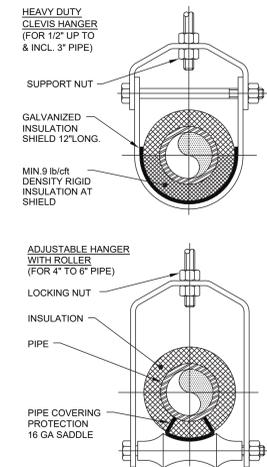
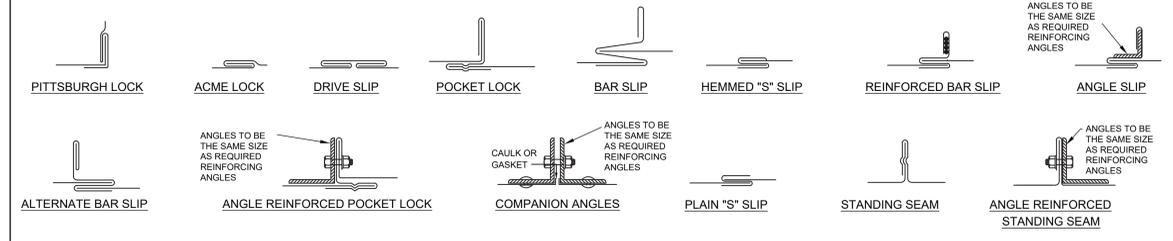


THICKNESS & REINFORCING SCHEDULE - * LOW PRESSURE DUCTWORK

* NOTE: LOW PRESSURE DUCTWORK SHALL BE DUCTWORK IN WHICH THE PRESSURE DOES NOT EXCEED 2" WATER GAUGE.

