FULLY OPERABLE AND COMPLETE. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL WORK DESCRIBED IN THESE DOCUMENTS IS TO BE PROVIDED BY THE CONTRACTOR.

3. CONTRACTOR IS TO INCLUDE AS PART OF HIS SCOPE ALL CUTTING AND PATCHING REQUIRED THROUGH CAREFUL EVALUATION OF THE EXISTING SITE AND THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL COORDINATE THE CUTTING AND PATCHING OF EXISTING CONSTRUCTION NECESSARY TO PERMIT INSTALLATION OR PERFORMANCE OF THE WORK INDICATED IN THESE CONSTRUCTION DOCUMENTS. SAW-CUT CONC. SLAB AS REQUIRED FOR UTILITIES, FOR EQUIPMENT AND SINKS. VERIFY ROUTE AND TRENCH DEPTH IN FIELD. PATCH BACK WITH MATCHING SLAB THICKNESS OVER SAME MATERIAL, COMPACT UNDERLYING MATERIALS TO MEET BEST PRACTICES. DOWEL NEW TO EXISTING WITH #4 REBAR AT 30" OC.

4. WHERE WALLS, CASEWORK, FINISHES, EQUIPMENT OR OTHER ITEMS AND CONSTRUCTIONS HAVE BEEN REMOVED EXPOSING UNDERLYING WALL AND/OR FLOOR SURFACES, SUCH SURFACES ARE TO BE PATCHED AND REPAIRED AS REQUIRED TO ACCEPT NEW FINISHES. ALL HOLES, DAMAGES, DEFECTS, ETC. IN EXISTING SURFACES ARE TO BE PATCHED TO MATCH EXISTING CONDITIONS.

5. EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE BASED UPON BASE BUILDING OR OTHER CONSTRUCTION DOCUMENTS MADE AVAILABLE TO THE DESIGNER BY THE BUILDING MANAGEMENT. ALL AS-BUILT ARCHITECTURAL CONDITIONS HAVE NOT BEEN FIELD VERIFIED AND MAY VARY FROM THOSE SHOWN.

6. PRIOR TO BID: FIELD VERIFY ALL EXISTING CONSTRUCTION TO REMAIN AND INCLUDE COSTS FOR REPAIR AND RECONDITION OF ALL EXISTING CONSTRUCTION TO REMAIN SO THAT IT MEETS THE AESTHETIC AND FUNCTIONAL STANDARD OF QUALITY FOR NEW CONSTRUCTION. BLEND AND MATCH EXISTING CONSTRUCTION WITH NEW CONSTRUCTION. PRIOR TO BID, ADVISE TENANT OF ANY CONDITIONS WHICH CANNOT BE REPAIRED OR RECONDITIONED, BLENDED AND MATCHED. NOTE CONTRACT DOCUMENT REQUIREMENTS FOR EXISTING CONSTRUCTION AND INCLUDE COSTS FOR THIS WORK IN BID PROPOSAL.

7. THE GENERAL CONTRACTOR SHALL, IN THE BIDDING PROCESS, REQUIRE THAT MECHANICAL AND ELECTRICAL SUBCONTRACTORS MAKE A THOROUGH FIELD INSPECTION OF AS-BUILT CONDITIONS OF EXISTING SYSTEMS. AFTER SUCH FIELD VERIFICATION HAS BEEN COMPLETED, THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL PROVIDE IN THEIR BIDS, ANY MODIFICATIONS TO THE EXISTING SYSTEMS WHICH MAY BE REQUIRED TO ACCOMMODATE THE PROPOSED REQUIREMENTS FOR THIS TENANT. IF A DETERMINATION OF SUCH MODIFICATIONS CANNOT BE MADE, THE GENERAL CONTRACTOR SHALL NOTIFY THE TENANT, AND AT THE DIRECTION OF THE TENANT, PROVIDE AN AGREED UPON ALLOWANCE TO COVER SUCH WORK.

8. COMMENCING WORK BY A CONTRACTOR OR SUBCONTRACTOR CONSTITUTES ACCEPTANCE OF THE UNDERLYING CONDITIONS AND SURFACES. PRIOR TO PROCEEDING WITH THE WORK, PREPARE EXISTING AND NEW UNDERLYING CONDITIONS AND SUBSTRATE TO COMPLY WITH THE CONTRACT DOCUMENTS, INDUSTRY STANDARDS AND MANUFACTURER'S RECOMMENDATION.

9. FIELD VERIFY ALL ROUGH OPENINGS AND WALL WIDTHS PRIOR TO ORDERING OR FABRICATION OF MATERIALS.

10. DIMENSIONS ARE NOMINAL AND TO THE FACE OF PARTITIONS

11. CLEAN-UP OF RUBBISH AND DEBRIS RESULTING FROM DEMOLITION AND NEW WORK SHALL BE COLLECTED REGULARLY FROM PROJECT SITE AND LEGALLY DISPOSED

12. ALL WEATHER EXPOSED SURFACES SHALL HAVE A WEATHER RESISTIVE BARRIER TO PROTECT THE INTERIOR WALL COVERING AND EXTERIOR OPENINGS SHALL BE FLASHED IN SUCH A MANNER AS TO MAKE THEM WEATHERPROOF

13. BUILDING ADDRESS NUMBERS SHALL BE PROVIDED AND PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND. IN MULTI-TENANT COMMERCIAL BUILDING WHERE TENANTS HAVE MULTIPLE ENTRANCES LOCATED ON DIFFERENT SIDES OF THE BUILDING EACH DOOR SHALL BE ADDRESSED. ADDRESS NUMBERS SHALL BE ARABIC NUMERALS OR ALPHABET LETTERS. NUMBERS SHALL BE A MINIMUM OF 4 INCHES (102 MM) HIGH WITH A MINIMUM STROKE WIDTH OF 0.5 INCH (12.7 MM).

14. CONTRACTORS ARE RESPONSIBLE FOR ALL MATERIALS AND QUANTITIES SHOWN IN THESE DRAWINGS GRAPHICALLY AS WELL AS THOSE CALLED FOR BY NOTE

15. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO COMPLETE THE PROPOSED WORK AND SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS

16. THE TENANT OR THE TENANT'S DESIGNATED REPRESENTATIVE WILL PROVIDE SERVICES IN CONNECTION WITH ADMINISTRATION OF THE CONTRACT

17. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL LOCAL LAWS, ORDINANCES, RULES AND REGULATIONS OF THE GOVERNING AGENCIES HAVING JURISDICTION

18. THE CONTRACTOR MUST TAKE ADEQUATE CARE TO PROTECT ALL AREAS OF THE BUILDING WHERE THE WORK OF THIS PROJECT IS LOCATED AS WELL AS THE AREAS ADJACENT TO THE AREA OF THE WORK OF THIS PROJECT SO AS TO PREVENT DAMAGE TO LIFE OR PROPERTY AS A RESULT OF THIS CONSTRUCTION PROJECT

19. ONLY MATERIALS THAT ARE NEW, UNUSED, FREE FROM DEFECTS, AND THE BEST OF THEIR RESPECTIVE KINDS SHALL BE USED. THE BASIS OF QUALITY SHALL BE THE LATEST STANDARDS OF ASTM, ASA OR ASHRA

20. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES INCLUDING THOSE OF THE TENANT WHO MAY BE ENGAGED UNDER A SEPARATE CONTRACT

21. INSTALL ALL WORK IN SUCH A MANNER AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND/OR REPAIRS

22. ALL WORK AND EQUIPMENT SHALL BE CLEANED TO THE SATISFACTION OF THE TENANT BEFORE BEING TURNED OVER FOR USE

23. A COPY OF THE LATEST SET OF CONSTRUCTION DOCUMENTS SHALL BE KEPT AT THE JOB SITE AT ALL TIMES

24. THE CONTRACTOR AND EACH SUBCONTRACTOR SHALL KEEP ACCURATE RECORDS OF ANY MODIFICATION OR DEVIATIONS FROM THE CONTRACT DRAWINGS

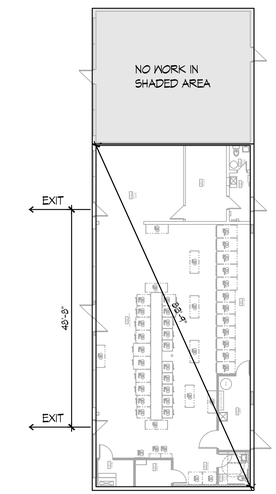
25. PROJECT CLOSE OUT DOCUMENTS SHALL BE PROVIDED TO THE TENANT, INCLUDE AS-BUILT DRAWINGS, WARRANTY/MAINTENANCE MANUALS AND TESTING AND SUPERVISION AS REQUIRED. PRESERVE ALL PRINTED INSTRUCTIONS AND WARRANTIES THAT ARE PROVIDED WITH EQUIPMENT OR MATERIALS USED, AND DELIVER SAID PRINTED MATTER TO THE TENANT AT THE TIME OF SUBSTANTIAL COMPLETION. IF REQUESTED BY THE TENANT, INSTRUCT THE MANAGEMENT IN THE PROPER USE AND MAINTENANCE OF ALL ITEMS OF WORK PROVIDED.

26. PROVIDE WORK IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATION, EXCEPT IN THE CASE WHERE THE CONTRACT DOCUMENTS ARE MORE STRINGENT. PROVIDE ANY MISCELLANEOUS ITEMS OR MATERIALS NOT SPECIFICALLY NOTED, BUT REQUIRED FOR PROPER INSTALLATION OF THE WORK.

27. ALL WORK SHALL BE WARRANTED BY THE CONTRACTOR TO BE SATISFACTORY, IN MATERIALS AND WORKMANSHIP, FOR A MINIMUM PERIOD OF ON (1) YEAR, OR FOR THE PERIOD OF WARRANTY CUSTOMARY, SPECIFIED FOR, THE TRADE, CRAFT OR PRODUCT, WHICHEVER IS LONGER.

28. SUBMIT REQUESTS FOR SUBSTITUTIONS OF SPECIFIED ITEMS IN WRITING, ACCOMPANIED BY THE ALTERNATIVE PRODUCT INFORMATION, TO THE TENANT. SUBSTITUTIONS MAY BE CONSIDERED ONLY IF THEY DO NOT SACRIFICE QUALITY, APPEARANCE AND FUNCTION. ACCEPTANCE OF SUBSTITUTIONS IS AT THE SOLE DISCRETION OF THE TENANT.

BUILDING KEY PLAN



PLAN NORTH

AREA MAP

KENNETH J. KIEFFER
NUMBER A-5
REGISTERED ARCHITECT
STATE OF MISSOURI
01/11/2024

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REV'#	DATE	DESCRIPTION

Issue Date: 01-11-24
Project #: 23033

COVER SHEET

CS

DIVISION 1 - GENERAL REQUIREMENTS

1. GENERAL REQUIREMENTS 01000
2. The General Conditions of the Contract for Construction of A.I.A. Document A201, latest edition, forms part of this contract as if herein bound.
3. Satisfy all applicable local codes and ordinances. Reference the cover sheet for list of codes.
4. Contractor to pay for Construction Permit Fees, Excise Tax, Tap Fees, Ect. as applicable to the local Municipalities and Utility Companies.
5. Contractor is to meet all Building Owner Standards and Instructions for work.

PRODUCTS 01600

1. Where a specific manufacturer's product is named including make or model number or other designation, it has been selected to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics of the product. Unless otherwise indicated, provided the named product or a product that is equal to or exceeds the specified product.
2. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
3. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
4. All products, and materials used in conjuction with, are to be installed in strict conformance with manufacturers instruction.

SPECIAL CONDITIONS 01700

1. General Contractor shall provide all water, light, and power necessary during construction until the completion of the building. All extensions, controls, and equipment beyond the points of temporary service shall be provided under the work of the respective Division requiring the same.
2. The General Contractor shall do all final cleaning of the building construction areas and wash windows.

CUTTING AND PATCHING

1. Contractor is to include as part of his scope all cutting and patching required through careful evaluation of the existing site and the construction documents. All holes, damages, defects, ect. in existing surfaces are to be patched to match existing conditions. Contractor shall coordinate the cutting of existing construction necessary to permit installation or performance of other Work.
2. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations. Patch with durable seams that are as invisible as possible. Use materials identical to existing materials. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible. Before patching, verify compatibility with and suitability of substrates, including compatibility with existing and new finishes or primers.
3. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use. Provide temporary support of Work to be cut. Cut concrete using a cutting machine, such as an abrasive saw or a diamond-core drill.

DIVISION 2 - SITE WORK

NO WORK THIS SECTION

DIVISION 3 - CONCRETE

REFER TO CUTTING AND PATCHING

DIVISION 4 - MASONRY

NO WORK THIS SECTION

DIVISION 5 - METALS

METAL STUD FRAMING

1. Metal Studs and Runners: shall be as manufactured by Dietrich, Inryco/Milcor, USC, or approved equal. Studs shall be sized as indicated on the drawings and of gauge recommended by the manufacturers literature. Double studs at door jambs shall be 20 gauge minimum. Standard stud spacing at no more than 16" O.C. unless otherwise noted on drawings.
2. At all walls indicated to extend to underside of decking provide Dietrich SLP-TRK slotted deflection track. Install and finish per manufacturer's recommendations.

DIVISION 6 - WOODS AND PLASTIC

CARPENTRY

1. Each piece of framing lumber shall be identified by the trademark of an approved inspection agency or association. Wood framing and all rough carpentry items shall be installed in accordance with UBC and/or FHA requirements whichever is most restrictive.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

INSULATION

1. Where insulating materials listed below will not be covered with gypsum board substitute specified insulation w/ product of same thickness and R-value and similar facing, but such shall have a flame spread rating of 25 or less and a smoke developed rating of 50 or less when tested in accordance with ASTM E84 unless more stringent requirements are listed for a specific product.
2. Insulation Schedule
   - 2.1. Exterior Walls: batts of fiberglass with foil skrim kraft (FSK) vapor barrier in thickness to match cavity depth
   - 2.2. Gaps and voids around door and window areas and in built up wood lintels:Minimal expanding foam insulation shall be Dow Chemical Great Stuff. It is to be Tack free in 20 minutes and with full cure in 8 hours at room temperature and 50% relative humidity. It is to be paintable and stainable.
   - 2.3. Interior non-loadbearing walls: Unfaced Fiberglass Batts - Certainteed CertaPRO AcoustaTherm Batts in thickness to fill entire cavity.

SEALANTS

1. Mildew-Resistant Silicone Rubber Sealant: Silicone rubber-based, one part elastomeric sealant, complying with FS TT-S-0021543, Class A; compounded specifically for mildew resistance and recommended by manufacturer for interior joints in wet areas; passing ANSI A136.1 test for mold growth.
2. Silicone Sealant: One-part nonacid-curing silicone sealant complying with ASTM C920; Type S, Grade NS, Class 25, paintable, for uses at casings, window casings and hollow metal to drywall and masonry.
3. Joints and spaces to be caulked shall be clean, dry and free of dust, loose mortar or other foreign materials. After joints have been filled, they shall be neatly tooled to eliminate air pockets or voids and to provide a smooth, neat appearing surface.
4. Non-Elastomeric Sealants and Caulking Compounds: 1-component acrylic sealant: FS-TT-S-00230, Class B, Type 11, solvent based solids 95% acrylic for uses at exterior window and door frame perimeters and flashing

DIVISION 8 - DOORS AND WINDOWS

FLUSH WOOD VENEER CLAD DOORS

1. Single swing interior doors shall be solid core premium grade red oak veneer with matching edges. Comply with requirements of ANSI/NWMA I.S. 1 and Section 1400 of AWI "Architectural Woodwork Quality Standards" except as otherwise indicated. Coordinate stain color with interior designer.

FINISH HARDWARE

1. Provide finish hardware for all doors in project. The Contractor shall verify all keying requirements with owner prior to installation. Finish to be 26d. Hardware mounting heights by the door and hardware institute "Recommended Locations for Builders Hardware". Comply with all ADA requirements for hardware.

DIVISION 9 - FINISHES

GYPSUM DRYWALL

1. Materials shall meet the following standards:
   - a. Gypsum Wallboard - ASTM C36
   - b. Nails - ASTM C380
   - c. Metal Accessories - ASA A97.1
   - d. Water Resistant Gypsum Backing Board - ASTM C1278 (paragraph 6.1)
2. Use gypsum board fasteners that are recommended by gypsum board manufacturer except as otherwise indicated.
3. Furnish and install all trim accessories, adhesives and joint treatments per manufacturer's recommendations.
4. All gypsum board to be finished to Level 4 unless noted otherwise.
5. Schedule: *(basis of design)*
   - 5.1. Interior side of exterior walls: 5/8" Gold Bond XP Gypsum Board. Gypsum Board is to be installed from floor to underside of deck above.
   - 5.2. Interior partitions, ceilings and soffits - general: 5/8" Gold Bond Gypsum Board.
   - 5.3. Interior partitions in wet areas/toilet rooms: 5/8" Gold Bond XP Gypsum Board.
   - 5.4. Interior partitions to receive wall tile: 5/8" Gold Bond eXP Tile Backer
   - 5.5. Where called out to receive sound board: 5/8" Gold Bond Sound Break gypsum board. When multiple layers are indicated all joints are to be staggered.

FLOORING GENERAL

1. Patch, level and prepare all floors as recommended by flooring manufacturer for each type of flooring to be placed. Use trowelable leveling and patching compound to fill cracks, holes, and depressions in substrates. Trowelable Leveling and Patching Compounds shall be of Latex-modified, portland cement based or blended hydraulic cement based formulation provided or approved by floor covering manufacturer for applications indicated.
2. Transitions between floor finishes: Floor finishes are to be tightly butted together (unless edge protection is specified or is required by the manufacturer.) At all transitions where finished floor height of a flooring is higher then adjacent floor finish, raise adjacent flooring with ROPPE SUBLEVELER TS-1 so finish heights are equal. Where flooring is to be tightly butted against ceramic or porcelain tile in addition to subleveler installation beneath the thinner floor material, edge protection is to be provided on tile as indicated in the finish legend.

PAINTING GENERAL

1. Paint shall be as manufactured by Sherwin Williams Paints or approved equal.

SURFACE PREPARATION FOR PAINT

1. General: Protect adjacent and underlying surfaces. Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces of finishing. Correct defects and clean surfaces capable of affecting work of this section. Seal marks that may bleed through surface finishes with compatible sealer.
2. Galvanized Steel: Remove surface contamination and oils and wash with solvent.
3. Uncoated Ferrous Metals: Remove grease, mill scale weld splatter, dirt and rust. Where heavy coatings of scale are evident, remove by hand or power tool wire brushing or sandblasting: wash with solvent. Apply treatment of phosphoric acid solution, ensuring weld joints, bolts and nuts are similarly cleaned. Spot Prime paint after repairs.
4. Shop primed ferrous Metals: Sand and scrape to remove loose primer and rust. Feather edges to make patches inconspicuous. Clean with solvent. Prime bare steel surfaces.
5. Other existing Surfaces: Remove loose, flaking, powdery, and peeling paints. Light sand painted surfaces. Fill holes, cracks, depressions and other imperfections with compatible patching compound; sand flush with surface. Remove oil, grease, and wax by scraping; solvent wash and thoroughly rinse. Remove rust by wire brushing to expose base metal.

PAINTING SCHEDULE

1. Paint all new interior gypsum board walls:
   - 1.1. 1 ct. PrepRite 200 Latex Primer and
   - 1.2. 2 cts. ProMar 200 Int. Latex Eg-Shel
2. Paint all new and existing interior gypsum board walls in wet areas (Toilet and Janitor Rooms):
   - 2.1. 1 ct. PrepRite 200 Latex Primer and
   - 2.2. 2 cts. Waterbased Catalyzed Epoxy
3. Interior gypsum board ceilings and soffits (unless noted otherwise):
   - 3.1. 1 ct. PrepRite 200 Latex Primer
   - 3.2. 2 cts. ProMar 200 Int. Latex Flat
4. Interior and Exterior Ferrous metal (metal frames, exposed steel structure, misc. metal):
   - 4.1. Touch up factory prime coat with compatible Metal Primer or
   - 4.2. 1 ct. Sprayed All Surface Enamel oil Primer
   - 4.3. 2 cts. Sprayed Promar 200 Int. Alkyd Eg-Shel Enamel

DIVISION 10 - SPECIALTIES

FIRE EXTINGUISHER

1. Provide fire extinguishers as indicated per plan. Fire extinguisher shall be Cosmic 5E (2A,10B,C) by J.L Industries or approved equal. Cabinets to be Ambassador by J.L Industries or approved equal, Not Fire-Rated, Tub - 10 1/2 x 24 x 5 1/2 inches. Trim Material - Steel, white epoxy primer finish, Trim Style Semi recessed 3" rolled edge. Door Style - Vertical Duo Panel with pull handle and Saf-T-Lok. Door Glazing - Clear Safety Glass, with Die Cut Letters - Vertical Red Reverse.

DIVISION 11 - EQUIPMENT

COORDINATE EQUIPMENT INSTALLATION WITH OWNER AND OWNER'S EQUIPMENT SUPPLIER.

