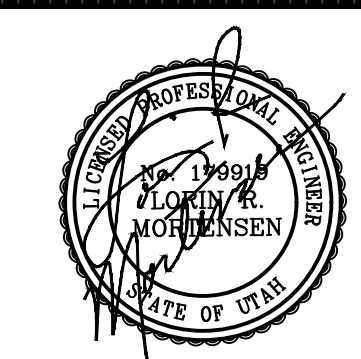






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DATE  
 February 10, 2021

PROJECT TITLE  
**CLEARFIELD ARTS CENTER  
 INTERIOR REMODEL**  
 140 Center Street, Clearfield, Utah  
 Nielson Architecture Planning, Inc.

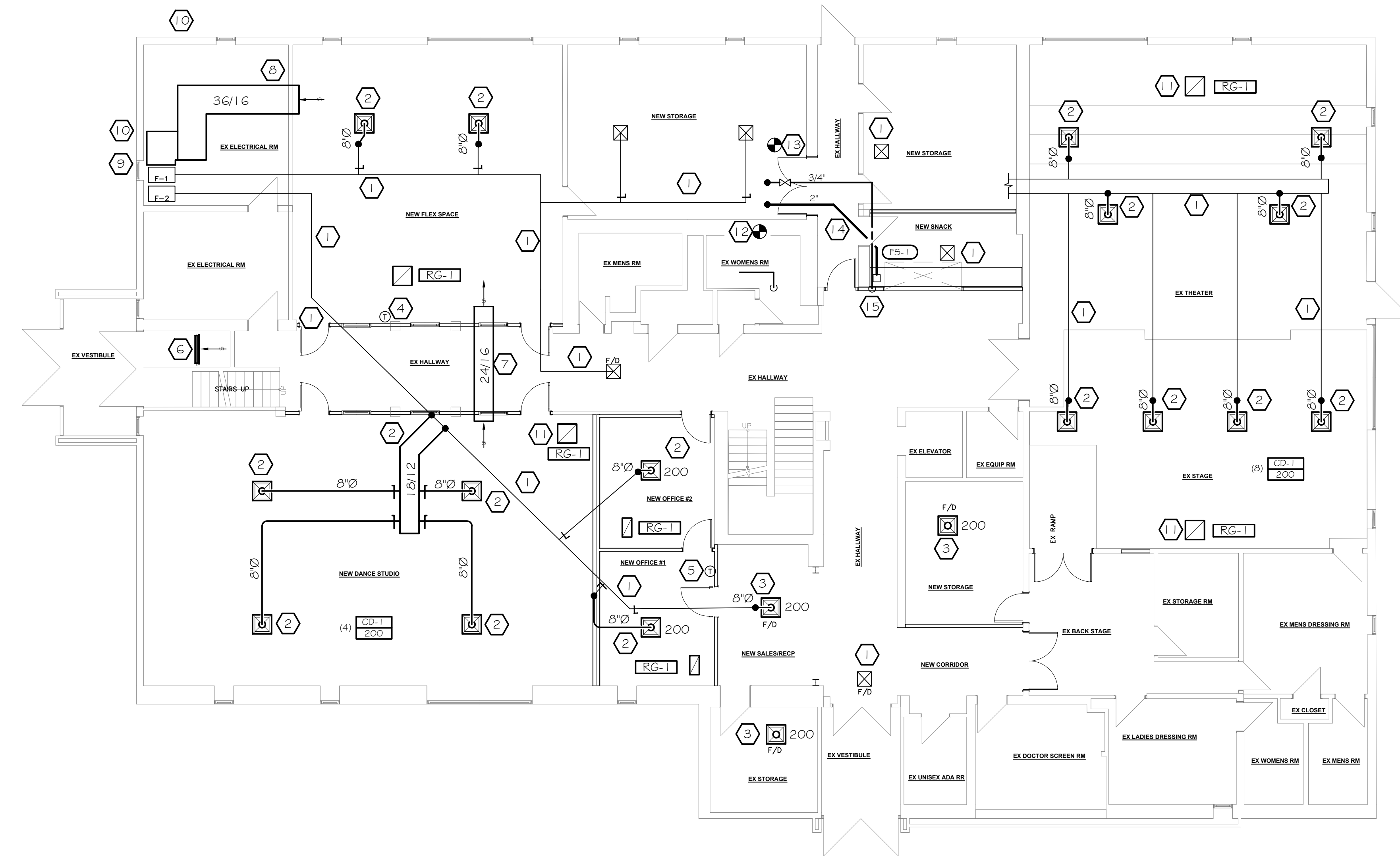
SHEET TITLE  
**MAIN FLOOR  
 MECHANICAL PLAN**

PROJECT NUMBER

REVISIONS

SHEET NUMBER

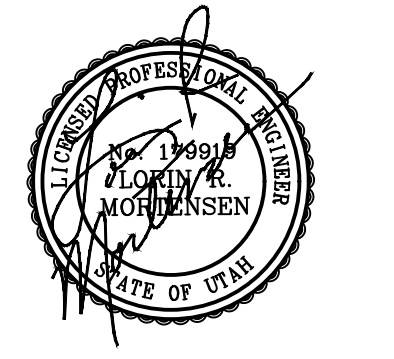
**M-101**



- REFERENCE NOTES
- 1 EXISTING DUCTWORK/DIFFUSER TO REMAIN.
  - 2 NEW SUPPLY DIFFUSER (CD-1). SEE PLAN FOR AIRFLOW.
  - 3 NEW DIFFUSER WITH FIRE DAMPER TO MATCH EXISTING SYSTEM. SEE PLAN FOR AIRFLOW.
  - 4 EXISTING THERMOSTAT TO REMAIN.
  - 5 NEW LOCATION OF EXISTING THERMOSTAT.
  - 6 NEW FIRE DAMPER IN EXISTING SIDEWALL RETURN AIR GRILL OPENING. FIELD VERIFY SIZE OF OPENING.
  - 7 NEW RETURN AIR PATH ABOVE NEW CORRIDOR CEILING.
  - 8 RETURN AIR DUCT ABOVE EXISTING ADJACENT CEILING.
  - 9 CONNECT RETURN AIR DUCT TO EXISTING COMMON R.A. DUCT. FIELD VERIFY EXISTING CONDITIONS.
  - 10 EXISTING FURNACES/CONDENSING UNITS TO REMAIN. PROVIDE SERVICE/MAINTENANCE TO VERIFY PROPER OPERATION.
  - 11 NEW RETURN AIR GRILL.
  - 12 CONNECT NEW WASTE LINE TO EXISTING WASTE LINE. FIELD VERIFY LOCATION, ELEVATION, DIRECTION OF FLOW, PIPE MATERIAL, AND SIZE OF EXISTING WASTE LINE PRIOR TO START OF INSTALLATION.
  - 13 CONNECT NEW WATER LINE TO EXISTING WATER LINE. FIELD VERIFY LOCATION, PIPE MATERIAL, AND SIZE OF EXISTING WATER LINE PRIOR TO START OF INSTALLATION.
  - 14 SAWCUT EXISTING CONCRETE FLOOR TO ACCOMMODATE INSTALLATION OF NEW WASTE LINE.
  - 15 DROP WATER LINE DOWN NEW WALL TO COUNTER. VALVE AND CAP FOR FUTURE CONNECTION.