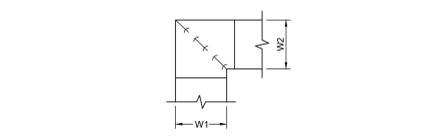
| GREATEST DUCT DIMENSION | STEEL DUCTS U.S. STANDARD GAUGE | ALUMINUM DUCTS B & S GAUGE | LONGITUDINAL SEAM | TRANSVERSE JOINT SMALLEST DIMENSION | TRANSVERSE JOINT GREATEST DIMENSION | REINFORCING (ALL DUCTS 18" THRU 54" SHALL BE CROSSBROKEN) |
|-------------------------|---------------------------------|---|-------------------------|---|---|---|
| 12" OR LESS | 26 | 24(0.020") | PITTSBURGH OR ACME LOCK | DRIVE SLIP OR POCKET LOCK OR BAR SLIP | PLAIN "S" SLIP OR POCKET LOCK OR BAR SLIP | NONE REQUIRED |
| 13" THRU 18" | 24 | 22(0.025") | PITTSBURGH OR ACME LOCK | DRIVE SLIP OR POCKET LOCK OR BAR SLIP | PLAIN "S" SLIP OR POCKET LOCK OR BAR SLIP | NONE REQUIRED |
| 19" THRU 30" | 24 | 22(0.025") | PITTSBURGH OR ACME LOCK | HEMMED "S" SLIP OR BAR SLIP OR DRIVE SLIP OR 1" POCKET LOCK | HEMMED "S" SLIP OR BAR SLIP OR 1" POCKET LOCK | IF TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING IF ON 8'-0" CENTERS REINFORCE WITH 1"x1"x1/8" ANGLES AT 4 FT. O.C. FASTENED ON 8" CENTERS |
| 31" THRU 42" | 22 | 20(0.032") | PITTSBURGH OR ACME LOCK | DRIVE SLIP 1/8" OR LESS BAR SLIP REINFORCED BAR SLIP OR POCKET LOCK | BAR SLIP OR REINFORCED BAR SLIP OR POCKET LOCK | IF TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING IF ON 8'-0" CENTERS REINFORCE WITH 1"x1"x1/8" ANGLES AT 4 FT. O.C. FASTENED ON 8" CENTERS |
| 43" THRU 54" | 22 | 20(0.032") | PITTSBURGH LOCK | 1 1/4" BAR SLIP, OR REINFORCED BAR SLIP, OR 1 1/2" POCKET LOCK | 1 1/4" BAR SLIP, OR REINFORCED BAR SLIP, OR 1 1/2" POCKET LOCK | IF TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING IF ON 8'-0" CENTERS REINFORCE WITH 1"x1"x1/8" ANGLES AT 4 FT. O.C. FASTENED ON 8" CENTERS |
| 55" THRU 60" | 20 | 18(0.040") | PITTSBURGH LOCK | 1 1/4" BAR SLIP, OR REINFORCED BAR SLIP, OR 1 1/2" POCKET LOCK | 1 1/4" BAR SLIP, OR REINFORCED BAR SLIP, OR 1 1/2" POCKET LOCK | IF TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING IF ON 8'-0" CENTERS REINFORCE WITH 1"x1"x1/8" ANGLES AT 4 FT. O.C. FASTENED ON 8" CENTERS |
| 61" THRU 84" | 20 | 18(0.040") | PITTSBURGH LOCK | REINFORCED BAR SLIP, OR ANGLE SLIP, ALTERNATE BAR SLIP, OR ANGLE REINFORCED POCKET LOCK | REINFORCED BAR SLIP, OR ANGLE SLIP, ALTERNATE BAR SLIP, OR ANGLE REINFORCED POCKET LOCK | REINFORCE ALL SIDES OVER 60" WITH 1 1/2"x1 1/2"x3/16" ANGLES ON 2'-0" CENTERS. SIDES UNDER 60" NEED NO REINFORCING IF JOINTS ARE ON 4'-0" CENTERS. IF JOINTS ARE ON 8'-0" CENTERS REINFORCE WITH 1 1/2"x1 1/2"x1/8" ANGLES ON 4'-0" CENTERS. |
| 85" THRU 96" | 18 | 16(0.051") (LONGITUDINAL SEAM MAY BE STANDING SEAM) | PITTSBURGH LOCK | 1 1/2" COMPANION ANGLES, OR ANGLE REINFORCED POCKET LOCK, OR 1 1/2" ANGLE SLIP OR REINFORCED BAR SLIP | 1 1/2" COMPANION ANGLES, OR ANGLE REINFORCED POCKET LOCK, OR 1 1/2" ANGLE SLIP OR REINFORCED BAR SLIP | REINFORCE ALL SIDES OVER 84" WITH 1 1/2"x1 1/2"x3/16" ANGLES ON 2'-0" CENTERS. SIDES 81" THRU 84" REINFORCE WITH 1 1/2"x1 1/2"x1/8" ANGLES ON 2'-0" CENTERS. SIDES 60" OR LESS NEED NO REINFORCING IF JOINTS ARE ON 4'-0" CENTERS. IF JOINTS ARE ON 8'-0" CENTERS REINFORCE WITH 1 1/2"x1 1/2"x1/8" ANGLES ON 4'-0" CENTERS. |
| OVER 96" | 18 | 16(0.051") (LONGITUDINAL SEAM MAY BE STANDING SEAM) | PITTSBURGH LOCK | 2" COMPANION ANGLE, OR 2"x2"x1/4" ANGLE SLIP, OR 2"x2"x1/4" ANGLE REINFORCED POCKET LOCK OR REINFORCED BAR SLIP | 2" COMPANION ANGLE, OR 2"x2"x1/4" ANGLE SLIP, OR 2"x2"x1/4" ANGLE REINFORCED POCKET LOCK OR REINFORCED BAR SLIP | REINFORCE ALL SIDES OVER 96" WITH 2"x2"x1/4" ANGLES ON 2'-0" CENTERS. REINFORCE ALL SIDES 85" THRU 96" WITH 1 1/2"x1 1/2"x3/16" ANGLES ON 2'-0" CENTERS. REINFORCE ALL SIDES 60" WITH 1 1/2"x1 1/2"x1/8" ANGLES ON 2'-0" CENTERS. REINFORCE ALL SIDES UNDER 60" WITH 1 1/2"x1 1/2"x1/8" ANGLES IF JOINTS ARE 8'-0" ON CENTER. NO REINFORCING IF JOINTS ARE 4'-0" ON CENTER. |



NOTES:
1. PIPE 8" AND LARGER SHALL HAVE ROLLER SUPPORTED WITH DUAL RODS.
2. FOR CHW SERVICE OVER 3" REPLACE SADDLE WITH 12" LONG 14 GA SHIELD WITH RIGID INSULATION BETWEEN PIPE AND SHIELD.