STATE OF MISSOURI
KENNETH J. KLEFFNER
REGISTERED ARCHITECT
01/11/2024

GUY GRONBERG ARCHITECTS, P.C.
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LAUNDRY LLC

REV#	DATE	DESCRIPTION

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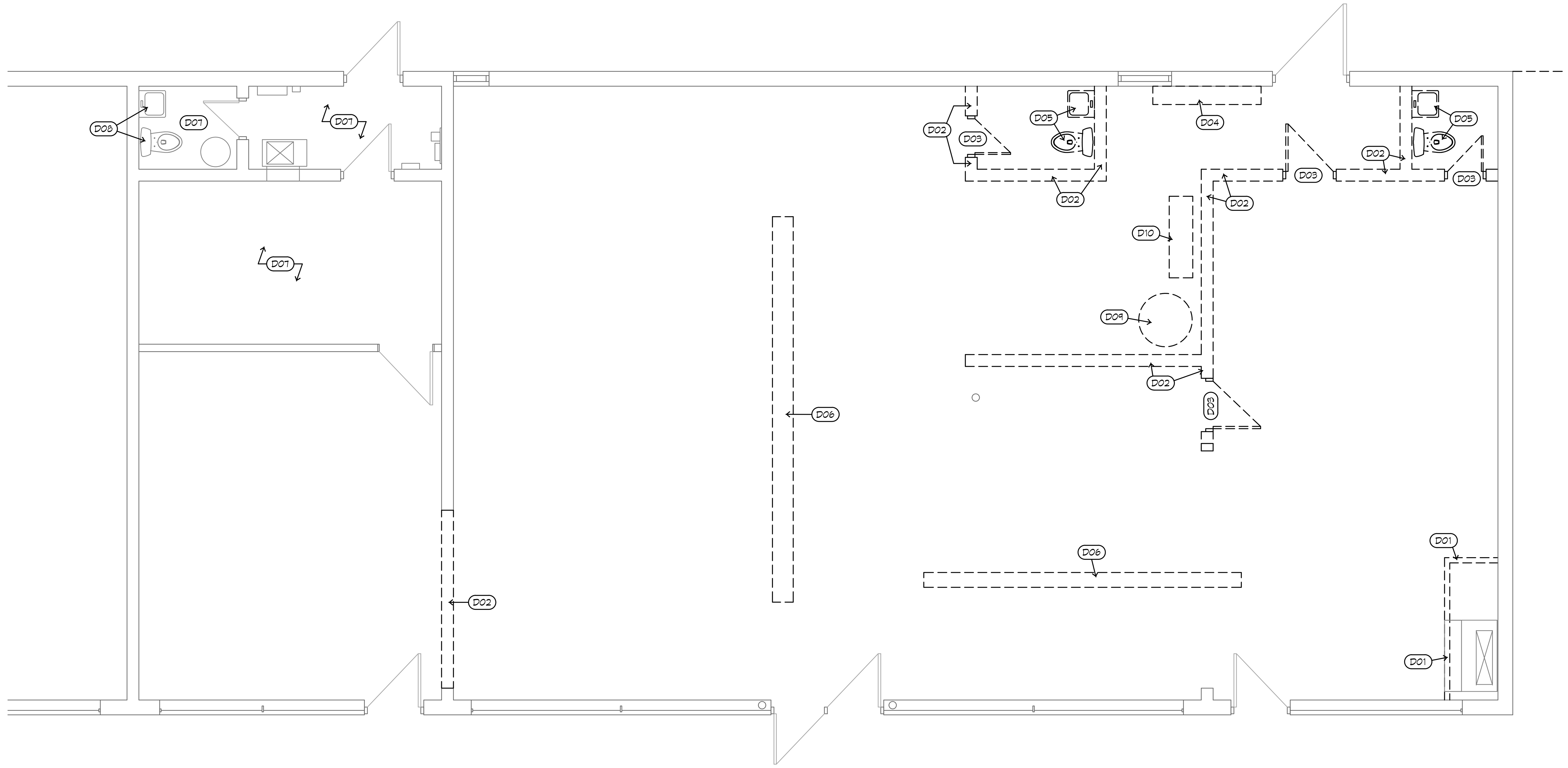
SPECIFICATIONS

A1



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

NORTH

DEMOLITION GENERAL NOTES

1. THROUGHOUT AREA OF WORK WHERE NEW FLOOR FINISHES ARE INDICATED ON THE INTERIOR FINISH SCHEDULE, REMOVE AND DISCARD EXISTING FLOORING AND WALL BASE. REMOVAL IS TO INCLUDE THE REMOVAL OF FLOORING ADHESIVES AND MASTICS AS REQUIRED TO MEET THE INSTALLATION REQUIREMENTS FOR THE NEW FLOORING TO BE PLACED.
2. THROUGHOUT AREA OF WORK WHERE CEILINGS ARE NOT INDICATED AS EXISTING TO REMAIN PER DEMOLITION PLAN NOTE 'D07', REMOVE AND DISCARD ANY REMAINING EXPOSED 'T' GRID, ACOUSTICAL CEILING TILES.
3. THROUGHOUT AREA OF WORK REMOVE AND DISCARD ALL UNUSED ELECTRICAL OUTLETS AND SIMILAR DEVICES EXCEPT AT EXISTING TO REMAIN WALL LOCATIONS. REMOVE AND DISCARD ALL LIGHT FIXTURES. REMOVE AND DISCARD ALL UNUSED CONDUIT AND WIRE BACK TO ELECTRICAL SERVICE.
4. THROUGHOUT AREA OF WORK REMOVE AND DISCARD ALL UNUSED GAS LINES AND EQUIPMENT.

DEMOLITION PLAN NOTES

D01 REMOVE AND DISCARD GYPSUM BOARD PARTITION AND WALL FRAMING.

D02 REMOVE AND DISCARD MASONRY WALL. PRIOR TO REMOVE CONFIRM WITH STRUCTURAL ENGINEER IF WALL IS USED IN RESISTING ANY BUILDING LOADS, INCLUDING BUT NOT LIMITED TO LOAD BEARING AND LATERAL RESISTANCE.

D03 REMOVE AND DISCARD DOOR FRAME AND HARDWARE

D04 EXISTING ELECTRICAL TO BE UPDATED. REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION. REMOVE AND DISCARD ANY UNUSED EQUIPMENT.

D05 REMOVE AND DISCARD PLUMBING FIXTURES. REMOVE AND DISCARD UNUSED SUPPLY LINES BACK TO MAIN LINE AND CAP. REMOVE AND DISCARD UNUSED WASTE LINES BEYOND FINISHED SURFACES AND CAP. PATCH AND REPAIR EXISTING SURFACES TO MATCH EXISTING.

D06 REMOVE AND DISCARD BULKHEAD STRUCTURE. REMOVE AND DISCARD UNUSED SUPPLY LINES BACK TO BELOW FINISHED SURFACES AND CAP. REMOVE AND DISCARD UNUSED WASTE LINES BEYOND FINISHED SURFACES AND CAP. PATCH AND REPAIR EXISTING SURFACES TO MATCH EXISTING.

D07 EXISTING TO REMAIN ACOUSTICAL CEILING SYSTEM AND DIFFUSERS IN THIS ROOM OR AREA.

D08 EXISTING TO REMAIN PLUMBING FIXTURES.

D09 REMOVE AND SALVAGE WATER HEATER.

D10 EXISTING WATER SERVICE TO BE RELOCATED. REFER TO PLUMBING DRAWINGS FOR MORE INFORMATION. REMOVE UNUSED LINES BELOW FINISH SURFACES AND CAP. PATCH AND REPAIR EXISTING SURFACES TO MATCH EXISTING.

01/11/2024

G2
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Fax 816.524.8578

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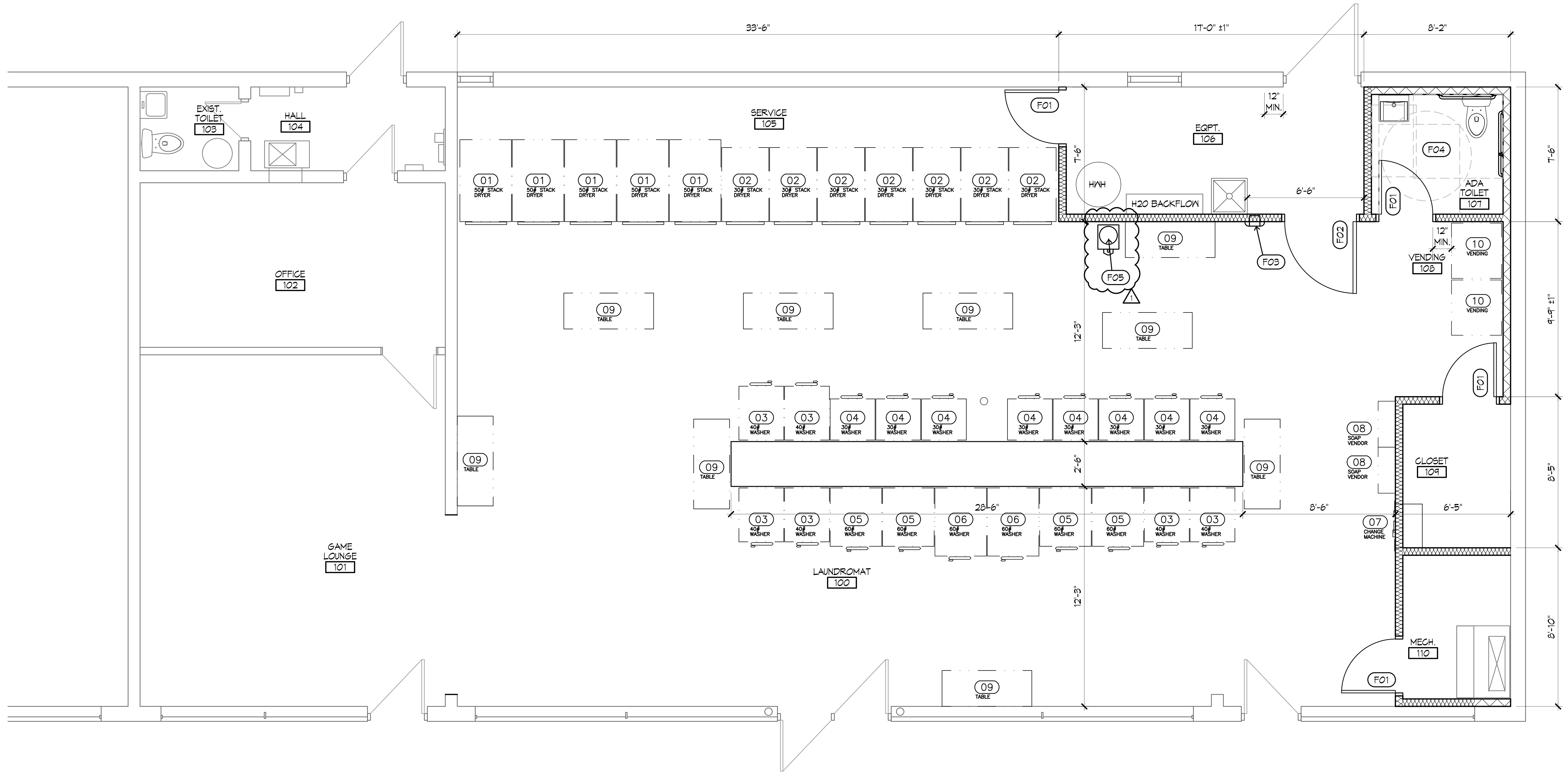
DEMOLITION PLAN

A2



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

NORTH

WALL TYPE NOTES

1. FURR-OUT AROUND THE STRUCTURAL COLUMNS AND MECHANICAL CHASES AS REQUIRED. MINIMIZE DEPTH OF FURRING.
2. PROVIDE SOLID BLOCKING FOR DOORS, WINDOWS, TOILET PARTITION, ACCESSORIES, HANDRAILS, LAVATORY BRACES, CASEWORK, SHELVING ETC. AS REQUIRED BY MANUFACTURER AND ALL WORK DONE BY CARPENTRY AND MILLWORK TRADES. ALL WOOD REQUIRED BY BUILDING CODES SHALL MEET ALL REQUIREMENTS TO THE CODE OF UNDERWRITERS LABORATORIES, INC. VERIFY THE DEPTH OF WALLS PRIOR TO INSTALLING RECESSED FIXTURES.
3. ALL EXPOSED EDGES AND / OR CORNER ON ALL GYPSUM WALL BOARD CONSTRUCTION SHALL HAVE A METAL CORNER TRIM, TAPED AND SPACKLED.
4. ALL EXISTING TO REMAIN AND NEW GYPSUM BOARD PARTITIONS IN AREA OF WORK TO BE PROPERLY PREPARED, PATCHED, SPACKLED AND SANDED, ETC., TO PROVIDE A SMOOTH FINISH AND AS REQUIRED TO RECEIVE NEW FINISHES.
5. ALL OPENINGS IN GYPSUM BOARD PARTITIONS SHALL BE DOUBLE STUDDED.
6. TOP OF ALL WALLS INDICTED IN WALL TYPES THIS SHEET ARE TO BE LATERALLY BRACED AS FOLLOWS;
   - 6.1. FOR WALLS INDICATED TO BE EXTEND TO UNDERSIDE OF STRUCTURAL ELEMENTS OR DECKING: PROVIDE DEEP LEG DEFLECTION TRACK AT TOP OF WALL INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
   - 6.2. FOR ALL OTHER WALLS;
     - 6.2.a. FOR WALLS UNDER 8'-0" IN LENGTH (WITHOUT A PERPENDICULAR WALL ON EITHER SIDE) THE TOP TRACK SHALL RESIST LATERAL LOADS.
     - 6.2.b. FOR WALLS ABOVE 8'-0" AND UNDER 16'-0" CONTRACTOR IS TO PROVIDE 1-1/2" 16GA U-CHANNEL LOCATED IN PUNCHED STUDS WITHIN 1'-0" OF TOP OF WALL AND SECURED WITH DIETRICH EASYCLIP U-SERIES AT EACH STUD. U-CHANNEL TO BE AND IS TO RUN CONTINUOUS FULL LENGTH OF WALL. (AT CONTRACTORS OPTION STUD KICKERS AS INDICATED BELOW MAY BE USED IN LIEU OF U-CHANNEL.)
     - 6.2.c. FOR WALLS ABOVE 16'-0" PROVIDE 45° STUD KICKERS UP TO STRUCTURE AT 4'-0" O.C. ALTERNATING DIRECTIONS.
7. IN THE FOLLOWING ROOMS PROVIDE MOISTURE RESISTANT GYPSUM BOARD IN LIEU OF THE STANDARD GYPSUM BOARD INDICATED IN WALL TYPES BELOW; EQPT 106 AND TOILET 107.
8. AT OWNER OPTION 2X4 WOOD STUDS MAY BE USED IN LIEU OF THE 3⅝" METAL STUDS INDICATED IN THE WALL TYPE LEGEND.

WALL TYPE LEGEND

EXISTING WALL TO REMAIN.

3⅝" MTL. STUDS @ 16" O.C. WITH ⅝" GYPSUM BOARD INTERIOR SIDE AND 3½" FSK BATT INSULATION. EXTEND ALL FROM FLOOR TO UNDERSIDE OF ROOF JOISTS.

3⅝" MTL. STUDS @ 16" O.C. WITH ⅝" GYPSUM BOARD EACH SIDE AND 3½" UNFACED BATT INSULATION. EXTEND ALL FROM FLOOR TO UNDERSIDE OF ROOF DECK. ACOUSTICALLY SEAL AT PERIMETERS AND TRHOUGH PENETRATIONS.

TOILET ROOM TYPICAL NOTES

1. PROVIDE WATER CLOSET WITH SEAT HEIGHT BETWEEN 17 AND 19 INCHES MEASURED TO TOP OF THE SEAT. FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET. CENTERLINE OF WATER CLOSET SHALL BE 16" TO 18" FROM THE SIDE WALL.
2. PROVIDE LAVATORY WITH RIM MOUNTED AT 34 INCHES MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. BOTTOM OF APRON TO BE 29 INCHES MINIMUM ABOVE THE FINISH FLOOR OR GROUND. WATER SUPPLY AND DRAIN PIPES UNDER LAVATORY SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OF ABRASIVE SURFACES UNDER LAVATORY. THE CENTERLINE OF THE LAVATORY SHALL BE A MINIMUM OF 15" FROM THE SIDE WALL.
3. PROVIDE 20"x40" FRAMELESS MIRROR. MIRROR TO BE 40" MAXIMUM TO REFLECTIVE SURFACE. SECURE TO WALL WITH MIRROR MASTIC
4. TOILET PAPER DISPENSER TO BE OWNER FURNISHED AND CONTRACTOR INSTALLED; DISPENSER TO BE 7 INCHES FROM RIM OF TOILET TO CENTER OF TOILET PAPER ROLL(IN PLAN HORIZONTAL.) TOILET PAPER TO BE 19" MINIMUM ABOVE FINISHED FLOOR.
5. PROVIDE BOBRICK B-5806 GRAB BARS AS FOLLOWS; SIDE HORIZONTAL GRAB BAR TO BE 42" MIN LONG, 12" FROM BACK WALL, AND 33"-36" AFF. SIDE VERTICAL GRAB BAR TO BE 18" MIN. LONG, 40" FROM BACK WALL, AND 40" AFF TO BOTTOM OF BAR. REAR HORIZONTAL GRAB BAR TO BE 36" MIN LONG, 6" MAX FROM BACK WALL, AND 33"-36" AFF. ALL GRAB BARS TO HAVE 1½" MAX DIA. AND 1½" OFFSET FROM WALL.
6. SOAP AND PAPER TOWEL DISPENSERS TO BE OWNER FURNISHED AND CONTRACTOR INSTALLED. DISPENSERS TO BE INSTALLED AT 34" AFF TO SOAP SPOUT OR TOWEL DISPENSING LOCATION.
7. PROVIDE ON EXTERIOR LATCH SIDE OF DOOR MATTE FINISH TOILET ROOM SIGN 60" A.F.F. WITH BRAILLE AND WITH RAISED CONTRASTING LETTERS ⅝" TO 2" TALL WITHOUT SERIFS.

FINISH GENERAL NOTES

1. *FINISH MATERIALS LISTED HERE-IN ARE TO ESTABLISH THE SIGNIFICANT QUALITIES RELATED TO TYPE, FUNCTION, DIMENSION, PRICE, PHYSICAL PROPERTIES, APPEARANCE, AND OTHER CHARACTERISTICS OF THE PRODUCT. FINAL SELECTION OF ALL FINISHES ARE TO BE CONFIRMED BY OWNER OR OWNER'S INTERIOR DESIGNER.*
2. PAINT FINISHES INDICATED TO BE ACCENT COLOR ARE TO BE VERIFIED BY OWNER IN FIELD PRIOR TO BEING APPLIED TO WALLS OR SOFFITS.
3. WHERE NEW FLOOR FINISHES ARE INDICATED ON THE FINISH SCHEDULE, ANY EXISTING FLOORING IS TO BE REMOVED AND DISCARDED. SUBFLOOR IS TO BE PREPPED AS REQUIRED TO RECEIVE NEW FINISH INDICATED.
4. PATCH, LEVEL AND PREPARE ALL FLOORS AS RECOMMENDED BY FLOORING MANUFACTURER FOR EACH TYPE OF FLOORING TO BE PLACED. USE TROWELABLE LEVELING AND PATCHING COMPOUND TO FILL CRACKS, HOLES, AND DEPRESSIONS IN SUBSTRATES. TROWELABLE LEVELING AND PATCHING COMPOUNDS SHALL BE OF LATEX-MODIFIED, PORTLAND CEMENT BASED OR BLENDED HYDRAULIC CEMENT BASED FORMULATION PROVIDED OR APPROVED BY FLOOR COVERING MANUFACTURER FOR APPLICATIONS INDICATED.
5. INTERIOR FINISHES MUST CONFORM TO THE GOVERNING CODE FOR "CLASS III" MAX. 25 FOR SMOKE DENSITY CLASSIFICATION. MAX. FLAME SPREAD OF 200
6. COLOR OF ALL LIGHT SWITCHES, RECEPTACLES AND PLATE COVERS TO MATCH EXISTING IN TENANT SUITE.

FINISH SCHEDULE

RM. # 205.#	ROOM NAME	FLOOR	BASE	WALL				
				NORTH	EAST	SOUTH	WEST	
100	LAUNDROMAT	LVT	RB4	P1	P2	P1	P1	
101	GAME LOUNGE	LVT	RB4	P1	P2	P1	P1	
102	OFFICE	CPT	RB4	P1	P1	P1	P1	
103	EXIST TOILET	LVT	RB4	P5	P5	P5	P5	
104	HALL	LVT	RB4	P1	P1	P1	P1	
105	SERVICE	CONC	RB4	P1	P1	P1	P1	
106	EQUIPMENT	CONC	RB4	P1	P1	P1	FRP	
107	ADA TOILET2	LVT	RB4	P5	P5	P5	P5	
108	VENDING	LVT	RB4	-	P2	P1	P1	
109	CLOSET	LVT	RB4	P1	P1	P1	P1	
110	MECH	CONC	RB4	P1	P1	P1	P1	

FINISH LEGEND

FLOORING

CPT CARPET TILE

LVT LUXURY VINYL TILE

CONC CONCRETE

BASE

RB4 ROPPE 100% RUBBER 4" COVE BASE, CONTINUOUS COIL, COLOR: P110 BROWN

WALL FINISHES

P1 PAINT - FIELD COLOR

P2 PAINT - ACCENT COLOR

P3 PAINT - HOLLOW METAL FRAMES

P4 PAINT - EXPOSED WOOD JOISTS, BEAMS, CONDUITS, DUCTWORK ETC.

P5 PAINT - TWO PART EPOXY

FRP PROVIDE FIBERGLASS REINFORCED PANEL FROM TOP OF WALL BASE TO 48" ABOVE TOP OF WALL BASE. PAINT WALL ABOVE PANEL P5.

BASIS OF DESIGN – EQUIPMENT SCHEDULE

Item No	Qty	Equipment Category	Width/ Length	Depth	Height	Manufacturer	Model Number
			ROUNDED UP TO NEAREST 1/4"				
01	5	50# STACK DRYER	34.5"	54.75"+2"	79.25"	DEXTER	T–50X2
02	7	30# STACK DRAYER	31.5"	49.5"+2"	76.25"	DEXTER	T–30X2
03	6	40# WASHER	30"	36"+3.5"	49.75"	DEXTER	T–600
04	8	30# WASHER	30"	27.5"+3.5"	48.25"	DEXTER	T–400
05	4	60# WASHER	34.5"	39"+3.5"	55.5"	DEXTER	T–900
06	2	80# WASHER	34.5"	45.5"+3.5"	58"	DEXTER	T–1200
07	2	CHANGE MACHINE	29.25"	18"	34"	STANDARD CHANGE	MC640RL–DA
08	1	SOAP VENDOR	30.75"	11.5"	45.25"	VEND–RITE	240N
09	10	TABLE	60"	24"	28.5"–42"	SEVILLE CLASSICS	20191B
10	2	VENDING MACHINE	40"	33.5"	72"		

FLOOR PLAN NOTES

(F01) NEW 3'-0" x 7'-0" WOOD DOOR AND KNOCK DOWN METAL FRAME. PROVIDE ADA LEVER LOCKSET. COORDINATE LOCKSET FUNCTION WITH OWNER.