NORTH  
**MAIN FLOOR MECHANICAL PLAN**  
 SCALE: 1/8" = 1'-0"

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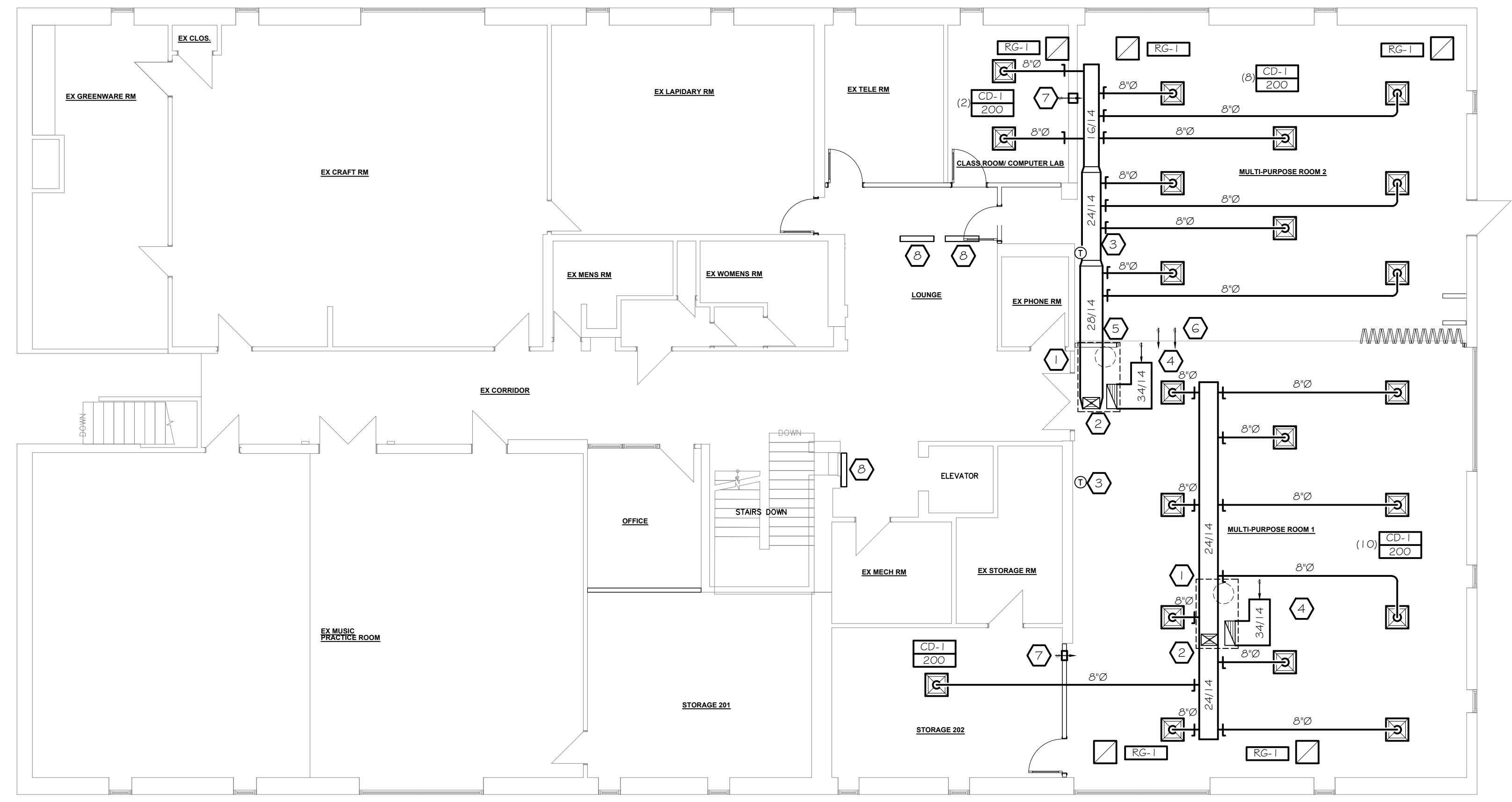
SHEET TITLE  
**UPPER FLOOR  
 MECHANICAL PLAN**

PROJECT NUMBER

REVISIONS

SHEET NUMBER

**M-102**



- REFERENCE NOTES
- 1 EXISTING ROOFTOP AIR CONDITIONER TO REMAIN. REPLACE FILTERS AND BELTS. PROVIDE COMPLETE UNIT START-UP.
  - 2 CONNECT NEW SUPPLY AND RETURN DUCTS TO EXISTING SUPPLY AND RETURN DUCTS.
  - 3 NEW LOCATION OF EXISTING THERMOSTAT.
  - 4 CEILING SPACE TO BE USED AS RETURN AIR PLENUM.
  - 5 DUCT TO RUN THROUGH NEW BEAM ABOVE NEW DOOR.
  - 6 PROVIDE 4 SQ. FT. AIR OPENINGS IN BEAM FOR RETURN AIR.
  - 7 PROVIDE ONE SQ. FT. AIR OPENING IN WALL ABOVE CEILING FOR RETURN AIR.
  - 8 PATCH EXISTING FLOOR GRILL OPENING.