(F02) NEW 4'-0" x 7'-0" WOOD DOOR AND KNOCK DOWN METAL FRAME. PROVIDE ADA LEVER LOCKSET. COORDINATE LOCKSET FUNCTION WITH OWNER.

(F03) PROVIDE FIRE EXTINGUISHER AND CABINET PER SPECIFICATIONS.

(F04) ALL FIXTURES AND ACCESSORIES IN TOILET ROOM ARE TO BE PROVIDED AS REQUIRED TO CONFORM TO THE REQUIREMENTS OF TYPICAL TOILET ROOM NOTES THIS SHEET.

(F05) PROVIDE BOTTLED WATER DISPENSOR

STATE OF MISSOURI
KENNETH J. KLEFFNER
NUMBER A-2001038909
REGISTERED ARCHITECT
02/05/2024

GUY GRONBERG ARCHITECTS, P.C.
113 SE 3rd St.
Lee's Summit, MO 64063
Phone 816.524.0878
Fax 816.524.8578

SOUTHSIDE PLAZA
404 Southwest Nichols Street
Lees Summit
Missouri, 64063

Snappy Clean
LAUNDRY LLC

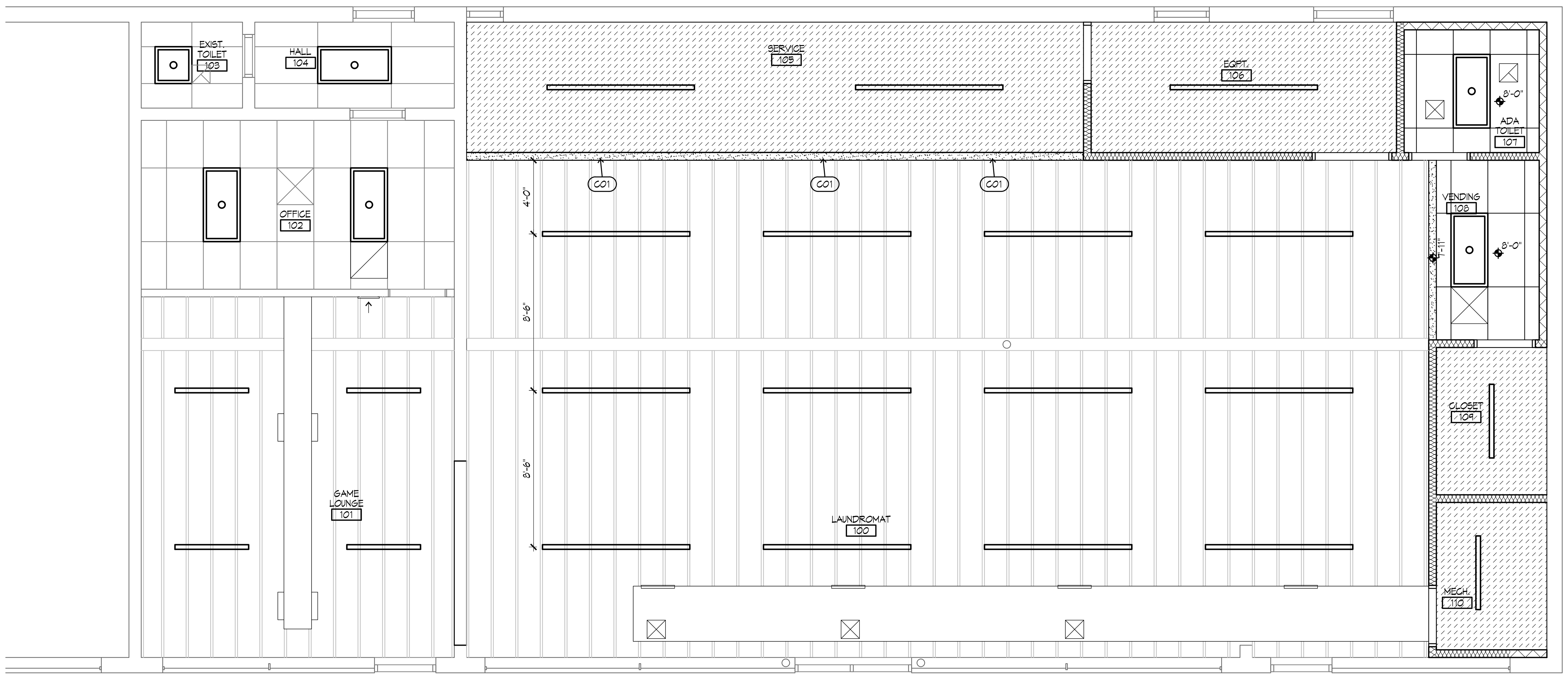
REV#	DATE	DESCRIPTION
1	2-5-24	CITY COMMENTS

Issue Date: 01-11-24

Project #: 23033

FLOOR PLAN

A3



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

NORTH

CEILING LEGEND

8'-0"	ELEVATION OF CEILING ABOVE FINISHED FLOOR.
	EXISTING TO REMAIN EXPOSED 'T' GRID CEILING AND ACOUSTICAL CEILING TILES. REMOVE AND REPLACE ANY DAMAGED OR STAINED CEILING TILES WITH NEW TO MATCH EXISTING.
	24"x48" FISSURED TEGULAR TILE ON 15/16" EXPOSED 'T' GRID
	PAINT EXPOSED WOOD JOISTS, BEAMS, CONDUITS, DUCTWORK ETC.
	SOFFIT OR CEILING OF ONE LAYER OF 5/8" GYP. BD. ON EXPOSED SIDES METAL OR WOOD STUD FRAMING. FINISH AND PAINT GYPSUM BOARD
	EXPOSED TO STRUCTURE ABOVE - NO WORK

CEILING PLAN NOTES

C01 WRAP AND FINISH GYPSUM BOARD ON BOTTOM OF FRAMING FROM LAUNDROMAT SIDE, ACROSS BOTTOM AND EXTEND UP 6" MIMIMUM ON SERVICE SIDE. BOTTOM OF GYPSUM BOARD TO BE 1½" ABOVE TOP OF DRYER UNITS - ELEVATION VARIES.

01/11/2024

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REV#	DATE	DESCRIPTION

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CEILING PLAN

A4

MECHANICAL SPECIFICATIONS

1. GENERAL PROVISIONS:

A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, NECESSARY FOR THE COMPLETE INSTALLATION OF THE PLUMBING AND MECHANICAL SYSTEMS OUTLINED.

B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR APPROVAL AS REQUIRED BY THE AUTHORITIES.

C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.

D. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.

E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, PIPE, DUCT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.

F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.

G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.

2. OPERATION AND MAINTENANCE MANUALS:

A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.

B. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATION AND MAINTENANCE MANUALS.

C. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE BOUND IN A 3-RING BINDER AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER, CONTRACTORS, ETC.

3. MANUFACTURERS:

A. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN, UNLESS NOTED OTHERWISE.

4. MOTORS:

A. PROVIDE THERMAL OVERLOAD PROTECTION FOR EACH MOTOR PROVIDED BY THIS WORK.

5. TESTING, BALANCING, AND CLEANING:

A. ALL PIPING SHALL BE TESTED FOR LEAKS BEFORE BEING CONCEALED IN WALL CONSTRUCTION OR COVERED WITH INSULATION.

B. SEWER AND VENT PIPING SHALL BE HYDROSTATICALLY TESTED WITH NO LESS THAN 10 FEET OF HEAD FOR A PERIOD OF NOT LESS THAN 15 MINUTES, PER THE LOCAL PLUMBING CODE, WITH NO LEAKS.

C. DOMESTIC WATER PIPING SHALL BE HYDROSTATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 60 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURS, WITH NO LEAKS.

D. NATURAL GAS PIPING SHALL BE PNEUMATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 50 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURS, WITH NO LEAKS.

E. DUCTWORK AND PIPING SHALL BE BALANCED BY QUALIFIED INDEPENDENT BALANCING PERSONNEL WHO HAVE PREVIOUS EXPERIENCE WITH BALANCING PROCEDURES AND ARE CERTIFIED BY THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB).

1) BALANCING SHALL INCLUDE THE BALANCING OF THE EQUIPMENT AND AIR DISTRIBUTION SYSTEMS TO PROVIDE DESIGN QUANTITIES INDICATED AND VERIFICATION OF PERFORMANCE OF ALL EQUIPMENT AND AUTOMATIC CONTROLS.

2) WITH IN 30 DAYS OF THE COMPLETION OF THE TESTING AND BALANCING WORK, SUBMIT THE TEST AND BALANCING REPORT BEARING THE SIGNATURE OF THE TEST AND BALANCE ENGINEER. THE REPORTS SHALL BE CERTIFIED PROOF THAT THE SYSTEMS HAVE BEEN TESTED, ADJUSTED, AND BALANCED IN ACCORDANCE WITH THE REFERENCED STANDARDS; ARE AN ACCURATE REPRESENTATION OF HOW THE SYSTEMS HAVE BEEN INSTALLED AND ARE OPERATING. REPORTS SHALL BE BOUND IN A VINYL BINDER AND THE BINDER LABELED OR MAY BE AN ELECTRONIC PDF SUBMITTAL.

F. BEFORE DOMESTIC WATER PIPING IS PLACED IN SERVICE, ALL DOMESTIC WATER DISTRIBUTION SYSTEMS, INCLUDING THOSE FOR COLD WATER AND HOT WATER SYSTEMS, SHALL BE FLUSHED, STERILIZED AND CHLORINATED IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS. THE SYSTEMS SHALL BE THOROUGHLY FLUSHED OF ALL DIRT AND FOREIGN MATTER, THEN FILLED WITH WATER TREATED WITH 50 PPM OF CHLORINE. DURING THE FILLING PROCESS, VALVES AND FAUCETS SHALL BE OPENED SEVERAL TIMES TO ASSURE TREATMENT OF THE ENTIRE SYSTEM. THE TREATED WATER SHALL BE LEFT IN THE SYSTEM FOR 24 HOURS AFTER WHICH TIME THE SYSTEM SHALL BE FLUSHED; IF THE RESIDUAL CHLORINE IS NOT LESS THAN 10 PPM, THE FLUSHING SHALL BE REPEATED. AFTER STERILIZATION, SAMPLES OF WATER IN THE SYSTEM SHALL BE APPROVED BY THE BOARD OF HEALTH.

6. PLUMBING:

A. PROVIDE AN APPROVED WATER HAMMER ARRESTOR FOR EACH PLUMBING FIXTURE SUPPLY AS REQUIRED BY FIXTURE MANUFACTURER.

B. ALL EXPOSED WASTE PIPE SHALL BE CHROME PLATED BRASS PIPE, NO FERROUS PIPE.

C. PROVIDE CLEANOUTS AT EACH CHANGE OF DIRECTION AND AT 100 FOOT INTERVALS IN STRAIGHT RUNS.

D. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND TRAPS.

E. CLEANOUTS:

1) VINYL TILE FLOOR: JR SMITH #4140, OR EQUAL.
2) QUARRY TILE FLOOR: JR SMITH #4200, OR EQUAL.
3) CARPETED FLOOR: JR SMITH #4020-Y, OR EQUAL.
4) UNFINISHED FLOOR: JR SMITH #4020, OR EQUAL.
5) WALL: JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.

F. PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTIONS TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION TANKS.

G. WATER HEATERS:

1) EVERY WATER HEATER SHALL HAVE AN APPROVED MEANS INSTALLED ON THE COLD WATER SUPPLY LINE ABOVE THE EQUIPMENT TO PREVENT SIPHONING OF A STORAGE WATER HEATER OR TANK.
2) BOTTOM FED WATER HEATERS AND TANKS CONNECT TO WATER HEATERS SHALL HAVE A VACCUM RELIEF VALVE INSTALLED. ANSI Z21.22.
3) STORAGE HEATERS OPERATING ABOVE ATMOSPHERIC PRESSURE SHALL HAVE AN APPROVED PRESSURE RELIEF VALVE AND/OR TEMPERATURE RELIEF VALVE.

H. ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.

1) INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.
2) INSTALL 3" AND LARGER PIPE AT 1/8" PER FOOT FALL.

7. PIPING:

A. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND).

1) TYPE L HARD DRAWN COPPER TUBING, ASTM B-88.
a) WROUGHT COPPER SOLDERED FITTINGS, ASTM B75 ALLOY C12200. ANSI B16.22. MSS SP-104.
b) MECHANICAL PRESS COPPER FITTINGS FOR USE IN PLUMBING OR MECHANICAL APPLICATIONS. ASME B16.22, ASME B16.51, or ASME B16.18. MECHANICAL PRESS COPPER FITTINGS SHALL CONFORM TO IAPMO PS-117 OR ASME B16.51.
2) PEX, HIGH-DENSITY CROSS-LINKED POLYETHYLENE TUBING SHALL BE MANUFACTURED TO THE REQUIREMENTS OF ASTM F876 AND MEET THE STANDARD GRADE HYDROSTATIC PRESSURE RATINGS FROM PLASTIC PIPE INSTITUTE IN ACCORDANCE WITH TR-4/03.
(MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE)
a) PEX-A AND PEX-B MEETING ANSI/NSF61 AND ANSI/NSF372 STANDARDS FOR POTABLE WATER SAFETY AND LEAD-FREE STANDARDS AND MUST BE MARKED WITH "PW-G", "NSF-61-G" OR OTHER NSF-APPROVED MARKING. ASTM F2023 FOR USE WITH CHLORINATED WATER.
(MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE)
b) PEX MECHANICAL, CRIMP/INSERT OR EXPANSION FITTINGS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PIPE SIZES GIVEN ON THE DRAWINGS ARE NOMINAL COPPER PIPE SIZE, INCREASE PEX PIPING SIZE TO EQUAL OR EXCEED COPPER PIPE INSIDE DIAMETER FOR SUPPLY MAINS.
(MUST BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS FOR PLENUM USE)
3) VALVES
a) TO BE INSTALLED ON THE FIXTURE SUPPLY TO EACH PLUMBING FIXTURE.
b) TO BE INSTALLED ON THE WATER SUPPLY SIDE TO EACH APPLIANCE OR MECHANICAL EQUIPMENT.
c) TYPES:
1. GATE VALVE: JOMAR T/S-301G OR EQUAL. LEAD-FREE NSF 61, ANSI B1.20.1.
2. GLOBE VALVE: JOMAR TGG OR EQUAL.
3. BALL VALVE: JOMAR JP100PxP OR EQUAL COMPACT LEAD FREE BRASS BALL VALVE. UL842, CSA 3371-12 & 3371-92, FM, CALIFORNIA CODE AB1953, NSF61 ANNEX G APPROVED.
4. BALL VALVE: JOMAR T-100NE OR EQUAL. UL842, FM, CSA, NSF 61-8, MSS SP-110

B. DOMESTIC COLD, AND HOT WATER (UNDERGROUND).

1) TYPE L HARD DRAWN COPPER TUBING, ASTM B-88.
a) WROUGHT COPPER SOLDERED FITTINGS, ASTM B75 ALLOY C12200. ANSI B16.22. MSS SP-104.
b) MECHANICAL PRESS COPPER FITTINGS FOR USE IN PLUMBING OR MECHANICAL APPLICATIONS. ASME B16.22, ASME B16.51, or ASME B16.18. MECHANICAL PRESS COPPER FITTINGS SHALL CONFORM TO IAPMO PS-117 OR ASME B16.51.
2) PEX, HIGH-DENSITY CROSS-LINKED POLYETHYLENE TUBING SHALL BE MANUFACTURED TO THE REQUIREMENTS OF ASTM F876 AND MEET THE STANDARD GRADE HYDROSTATIC PRESSURE RATINGS FROM PLASTIC PIPE INSTITUTE IN ACCORDANCE WITH TR-4/03.
a) PEX-A AND PEX-B MEETING ANSI/NSF61 AND ANSI/NSF372 STANDARDS FOR POTABLE WATER SAFETY AND LEAD-FREE STANDARDS AND MUST BE MARKED WITH "PW-G", "NSF-61-G" OR OTHER NSF-APPROVED MARKING. ASTM F2023 FOR USE WITH CHLORINATED WATER.
b) PEX MECHANICAL, CRIMP/INSERT OR EXPANSION FITTINGS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PIPE SIZES GIVEN ON THE DRAWINGS ARE NOMINAL COPPER PIPE SIZE, INCREASE PEX PIPING SIZE TO EQUAL OR EXCEED COPPER PIPE INSIDE DIAMETER FOR SUPPLY MAINS.
c) HDPE, PIGMENTED BLUE THROUGHOUT, CTS SIZES 1"-2" AWWA C901 4710 DR9 PC250 IPS SIZES 2"-3", AWWA C901 4710 DR11 PC200.

C. LEAD CONTENT OF WATER SUPPLY PIPE AND FITTINGS:

1) PIPE AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, UTILIZED IN THE WATER SUPPLY SYSTEM SHALL NOT HAVE MORE THAN 8% LEAD CONTENT.

2) PIPE, PIPE FITTINGS, JOINTS, VALVES, FAUCETS, AND FIXTURE FITINGS UTILIZED TO SUPPLY WATER FOR DRINKING OR COOKING PURPOSES SHALL COMPLY WITH NSF 372 AND SHALL HAVE A WEIGHTED AVERAGE LEAD CONTENT OF 0.25% OR LESS.

D. SANITARY SEWER, AND VENTS.
(UNDERGROUND, INTERIOR TO THE BUILDING).

1) ABS PIPE AND FITTINGS: ABS PIPE AND FITTINGS SHALL COMPLY WITH NSF 14, "PLASTICS PIPING SYSTEMS COMPONENTS AND RELATED MATERIALS," FOR PLASTIC PIPING COMPONENTS. INCLUDE MARKING WITH "NSF-DWV" FOR PLASTIC DRAIN, WASTE, AND VENT PIPING AND "NSF-SEWER" FOR PLASTIC SEWER PIPING. SOLID-WALL ABS PIPE: ASTM D 2661, SCHEDULE 40. ABS SOCKET FITTINGS: ASTM D 2661, MADE TO ASTM D 3311, DRAIN, WASTE, AND VENT PATTERNS. SOLVENT CEMENT: ASTM D 2235.
2) PVC PIPE AND FITTINGS: PVC PIPE AND FITTINGS SHALL COMPLY WITH NSF 14, "PLASTICS PIPING SYSTEMS COMPONENTS AND RELATED MATERIALS," FOR PLASTIC PIPING COMPONENTS. INCLUDE MARKING WITH "NSF-DWV" FOR PLASTIC DRAIN, WASTE, AND VENT PIPING AND "NSF-SEWER" FOR PLASTIC SEWER PIPING. SOLID-WALL PVC PIPE: ASTM D 2665, DRAIN, WASTE, AND VENT. PVC SOCKET FITTINGS: ASTM D 2665, MADE TO ASTM D 3311, DRAIN, WASTE, AND VENT PATTERNS AND TO FIT SCHEDULE 40 PIPE. ADHESIVE PRIMER: ASTM F 656. SOLVENT CEMENT: ASTM D 2564.

MECHANICAL SPECIFICATIONS (CONTINUED)

E. SANITARY SEWER, AND VENTS.
(ABOVE GROUND, INTERIOR TO THE BUILDING).

1) ABS PIPE AND FITTINGS: ABS PIPE AND FITTINGS SHALL COMPLY WITH NSF 14, "PLASTICS PIPING SYSTEMS COMPONENTS AND RELATED MATERIALS," FOR PLASTIC PIPING COMPONENTS. INCLUDE MARKING WITH "NSF-DWV" FOR PLASTIC DRAIN, WASTE, AND VENT PIPING AND "NSF-SEWER" FOR PLASTIC SEWER PIPING. SOLID-WALL ABS PIPE: ASTM D 2661, SCHEDULE 40. CELLULAR-CORE ABS PIPE: ASTM F 628, SCHEDULE 40.ABS SOCKET FITTINGS: ASTM D 2661, MADE TO ASTM D 3311, DRAIN, WASTE, AND VENT PATTERNS. SOLVENT CEMENT: ASTM D 2235. (NOT FOR USE IN A RETURN AIR PLENUM)
2) PVC PIPE AND FITTINGS: PVC PIPE AND FITTINGS SHALL COMPLY WITH NSF 14, "PLASTICS PIPING SYSTEMS COMPONENTS AND RELATED MATERIALS," FOR PLASTIC PIPING COMPONENTS. INCLUDE MARKING WITH "NSF-DWV" FOR PLASTIC DRAIN, WASTE, AND VENT PIPING AND "NSF-SEWER" FOR PLASTIC SEWER PIPING. SOLID-WALL PVC PIPE: ASTM D 2665, DRAIN, CELLULAR-CORE PVC PIPE: ASTM F 891, SCHEDULE 40. WASTE, AND VENT. PVC SOCKET FITTINGS: ASTM D 2665, MADE TO ASTM D 3311, DRAIN, WASTE, AND VENT PATTERNS AND TO FIT SCHEDULE 40 PIPE. ADHESIVE PRIMER: ASTM F 656. SOLVENT CEMENT: ASTM D 2564. (NOT FOR USE IN A RETURN AIR PLENUM)
3) HUBLESS CAST IRON SOIL PIPE AND FITTINGS: HUBLESS CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 888 AND CISPI STANDARD 301. HUBLESS COUPLINGS SHALL CONFORM TO CISPI STANDARD 310 AND BE CERTIFIED BY NSF® INTERNATIONAL.
4) HUB AND SPIGOT CAST IRON SOIL PIPE AND FITTINGS: HUB AND SPIGOT CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 74.

F. INDIRECT WASTE (ABOVEGROUND).
1) POLYVINYLCHLORIDE (PVC) DWV PIPE, SCHEDULE 40, SOLVENT JOINT (INDIRECT WASTE).
2) DWV, WROUGHT COPPER, ANSI B-16.29 (WATER HEATER T&P).

G. NATURAL GAS.

1) BLACK STEEL PIPE, SCHEDULE 40, ASTM A53.
a) PIPE 3" AND SMALLER; 150 LB. MALLEABLE IRON, THREADED FITTINGS.
b) PIPE 4" AND SMALLER; VIEGA MEGAPRESS G FOR WATER AND GAS. CSA LC4, TSSA/ASME B31 FOR USE WITH ASTM A53 SCHEDULE 40 BLACK IRON PIPE.
c) PIPE 2-1/2" AND LARGER, WELDED.
d) PLUG VALVE: ROCKWELL NORDSTROM FIGURE NO. 142 OR 143.
e) BALL VALVE: JOMAR T-100NE. APPROVALS- UL842, FM, CSA, NSF 61-8, MSS SP-110

2) GAS PIPING PAINTING:

a) ALL BLACK STEEL GAS PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE PRIMED AND PAINTED TO EITHER MATCH ADJACENT EXTERIOR WHERE LOCATED ON OR NEAR EXTERIOR WALL AND PAINTED SAFETY YELLOW WHERE LOCATED ON THE ROOF.

H. ALL PIPE HANGERS AND SUPPORTS SHALL BE STANDARD PRODUCTS OF GRINNELL, FEE AND MASON, OR ELCEN. HANGER SPACING SHALL BE IN ACCORDANCE WITH MSS-SP-69.

I. SLEEVES

1) PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK. ALL SLEEVES SHALL BE OF SUFFICIENT SIZE TO PERMIT PIPE MOVEMENT DUE TO EXPANSION AND CONTRACTION AND TO ACCOMMODATE PIPE INSULATION.

2) INTERIOR PARTITIONS: 16 GAGE GALVANIZED STEEL, PACK BETWEEN PIPE AND SLEEVE WITH FIRE SAFING AND CAULK AT EACH END WITH FIRE RESISTANT SEALANT.

3) ROOF: PROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WATERPROOF SEAL. COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.

4) PROTECTION AGAINST CONTACT: METALLIC PIPING, EXCEPT FOR CAST IRON, DUCTILE IRON AND GALVANIZED STEEL SHALL NOT BE PLACED IN DIRECT CONTACT WITH STEEL FRAMING MEMBERS, CONCRETE, OR CINDER WALLS AND FLOORS OR OTHER MASONRY. METALLIC PIPING SHALL NOT BE PLACED IN DIRECT CONTACT WITH CORROSIVE SOIL. SHEATHING USED TO PREVENT DIRECT CONTACT SHALL HAVE A THICKNESS OF GREATER THAN .008: AND THE SHEATHING SHALL BE MADE OF PLASTIC. ANY PIPE THAT PASSES THROUGH A FOUNDATION WALL OR FOOTING SHALL BE PROVIDED WITH A RELIEVING ARCH, OR A PIPE SLEEVE SHALL BE BUILT INTO THE FOUNDATION WALL. THE SLEEVE SHALL BE TWO SIZES GREATER THAN THE PIPE PASSING THOUGH THE WALL OR FOOTING.

5) PLUMBING VENTS: FLASH ROOF VENT INTO ROOFING SYSTEM AS REQUIRED BY THE ROOFING CONTRACTOR TO MAINTAIN EXISTING ROOF WARRANTY. ALL PLUMBING VENT TERMINALS SHALL TERMINATE A MINIMUM OF 12" ABOVE ROOF OR EQUAL TO HEIGHT OF PARAPET, WHICHEVER IS GREATER.

J. PROVIDE CHROME PLATED ESCUTCHEONS ON ALL PIPE ENTERING FINISHED AREAS.

8. WATER HEATERS

A. COMMERCIAL, HIGH EFFICIENCY, DIRECT-VENT, GAS-FIRED, STORAGE, DOMESTIC-WATER HEATERS:

1. STANDARD: ANSI Z21.10.3/CSA4.3.
2. DESCRIPTION: MANUFACTURER'S PROPRIETARY DESIGN TO PROVIDE AT LEAST 95 PERCENT COMBUSTION EFFICIENCY AT OPTIMUM OPERATING CONDITIONS.STORAGE-TANK CONSTRUCTION: STEEL.
a. PRESSURE RATING: 150 PSIG.
b. INTERIOR FINISH: COMPLY WITH NSF 61 AND NSF 372 BARRIER MATERIALS FOR POTABLE-WATER TANK LININGS, INCLUDING EXTENDING LINING MATERIAL INTO TAPPINGS.
3. FACTORY-INSTALLED STORAGE-TANK APPURTENANCES:
a. ANODE ROD: REPLACEABLE MAGNESIUM.
b. DIP TUBE: REQUIRED UNLESS COLD-WATER INLET IS NEAR BOTTOM OF TANK.
c. DRAIN VALVE: CORROSION-RESISTANT METAL WITH HOSE-END CONNECTION.
d. INSULATION: COMPLY WITH ASHRAE/IES 90.1
e. JACKET: STEEL WITH ENAMELED FINISH.
f. HEAT-TRAP FITTINGS: INLET TYPE IN COLD-WATER INLET AND OUTLET TYPE IN HOT-WATER OUTLET.
g. BURNER: FOR USE WITH DIRECT-VENT, GAS-FIRED, DOMESTIC-WATER HEATERS AND NATURAL-GAS FUEL.
h. IGNITION: STANDING PILOT OR ANSI Z21.20/CSA C22.2 NO. 60730-2-5, ELECTRIC, AUTOMATIC, GAS-IGNITION SYSTEM.
i. TEMPERATURE CONTROL: ADJUSTABLE THERMOSTAT.
j. COMBINATION TEMPERATURE-AND-PRESSURE RELIEF VALVE: ANSI RELIEVING CAPACITY AT LEAST AS GREAT AS HEAT INPUT, AND INCLUDE PRESSURE SETTING LESS THAN WORKING-PRESSURE RATING OF DOMESTIC-WATER HEATER. SELECT RELIEF VALVE WITH SENSING ELEMENT THAT EXTENDS INTO STORAGE TANK.
4. DIRECT-VENT SYSTEM: THROUGH- ROOF OR WALL, COAXIAL- OR DOUBLE-CHANNEL VENT ASSEMBLY WITH DOMESTIC-WATER HEATER MANUFACTURERS' OUTSIDE INTAKE/EXHAUST SCREEN.

B. DOMESTIC-WATER EXPANSION TANKS:

1. DESCRIPTION: STEEL, PRESSURE-RATED TANK CONSTRUCTED WITH WELDED JOINTS AND FACTORY-INSTALLED, BUTYL-RUBBER DIAPHRAGM. INCLUDE AIR PRECHARGE TO MINIMUM SYSTEM-OPERATING PRESSURE AT TANK.
2. CONSTRUCTION:
a. TAPPINGS: FACTORY-FABRICATED STEEL, WELDED TO TANK BEFORE TESTING AND LABELING. INCLUDE ASME B1.20.1 PIPE THREAD.
b. INTERIOR FINISH: COMPLY WITH NSF 61 AND NSF 372 BARRIER MATERIALS FOR POTABLE-WATER TANK LININGS, INCLUDING EXTENDING FINISH INTO AND THROUGH TANK FITTINGS AND OUTLETS.
c. AIR-CHARGING VALVE: FACTORY INSTALLED.
3. CAPACITY AND CHARACTERISTICS:
a. WORKING-PRESSURE RATING: 150 PSIG .

9. INSULATION AND DUCT LINING:

A. ALL INSULATIONS AND ACCESSORIES SHALL HAVE A FIRE HAZARD CLASSIFICATION WITH A FLAME SPREAD RATING OF NOT OVER 25, A FUEL CONTRIBUTION RATING OF NOT OVER 50, AND A SMOKE DEVELOPED RATING OF NOT OVER 50, IN ACCORDANCE WITH NFPA.

B. PIPE INSULATION - ABOVE GRADE:

1) THE PIPING INSULATION USED SHALL HAVE A THERMAL CONDUCTIVITY OF 0.27 Btu PER in/hr*sqft*F° OR LESS.

2) FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER, ASJ JACKET, FACTORY APPLIED PRESSURE SEALING LONGITUDE LAP JOINT, NO STAPLES, ZESTON PREMOLDED PVC FITTING COVERS. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

3) FLEXIBLE CLOSED CELL ELASTOMERIC THERMAL INSULATION, UNSLIT OR PRESLIT WITH PRESSURE SENSITIVE ADHESIVE SYSTEM FOR CLOSURE AND VAPOR SEALING, EQUAL TO ARMSTRONG AP ARMAFLEX OR ARMAFLEX 2000.

4) FOR NON CIRCULATING SYSTEMS, THE FIRST 8 FEET OF INLET AND OUTLET PIPING BETWEEN THE TANK AND THE HEAT TRAP (INCLUDING THE HEAT TRAP) MUST BE INSULATED.

5) FOR CIRCULATING SYSTEMS, ALL HOT WATER PIPING IN THE CIRCULATION LOOP MUST BE INSULATED AS SPECIFIED BELOW.

6) INSULATION SCHEDULE:

a) DOMESTIC COLD WATER 1/2"
b) DOMESTIC HOT WATER 1" FOR PIPING UP TO 1-1/4"Ø, & 1-1/2" FOR PIPING 1-1/2"Ø AND LARGER
c) HOT WATER RECIRCULATING 1"

C. PIPE INSULATION - BELOW GRADE:

1) THE PIPING INSULATION USED SHALL HAVE A THERMAL CONDUCTIVITY OF 0.27 Btu PER in/hr*sqft*F° OR LESS.

2) FLEXIBLE CLOSED CELL ELASTOMERIC THERMAL INSULATION, UNSLIT OR PRESLIT WITH PRESSURE SENSITIVE ADHESIVE SYSTEM FOR CLOSURE AND VAPOR SEALING, EQUAL TO KFLEX INSUL-TUBE OR EQUAL RATED FOR UNDERGROUND INSTALLATION ABOVE THE WATER TABLE. COVER PIPING WITH A CLEAN FILL SUCH AS SAND (3"-5" LAYER) TO PROTECT INSULATION FROM COMPACTION.

3) PRE-INSULATED PIPE SYSTEMS WITH CLOSED CELL PEX-FOAM INSULATION AND COVERED BY A WATERPROOF CORRUGATED HDPE JACKET. UPONOR ECOFLEX OR EQUAL. ASTM F876, F877, CSA B137.5

4) INSULATION SCHEDULE:

a) DOMESTIC HOT WATER 1-1/2"

D. EQUIPMENT INSULATION:

1) FLEXIBLE FIBERGLASS: GLASS FIBER INSULATION, ASTM C 553, TYPE 1, CLASS B-4, SEMI-RIGID BOARD, WITH FACTORY LAMINATED KRAFT ALUMINUM FOIL (ALL SERVICE JACKET), VAPOR BARRIER, OWENS/CORNING PIPE AND TANK INSULATION.

E. DUCTWORK: ACOUSTICAL INSULATION.

1) DUCT LINING: 2 LB/CF, THICKNESS AS SCHEDULED, AIR STREAM SIDE COATED, INSTALL PER SMACNA STANDARDS.

a) DUCT LINING SCHEDULE:

(1) RECTANGULAR SUPPLY DUCT 1/2" : THROUGHOUT THE FIRST 10 FEET OF DUCT.
(2) RETURN AIR DUCT 1/2" : THROUGHOUT THE FIRST 10 FEET OF DUCT.

F. DUCTWORK: THERMAL INSULATION.

1) DUCT COVERING: 3/4 LB/CF, FIBERGLASS BLANKET WITH FACTORY APPLIED VAPOR BARRIER AND FACING, THICKNESS AS SCHEDULED, INSTALLATION IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

a) DUCT COVERING SCHEDULE: MINIMUM R-6

(1) ROUND SUPPLY DUCT 2" (WHERE CONCEALED BY CEILING)
(2) RECTANGULAR SUPPLY DUCT 2" (WHERE CONCEALED BY CEILING)
(3) OUTDOOR AIR 2"

MECHANICAL SPECIFICATIONS (CONTINUED)

10. DUCTWORK:

A. ALL DUCTWORK, UNLESS OTHERWISE INDICATED, SHALL BE FABRICATED FROM GALVANIZED SHEET STEEL COMPLYING WITH ASTM A 653, LOCKFORMING QUALITY, WITH G 90 ZINC COATING IN ACCORDANCE WITH ASTM A 924; AND MILL PHOSPHATIZED FOR EXPOSED LOCATIONS.

B. WHERE DUCTWORK IS INDICATED TO BE EXPOSED TO VIEW IN OCCUPIED SPACES, PROVIDE MATERIALS WHICH ARE FREE FROM VISUAL IMPERFECTIONS INCLUDING PITTING, SEAM MARKS, ROLLER MARKS, STAINS AND DISCOLORATIONS, AND OTHER IMPERFECTIONS, INCLUDING THOSE WHICH WOULD IMPAIR PAINTING.

C. DUCTWORK, METAL GAUGES, REINFORCING, ETC. SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS," LATEST EDITION FOR A 2 INCH WATER GAUGE STATIC PRESSURE.

1) RECTANGULAR DUCT:

a) ELBOWS, UNLESS INDICATED OTHERWISE SHALL BE CONSTRUCTED WITH CENTERLINE RADIUS OF NOT LESS THAN 1.5 DUCT WIDTH OR SQUARE ELBOW WITH DOUBLE WALL STREAMLINE VANES.

b) RETURN AIR ACOUSTICAL ELBOWS AND SOUND BOOTS SHALL BE A SQUARE ELBOW WITH NO TURNING VANES.

c) SLOPES FOR TRANSITIONS OR OTHER CHANGES IN DIMENSIONS SHALL BE MINIMUM 1 TO 3.

2) ROUND AND OVAL SPIRAL SEAM DUCT:

a) PROVIDE RADIUS TYPE FITTINGS FABRICATED OF MULTIPLE SECTIONS WITH MAXIMUM 15 DEGREE CHANGE OF DIRECTION PER SECTION. UNLESS SPECIFICALLY DETAILED OTHERWISE, USE 45 DEGREE LATERALS FOR BRANCH TAKEOFF CONNECTIONS. WHERE 90 DEGREE BRANCHES ARE INDICATED PROVIDE CONICAL TYPE TEES.

b) SLOPES FOR TRANSITIONS OR OTHER CHANGES IN DIMENSIONS SHALL BE MINIMUM 1 TO 3.

c) AS AN OPTION, PROVIDE FACTORY-FABRICATED DUCT AND FITTINGS, IN LIEU OF SHOP-FABRICATED DUCT AND FITTINGS.

(1) ELBOWS: ONE PIECE CONSTRUCTION FOR 90 DEGREES AND 45 DEGREE ELBOW 14" AND SMALLER. PROVIDE MULTIPLE GORE CONSTRUCTION FOR LARGER DIAMETERS WITH STANDING SEAM CIRCUMFERENTIAL JOINT.

(2) DIVIDED FLOW FITTINGS: 90 DEGREE TEES, CONSTRUCTED WITH SADDLE TAP SPOT WELDED AND BONDED TO DUCT FITTING BODY.

d) ROUND LONGITUDINAL SEAM DUCT. USE FOR RIGID METAL DUCT ON LEAVING SIDE OF DUCT IN CONCEALED LOCATIONS FOR EXTENSION TO FLEX FOR DIFFUSERS, UNLESS OTHERWISE INDICATED.

D. DUCT SIZES SHOWN ON THE DRAWINGS ARE SHEETMETAL SIZES, ALLOWANCE FOR DUCT LINER HAS BEEN MADE WHERE APPLICABLE.

E. INSTALLATION OF METAL DUCTWORK:

1) GENERAL: ASSEMBLE AND INSTALL DUCTWORK IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES WHICH WILL ACHIEVE AIR-TIGHT SYSTEMS (MAXIMUM 5% LEAKAGE), WITH NO OBJECTIONABLE NOISE, AND CAPABLE OF PERFORMING INDICATED SERVICE. INSTALL EACH RUN WITH MINIMUM NUMBER OF JOINTS. ALIGN DUCTWORK ACCURATELY WITH INTERNAL SURFACES SMOOTH. SUPPORT DUCTS RIGIDLY WITH SUITABLE STRAPS, BRACES, HANGERS AND ANCHORS IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" LATEST EDITION. DUCT HANGERS SHALL BE OF THE TYPE WHICH WILL HOLD DUCTS TRUE-TO-SHAPE AND TO PREVENT BUCKLING. SUPPORT VERTICAL DUCTS AT EVERY FLOOR.

2) AUXILIARY STEEL: PROVIDE AUXILIARY STEEL AS REQUIRED TO ADEQUATELY SUPPORT DUCTWORK.

3) ROUTING: LOCATE DUCTWORK RUNS, EXCEPT AS OTHERWISE INDICATED, VERTICALLY AND HORIZONTALLY AND AVOID DIAGONAL RUNS WHEREVER POSSIBLE. LOCATE RUNS AS INDICATED BY DIAGRAMS, DETAILS AND NOTATIONS OR, IF NOT OTHERWISE INDICATED, RUN DUCTWORK IN SHORTEST ROUTE WHICH DOES NOT OBSTRUCT USABLE SPACE OR BLOCK ACCESS FOR SERVICING BUILDING AND ITS EQUIPMENT. HOLD DUCTS CLOSE TO WALLS, OVERHEAD CONSTRUCTION, COLUMNS, AND OTHER STRUCTURAL AND PERMANENT ENCLOSURE ELEMENTS OF BUILDING. WHEREVER POSSIBLE IN FINISHED AND OCCUPIED SPACES, CONCEAL DUCTWORK FROM VIEW, BY LOCATING IN MECHANICAL SHAFTS, HOLLOW WALL CONSTRUCTION OR ABOVE SUSPENDED CEILINGS. DO NOT ENCASE HORIZONTAL RUNS IN SOLID PARTITIONS, EXCEPT AS SPECIFICALLY SHOWN. COORDINATE LAYOUT WITH SUSPENDED CEILING AND LIGHTING LAYOUTS AND SIMILAR FINISHED WORK.

4) DO NOT ROUTE DUCTWORK THROUGH ELECTRICAL EQUIPMENT SPACES AND ENCLOSURES, UNLESS INDICATED OTHERWISE.

5) PENETRATIONS:

a) WHERE DUCTS PASS THROUGH INTERIOR PARTITIONS OR EXTERIOR WALLS, AND ARE EXPOSED TO VIEW, CONCEAL SPACE BETWEEN OPENING AND DUCT OR DUCT INSULATION WITH SHEET METAL FLANGES OF SAME GAGE AS DUCT. OVERLAP OPENING ON 4 SIDES BY AT LEAST 1-1/2". FASTEN TO DUCT AND WALL.

b) WHERE DUCTS PASS THROUGH FIRE-RATED FLOORS, WALLS, OR PARTITIONS, PROVIDE FIRESTOPPING BETWEEN DUCT AND WALL.

6) COORDINATION: COORDINATE DUCT INSTALLATIONS WITH INSTALLATION OF ACCESSORIES, DAMPERS, COIL FRAMES, EQUIPMENT, CONTROLS, AND OTHER ASSOCIATED WORK OF THE DUCTWORK SYSTEM.

7) INSTALLATION: INSTALL METAL DUCTWORK IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS", LATEST EDITION.

F. EQUIPMENT CONNECTIONS:

1) CONNECT METAL DUCTWORK TO EQUIPMENT AS INDICATED, PROVIDE FLEXIBLE CONNECTION FOR EACH DUCTWORK CONNECTION TO EQUIPMENT MOUNTED ON VIBRATION ISOLATORS, AND/OR EQUIPMENT CONTAINING ROTATING MACHINERY. PROVIDE ACCESS DOORS AS REQUIRED.

G. SEAL ALL CONCEALED DUCTWORK JOINTS WITH NON-HARDENING, NON-MIGRATING MASTIC SEALANT, AS RECOMMENDED FOR SEALING SEAMS AND JOINTS IN DUCTWORK. OIL BASE CAULKING AND GLAZING COMPOUNDS SHALL NOT BE ACCEPTABLE. DUCTS SHALL BE SEALED TO THE CLASS LEVEL LISTED BELOW.

1) UNCONDITIONED SPACES	CLASS B	CLASS A	CLASS C	CLASS B
2) CONDITIONED SPACES (PLENUM)	CLASS C	CLASS B	CLASS B	CLASS C
	SUPPLY ≤ 2" W.C.	SUPPLY > 2" W.C.	EXHAUST/DRYER	RETURN

11. FLEXIBLE DUCT:

A. ATCO #076 (R-6), OR EQUAL.

B. FACTORY APPLIED INSULATION AND VAPOR BARRIER.

C. MAXIMUM LENGTH OF 5'-0".

12. FLUES AND ACCESSORIES:

A. FLUE FOR GAS FIRED CONDENSING WATER HEATER OR FURNACE SHALL BE AS RECOMMENDED BY THE GAS APPLIANCE MANUFACTURER. FLUES SHALL BE SCHEDULE 40, PVC OR CPVC PIPE PER THE MANUFACTURERS INSTALLATION REQUIREMENTS.

B. PROVIDE MANUFACTURER'S STANDARD ACCESSORY ITEMS INCLUDING BIRD PROOF TOP, STORM COLLAR, ROOF THIMBLE, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION. ROOF THIMBLES THROUGH THE BUILDING ROOF SHALL BE SUITABLE FOR USE WITH THE ROOF PROVIDED.

13. EXHAUST FANS:

A. CENTRIFUGAL CEILING EXHAUSTERS SHALL BE ELECTRICALLY POWERED CENTRIFUGAL TYPE FAN SUITABLE FOR MOUNTING IN THE CEILING WITH A PERFORATED OFF-WHITE METAL GRILLE WITH A THUMBSCREW ATTACHMENT FOR EASY ACCESS TO FAN HOUSING. UNIT SHALL CONSIST OF A GALVANIZED STEEL HOUSING LINED WITH ACOUSTICAL INSULATION AND SHALL INCLUDE AN INTEGRAL BACKDRAFT DAMPER ON FAN DISCHARGE. MOTOR SHALL BE A PERMANENT SPLIT-CAPACITOR TYPE MOTOR, PERMANENTLY LUBRICATED, WITH THERMAL OVERLOAD PROTECTION. PROVIDE DISCONNECT SWITCH OR OTHER MEANS OF DISCONNECT AT MOTOR IN FAN HOUSING.