NORTH  
**UPPER FLOOR MECHANICAL PLAN**  
 SCALE: 1/8" = 1'-0"

**PLUMBING SPECIFICATIONS ①**

**INSULATION**

A. PROVIDE AND INSTALL GLASS FIBER PREFORMED PIPE INSULATION WITH VAPOR PROOF COATINGS ACCORDING TO THE FOLLOWING SCHEDULE:

DOMESTIC COLD WATER PIPING:  
 1/2" TO 2" PIPE SIZE - 3/4" INSULATION  
 2" AND ABOVE - 1" INSULATION

DOMESTIC HOT WATER AND RECIRCULATED HOT WATER PIPING:  
 1/2" TO 2" PIPE SIZE - 1" INSULATION  
 2" AND ABOVE - 1-1/2" INSULATION

RAIN WATER PIPING AND PLUMBING VENTS (WITHIN 6' OF ROOF):  
 1/2" TO 2" PIPE SIZE - 3/4" INSULATION  
 2" AND ABOVE - 1" INSULATION

B. GLASS FIBER INSULATION SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS.

C. SEAL ALL ENDS AND JOINTS TO PROVIDE A COMPLETELY SEALED INSULATION SYSTEM. PROVIDE COVER HANGER INSERTS AND SHIELDS WITH JACKET MATERIAL MATCHING ADJACENT PIPE INSULATION.

**PLUMBING PIPING**

A. WATER DISTRIBUTION PIPING - ABOVE GROUND (125 PSIG):  
 3-1/2" AND SMALLER - USE TYPE L HARD COPPER TUBE WITH CAST COPPER ALLOY BRAZED JOINT PRESSURE FITTINGS.

B. WASTE AND VENT PIPING - BELOW GROUND (10-FOOT HEAD OF WATER):  
 2" TO 6" - USE ACRYLONITRILE-BUTADIENE-STYRENE (ABS) PLASTIC PIPE WITH ABS SOCKET-TYPE DRAIN, WASTE, AND VENT PIPE PATTERN FITTINGS WITH SOLVENT CEMENTED JOINTS OR PVC.

C. WASTE AND VENT PIPING - ABOVE GROUND (10-FOOT HEAD OF WATER):  
 2" TO 6" - USE ACRYLONITRILE-BUTADIENE-STYRENE (ABS) PLASTIC PIPE WITH ABS SOCKET-TYPE DRAIN, WASTE, AND VENT PIPE PATTERN FITTINGS WITH SOLVENT CEMENTED JOINTS OR PVC.

D. INSTALL HANGERS FOR HORIZONTAL COPPER AND CAST IRON PIPING WITH THE FOLLOWING MAXIMUM SPACING AND MINIMUM RCD SIZES:

NOM. PIPE SIZE	MAX. SPAN	MIN. RCD DIA.
3/4"	6'	3/8"
1"	6'	3/8"
1-1/2"	6'	3/8"
2"	12'	3/8"
2-1/2"	12'	1/2"
3"	12'	1/2"
3-1/2"	12'	1/2"
4"	12'	5/8"
5"	12'	5/8"
6"	12'	3/4"

SUPPORT VERTICAL PIPE AND TUBING AT EACH FLOOR.

E. SUPPORT HORIZONTAL ABS AND PVC PIPING WITH PIPE HANGERS LOCATED AT 4' MAXIMUM SPAN.

F. CLEAN, FLUSH, AND TEST ALL WATER DISTRIBUTION PIPING TO 1-1/2 TIMES THE OPERATING PRESSURE FOR A TIME PERIOD OF 4 HOURS. PURGE AND DISINFECT POTABLE WATER SYSTEMS WITH A WATER/CHLORINE SOLUTION IN ACCORDANCE WITH THE LOCAL HEALTH CODE REQUIREMENTS. TEST AND SUBMIT SATISFACTORY REPORT PRIOR TO BUILDING OCCUPANCY.

G. CLEAN, FLUSH, AND TEST THE WASTE AND VENT PIPING SYSTEM TO 10 FEET HEAD OF WATER.

**PLUMBING FIXTURES**

A. PROVIDE AND INSTALL PLUMBING FIXTURES WHERE INDICATED ON THE DRAWINGS FOR A COMPLETE PLUMBING SYSTEM. PROVIDE ALL REQUIRED CARRIERS, SUPPORTS, EQUIPMENT, HANGERS, FITTINGS, TRIM, STOPS, AND ACCESSORIES ASSOCIATED WITH THE PLUMBING FIXTURES. COORDINATE THE COLOR STYLE, COLOR, AND ACCESSORIES OF EACH FIXTURE WITH THE BUILDING OWNER. ALL FIXTURES NOTED AS ACCESSIBLE SHALL COMPLY WITH A.D.A. REQUIREMENTS. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL SUB-CONTRACTOR. INSTALL ALL PLUMBING FIXTURES PLUMB, LEVEL, AND ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. REFER TO THE PLUMBING FIXTURE SCHEDULE.

B. PROVIDE PLUMBING FIXTURES FROM THE FOLLOWING MANUFACTURERS:  
 SINKS AND SERVICE SINKS:  
 AMERICAN STANDARD, BRIGGS, CRANE, ELJER, ELKAY, KOHLER

C. SUBMIT MANUFACTURER'S CUTSHEET FOR REVIEW AND APPROVAL FOR EACH PLUMBING FIXTURE INCLUDING MANUFACTURER, MODEL, STYLE, OPTIONS, AND ACCESSORIES.

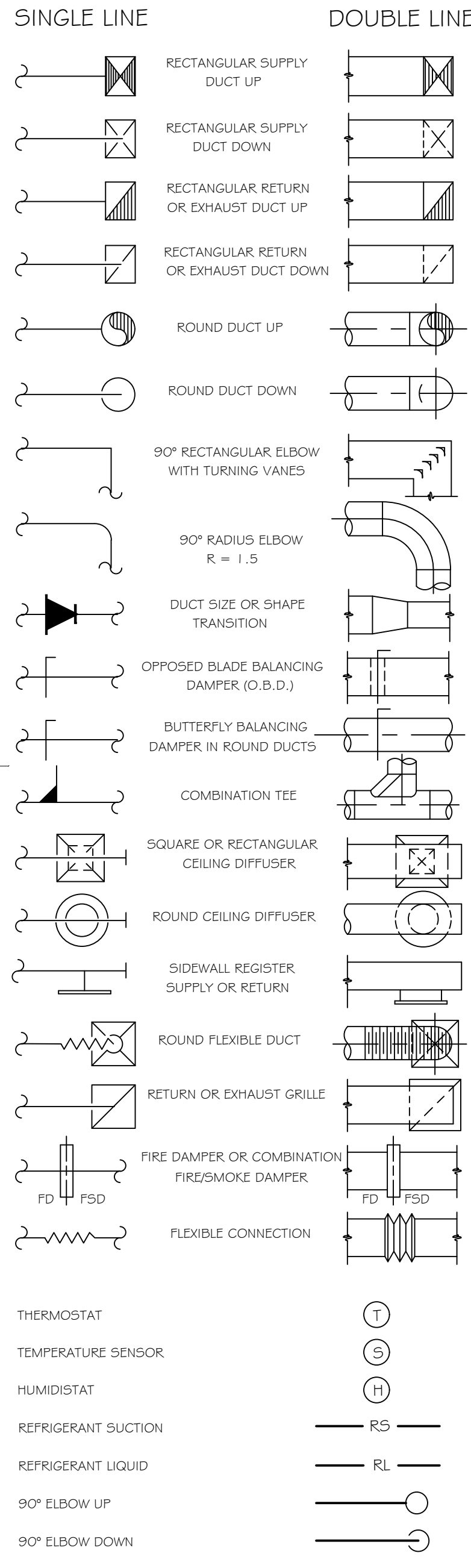
**FIRE SPRINKLER SYSTEM**

A. NOT INCLUDED IN THIS CONTRACT.

**PLUMBING GENERAL NOTES**

1. PROVIDE ALL EQUIPMENT, PIPING, MATERIALS, LABOR, PERMITS, AND FEES TO CONSTRUCT A COMPLETE AND OPERATIONAL PLUMBING SYSTEM FOR THE ENTIRE PROJECT AS SHOWN ON THE DRAWINGS.
2. COORDINATE THE EXACT LOCATION OF ALL PLUMBING FIXTURES AND DRAINS WITH THE ARCHITECTURAL DRAWINGS AND THE GENERAL CONTRACTOR.
3. COORDINATE ALL WORK WITH THE GENERAL CONTRACTOR, MECHANICAL SUB-CONTRACTOR, ELECTRICAL SUB-CONTRACTOR, AND ALL OTHER TRADES IN THE PROJECT.
4. PLUMBING PLANS ARE SCHEMATIC IN NATURE AND THEREFORE DO NOT SHOW ALL DROPS, RISERS, AND OFFSETS. THE CONTRACTOR SHALL MAKE ALL REQUIRED MODIFICATIONS TO PROVIDE A COMPLETE AND OPERATIONAL PLUMBING SYSTEM. MAJOR MODIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER.
5. DO NOT RUN PIPING ABOVE ELECTRICAL PANELS. PROVIDE 4'-0" DEEP X 6'-0" HIGH CLEAR ACCESS SPACE IN FRONT OF PANELS. DO NOT RUN PIPING IN ELECTRICAL ROOMS.
6. INSTALL WATER, GAS, AND VENT PIPING AS HIGH AS POSSIBLE ABOVE THE CEILING UNLESS NOTED OTHERWISE.
7. INSTALL WASTE PIPING BELOW THE FLOOR UNLESS NOTED OTHERWISE.
8. PROVIDE AND INSTALL 2" MINIMUM WASTE PIPE SIZE BELOW GRADE.

**MECHANICAL SYMBOL LEGEND**



**MECHANICAL GENERAL NOTES**

1. PROVIDE ALL EQUIPMENT, PIPING, MATERIALS, LABOR, PERMITS, AND FEES TO CONSTRUCT A COMPLETE AND OPERATIONAL MECHANICAL SYSTEM FOR THE ENTIRE PROJECT AS SHOWN ON THE DRAWINGS.
2. COORDINATE THE EXACT LOCATION OF ALL CEILING DIFFUSERS AND GRILLES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN.
3. COORDINATE ALL WORK WITH THE GENERAL CONTRACTOR, PLUMBING SUB-CONTRACTOR, ELECTRICAL SUB-CONTRACTOR, AND ALL OTHER TRADES IN THE PROJECT.
4. ALL MECHANICAL INFORMATION IS NOT SHOWN ON THE MECHANICAL DRAWINGS. COORDINATE ALL WORK WITH THE ARCHITECTURAL, STRUCTURAL, PLUMBING, CIVIL, AND ELECTRICAL DRAWINGS.
5. MECHANICAL PLANS ARE SCHEMATIC IN NATURE AND THEREFORE DO NOT SHOW ALL DROPS, RISERS, AND OFFSETS. THE CONTRACTOR SHALL MAKE ALL REQUIRED MODIFICATIONS TO PROVIDE A COMPLETE AND OPERATIONAL MECHANICAL SYSTEM. MAJOR MODIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER.
6. DO NOT RUN DUCTWORK ABOVE ELECTRICAL PANELS. PROVIDE 4'-0" DEEP X 6'-0" HIGH CLEAR ACCESS SPACE IN FRONT OF PANELS. DO NOT RUN DUCTWORK IN ELECTRICAL ROOMS.
7. INSTALLATION OF ALL DUCTWORK SHALL BE COORDINATED WITH STRUCTURAL GRIDERS AND JOIST. DUCTWORK SHALL BE RUN WITHIN STRUCTURE SPACE WHERE SHOWN ON THE PLANS.
8. COORDINATE ALL FLOOR, CEILING, AND ROOF PENETRATIONS WITH THE STRUCTURAL PLANS. MAINTAIN DUCTWORK TIGHT TO THE STRUCTURE. OFFSET INTO THE JOIST SPACE WHERE SHOWN ON THE PLANS.
9. REFER TO CEILING SUPPLY DIFFUSER AND RETURN AIR GRILL DETAILS 1M-200 & 2M-200.

**MECHANICAL SPECIFICATIONS ②**

**METAL DUCTS**

A. PROVIDE AND INSTALL SHEETMETAL DUCTS CONFORMING TO SMACNA, ASHRAE, AND AND NFPA 90A STANDARDS AS SHOWN ON THE MECHANICAL PLANS.

B. SHOP FABRICATE SQUARE, RECTANGULAR, ROUND, AND OVAL DUCTS, FITTINGS, HANGERS AND SUPPORTS ACCORDING TO SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

C. FACTORY APPLY DUCT LINER USING APPROVED SMACNA METHODS TO ALL REQUIRED DUCTS AS INDICATED IN THE INSULATION SECTION OF THIS SPECIFICATION.