14. SMOKE DETECTORS:

A. UNITS MOUNTED IN THE DUCTWORK SHALL BE A DUCT MOUNTED UL LISTED PHOTO-ELECTRIC SELF-CONTAINED SMOKE DETECTOR WITH HOUSING. UNITS SHALL BE EQUAL TO SIMPLEX #4098-9687. THE SAMPLING TUBE SHALL BE #2098-9804, LENGTH AS REQUIRED FOR DUCT.

B. DUCT DETECTOR REMOTE TEST STATION SHALL BE SIMPLEX #4098-9842 WITH REMOTE ALARM INDICATOR, POWER-ON INDICATOR, TONE-ALERT, TONE-ALERT SILENCE SWITCH, AND TEST/RESET SWITCH.

1) DEVICES SHALL BE MOUNTED IN APPROVED LOCATION AS INDICATED ON THE FLOOR PLANS OR AS DIRECTED BY LOCAL AUTHORITY HAVING JURISDICTION.

C. PROVIDE AND INSTALL A PHOTO-ELECTRIC SMOKE DETECTOR IN THE RETURN AIR DUCT FOR EACH HVAC UNIT AS INDICATED ON THE FLOOR PLANS. DETECTORS ARE TO BE PROVIDED WITH A SUB-BASE CONTAINING AUXILIARY RELAY CONTACTS. RELAY CONTACTS SHALL BE WIRED INTO UNIT CONTROL WIRING, SO AS TO SHUT UNIT DOWN IN THE CASE OF SMOKE DETECTION. PROVIDE ALL CONTROL WIRING. ELECTRICAL CONTRACTOR SHALL PROVIDE 120 VOLT POWER TO EACH DETECTOR.

D. SMOKE DETECTORS SHALL BE INTERLOCKED. IN ALARM CONDITION OF A SINGLE DETECTOR ALL UNITS SHALL SHUT DOWN.

15. CONTROL WIRING:

A. ELECTRICAL WIRING AND WIRING CONNECTIONS REQUIRED FOR THE INSTALLATION OF THE TEMPERATURE CONTROL SYSTEM, SHALL BE PROVIDED BY THIS CONTRACTOR, UNLESS SPECIFICALLY SHOWN ON THE ELECTRICAL DRAWINGS OR SPECIFICATIONS.

B. INSTALL CONTROL WIRING, WITHOUT SPLICES BETWEEN TERMINAL POINTS, COLOR CODED. INSTALL IN NEAT WORKMANLIKE MANNER, SECURELY FASTENED. INSTALL IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE AND THE ELECTRICAL SPECIFICATIONS.

1) INSTALL CIRCUITS OVER 25 VOLT WITH COLOR CODED NUMBER 12 WIRE.

2) INSTALL CIRCUITS UNDER 25 VOLT WITH COLOR CODED NUMBER 18 WIRE WITH 0.031 INCH HIGH TEMPERATURE 105 DEGREES F PLASTIC INSULATION ON EACH CONDUCTOR AND PLASTIC SHEATH OVER ALL.

3) INSTALL ELECTRONIC CIRCUITS WITH COLOR CODED NUMBER 22 WIRE WITH 0.023 INCH POLYETHYLENE INSULATION ON EACH CONDUCTOR WITH PLASTIC JACKETED COPPER SHIELD OVER ALL.

4) INSTALL LOW VOLTAGE CIRCUITS, LOCATED IN CONCRETE SLABS AND MASONRY WALLS, OR EXPOSED IN OCCUPIED AREAS, IN ELECTRIC CONDUIT.

5) ALL WIRING IN AREAS USED AS AIR PLENUMS SHALL BE IN ELECTRIC CONDUIT EXCEPT THAT LOW VOLTAGE WIRING MAY BE TEFLON COATED, ALUMINUM SHEATHED CABLE OR OTHER WIRE SPECIFICALLY APPROVED FOR INSTALLATION IN AIR PLENUMS, WHERE ACCEPTABLE BY LOCAL CODES.

6) ALL WIRING IN AREAS NOT USED FOR AIR MOVEMENT SHALL BE IN ELECTRIC METALLIC TUBING EXCEPT LOW VOLTAGE WIRING MAY BE IN APPROVED SIGNAL CABLE WHERE ACCEPTED BY LOCAL CODES.

C. THERMOSTATIC CONTROLS TO HAVE A 5°F DEADBAND AND SETPOINT OVERLAP RESTRICTIONS.

1) TEMPERATURE CONTROLS SETBACK TO BE 55°F (HEAT) AND 85° (COOL), 2-HOUR OCCUPANT OVERRIDE, 10-HOUR BACKUP.

MECHANICAL SPECIFICATIONS (CONTINUED)

16. REMODELING WORK:

A. DEMOLITION: DISCONNECT, DEMOLISH, AND REMOVE ABANDONED MECHANICAL MATERIALS AND EQUIPMENT INDICATED TO BE REMOVED AND NOT INDICATED TO BE SALVAGED OR REMAIN.

B. EQUIPMENT TO BE SALVAGED:

1) DISCONNECT AND REMOVE, EXISTING MECHANICAL EQUIPMENT INDICATED TO BE REMOVED AND SALVAGED. DELIVER EQUIPMENT TO THE LOCATION DESIGNATED BY THE OWNER FOR STORAGE.

2) ALL MATERIALS AND EQUIPMENT DESIGNATED TO BE REUSED OR RELOCATED SHALL BE CAREFULLY REMOVED, AND STORED UNTIL NEEDED FOR REMODELING WORK. ALL ITEMS SHALL BE RESTORED TO "LIKE NEW" CONDITION WITH RUST OR CORROSION REMOVED, SURFACE PAINT TOUCHED UP OR REPAINTED AS REQUIRED TO MATCH NEW CONSTRUCTION, AND THOROUGHLY CLEANED AND INSPECTED. ANY ITEMS WHICH BECOME DAMAGED BEYOND REPAIR AS A RESULT OF CONSTRUCTION OR DEMOLITION ACTIVITY SHALL BE REPLACED WITH NEW MATERIAL EQUIVALENT IN EVERY RESPECT.

C. DISPOSAL AND CLEANUP: REMOVE FROM THE SITE AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS AND EQUIPMENT NOT INDICATED TO BE SALVAGED.

D. PROTECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST, AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE PROTECTION AND BARRIERS AFTER REMODELING OPERATIONS ARE COMPLETE.

E. LOCATE, IDENTIFY, AND PROTECT MECHANICAL SERVICES PASSING THROUGH REMODELING AREA AND SERVING OTHER AREAS OUTSIDE THE REMODELING LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE REMODELING LIMITS. WHERE MECHANICAL SERVICES ARE LOCATED IN A WALL, ETC. TO BE DEMOLISHED, REROUTE PIPING TO NEW OR EXISTING CONSTRUCTION TO MAINTAIN CONTINUITY OF THE SYSTEM. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS.

F. REMOVE ALL PIPING TO BE DEMOLISHED BACK TO PIPE MAIN OR EDGE OF PROJECT AREA, AND CAP PIPE.

G. PIPING AND DUCTS EMBEDDED IN FLOORS, WALLS, AND CEILINGS MAY REMAIN IF SUCH MATERIALS DO NOT INTERFERE WITH NEW INSTALLATIONS. PIPING AND DUCTS TO REMAIN SHALL BE APPROVED BY THE ARCHITECT. REMOVE MATERIALS ABOVE ACCESSIBLE CEILINGS. DRAIN AND CAP PIPING AND DUCTS ALLOWED TO REMAIN ABOVE CEILING OR BELOW FLOOR, CONCEALED FROM VIEW, EXCEPT AS OTHERWISE NOTED. PATCH FLOOR TO MATCH EXISTING.

H. PIPE AND DUCT SHALL BE CONCEALED WITH NEW OR EXISTING CONSTRUCTION WHENEVER POSSIBLE, UNLESS INDICATED OTHERWISE.

DRAWN BY: MA/DS
BC PROJECT #: 23888
MISSOURI PE COA #2009003629

01-11-24

STATE OF MISSOURI
MAXWELL T. APPLE
NUMBER
PE-2018037493
REGISTERED PROFESSIONAL ENGINEER

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Snappy Clean
LANDROMAT

REV#	DATE	DESCRIPTION

Issue Date: 01-11-24
Project #: 23033

MECHANICAL & PLUMBING SPECIFICATIONS

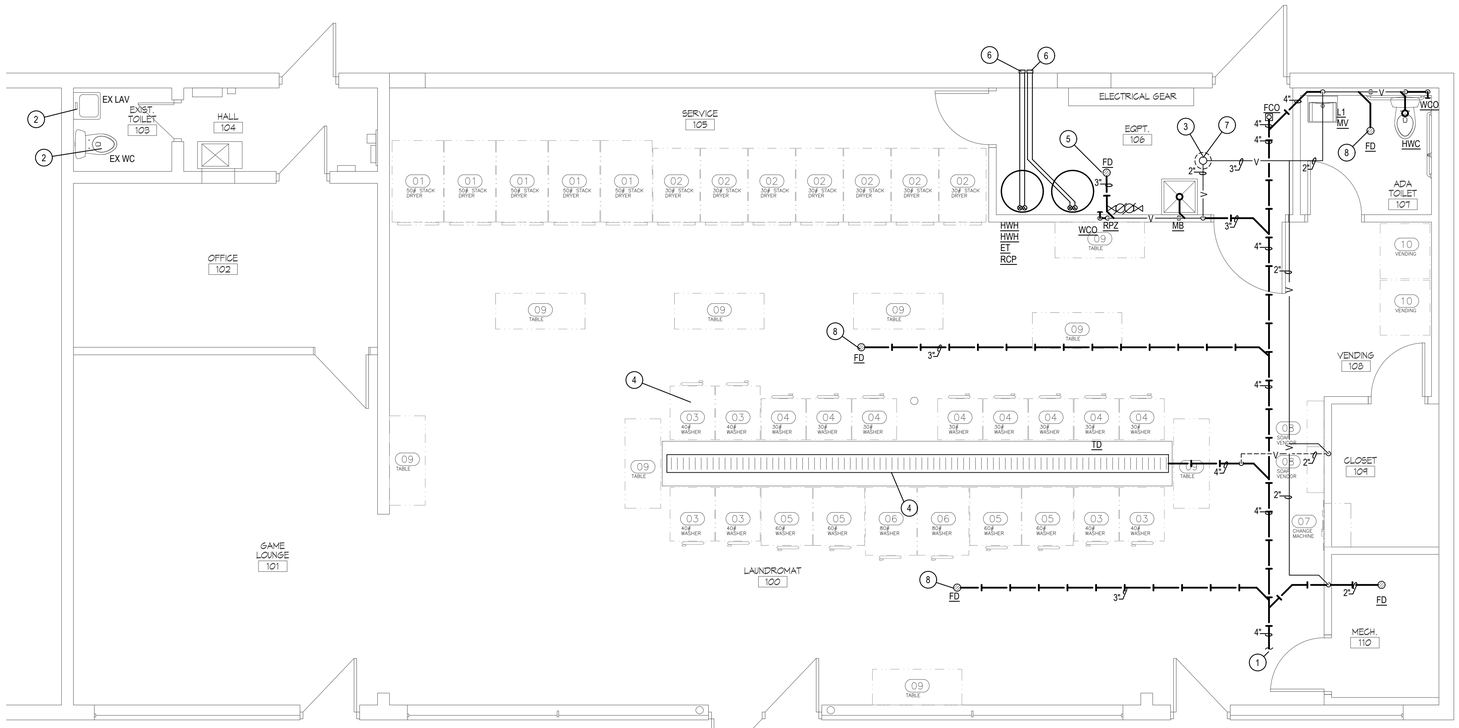
MP1

PLUMBING GENERAL NOTES:

1. INSTALL ALL PIPE, ETC. AS HIGH AS POSSIBLE.
2. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
3. REFER TO ARCHITECTURAL & STRUCTURAL DRAWINGS FOR REQUIREMENTS FOR SUPPORTING PIPING, EQUIPMENT, ETC. FROM THE STRUCTURE. PROVIDE ADDITIONAL STEEL AS REQUIRED TO PROPERLY SUPPORT SYSTEMS FROM THE STRUCTURE.
4. SAWCUT EXISTING FLOOR AS REQUIRED FOR INSTALLATION OF UNDERFLOOR PIPING. PATCH FLOOR TO MATCH EXISTING.
5. NO PIPING SHALL BE ROUTED OVER THE TOP OF ELECTRICAL PANELS.
6. ALL MATERIALS WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
7. CONTRACTOR TO TEST WATER PRESSURE ON SITE AND PROVIDE PRESSURE REDUCING VALVE ON WATER SERVICE IF PRESSURE IS OVER 80 PSI.

PLUMBING SYMBOLS

- SOIL AND WASTE PIPING BELOW FLOOR/GRADE
- SOIL AND WASTE PIPING ABOVE FLOOR/GRADE
- V — SANITARY VENT PIPING ABOVE GRADE
- V — SANITARY VENT PIPING BELOW GRADE
- DOMESTIC COLD WATER PIPING
- DOMESTIC COLD WATER PIPING BELOW FLOOR
- DOMESTIC HOT WATER PIPING
- DOMESTIC HOT WATER PIPING BELOW FLOOR
- DOMESTIC HOT WATER RECIRCULATION PIPING
- G — GAS PIPING
- PIPING TURNING DOWN
- PIPING TURNING UP
- TEE TOP CONNECTION
- UNION
- BACKFLOW PREVENTER
- FD — FLOOR DRAIN
- FCO — FLOOR CLEAN OUT
- WCO — WALL CLEAN OUT
- VALVE
- BALANCING VALVE
- SOLENOID VALVE
- PRESSURE REGULATOR
- CHECK VALVE
- CONNECT TO EXISTING
- I.E. — INVERT ELEVATION OF PIPE
- MATCH MARKS ON PLUMBING RISER DIAGRAM



WASTE & VENT FLOOR PLAN

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

PLUMBING PLAN NOTES:

1. CONNECT SANITARY LINE TO EXISTING SANITARY LINE. PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATION AND ELEVATION OF EXISTING SANITARY LINE IN FIELD PRIOR TO INSTALLATION OF NEW PIPING. VERIFY CONDITION OF EXISTING PIPE AND PROVIDE ALTERNATE PRICE FOR REPAIR.
2. EXISTING PLUMBING FIXTURE TO REMAIN.
3. LOCATION OF 4" VTR. MAINTAIN MIN. 10'-0" CLEARANCE FROM ALL OUTDOOR AIR INTAKES. INSTALLED MINIMUM 24" FROM ROOF EDGE..
4. WASHING MACHINES DRAIN TO DISCHARGE INTO TRENCH DRAIN PER MANUFACTURER'S REQUIREMENT.
5. ROUTE WATER HEATER T & P DRAIN PIPE AND FLUE CONDENSATE DRAIN PIPE DOWN AND DISCHARGE TO FLOOR DRAIN WITH AIR GAP.
6. 3"Ø CPVC FLUE & COMBUSTION AIR INTAKE THROUGH WALL TO MANUFACTURER'S VENT TERMINATION AS REQUIRED. OFFSET AS REQUIRED TO MAINTAIN 10" CLEARANCE FROM ALL OUTDOOR AIR INTAKES. SEAL PENETRATION WEATHER TIGHT.
7. CUT EXISTING ROOF AND FLASH INTO ROOF AS REQUIRED. ALL ROOFING WORK SHALL BE PERFORMED BY BUILDING OWNER'S ROOFING CONTRACTOR (AT THIS CONTRACTOR'S EXPENSE) TO MAINTAIN EXISTING ROOF WARRANTY. VERIFY APPROVED ROOFING CONTRACTOR WITH BUILDING OWNER PRIOR TO PERFORMING WORK.
8. PROVIDE TRAP SEAL ON FLOOR DRAINS SUSCEPTIBLE TO DRYING OUT.

DRAWN BY: MA/DS
BC PROJECT #: 23888
MISSOURI PE COA #2009003629

01-11-24

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Snappy Clean LANDROMAT

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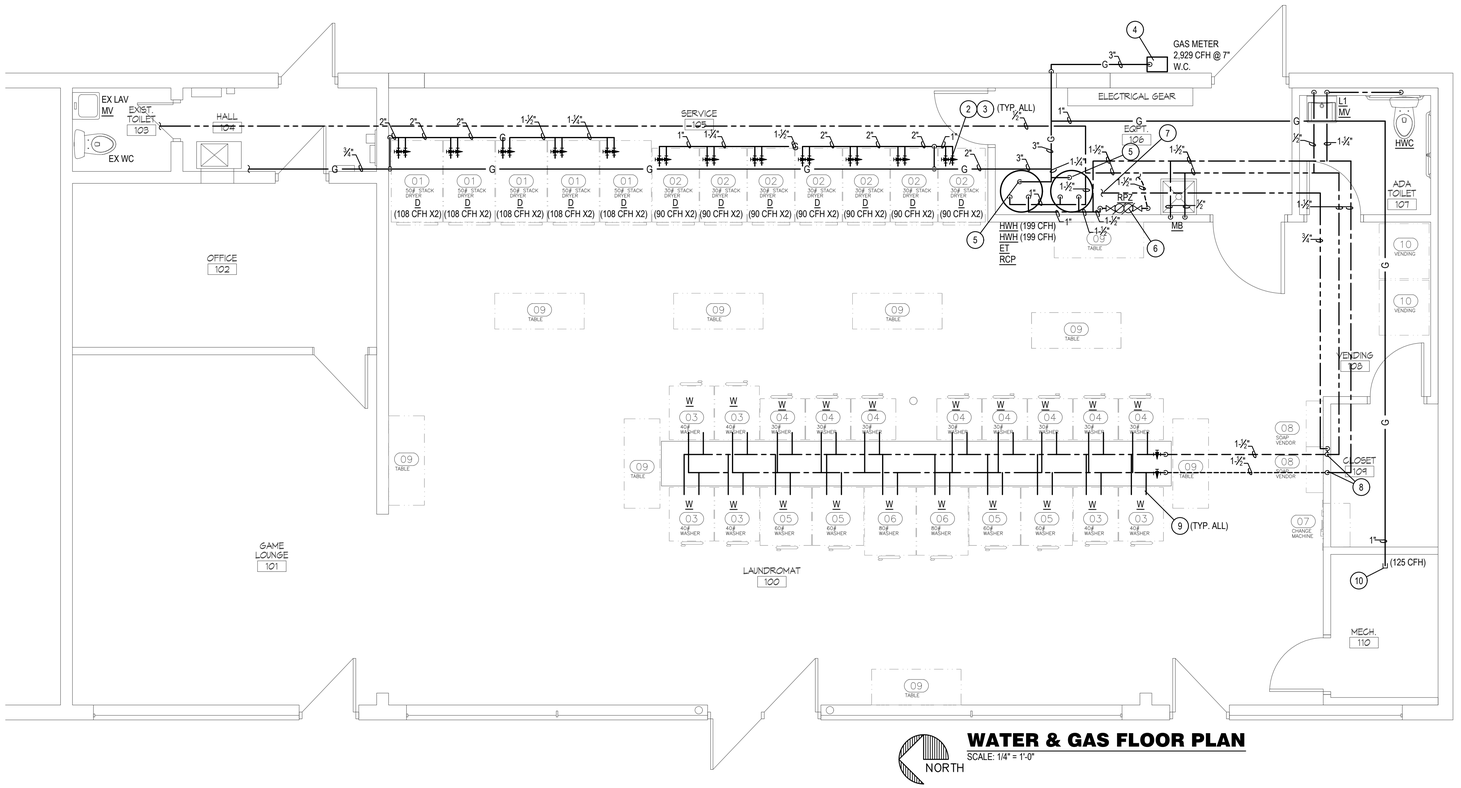
WASTE & VENT FLOOR PLAN

P1



WATER & GAS FLOOR PLAN

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

NORTH

PLUMBING PLAN NOTES:

1. CONNECT 1-½" CW TO EXISTING 1-½" DOMESTIC CW BELOW FLOOR AS REQUIRED. VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING.
2. CONNECT ¾" GAS TO EACH DRYER AS REQUIRED AND AS DETAILED.
3. ALL APPLIANCE CONNECTIONS SHALL BE MADE WITH UL LISTED FLEXIBLE APPLIANCE CONNECTOR. FLEX CONNECTORS SHALL BE PROVIDED BY TENANT. CONTRACTOR SHALL PROVIDE SAFETY LOCK AND CHAIN AT ALL GAS APPLIANCES ON WHEELS. PROVIDE PIPING REDUCERS AND INCREASERS AS REQUIRED TO MATE HARD PIPING WITH FLEX CONNECTORS.
4. COORDINATE WITH GAS COMPANY FOR EXISTING METER TO HAVE CAPACITY FOR 2,929 CFH @ 7" W.C.
5. CONNECT 1" GAS PIPE TO WATER HEATER AS REQUIRED AND AS DETAILED.
6. PROVIDE 1-½" RPZ BACKFLOW PREVENTER AND INSTALL 24" A.F.F. & 6" FROM WALL. ROUTE DRAIN FROM RPZ BFP TO FLOOR DRAIN WITH AN AIR GAP.
7. CONNECT HOT WATER RECIRC. PIPING BACK TO WATER HEATER AS REQUIRED. REFER TO RISER DIAGRAM FOR DETAILS.
8. 1-1/2" HOT AND COLD WATER ROUTED DOWN TO UNDER FLOOR WITH SHUT OFF VALVES.
9. CONNECT ¾" CW & HW TO WASHERS AS REQUIRED BY MANUFACTURER. REFER TO DOMESTIC WATER RISER DIAGRAM FOR MORE INFORMATION.
10. CAP GAS PIPE FOR FUTURE CONNECTION BY TENANT AS REQUIRED.

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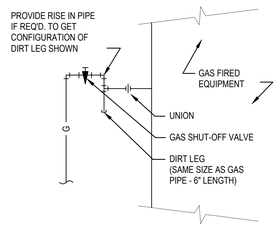
WATER & GAS FLOOR PLAN

P2



GAS CONNECTION DETAIL

SCALE: NONE

PEX PIPING REQUIREMENTS

PIPE SIZES GIVEN ON THE DRAWINGS ARE NOMINAL COPPER PIPE SIZE. IF PEX PIPING IS USED, INCREASE PEX PIPING ONE SIZE ABOVE LISTED SIZES AS REQUIRED TO EQUAL OR EXCEED COPPER PIPE INSIDE DIAMETER.