D. PROVIDE TURNING VANES IN ALL RECTANGULAR DUCT FITTINGS OVER 45° ANGLES. PROVIDE 1.5 RADIUS ELBOWS ON ALL ROUND DUCTS.

E. SEAL ALL LONGITUDINAL AND TRANSVERSE JOINTS, SEAMS, AND CONNECTIONS WITH AN APPROVED SEALANT OR SEALING METHOD.

F. DUCT DIMENSIONS SHOWN ARE SHOWN ARE SHEETMETAL SIZES. NO INCREASE FOR DUCT LINER IS REQUIRED.

G. INSTALL DUCTWORK IN THE MOST EFFICIENT MANNER POSSIBLE, MINIMIZING JOINTS AND CHANGES IN DIRECTION.

H. PROTECT STORED AND INSTALLED DUCTWORK FROM DUST, DIRT, MOISTURE, AND CONSTRUCTION DEBRIS. CLEAN ALL DUCTWORK PRIOR TO OPERATION.

I. ALL ROUND DUCTS SHALL BE CONSTRUCTED OF SPIRAL WOUND SHEET METAL.

**DUCT ACCESSORIES**

A. PROVIDE AND INSTALL THE FOLLOWING DUCT ACCESSORIES WHERE INDICATED ON THE DRAWINGS: BACKDRAFT DAMPERS, BALANCING DAMPERS, FIRE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, ACTUATORS, TURNING VANES, ACCESS DOORS, FLEXIBLE DUCTS, AND ACCESSORIES HARDWARE.

B. PROVIDE CONCEALED DAMPER REGULATORS WITH REQUIRED LINKAGES AND COVER PLATES FOR EACH DAMPER LOCATED ABOVE A NON-ACCESSIBLE CEILING.

C. FIRE DAMPERS SHALL BE UL LISTED AND LABELED. FIRE DAMPERS SHALL BE RATED FOR 1-1/2 HOURS FOR FIRE RESISTIVE ASSEMBLIES RATED FOR 2 HOURS OR LESS AND RATED FOR 3 HOURS FOR FIRE RESISTIVE ASSEMBLIES RATED 3 HOURS OR MORE. REPLACEABLE FUSIBLE LINKS RATED FOR 165°F SHALL BE USED. USE TYPE A, B, OR C AS INDICATED ON THE DRAWINGS.

E. PROVIDE TURNING VANES WHERE NOTED IN THE METAL DUCTS SPECIFICATION.

F. PROVIDE DUCT MOUNTED ACCESS DOORS AT ALL FIRE DAMPERS, FIRE/SMOKE DAMPERS, AND MOTORIZED CONTROL DAMPERS. ACCESS DOORS SHALL BE FACTORY CONSTRUCTED OF GALVANIZED SHEET METAL AND HAVE HINGES, GASKETS, SEALS, AND LATCHES.

G. FLEXIBLE DUCTS SHALL BE ROUND INSULATED, FACTORY-FABRICATED OR CORRUGATED ALUMINUM WITH AN OUTER JACKET, AND A SPIN COLLAR. THE MAXIMUM ALLOWABLE LENGTH OF FLEX DUCT SHALL BE 5'-0" AT ALL DIFFUSER TERMINATIONS.

H. PROVIDE INSTRUMENT TEST HOLES AT THE INLET AND OUTLET OF ALL FAN SYSTEMS.

I. INSTALL ALL DUCT ACCESSORIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND SMACNA STANDARDS.

**AIR OUTLETS AND INLETS**

A. PROVIDE FACTORY FABRICATED AND ASSEMBLED CEILING AIR DIFFUSERS AND GRILLES, WALL REGISTERS AND GRILLES, AND LOUVERS COMPLETE WITH ALL FEATURES AND ACCESSORIES AS NOTED IN THE SCHEDULE. PROVIDE EQUIPMENT FROM THE FOLLOWING APPROVED MANUFACTURERS: AIRCLUTE, ANEMOSTAT, CARNES, COOLEY & HART, E.H. PRICE, J & J REGISTER, KRUEGER, REGISTER AND DAMPERS, NAILOR, RUSKIN, TITUS, AND TUTTLE & BAILEY.

B. ALL AIR OUTLETS AND INLETS SHALL BE DESIGN, MANUFACTURED, AND TESTED TO CONFORM TO ARI, ASHRAE, ADG, AND AMCA STANDARDS.

C. CEILING DIFFUSERS AND REGISTERS AND WALL REGISTERS AND GRILLES SHALL BE CONSTRUCTED OF GALVANIZED STEEL OR ALUMINUM AND SHALL HAVE A BAKED ENAMEL FINISH. COLOR SELECTION BY THE ARCHITECT OR OWNER.

D. LOUVERS SHALL BE CONSTRUCTED OF ALUMINUM EXTRUSIONS WITH WELDED CONNECTIONS OR STAINLESS STEEL FASTENERS. PROVIDE 1/2" ANODIZED ALUMINUM WIRE BIRD SCREEN. LOUVER FINISH SHALL BE ANODIZED ALUMINUM IN COLOR AS SELECTED BY THE ARCHITECT OR OWNER.

**COMMISSIONING**

A. PROVIDE SYSTEM COMMISSIONING OF ALL MECHANICAL SYSTEMS CONSISTING OF FIELD VERIFICATION AND CERTIFYING THAT THE MECHANICAL SYSTEM IS PROPERLY INSTALLED AND IS FULLY OPERATIONAL.

B. PROVIDE A SYSTEM COMMISSIONING REPORT TO BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL THAT INCLUDES A CHECKLIST OF ALL EQUIPMENT AND SYSTEMS.

**ELECTRIC AND ELECTRONIC CONTROLS**

A. PROVIDE AND INSTALL A COMPLETE AUTOMATIC CONTROL SYSTEM AS DESCRIBED IN THE DRAWINGS. ALL SYSTEM CONTROLS SHALL BE PROVIDED BY A SINGLE MANUFACTURER'S PRODUCTS. APPROVED MANUFACTURERS ARE: BRYANT, CARRIER, HONEYWELL, TRANE.

**TEST AND BALANCE**

A. PROVIDE A COMPLETE AIR SYSTEM BALANCE, TEST, AND REPORT BY A NEBB, OR ABC CERTIFIED TEST AND BALANCE SUPERVISOR WITH EXPERIENCE IN BALANCING SYSTEMS OF SIMILAR TYPES AND SIZE.

B. PROVIDE ALL NECESSARY TOOLS, EQUIPMENT, SHEAVE CHANGES, BELTS, AND ACCESSORIES TO COMPLETE WORK.

C. PROVIDE A REPORT SHOWING THE REQUIRED AND THE ACTUAL FLOWS. INCLUDE IN THE REPORT A DRAWING SHEMATIC OF THE SYSTEMS BALANCED, AND SYSTEMS CHECK REPORT. SUBMIT THE BALANCING REPORT FOR REVIEW PRIOR TO THE FINAL INSPECTION. ALL REPORTS SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL.

**MECHANICAL SPECIFICATIONS ①**

**BASIC MECHANICAL REQUIREMENTS**

A. COMPLY WITH THE REQUIREMENTS OF THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL MECHANICAL CODE (IMC), UNIFORM PLUMBING CODE (UPC), INTERNATIONAL FUEL GAS CODE (IFGC), AND INTERNATIONAL ENERGY CONSERVATION CODE (IECC), AND THE CURRENT NATIONAL ELECTRIC CODE (NEC) INCLUDING ALL STATE AMENDMENTS. COMPLY WITH THE AUTHORITY HAVING JURISDICTION AND ALL APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT AT THE BID DATE.

B. PREPARE AND SUBMIT SHOP DRAWINGS FOR ALL MECHANICAL EQUIPMENT, VALVES, AND ACCESSORIES INCLUDING MANUFACTURER'S NAME, CATALOG NUMBER, DESCRIPTION, SIZE, CAPACITY, ELECTRICAL REQUIREMENTS, OPERATION, AND MAINTENANCE INFORMATION. SHOP DRAWINGS SHALL BE REVIEWED AND STAMPED BY THE MECHANICAL AND GENERAL CONTRACTOR PRIOR TO ENGINEER'S REVIEW. EQUIPMENT SHALL NOT BE ORDERED UNTIL APPROVED SHOP DRAWINGS HAVE BEEN RECEIVED.

C. PREPARE COORDINATION DRAWINGS DETAILING ALL MAJOR EQUIPMENT AND SYSTEMS. INCLUDE EQUIPMENT CONNECTIONS, CLEARANCES, FIRE-RATED WALL OR FLOOR PENETRATIONS, CONCRETE PADS, AND SUPPORT DETAILS IN COORDINATION DRAWINGS. COORDINATION DRAWINGS SHALL BE IN CONJUNCTION WITH THE MECHANICAL, FIRE SPRINKLER (WHERE REQUIRED), ELECTRICAL, REFLECTED CEILING, AND ALL OTHER APPLICABLE TRADES.

D. PREPARE RECORD 'AS BUILT' DOCUMENTS INCLUDING ALL CHANGES FROM THE ORIGINAL BID DOCUMENTS. SUBMIT COMPLETE 'AS BUILT' DOCUMENTS AT THE COMPLETION OF THE PROJECT.

E. PROVIDE OPERATION AND MAINTENANCE (O & M) MANUALS CONTAINING INFORMATION FOR ALL MECHANICAL AND PLUMBING SYSTEMS. THE MANUALS SHALL CONTAIN A LIST OF ALL SUB-CONTRACTORS AND SUPPLIERS, EQUIPMENT CUT SHEETS, START-UP INFORMATION, BALANCING REPORTS, AND MAINTENANCE REQUIREMENTS. THE MANUALS SHALL BE HARD BACKED 3-RING BINDERS WITH THE PROJECT LABELED ON THE COVER AND SPINE.

F. INSTALL ALL MECHANICAL EQUIPMENT AND MATERIALS IN COORDINATION WITH ALL OTHER TRADES. VERIFY ALL ELECTRICAL CONNECTIONS WITH THE ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION.

G. PROVIDE AND INSTALL ACCESS DOORS WHERE EQUIPMENT, VALVES OR DAMPERS ARE CONCEALED BEHIND FINISHED SURFACES.

H. PROVIDE FACTORY-AUTHORIZED EQUIPMENT START-UP, COMMISSIONING, AND TRAINING OF ALL MECHANICAL EQUIPMENT.

I. INSTALL ALL SYSTEMS, MATERIALS, AND EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS. INSTALL ALL PIPING FREE FROM SAGS AND BENDS AND AT THE SLOPE INDICATED (WHERE REQUIRED). INSTALL DUCTWORK, PIPING, AND EQUIPMENT TO PROVIDE THE MAXIMUM POSSIBLE HEADROOM.

J. ALL WORK SHALL BE PERFORMED BY CERTIFIED AND SKILLED WORKERS WITH PRIOR EXPERIENCE IN THEIR PARTICULAR TRADE.

K. THE MECHANICAL SUB-CONTRACTOR SHALL PROVIDE WARRANTY THE ENTIRE MECHANICAL SYSTEM FOR A PERIOD OF ONE YEAR. INCLUDE THE WARRANTY AND ALL OTHER GUARANTEES AND WARRANTIES IN THE OPERATION AND MAINTENANCE MANUAL.

L. THE CONTRACTOR SHALL STORE AND PROTECT ALL EQUIPMENT AND MATERIALS DURING CONSTRUCTION AS REQUIRED AND SHALL REPAIR OR REPLACE ALL DAMAGED PIPING, EQUIPMENT, OR OTHER DAMAGE DURING CONSTRUCTION.

M. PROVIDE AND INSTALL ALL MECHANICAL EQUIPMENT, PIPING, FIXTURE, AND ACCESSORIES IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE ALL FITTINGS, VALVES, TRANSITIONS, AND OTHER DEVICES AS REQUIRED FOR A COMPLETE AND OPERATIONAL MECHANICAL SYSTEM.

N. SUBMIT FOR PRIOR APPROVAL FOR EQUIPMENT MANUFACTURERS NOT LISTED IN THE SPECIFICATIONS A MINIMUM OF FIVE PRIOR TO BID.

**BASIC MECHANICAL MATERIALS AND METHODS**

A. ALL PIPE AND PIPE FITTINGS SHALL BE NEW AND SHALL BE AMERICAN MADE WITH APPROVED LABELS. DELIVER, STORE, AND PROTECT DUCTWORK AND PIPING DURING CONSTRUCTION FROM DAMAGE, DIRT, AND MOISTURE.