PLUMBING FIXTURE BRANCH PIPING SCHEDULE

FIXTURE	WASTE	VENT	CW	HW
WATER CLOSET (FLUSH VALVE)	4"	2"	1"	- -
LAVATORY	1-1/4"	1-1/4"	1/2"	1/2"
FLOOR DRAIN	2"/3"	2"	- -	- -
MOP BASIN	2"	2"	1/2"	1/2"

NOTE: INDIVIDUAL VENTS FOR FIXTURES ON PLANS AND RISER DIAGRAMS HAVE BEEN INCREASED WHERE HORIZONTAL VENT LENGTH IS IN EXCESS OF THE MAXIMUM DISTANCE INDICATED BY THE CODE.

PIPE HANGER SCHEDULE

PIPE MATERIAL	MAXIMUM HANGER SPACING	HANGER ROD DIAMETER
ABS (All sizes)	4'	3/8"
PVC (All Sizes)	4'	3/8"
CPVC, 1 inch and smaller	3'	1/2"
CPVC, 1-1/4 inches and larger	4'	1/2"
Cast Iron (All Sizes)	5'	5/8"
Cast Iron (All Sizes) with 10 foot length of pipe	10'	5/8"
Copper Tube, 1-1/4 inches and smaller	6'	1/2"
Copper Tube, 1-1/2 inches and larger	10'	1/2"
Steel, 3 inches and smaller	12'	1/2"
Steel, 4 inches and larger	12'	5/8"
Pex, 1" and below without support channel	32"	3/8"
Pex, 1-1/4" and above without support channel	48"	3/8"
Pex ¾" and below with support channel	6'	3/8"
Pex 1" and above with support channel	8'	3/8"

PLUMBING FIXTURE SCHEDULE: (OR EQUAL)

MB — MOP BASIN: FIAT, #MSB-2424, MOLDED STONE MOP BASIN, 2" DRAIN, 24"x 24" BASIN, VINYL BUMPER GUARD, STERN WILLIAMS #T-10-VB FAUCET, SPRING CHECKS, VACUUM BREAKER, INTEGRAL STOPS, WALL BRACE & PAIL HOOK, WALL BRACKET WITH 30" HOSE.

FD — FLOOR DRAIN: SIOUX CHIEF, #842, PVC FLOOR DRAIN WITH ADJUSTABLE TOP AND CAST BRASS STRAINER.

TD — TRENCH DRAIN: ZURN #Z-886-CG-GL, HEAVY DUTY .75% PRE-SLOPED FIBERGLASS TRENCH DRAIN, 10 FOOT LENGTH, 12" WIDE.

MV1 — MIXING VALVE: WATTS, #LFMMV THERMOSTATIC CONTROLLED MIXING VALVE,LEAD FREE BRONZE BODY, LOCKED TEMPERATURE ADJUSTMENT CAP (VANDAL RESISTANT), SOLID WAX HYDRAULIC PRINCIPLE THERMOSTAT,INTEGRAL FILTER WASHERS AND CHECK VALVES ON HOT AND COLD INLETS.(SET TO 110°F) ASSE #1017,#1069,#1070

HWH — HOT WATER HEATER: AO SMITH, #BTH-199, GAS FIRED, CONDENSING TYPE, 100 GALLON STORAGE, 199 MBTUH INPUT, 234 GPH RECOVERY AT 100 DEGREES F RISE, MAIN & PILOT AUTOMATIC GAS VALVES, 120 VOLT, TEMPERATURE AND PRESSURE RELIEF VALVE. SET TEMPERATURE TO 130°F.

ET — HOT WATER EXPANSION TANK: AMTROL, #ST-12, 4.4 GALLON EXPANSION TANK WITH DIAPHRAGM.

RCP — HOT WATER RE-CIRCULATING PUMP: BELL & GOSSETT, #SERIES NBF-22, BRONZE FITTINGS, 5 GPM @ 10 FT. HEAD, 1/12 HP, 120 VOLT, 120 DEG. F TEMP, WITH HONEYWELL 16006C AQUASTAT AND TC-1 TIMER KIT, ¾" PIPE, 120°-125°F.

WHA — WATER HAMMER ARRESTOR: JR SMITH 'HYDROTROL' #5000 LEAD-FREE WATER HAMMER ARRESTOR, SIZED AS PER MANUFACTURER'S RECOMMENDATIONS.

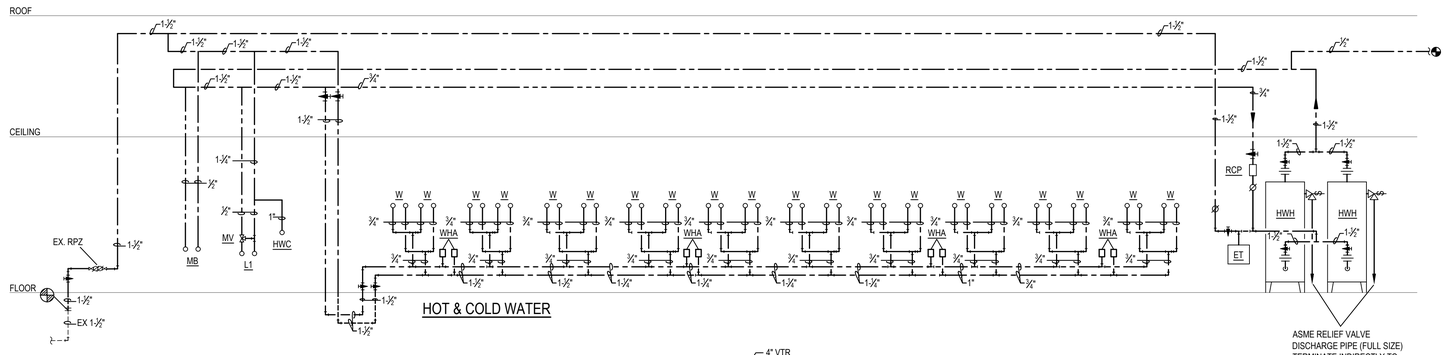
W — WASHER: PROVIDED BY OWNER, INSTALLED BY GC. PROVIDE VALVE, HOT WATER, COLD WATER AND WASTE PIPE FOR COMPLETE INSTALLATION.

D — DRYER: PROVIDED BY OWNER, INSTALLED BY GC. PROVIDE VALVE & PIPING FOR COMPLETE INSTALLATION.

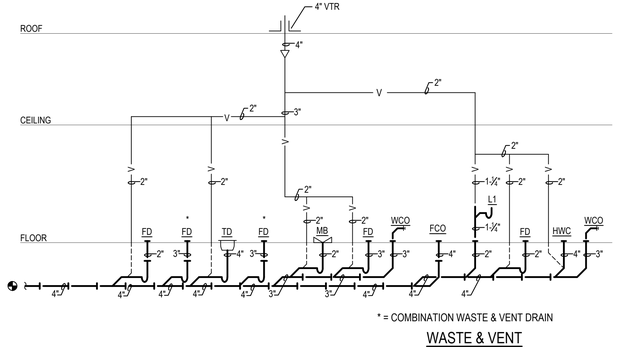
FCO/WCO — VINYL TILE FLOOR: JR SMITH #4140, OR EQUAL. QUARRY
TILE FLOOR: JR SMITH #4200, OR EQUAL. CARPETED
FLOOR: JR SMITH #4020-Y, OR EQUAL. UNFINISHED
FLOOR: JR SMITH #4020, OR EQUAL. WALL: JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.

HWC — WATER CLOSET (HANDICAPPED): TOTO, #CT705ULNX. VITREOUS CHINA, FLOOR MOUNTED, FLOOR OUTLET, 17-1/2" HIGH ELONGATED BOWL, SIPHON JET ACTION, #TMT1LN32#CP FLUSH VALVE, 1.28 GAL/FLUSH, #SC534 WHITE OPEN FRONT ELONGATED SEAT WITH CHECK HINGE. HANDLE ON WIDE SIDE OF FIXTURE.

L1 — HANDICAP LAVATORY, WALL HUNG: TOTO #LT307, 20"x 18", VITREOUS CHINA,FRONT OVERFLOW, DELTA #501 FAUCET WITH SINGLE METAL LEVER FAUCET,OFFSET GRID ELBOW DRAIN AND 1-1/4" TAILPIECE, CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT (MOUNTED PARALLEL WITH WALL), CHROME PLATED LOOSE KEY ANGLE STOPS AND RISERS, FLOOR MOUNTED CONCEALED ARM LAVATORY SUPPORT, INSULATE EXPOSED DRAIN, WATER SUPPLIES, AND VALVES WITH PROWRAP SEAMLESS MOLDED CLOSED CELL VINYL INSULATION.



HOT & COLD WATER



* = COMBINATION WASTE & VENT DRAIN

WASTE & VENT

PLUMBING RISER DIAGRAMS

SCALE: NONE

DRAWN BY: MA/DS
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PLUMBING SCHEDULES & DETAILS

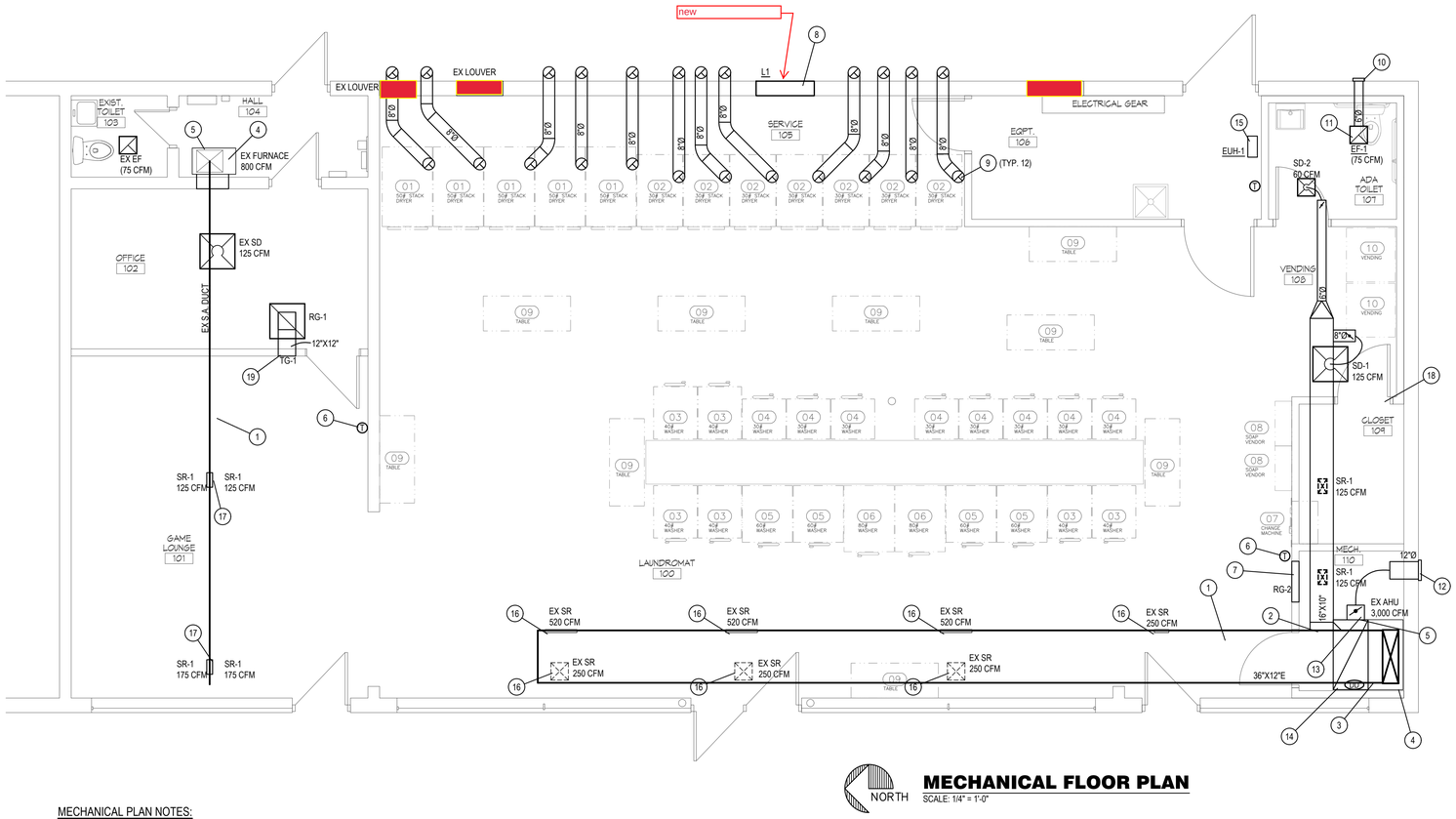
P3

MECHANICAL GENERAL NOTES:

1. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
2. THIS CONTRACTOR SHALL PERFORM ALL WORK INDICATED AND/OR AS REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE MECHANICAL SYSTEMS.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DIFFUSERS.
4. INSTALL ALL DUCT, PIPE, ETC. AS HIGH AS POSSIBLE.
5. DUCT SIZES SHOWN ARE ACTUAL SHEET METAL SIZES AND INCLUDE AN ALLOWANCE FOR DUCT LINER WHERE APPLICABLE.
6. PROVIDE FLEXIBLE CONNECTION BETWEEN DUCTWORK AND ROOFTOP UNITS, EXHAUST FANS, AND OTHER MOTORIZED EQUIPMENT.
7. NO DUCT SHALL BE ROUTED OVER THE TOP OF ELECTRICAL PANELS.
8. ALL MATERIALS WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
9. ALL MECHANICAL SYSTEMS SHALL BE BALANCED BY A CERTIFIED BALANCING CONTRACTOR. REFER TO SPECIFICATIONS FOR DETAILS.

MECHANICAL SYMBOLS

- NEW SUPPLY DIFFUSER
- NEW RETURN AIR GRILLE
- EXHAUST GRILLE/FAN
- (S) REMOTE TEMPERATURE SENSOR
- (T) THERMOSTAT, MOUNTED AT 48" AFF
- (DD) DUCT-MOUNTED SMOKE DETECTOR
- NEW DUCTWORK
- 32"x14" SIZE OF RECTANGULAR DUCT
- 6"Ø SIZE OF ROUND DUCT
- FLEXIBLE DUCTWORK
- FLEXIBLE CONNECTION TO FAN
- (3) FLOOR PLAN NOTE DESIGNATION
- S.A. SUPPLY AIR
- R.A. RETURN AIR
- EXH. EXHAUST AIR
- TRANSITION IN DUCT SIZE
- ELBOW WITH TURNING VANES
- MANUAL VOLUME DAMPER
- MANUAL VOLUME DAMPER
- SUPPLY AIR DUCT UP/DOWN
- RETURN AIR DUCT UP/DOWN
- EXHAUST AIR DUCT UP/DOWN
- UP CHANGE IN ELEVATION UP (UP) DOWN (DN) IN DIRECTION OF FLOW
- RTU-1 SCHEDULED MECHANICAL EQUIPMENT
- EXIST'G DUCT TO REMAIN
- EXIST'G DUCT TO BE REMOVED
- EXISTING FLEXIBLE DUCTWORK
- 32"x14"E SIZE OF EXISTING DUCT
- EXISTING SUPPLY DIFFUSER



NORTH

MECHANICAL FLOOR PLAN

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

MECHANICAL PLAN NOTES:

1. EXISTING SUPPLY MAIN DUCTWORK TO REMAIN. FIELD VERIFY ALL EXISTING CONDITION PRIOR TO BEGINNING OF NEW WORK.
2. CONNECT SUPPLY DUCTWORK TO EXISTING MAIN SUPPLY DUCTWORK.
3. CONNECT FULL SIZE RETURN DUCTWORK TO EXISTING AHU AS REQUIRED. FIELD VERIFY EXACT SIZE AND LOCATION PRIOR TO INSTALLATION OF DUCT WORK. TURN DUCTWORK UP TO 4'-0" AFF.
4. EXISTING HVAC EQUIPMENT TO REMAIN AS IS. VERIFY PROPER WORKING ORDER. COORDINATE WITH OWNER TO PROVIDE PREVENTIVE MAINTENANCE.
5. BALANCE OUTDOOR AIR TO VALUE LISTED IN OUTDOOR AIR CALCULATION ON SHEET M2.
6. RELOCATE & REINSTALL THERMOSTAT AT LOCATION SHOWN. MOUNT THERMOSTAT 48" ABOVE FINISHED FLOOR. PROVIDE NEW THERMOSTAT IF NONE ARE PRESENT.
7. INSTALL BOTTOM OF RETURN GRILLE AT 6'-0" AFF AS REQUIRED.
8. INSTALL TOP OF LOUVER AT 7'-0"A.F.F., COORDINATE MOUNTING WITH ARCH.
9. CONNECT DRYER DUCT AS REQUIRED BY THE MANUFACTURER. ROUTE DRYER DUCT THROUGH SIDEWALL AND TURN DOWN 90° AS REQUIRED. SEAL PENETRATION WEATHER TIGHT. MAINTAIN 10'-0" CLEARANCE FROM ALL OUTDOOR AIR INTAKES.
10. PROVIDE WALL VENT CAP WITH BACKDRAFT DAMPER FOR EXHAUST FAN. SEAL PENETRATIONS WEATHERTIGHT.
11. SUPPORT FAN FROM STRUCTURE AS REQUIRED BY THE MANUFACTURER.
12. PROVIDE WALL VENT CAP FOR OUTDOOR INTAKE WITH BIRD SCREEN. SEAL PENETRATIONS WEATHERTIGHT.
13. CONNECT 12"Ø OUTDOOR AIR DUCT WITH BALANCING DAMPER TO RETURN AIR DUCT. REFER TO OUTDOOR AIR CALCULATIONS FOR MINIMUM OUTDOOR AIR VOLUME.
14. LOCATION OF DUCT MOUNTED SMOKE DETECTOR. PROVIDE REMOTE ENUNCIATOR AUDIO/VISUAL. VERIFY LOCATION WITH FIRE MARSHAL PRIOR TO INSTALLATION. REFER TO SPEC SHEET MP0 FOR ADDITIONAL INFORMATION.
15. SUPPORT UNIT FROM STRUCTURE AS REQUIRED BY THE MANUFACTURER.
16. EXISTING SUPPLY GRILLE TO REMAIN AS IS. CLEAN AND MAKE LIKE NEW. BALANCE TO AIRFLOW LISTED.
17. INSTALL NEW SUPPLY GRILLE ON EXISTING DUCTWORK AS REQUIRED. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF GRILLE.
18. COORDINATE WITH G.C. TO UNDERCUT DOOR FOR PROPER TRANSFER AIR PATH.
19. INSTALL BOTTOM OF RETURN GRILLE AT 7'-6" AFF AS REQUIRED.

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MECHANICAL FLOOR PLAN

M1

AIR HANDLING UNIT SCHEDULE

MARK	MFGR	MODEL NO.	CFM	E.S.P. IN. WG.	COOLING			HEATING (ELECTRIC) (RESISTANCE)		ELECTRICAL		OUTSIDE AIR (CFM)	NOTES
					TOTAL BTUH	AMB.	EVAP. EAT DB/WB	KW	STAGES	VOLT/Ø/HZ	HP		
AHU-1	DAIKIN	DAX090	3,000	0.8	90,000	95	80/67	30	2	208/3/60	2	500	1

NOTES: 1. UNIT IS EXISTING TO REMAIN. VERIFY PROPER WORKING ORDER.

ALL EXISTING HVAC UNITS SHOULD HAVE A PREVENTATIVE MAINTENANCE CHECK-UP TO INCLUDE THE FOLLOWING CRITERIA

1. CHANGE ALL FILTERS.
2. CLEAN ALL CONDENSATE DRAIN PANS AND FLUSH ALL CONDENSATE DRAIN LINES.
3. CLEAN ALL EVAPORATOR AND CONDENSER COILS WITH A NON-ACID CLEANER.
4. CHECK REFRIGERANT CHARGE (GUAGES OR RETURN/SUPPLY TEMPERATURE VARIANCE).
5. PROVIDE COMPLETE LUBRICATION OF ALL SHAFTS AND BEARINGS THAT HAVE LUBRICATION ZERKS.
6. THE REPLACEMENT OF ALL BELTS, HOSES AND FABRIC/RUBBER COATED ITEMS THAT ARE SUBJECT TO WEAR.
7. CHECK AMPS OF THE INDOOR, OUTDOOR MOTORS, AND COMPRESSORS
8. TURN UNIT POWER OFF - TIGHTEN ALL ELECTRICAL CONNECTIONS, CONTACTORS, ETC.
9. EXAMINE AND REPAIR ALL ELECTRICAL WIRING, CONTROLS, STARTERS, RELAYS, CAPACITORS AND LIKE ITEMS THAT TEND TO DETERIORATE OVER TIME OR BECOME NON-OPERATIONAL. THIS INCLUDES SMOKE DETECTORS.
10. GREASE ALL FITTINGS
11. CHECK DUCTWORK CONNECTIONS AND REPAIR AS NEEDED.
12. NOTIFY GENERAL CONTRACTOR OF ANY REQUIRED PARTS OR REPAIRS NOT INCLUDED IN THIS LIST. ALL UNITS SHALL BE FUNCTIONING AND COOLING PROPERLY AT COMPLETION OF JOB.
13. CHECK THE ECONOMIZER FOR PROPER FUNCTION AND CORRECT OPERATION OF THE SYSTEM WHEN A CALL FOR COOLING COMES FROM THE THERMOSTAT. REPAIR AND ADJUST AS NEEDED.
14. VERIFY ANY WORK REQUIRED BY THE LANDLORD PRIOR TO BID.
15. ALL FINDINGS AND VALUES TO BE NOTED AND PROVIDED TO TENANT'S CONSTRUCTION MANAGER & OR TENANT'S MAINTENANCE DIRECTOR.