B. SEAL ALL DUCT AND PIPE PENETRATIONS THROUGH WALLS AND FLOORS AIR TIGHT. CAULK ALL FIRE RATED PIPE PENETRATIONS WITH APPROVED FIRE-STOPPING MATERIAL.

C. CUT, CHANNEL, CHASE, AND DRILL FLOORS, WALLS, PARTITIONS, CEILING, AND OTHER SURFACES NECESSARY FOR PROPER INSTALLATION. REPAIR AS REQUIRED TO MATCH ADJACENT SURFACES.

**HANGERS AND SUPPORTS**

A. PROVIDE AND INSTALL DUCT SUPPORTS AND HANGERS AS REQUIRED FOR ALL DUCTWORK AND EQUIPMENT ACCORDING TO MANUFACTURER'S STANDARDIZATION SOCIETY (MSS) AND SMACNA STANDARDS.

**VIBRATION ISOLATION AND SEISMIC CONTROLS**

A. PROVIDE AND INSTALL VIBRATION ISOLATORS, FLEXIBLE CONNECTIONS, ISOLATION PADS, AND OTHER EQUIPMENT TO PREVENT NOISE AND VIBRATION TRANSMISSION.

**DUCTWORK AND EQUIPMENT IDENTIFICATION**

A. PROVIDE DUCT AND EQUIPMENT TAGS, LABELS, AND IDENTIFICATION INDICATING FLOW DIRECTION, AREA SERVED, SYSTEM TYPE AND OTHER IDENTIFYING INFORMATION. COMPLY WITH ASME PIPING EQUIPMENT IDENTIFICATION STANDARDS.

**INSULATION**

A. PROVIDE AND INSTALL GLASS FIBER DUCT INSULATION ACCORDING TO THE FOLLOWING SCHEDULE:  
 RECTANGULAR SUPPLY AND RETURN DUCTS:  
 1" DUCT LINER  
 ROUND SUPPLY AND RETURN DUCTS:  
 1-1/2" BLANKET WRAP WITH VAPOR BARRIER.  
 ROUND AND RECTANGULAR EXHAUST DUCTS:  
 NO INSULATION UNLESS OTHERWISE NOTED.  
 UNLINED SUPPLY, COMBUSTION, AND OUTSIDE AIR DUCTS:  
 1-1/2" BLANKET WRAP WITH VAPOR BARRIER.  
 EXTERIOR INSTALLED SUPPLY AND RETURN DUCTS:  
 2" BLANKET WRAP WITH VAPOR BARRIER.

B. DUCT LINER SHALL BE 1" THICK, 2 LBS. DENSITY, WITH ASTM C 107.1, TYPE II COATED ACRYLIC SURFACE AND PRE-TREATED FOR ANTI-MICROBIAL AGENT TO PREVENT MICROBIAL GROWTH.

C. GLASS FIBER INSULATION SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS.

D. SEAL ALL ENDS AND JOINTS TO PROVIDE A COMPLETELY SEALED INSULATION SYSTEM.

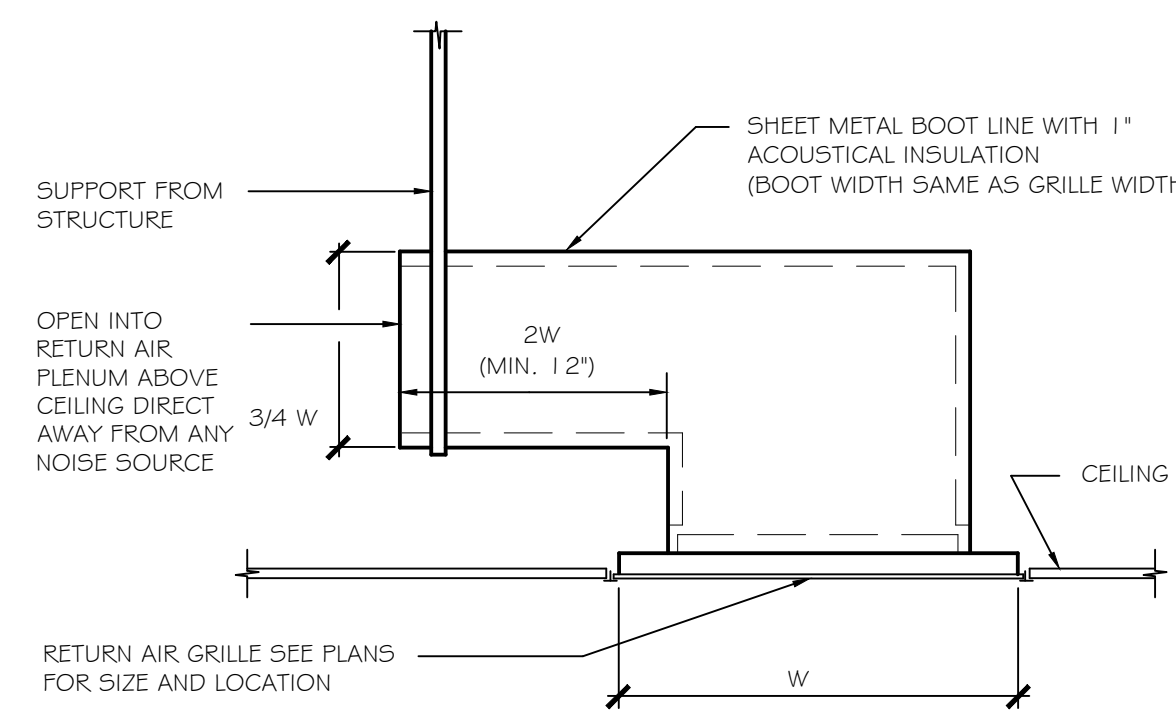
E. SEAL JOINTS, BREAKS AND PUNCTURES WITH VAPOR BARRIER COMPOUND.