DIFFUSER SCHEDULE

MARK	MFGR	MODEL	BORDER TYPE	NECK SIZE	FACE SIZE	FINISH	DAMPER	ACCESSORIES	NOTES
SD-1	TITUS	TMS	3	8"Ø	24"x24"	WHITE	-		-
SD-2				6"Ø	12"x12"		-		-
SR-1		300FS		10"X6"	-		OB DAMPER		-
RG-1		PAR		12"X12"	24"x24"		-		-
RG-2		350FL	1	28"X28"	-		-		-
TG-1		350FL		12"X12"	-		-		-

EXHAUST FAN SCHEDULE

MARK	MFGR	MODEL	CFM	EXTERNAL STATIC P. IN. WG.	RPM	ELECTRICAL		FAN TYPE	CONTROLS	NOTES
						VOLT/Ø/HZ	PWR			
EF-1	COOK	GC-128	75	0.1	750	120/1/60	29 W	CEILING EXH.	SWITCH	1

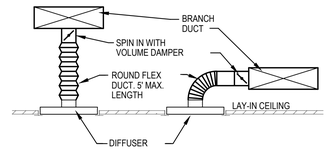
NOTES: 1. PROVIDE CEILING GRILLE, INTEGRAL BACK DRAFT DAMPER, VARI-SPEED CONTROLLER (NEAR FAN AND ABOVE CEILING), FACTORY MEANS OF DISCONNECT AND WALL CAP.

ELECTRIC UNIT HEATER SCHEDULE

MARK	MFGR	MODEL NO.	BTUH	ELECTRICAL		NOTES
				VOLT/Ø/HZ	WATTS	
WH-1	RAYWALL	F2F5105N	17,060	208/3/60	5 KW	1,2

NOTES: 1. SUPPORT UNIT FROM STRUCTURE.

2. PROVIDE INTEGRAL DISCONNECT & REMOTE THERMOSTAT FOR EACH UNIT.



DIFFUSER DETAIL
SCALE: NONE

OUTDOOR AIR CALCULATIONS

UNIT	Area (sqft)	OCCUPANCY CLASSIFICATION	Occupant Density #/1000 sqft	People outdoor airflow rate in breathing zone, (Rp) cfm/person	Area outdoor airflow rate in breathing zone, (Ra) cfm/sqft	Exhaust airflow rate cfm/sqft	Breathing zone outdoor airflow (Vbz)	Zone air distribution effectiveness (Ez)	Zone outdoor airflow (cfm)
EX AHU	1521	Commercial laundry	10	25	0		380	0.8	475
	101	Storage rooms	0	0	0.12		12	0.8	15
								Total	490

OUTDOOR AIR CALCULATIONS

UNIT	Area (sqft)	OCCUPANCY CLASSIFICATION	Occupant Density #/1000 sqft	People outdoor airflow rate in breathing zone, (Rp) cfm/person	Area outdoor airflow rate in breathing zone, (Ra) cfm/sqft	Exhaust airflow rate cfm/sqft	Breathing zone outdoor airflow (Vbz)	Zone air distribution effectiveness (Ez)	Zone outdoor airflow (cfm)
EX FURNACE	1521	Commercial laundry	10	25	0		380	0.8	475
	156	Office spaces	5	5	0.06		13	0.8	17
								Total	492

LOUVER SCHEDULE

MARK	MFGR	MODEL	FRAME	SIZE	NOTES
L-1	RUSKIN	ELF6375DX	STD	40"X64"	1,2

NOTES: 1. PROVIDE WITH BIRD SCREEN.

2. ARCHITECT TO SELECT COLOR. PRIMED FOR FIELD PAINT.

DRAWN BY: MA/DS
BC PROJECT #: 23888
MISSOURI PE COA #2009003629

01-11-24

STATE OF MISSOURI REGISTERED ENGINEER MAXWELL T. APPLE NUMBER PE-2018037499 PROFESSIONAL

GUY GRONBERG ARCHITECTS, P.C.
113 SE 3rd St.
Lees Summit, MO 64063
Phone 816.524.0878
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BC ENGINEERS INCORPORATED
5720 Reeder Shawnee, KS 66203 (913)262-1772

SOUTHSIDE PLAZA
404 Southwest Nichols Street
Lees Summit Missouri, 64063

Snappy Clean LANDROMAT

REV#	DATE	DESCRIPTION

Issue Date: 01-11-24
Project #: 23033

MECHANICAL SCHEDULES & DETAILS

M2

ELECTRICAL SPECIFICATIONS

1. GENERAL PROVISIONS:

A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, NECESSARY FOR THE COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEMS OUTLINED.

B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR APPROVAL AS REQUIRED BY THE AUTHORITIES.

C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRIC CODE (NEC), AND ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.

D. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.

E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, CONDUIT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.

F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.

G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.

H. CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE NECESSARY FOR CONCEALED ELECTRIAL COMPONENTS.

I. CONTRACTOR SHALL PROMPTLY CALL ENGINEERS ATTENTION TO ANY APPARENT CONTRADICTIONS, AMBIGUITIES, ERRORS, DISCREPANCIES, OR OMISSIONS IN THE PLANS OR SPECIFICATIONS.

2. OPERATION AND MAINTENANCE MANUALS:

A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.

B. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATION AND MAINTENANCE MANUALS.

C. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE COLLATED AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER, CONTRACTORS, ETC. CONTRACTORS, ETC. DOCUMENTS SHALL BE COMPILED AND BOUND IN DIGITAL FILE OR 3 RING BINDER.

3. MANUFACTURERS:

A. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN, UNLESS NOTED OTHERWISE.

4. TESTING, AND BALANCING:

A. ALL CIRCUITS SHALL BE TESTED FOR CONTINUITY, SHORTS, AND GROUNDS BEFORE CONNECTING TO THE PROPER PHASE AS DESIGNED TO BALANCE THE LOADING BETWEEN PHASES.

B. POWER AND LIGHTING PANELS SHALL BE PROPERLY PHASED TO DISTRIBUTE THE LOAD AND SHALL BE CONNECTED AND ADJUSTED TO OPERATE AS SPECIFIED.

C. ALL MOTORS AND SIMILAR EQUIPMENT SHALL BE CHECKED FOR PROPER PHASE ROTATION AND OPERATION.

5. RACEWAYS:

A. CONDUIT INSIDE THE BUILDING SHALL BE METALLIC TUBING (EMT), BEARING THE UL LABEL, WITH COMPRESSION TYPE FITTINGS OR SCREW SET FITTINGS.

B. CONDUIT EXPOSED TO THE WEATHER, INSTALLED UNDERGROUND, IN CONCRETE, OR USED FOR SERVICE ENTRANCE SHALL BE STANDARD RIGID CONDUIT (GALVANIZED) WITH THREADED FITTINGS.

C. UNDERGROUND CONDUIT MAY BE POLYVINYL CHLORIDE WITH A DEFLECTION TEMPERATURE, UNDER LOAD AT 264 PSI, OF 78 DEGREES C, AND A TENSILE STRENGTH OF 5,200 PSI. JOINTS SHALL BE FLUSH SOLVENT WELDED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE EQUAL TO CARLON POWER AND COMMUNICATIONS DUCT TYPE DB (DIRECT BURIAL). CONDUIT AND FITTINGS SHALL BE PRODUCED BY THE SAME MANUFACTURER.

D. FLEXIBLE METAL CONDUIT SHALL ONLY BE USED FOR CONNECTIONS TO MOTORS, TRANSFORMERS, AND LIGHT FIXTURES. MAXIMUM LENGTH SHALL BE 6'-0".

6. CONDUCTORS:

A. WIRES SHALL BE CONTINUOUS WITHOUT SPLICES OR TAPS IN CONDUIT RUNS. ALL SPLICES SHALL BE MADE IN JUNCTION, PULL, OR OUTLET BOXES. ALL WIRE SHALL BE INSTALLED IN CONDUIT, WIREWAYS, OR OTHER PROTECTIVE COVER SANCTIONED BY CODES.

B. CONDUCTORS FOR LIGHTING AND POWER SHALL BE COPPER, MINIMUM NO. 12 A.W.G., 600 VOLT.

C. NO. 10 GAUGE AND SMALLER CONDUCTORS SHALL BE TYPE THWN (WET LOCATIONS) OR THHN (DRY LOCATIONS), SOLID CONDUCTOR, UNLESS OTHERWISE INDICATED.

D. NO. 8 GAUGE AND LARGER CONDUCTORS SHALL BE TYPE THWN (WET LOCATIONS) OR THHN (DRY LOCATIONS), STRANDED, UNLESS OTHERWISE INDICATED.

E. SERVICE ENTRANCE AND PANEL FEEDER CONDUCTORS, NO. 3 GAUGE AND LARGER SHALL BE TYPE XHHW-2 (WET LOCATIONS) OR THHN (DRY LOCATIONS), STRANDED COPPER, UNLESS OTHERWISE INDICATED.

F. ALUMINUM SERVICE WIRE MAY BE USED FOR SERVICE ENTRANCE CONDUCTORS AND/OR PANEL FEEDERS ONLY. ALL OTHER WIRING SHALL BE COPPER CONDUCTORS AS HEREINBEFORE SPECIFIED.

G. ALUMINUM CONDUCTORS SHALL BE TYPE 'XHHW-2', ALCAN, "STABILOY" TYPE ALLOY CONDUCTORS UTILIZING "AA-8030" ALUMINUM ALLOY. CONDUCTORS SHALL BE UL LISTED.

H. ALL ALUMINUM CONDUCTORS SHALL BE TERMINATED IN CONNECTIONS OR LUGS WHICH ARE DUAL RATED (ALTCU OR ALSCU) AND ARE LISTED BY UL FOR USE WITH ALUMINUM OR COPPER CONDUCTORS AND SHALL BE SIZED TO ACCEPT ALUMINUM CONDUCTORS OF THE AMPACITY SPECIFIED.

7. MC CABLE:

A. MC CABLE SHALL CONSIST OF INTERLOCK ARMORED CABLE MADE OF THREE OR FOUR TYPE THHN SOLID (#8 AWG AND LARGER MAY BE STRANDED) COPPER CONDUCTORS RATED 90°C FOR DRY LOCATIONS, WITH NYLON OR EQUIVALENT UL LISTED JACKET, PER UL STANDARD 83 THE THREE CONDUCTORS SHALL BE TWISTED TOGETHER WITH THE COPPER GROUNDING CONDUCTOR, SUITABLE FILLERS, AND WRAPPED IN BINDER TAPE. THE ASSEMBLY SHALL BE ARMORED WITH SPIRALLY WRAPPED INTERLOCKED ARMOR OF ALUMINUM OR GALVANIZED STEEL.

B. CABLES SHALL BE TESTED IN ACCORDANCE WITH UL STANDARD 1569 FOR TYPE MC CABLE AND RATED AT 600 VOLTS, 90 DEG. C FOR DRY LOCATIONS AND 75 DEG. C FOR WET LOCATIONS.

8. WIRING DEVICES:

A. WALL SWITCHES SHALL BE SPECIFICATION GRADE, QUIET TYPE, FLUSH TOGGLE SWITCH, RATED FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES.

1) SINGLE POLE: HUBBELL #CS1221-X, OR EQUAL.
2) THREE WAY: HUBBELL #CS1223-X, OR EQUAL.
3) AS SPECIFIED ON PLANS

B. RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX, GROUNDING, THREE-WIRE TYPE, RATED FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES. HUBBELL #CR5352-X, OR EQUAL.

C. GROUND FAULT INTERRUPTER RECEPTACLES (GFI) SHALL BE HUBBELL #GF20-XL. DEVICE COVER PLATES SHALL BE AS HEREINBEFORE SPECIFIED.

D. ISOLATED GROUND RECEPTACLES (IG) SHALL BE HUBBELL #CR5352IG, ORANGE COLOR. DEVICE COVER PLATES SHALL BE AS HEREINBEFORE SPECIFIED.

E. RECEPTACLES OUTSIDE BUILDING AND WHERE NOTED AS WEATHERPROOF SHALL BE LISTED 'WEATHER-RESISTANT' HUBBEL #GFTR20-X OR EQUAL AND SHALL BE INSTALLED IN A WEATHERPROOF ENCLOSURE WHICH SHALL BE INTERMATIC #WP1010MXD OR #WP1010HMXD DIECAST METAL WEATHERPROOF RECEPTACLE COVER. COVER SHALL BE WEATHER PROOF RATED WHILE IN USE.

F. VERIFY DEVICES AND DEVICE COVERPLATES COLOR AND STYLE WITH ARCHITECT.

9. BOXES:

A. HOT DIPPED GALVANIZED STEEL BOXES. PROVIDE TYPE TO SUIT CONDITIONS FOR INSTALLATION.

B. ALL BOXES SHALL BE FLUSH MOUNTED, UNLESS INDICATED OTHERWISE.

ELECTRICAL SPECIFICATIONS (CONTINUED)

11. PANELBOARDS:

A. FURNISH AND INSTALL CIRCUIT BREAKER PANELBOARDS AS SHOWN ON THE DRAWINGS. PANELBOARDS SHALL BE LISTED BY UL AND SO LABELED, AND SHALL BE FULLY RATED FOR THE VOLTAGE AND CURRENT CAPACITY INDICATED ON THE PANEL SCHEDULE. PANELBOARDS SHALL BE EQUAL TO SQUARE D TYPE NQ OR NF WITH BOLT IN TYPE BREAKERS. PANELBOARD LUGS SHALL BE RATED AT 75°C.

1) CIRCUIT BREAKER INTERRUPTING CAPACITIES SHALL MEET OR EXCEED THE AVAILABLE RMS SYMMETRICAL FAULT CURRENTS INDICATED AND AS REQUIRED TO MEET OR EXCEED THE AVAILABLE FAULT CURRENT FROM LOCAL UTILITY.

B. CIRCUIT BREAKERS SHALL MEET APPLICABLE PORTIONS OF UL STANDARD 489 AND NEMA AB-I. CIRCUIT BREAKERS SHALL BE BOLT-ON, GROUP MOUNTED, AMBIENT MAGNETIC, WITH COMMON TRIP, UL RATED TO CARRY 80% OF NAMEPLATE RATING CONTINUOUSLY IN FREE AIR AT 40° C. CIRCUIT BREAKERS SHALL BE TRIP INDICATING AND FULLY INTERCHANGEABLE WITHOUT DISTURBING ADJACENT UNITS. WIRE TERMINALS SHALL BE RATED 75 DEGREES C. THE OPERATING MECHANISM SHALL BE TRIP-FREE SO THAT CONTACTS CANNOT BE HELD CLOSED AGAINST ANY ABNORMAL OVERCURRENT OR SHORT CIRCUIT CONDITION.

a) BREAKERS SHALL MEET APPLICABLE NEMA AND/OR UL SPECIFICATIONS.

C. PANELBOARD BOXES SHALL BE GALVANIZED SHEET STEEL WITH AMPLE WIRING GUTTER SPACE IN ACCORDANCE WITH NEC. FRONTS SHALL BE OF SHEET STEEL PAINTED LIGHT GREY OVER A SUITABLE RUST INHIBITOR PRIMER. PANELBOARDS SHALL BE EQUIPPED WITH ONE PIECE DOOR, CYLINDER TUMBLER TYPE LOCK, DIRECTORY CARD-HOLDER AND QUARTER-TURN ADJUSTABLE TRIM CLAMPS.

D. PANELBOARD INTERIORS SHALL CONSIST OF REINFORCED GALVANIZED SHEET STEEL FRAMES WITH ALUMINUM BUS BARS AND CIRCUIT BREAKERS, PROPERLY SUPPORTED TO PREVENT VIBRATIONS AND BREAKAGE IN HANDLING. BUS BARS SHALL BE SEQUENCE PHASED. PANELBOARD SHALL HAVE A FULL SIZED SOLID ALUMINUM NEUTRAL AND GROUND BUS.

E. BUS BAR BRACING SHALL BE UL LISTED AS INDICATED ON DRAWINGS. ADDITIONAL BRACING SHALL BE PROVIDED AS REQUIRED TO MEET OR EXCEED INDICATED AVAILABLE FAULT CURRENTS.

F. DIRECTORY CARDS SHALL BE COMPLETELY FILLED IN BY TYPEWRITER, LISTING CIRCUIT NUMBERS AND LOAD SERVED, INCLUDING EXISTING CIRCUITS. CIRCUIT BREAKERS SHALL BE IDENTIFIED BY CIRCUIT NUMBER LABELS AS HEREINBEFORE SPECIFIED.

12. LIGHT FIXTURES:

A. WHERE LIGHT FIXTURES ARE MOUNTED IN A LAY-IN CEILING, PROVIDE A MINIMUM OF 2 SUPPORT WIRES ATTACHED DIRECTLY BETWEEN EACH LIGHT FIXTURE AND THE BUILDING STRUCTURE. SUPPORT WIRES SHALL BE A MINIMUM OF 12 GAUGE GALVANIZED STEEL WIRE, SOFT ANNEALED.

B. FIXTURES ARE REQUIRED AT ALL LIGHTING OUTLETS SHOWN ON THE DRAWINGS. APPROVED LIGHTING FIXTURE WIRE IS REQUIRED IN ALL FIXTURES AND FIXTURE RACEWAYS. WEATHERPROOF WIRING IS REQUIRED FOR EXTERIOR FIXTURES. ALL PARTS OF FIXTURES AND WIRING SHALL BE IN ACCORDANCE WITH NEC REQUIREMENTS.

C. ALL FIXTURES SHALL CARRY UL AND ETL LABELS.

13. SLEEVES:

A. PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK.

B. INTERIOR PARTITIONS: 16 GAGE GALVANIZED STEEL, PACK BETWEEN CONDUIT AND SLEEVE WITH FIRE SAFING AND CAULK AT EACH END WITH FIRE RESISTANT SEALANT.

C. ROOF: PROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WEATHERPROOF SEAL. COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.

14. GROUNDING:

A. GROUND ALL ELECTRICAL APPARATUS IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) 250, AND ANY LOCAL REQUIREMENTS. INSURE CONTINUOUS BOND WHERE FLEXIBLE CONDUIT IS USED. PROVIDE BONDING JUMPER INSIDE ALL FLEXIBLE CONDUIT.

B. BOND METAL PIPING SYSTEMS IN COMPLIANCE WITH NEC 250.4(A)(4).

15. REMODELING WORK:

A. DEMOLITION: DISCONNECT, DEMOLISH AND REMOVE ABANDONED ELECTRICAL MATERIALS AND EQUIPMENT INDICATED TO BE REMOVED AND NOT INDICATED TO BE SALVAGED OR REMAIN.

B. EQUIPMENT TO BE SALVAGED:

1) DISCONNECT AND REMOVE EXISTING ELECTRICAL EQUIPMENT INDICATED TO BE REMOVED AND SALVAGED. DELIVER EQUIPMENT TO THE LOCATION DESIGNATED BY THE OWNER FOR STORAGE.

2) ALL MATERIALS AND EQUIPMENT DESIGNATED TO BE REUSED OR RELOCATED SHALL BE CAREFULLY REMOVED, AND STORED UNTIL NEEDED FOR REMODELING WORK. ALL ITEMS SHALL BE RESTORED TO "LIKE NEW" CONDITION WITH RUST OR CORROSION REMOVED, SURFACE PAINT TOUCHED UP OR REPAINTED AS REQUIRED TO MATCH NEW CONSTRUCTION, AND THOROUGHLY CLEANED AND INSPECTED. ANY ITEMS WHICH BECOME DAMAGED BEYOND REPAIR AS A RESULT OF CONSTRUCTION OR DEMOLITION ACTIVITY SHALL BE REPLACED WITH NEW MATERIAL EQUIVALENT IN EVERY RESPECT.

C. DISPOSAL AND CLEANUP: REMOVE FROM THE SITE AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS AND EQUIPMENT NOT INDICATED TO BE SALVAGED.

D. PROTECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST, AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE PROTECTION AND BARRIERS AFTER REMODELING OPERATIONS ARE COMPLETE.

E. PROVIDE ALL ALTERATIONS AND REWORK INDICATED AND/OR REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF ALL EXISTING ELECTRICAL SYSTEMS, INTEGRATING THE NEW AND EXISTING AREAS. LOCATE, IDENTIFY, AND PROTECT ELECTRICAL SERVICES PASSING THROUGH REMODELING AREA AND SERVING OTHER AREAS OUTSIDE THE REMODELING LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE REMODELING LIMITS. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS.

1) ABANDONED CONDUIT SHALL HAVE WIRE REMOVED AND SHALL BE CAPPED. ABANDONED OUTLETS IN WALLS OR PARTITIONS SHALL HAVE DEVICES AND WIRE REMOVED, AND SHALL BE COVERED.

2) WHERE EXISTING CONDUITS TERMINATE AT AN EXISTING OUTLET IN A WALL, CEILING, OR FLOOR TO BE REMOVED, DISCONNECT AND REMOVE DEVICE AND WIRE FROM CONDUIT. CONDUIT SHALL BE CUT BACK AND CAPPED (BELOW THE FLOOR OR ABOVE THE CEILING) SO NOT TO CREATE AN OBSTRUCTION. PATCH FLOOR TO MATCH EXISTING.

3) WHERE EXISTING CIRCUITS EXTEND BEYOND THE OUTLET IN THE EXISTING WALL, CEILING, OR FLOOR TO BE REMOVED, FURNISH AND INSTALL NEW CONDUIT AND WIRE TO EITHER REROUTE THE CIRCUIT OR FEED THE REMAINING OUTLET(S) FROM ANOTHER ELECTRICAL SOURCE, BUT IN SUCH A MANNER AS NOT TO REVISE THE CIRCUIT. ALL REROUTED CONDUIT SHALL BE APPROVED BY THE ARCHITECT.

4) WHERE EXISTING OUTLETS IN A WALL, CEILING, OR FLOOR TO BE REMOVED ARE ESSENTIAL TO MAINTAIN OPERATION OF OTHER REMAINING OUTLETS, RELOCATE THE OUTLET TO A NEW CONVENIENT LOCATION. EXISTING WIRING DEVICES SHALL NOT BE REUSED, UNLESS OTHERWISE INDICATED.

5) WHERE LIGHTING FIXTURES ARE INDICATED TO BE DEMOLISHED, REMOVE ALL WIRE AND MODIFY THE EXISTING CONDUIT (IF APPLICABLE) FOR THE NEW LIGHTING. ALL UNUSED CONDUIT SHALL BE REMOVED.