**PLUMBING FIXTURE SCHEDULE**

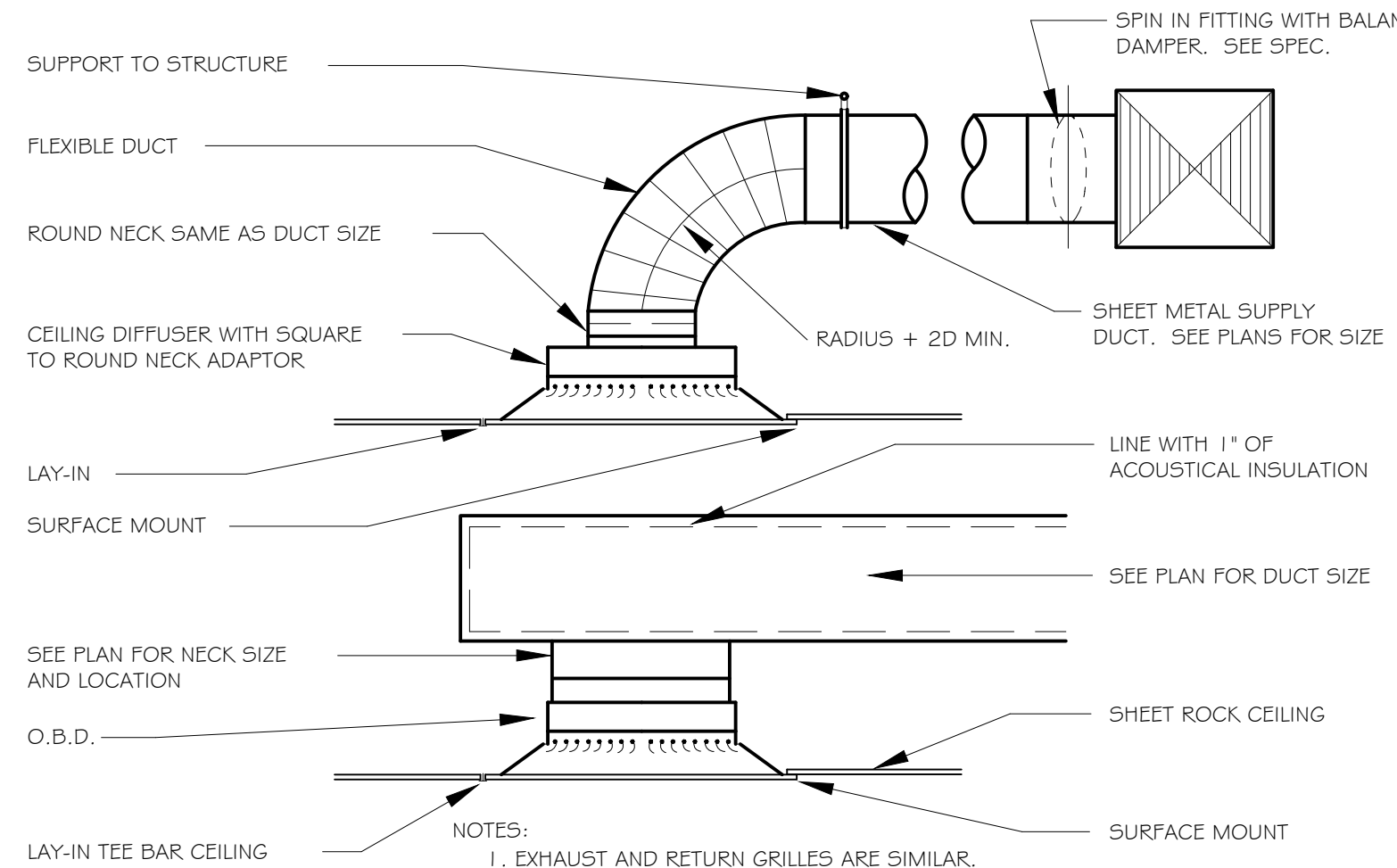
FIX. NO.	FIXTURE	TYPE	DESCRIPTION	WASTE	TRAP	VENT	HW	CW
(FS-1)	FLOOR SINK	KITCHEN	SMITH FIGURE 3430Y, 12" X 12" SQUARE, ACID RESISTANT COATED WITH ALUMINUM DOME STRAINER, 1/2" ACID RESISTANT COATED GRATE, DEEP SEAL TRAP.	3"	3"	1 1/2"	-	-

**REGISTER AND GRILLE SCHEDULE**

SYMBOL	MANUFACTURER	MODEL	DESCRIPTION	MAX. NC	NECK SIZE	MAX. CFM
CD-1	PRICE	SCD	LOUVERED FACE CEILING DIFFUSERS REMOVABLE FACE & CORE. W/O B.D. FRAME SHALL BE FOR SURFACE OR LAY-IN IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" X 24", 24" X 12", OR 12" X 12" AS REQD. TO FIT CEILING TILE SPACE AVAILABLE. PROVIDE ROUND NECK ADAPTOR.	30	6 x 6 8 x 6 9 x 9 10 x 10 6 x 18 12 x 12 15 x 15 18 x 18	125 220 250 320 350 425 625 900
EG-1	PRICE	535	LOUVERED FACE CEILING RETURN AIR UNIT, REMOVABLE FACE & CORE. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" X 24", 24" X 12" OR 12" X 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. AIR QUANTITY SHALL MATCH ROOM SUPPLY OR EXHAUST AIR QUANTITY.	30	10 x 10 12 x 12 14 x 14 10 x 22 16 x 16 18 x 18 24 x 24 36 x 24	350 500 550 625 725 900 1300 2200



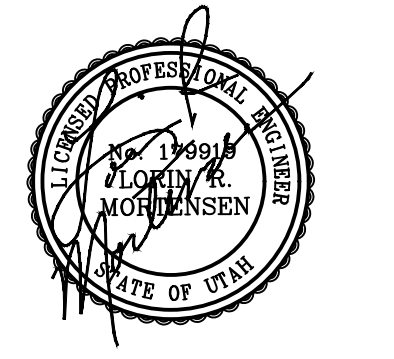
**RETURN AIR SOUND BOOT DETAIL**  
 NOT TO SCALE



**CEILING DIFFUSER DETAIL**  
 NOT TO SCALE

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DATE  
 February 10, 2021

PROJECT TITLE  
**CLEARFIELD ARTS CENTER INTERIOR REMODEL**  
 140 Center Street, Clearfield, Utah  
 Nielson Architecture Planning, Inc.

SHEET TITLE  
**MECHANICAL DETAILS, SCHEDULES, & SPECIFICATIONS**

PROJECT NUMBER

REVISIONS

SHEET NUMBER

**M-200**