6) WHERE A TELEPHONE CIRCUIT EXTENDS BEYOND AN OUTLET IN AN EXISTING WALL, CEILING, OR FLOOR TO BE REMOVED, PROVIDE NECESSARY EMPTY CONDUIT AND NOTIFY THE OWNER WHO WILL REQUEST THE OWNER TO ARRANGE WITH THE TELEPHONE COMPANY FOR NEW WIRING TO OUTLETS THAT REMAIN.

7) WHERE EXISTING CONDUIT AND WIRE RUNS ARE LOCATED IN OR ATTACHED TO AN EXISTING WALL, CEILING OR FLOOR TO BE REMOVED, THEY SHALL BE REROUTED IN EITHER NEW OR EXISTING CONSTRUCTION TO MAINTAIN CONTINUITY OF CIRCUITS UNLESS OTHERWISE INDICATED.

8) CONDUIT SHALL BE CONCEALED WITHIN THE EXISTING BUILDING CONSTRUCTION WHEREVER POSSIBLE, EXCEPT WHERE OTHERWISE INDICATED.

9) EXISTING WIRE SHALL BE DISCONNECTED AND REMOVED WHEREVER EXISTING CIRCUITS ARE ABANDONED.

ELECTRICAL SYMBOLS LIST

CIRCUITING & NOTES

+46"	SPECIAL MOUNTING HEIGHT FOR ASSOCIATED DEVICE (CENTERLINE OF DEVICE)
GFI	GROUND FAULT CIRCUIT INTERRUPTER DEVICE
WP	WEATHERPROOF ENCLOSURE ON DEVICE
IG	ISOLATED GROUND DEVICE
EM	EMERGENCY BATTERY BACKUP
(TIE)	PARTIAL HOMERUN. REFER TO PLANS FOR ADDITIONAL DEVICES CONNECTED TO THIS CIRCUIT.
X	ELECTRICAL FLOOR PLAN NOTE WITH DESIGNATION
2 LP	CONDUIT CONCEALED WHERE POSSIBLE OR AS NOTED, ARROWS INDICATE HOME RUN TO PANEL. CIRCUIT NUMBERS INDICATED
	#12 WIRE IN CONDUIT, UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION
	GROUNDING CONDUCTOR, #12 WIRE UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION
	CONDUIT ROUTED UNDER FLOOR/GRADE

LIGHTING

	EMERGENCY TWIN HEAD LIGHT FIXTURE
	EXIT LIGHT WITH DIRECTIONAL ARROWS INDICATED
A	STRIP FIXTURE WITH TYPE DESIGNATION
A	RECESSED OR SURFACE MOUNTED FIXTURE WITH TYPE DESIGNATION
NL A	NIGHT LIGHT, CONNECT TO UNSWITCHED CIRCUIT
A	CEILING OR RECESSED FIXTURE WITH TYPE DESIGNATION
A	WALL MOUNTED FIXTURE WITH TYPE DESIGNATION

POWER DEVICES

	DUPLEX RECEPTACLE, BOTTOM OF BOX AT 16" AFF, UNLESS NOTED OTHERWISE
	HEAVY DUTY OUTLET - NEMA CONFIGURATION SIZE PER EQUIPMENT MANUFACTURER'S RECOMMENDATION
	PANEL BOARD, TOP OF BOX 6'-0" AFF
	JUNCTION BOX
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	MOTOR WITH DESIGNATION
	FLOOR BOX

CONTROLS

S	SINGLE POLE WALL SWITCH, TOP OF BOX AT 48" AFF

OCCUPANCY SENSORS
1. DUAL TECHNOLOGY/ULTRASONIC CEILING SENSORS SHALL BE MOUNTED 6' FROM SUPPLY/EXHAUST AIR DIFFUSERS.
2. LOW VOLTAGE CEILING SENSORS SHALL BE PROVIDED WITH 6' SLACK CONDUCTOR COILED AT SENSOR.

S_O	WALL MOUNTED DUAL-TECHNOLOGY OCCUPANCY SENSOR, WATT STOPPER #DW-100, TOP OF BOX AT 48" AFF
OS	DUAL TECHNOLOGY CEILING MOUNT OCCUPANCY SENSORS, WATTSTOPPER DT-300
BZ	OCCUPANCY SENSOR POWER PACK. WATTSTOPPER BZ-150 OR EQUAL. PROVIDE LOW VOLTAGE WIRING TO OCCUPANCY SENSORS AND MOMENTARY SWITCHES
S_{MO}	MOMENTARY SWITCH, TOP OF BOX AT 48" AFF

COMMUNICATIONS

	DATA/TELEPHONE OUTLET WITH MINIMUM ¾" CONDUIT STUBBED UP TO ABOVE ACCESSIBLE CEILING, BOTTOM OF BOX AT 16", UNLESS NOTED OTHERWISE. PROVIDE WITH PULL STRING

ELECTRICAL GENERAL NOTES:

1. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
2. IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROPERLY BALANCE ALL BRANCH CIRCUITS BETWEEN THE PHASES OF THE SYSTEM REGARDLESS OF CIRCUITING INDICATED.
3. ELECTRICAL CONTRACTOR SHALL REMOVE ALL EXISTING ELECTRICAL EQUIPMENT, FIXTURES, SYSTEMS, CONDUIT AND WIRE, ETC. NOT BEING REUSED. DO NOT JUST ABANDON.
4. ELECTRICAL CONTRACTOR TO COORDINATE MANUFACTURER ELECTRICAL REQUIREMENTS FOR HVAC EQUIPMENT BEING FURNISHED WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. EQUIPMENT DISCONNECTS TO BE PROVIDED BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE IN MECHANICAL SCHEDULES.
5. ALL MATERIALS EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
6. ALL BRANCH CIRCUITS SHALL BE SIZED TO ALLOW FOR A MAXIMUM OF 3% VOLTAGE DROP. ALL FEEDERS SHALL BE SIZED TO ALLOW FOR A MAXIMUM OF 2% VOLTAGE DROP. ELECTRICAL CONTRACTOR SHALL VERIFY WIRING INDICATED IS SUFFICIENT AND INCREASE CONDUCTOR SIZE AS REQUIRED BASED OFF ACTUAL INSTALLED LENGTH OF CONDUCTORS.

PANEL: P	VOLTS: 120/208V	PH: 3Ø	WIRE: 4W	LOCATION: EQPT 106	MOUNTING: SURFACE
BUS: 400A	MAIN: 400A MLO	IC: 22,000	RMS SYM AMPS		FEEDER: SEE RISER DIAGRAM

CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO
1	40LB WASHER	15	2	12	645			645			12	2	15	30LB WASHER	2
3						645			645						4
5	40LB WASHER	15	2	12			645			645	12	2	15	30LB WASHER	6
7					645			645							8
9	60LB WASHER	20	2	12		874			645		12	2	15	30LB WASHER	10
11							874			645					12
13	60LB WASHER	20	2	12	874			645			12	2	15	30LB WASHER	14
15						874			645						16
17	80LB WASHER	20	2	12			874			645	12	2	15	30LB WASHER	18
19					874			645							20
21	80LB WASHER	20	2	12		874			645		12	2	15	30LB WASHER	22
23							874			645					24
25	60LB WASHER	20	2	12	874			645			12	2	15	30LB WASHER	26
27						874			645						28
29	60LB WASHER	20	2	12			874			645	12	2	15	30LB WASHER	30
31					874			645							32
33	40LB WASHER	15	2	12		645			645		12	2	15	40LB WASHER	34
35							645			645					36
37	40LB WASHER	15	2	12	645			645			12	2	15	40LB WASHER	38
39						645			645						40
41	WATER HEATERS	20	1	12		900				960	12	1	20	30LB DRYER STACK	42
						SECTION 2									
43	50LB DRYER STACK	30	1	10	2,400				960		12	1	20	30LB DRYER STACK	44
45	50LB DRYER STACK	30	1	10		2,400				960	12	1	20	30LB DRYER STACK	46
47	50LB DRYER STACK	30	1	10			2,400				960	12	1	20	30LB DRYER STACK	48
49	50LB DRYER STACK	30	1	10	2,400				960		12	1	20	30LB DRYER STACK	50
51	50LB DRYER STACK	30	1	10		2,400				960	12	1	20	30LB DRYER STACK	52
53	CHANGE MACHINE	20	1	12			150			960	12	1	20	30LB DRYER STACK	54
55	SOAP VENDING	20	1	12	150				540		12	1	20	DISPLAY WINDOW RECEPTS	56
57	VENDING MACHINE [GF]	20	1	12		1,200				1,250	12	1	20	VIDEOGAME MACHINES	58
59	VENDING MACHINE [GF]	20	1	12			1,200			1,250	12	1	20	VIDEOGAME MACHINES	60
61	RECEPTACLES	20	1	12	1,260			1,250			12	1	20	VIDEOGAME MACHINES	62
63	LAUNDROMAT LIGHTS	20	1	12		1,252			1,250		12	1	20	VIDEOGAME MACHINES	64
65	OFFICE/SERVICE LIGHTS	20	1	12			337			1,200	12	1	20	BUILDING SIGNAGE	66
67	SPARE	20	1					1,667							68
69	SPARE	20	1						1,667		12	3	20	EUH-1	70
71	SPARE	20	1							1,667					72
73	SPARE	20	1					3,250							74
75	SPARE	20	1						3,250		8	3	40	EXISTING CONDENSING UNIT	76
77	EXISTING FURNACE	20	1	12			1,200			3,250					78
79					3,250			10,000							80
81	EXISTING CONDENSING UNIT	40	3	8		3,250			10,000		3	3	100	EXISTING AHU	82
83							3,250			10,000					84
NOTES:					14,891	15,933	14,223	23,142	23,852	24,117					
[GF]-GFCI BRKR 5mA					38,033		39,785		38,340						

TOTAL CONNECTED LOAD: 116,158 VA
NEC DEMAND LOAD: 96,380 VA
DEMAND AMPS @ 208 VOLT / 3Ø: 267.52 A

1/9/2024

MISSOURI REGISTERED PROFESSIONAL ENGINEER — DARIN T. SEIDEL — NUMBER PE-2009003629 — PROFESSIONAL ENGINEER

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BC ENGINEERS INCORPORATED
5720 Reeder Shawnee, KS 66203 (913)262-1772

SOUTHSIDE PLAZA
404 Southwest Nichols Street
Lees Summit, Missouri, 64063

Snappy Clean LANDROMAT

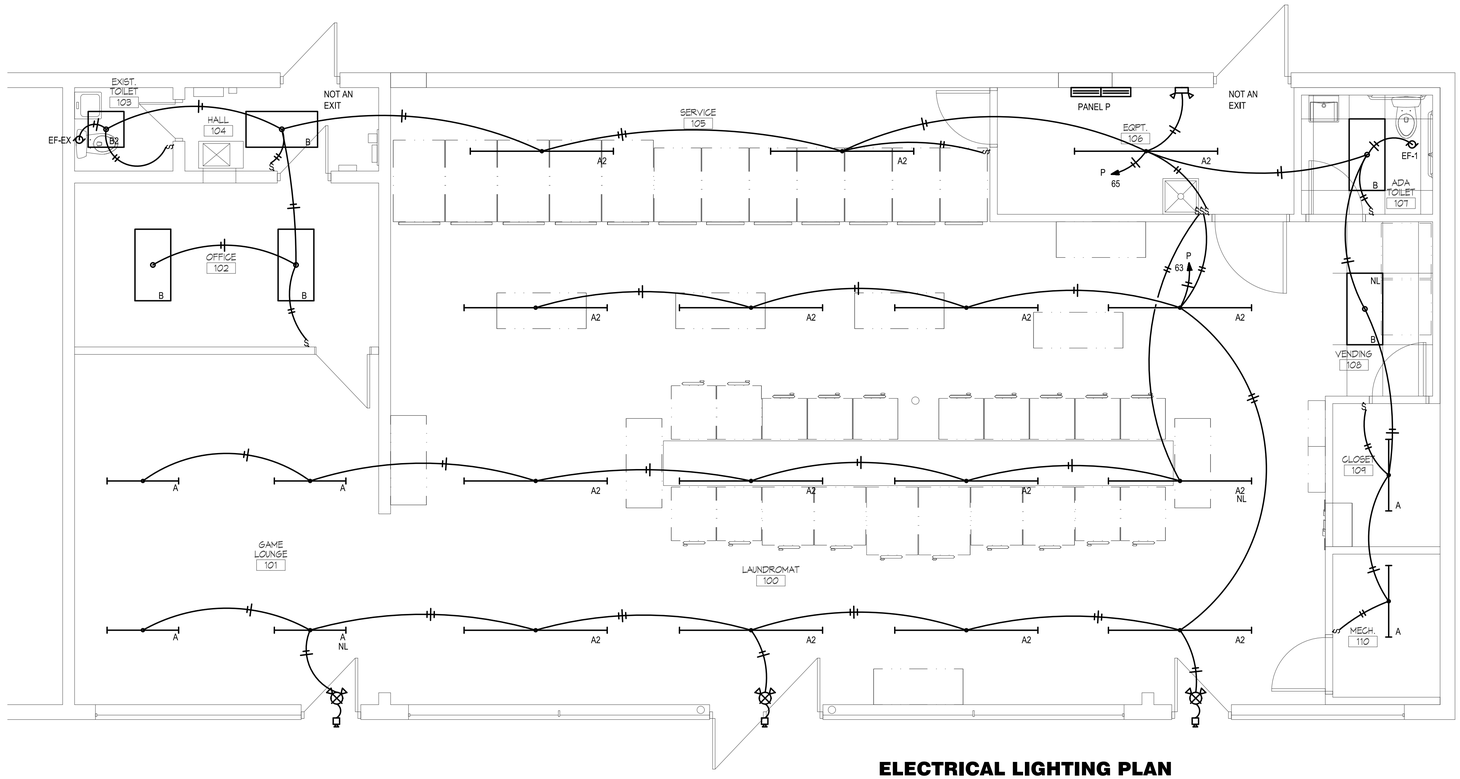
REV'#	DATE	DESCRIPTION

Issue Date: 01-11-24
Project #: 23033

DRAWN BY: MA/DS
BC PROJECT #: 23888
MISSOURI PE COA #2009003629

ELECTRICAL SPECIFICATIONS

E0



ELECTRICAL LIGHTING PLAN

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

LIGHT FIXTURE SCHEDULE

MARK NO.	MANUFACTURER & CATALOG NUMBER	VOLTS WATTS	LIGHT SOURCE	DESCRIPTION	EQUIVALENT MANUFACTURERS
A	LTHONIA CSS-L48-ALO3-MVOLT-SWW3-80CRI	120 44	LED 5150LUM 4000K	4' LED STRIP LIGHT WITH FIELD SELECTABLE COLOR TEMPERATURE AND OUTPUT	WILLIAMS COLUMBIA OR EQUAL
A2	LTHONIA CSS-L96-ALO4-MVOLT-SWW3-80CRI	120 90	LED 10000LUM 4000K	8' LED STRIP LIGHT WITH FIELD SELECTABLE COLOR TEMPERATURE AND OUTPUT	WILLIAMS COLUMBIA OR EQUAL
B	LITHONIA CPANL-2X4-ALO6-SWW7-M2	120 41	LED 6000LUM 4000K	2X4 LED FLAT PANEL WITH FIELD SELECTABLE COLOR TEMPERATURE AND OUTPUT	WILLIAMS COLUMBIA OR EQUAL
B2	LITHONIA CPANL-2X2-ALO1-SWW7-M2	120 31	LED 3300LUM 4000K	2X2 LED FLAT PANEL WITH FIELD SELECTABLE COLOR TEMPERATURE AND OUTPUT	WILLIAMS COLUMBIA OR EQUAL
	LITHONIA ELML7-W-LP06VS-LTP	120 1	INCL	EMERGENCY LIGHT WITH TWIN ADJUSTABLE LED HEADS AND LITHIUM IRON PHOSPHASTE BATTERY, MOUNT AT 7'-6"±, TO CLEAR OBSTACLES. (PROVIDES 1 FC AVG, ON 54' CENTER FIXTURE SPACING), WHITE FINISH	SURE-LITES DUAL-LITE OR EQUAL
	LITHONIA LHQM-LED-R-HO-SD WITH ELA-TQWP-L0309	120 5	INCL	COMBINATION EMERGENCY/EXIT LIGHT WITH LED LAMPS, RED LETTERS ON WHITE BACKGROUND, TWIN 6W EMERGENCY LIGHT HEADS, UNIVERSAL MOUNT, HIGH CAPACITY BATTERY BACKUP AND REMOTE TWIN HEAD OUTDOOR RATED FIXTURE	SURE-LITES LITHONIA OR EQUAL

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Snappy Clean
LANDROMAT

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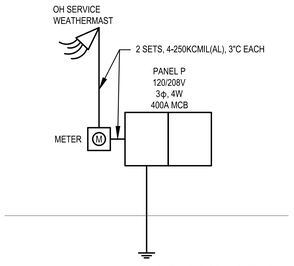
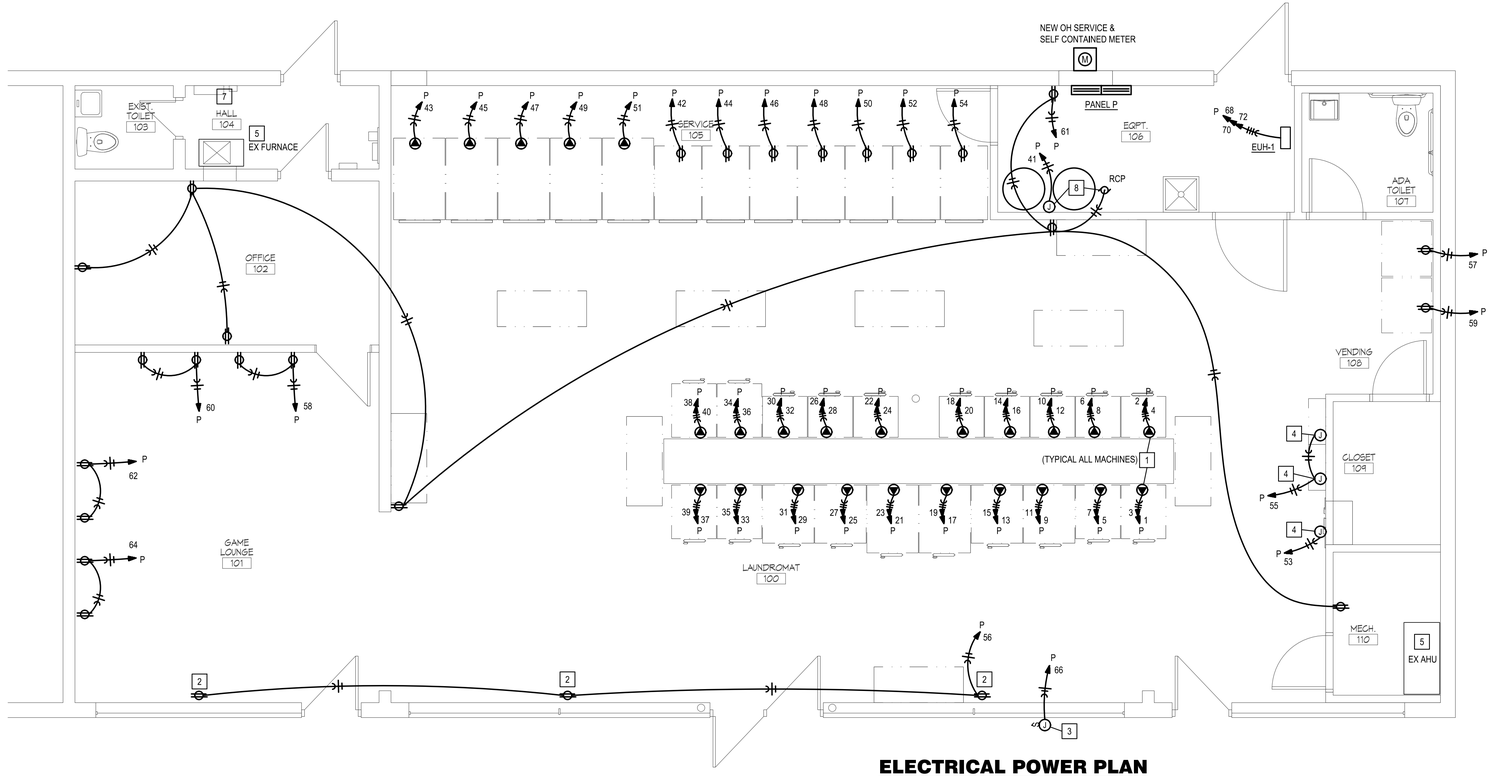
ELECTRICAL LIGHTING PLAN

E1



ELECTRICAL RISER DIAGRAM

SCALE: NONE



ELECTRICAL POWER PLAN

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

ELECTRICAL PLAN NOTES:

1. PROVIDE CORD & PLUG PER MANUFACTURER'S REQUIREMENTS AND CONNECT TO OWNER'S EQUIPMENT AS REQUIRED FOR PROPER OPERATION.
2. DUPLEX RECEPTACLE MOUNTED ABOVE STOREFRONT GLASS FOR DISPLAY WINDOW SIGNAGE PER NEC.
3. JUCTION BOX FOR CONNECTION TO BUILDING SIGNAGE. VERIFY EXACT LOCATION & REQUIREMENTS WITH SIGNAGE VENDOR. ROUTE CIRCUIT TO PANEL VIA EXTERIOR LIGHTING TIMECLOCK, INTERMATIC #ET2725C OR EQUAL TIMECLOCK LOCATED ADJACENT TO PANEL. PROGRAM TIMEECLOCK TO AUTOMATICALLY CONTROL SIGNAGE AS DIRECTED BY OWNER.
4. CONNECT TO CHANGE MACHINE & SOAP VENDING MACHINE PER MANUFACTURER'S INSTRUCTIONS. VERIFY EXACT LOCATION & REQUIREMENTS.
5. INTERCEPT EXISTING CIRCUIT AND RE-ROUTE TO NEW BREAKER IN PANEL P. REFER TO PANEL SCHEDULE.
6. CONNECT TO GAS WATER HEATERS AND RE-CIRC PUMP PER MANUFACTURER'S INSTRUCTIONS.
7. REMOVE EXISTING ELECTRICAL SERVICE

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ELECTRICAL POWER PLAN

E2