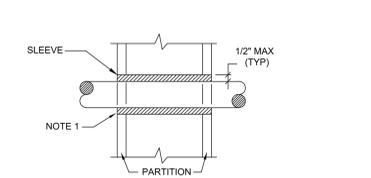
| PIPE Ø (IN.) | MAX. SPACING BETWEEN HANGERS (FT.) | | | MIN. ROD SIZE (IN.) |
|--------------|------------------------------------|-------------|------|---------------------|
| | STEEL PIPE | COPPER PIPE | CPVC | |
| 1/2 THRU 1 | 7 | 5 | 5 | 3/8 |
| 1-1/2 THRU 2 | 9 | 8 | 6 | 3/8 |
| 2-1/2 | 11 | 9 | 7.5 | 1/2 |
| 3 | 12 | 10 | 7.5 | 1/2 |
| 4 | 14 | 12 | 8.5 | 5/8 |
| 6 | 17 | 14 | 9 | 3/4 |
| 8 | 19 | 16 | 10 | 7/8 |
| 10 | 22 | 18 | 10.5 | 7/8 |

1 MG001 Pipe Hanger Support N.T.S.



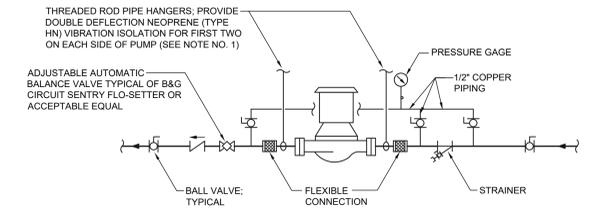
NOTE:
1. ALL VANED ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 IS NOT EQUAL TO W2, VANE SHALL BE SINGLE VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE VANES SHALL HAVE A 2" RADIUS, 1-1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" VANES SHALL BE DOUBLE VANE TYPE.

2 MG001 Ductwork Squared Elbow Detail N.T.S.



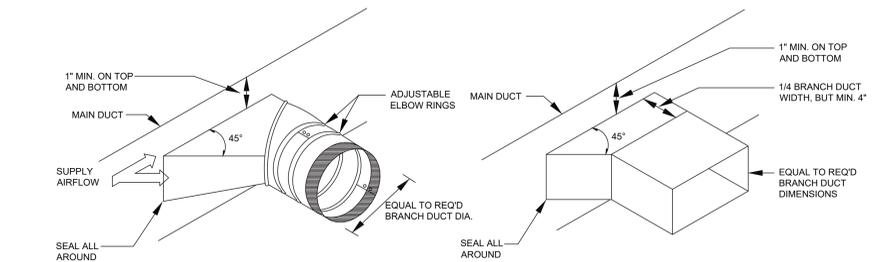
NOTES:
1. AT FIRE RATED PARTITIONS, ADD ADDITIONAL LAYER OF FIRE SAFING INSULATION AROUND PENETRATION SO AS TO FILL CAVITY.
2. DUCT AND PIPE PENETRATIONS THRU CORRIDOR WALLS ABOVE THE CEILING ARE TO BE FIRE STOPPED AROUND THE PENETRATION.

3 MG001 Pipe Penetrations Detail N.T.S.

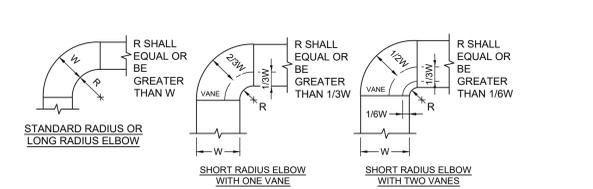


NOTE:
1. SUPPORT PUMP FROM PIPING ONLY. DO NOT SUPPORT PUMP FROM MOTOR.

4 MG001 In-Line Pump Detail Scale: None

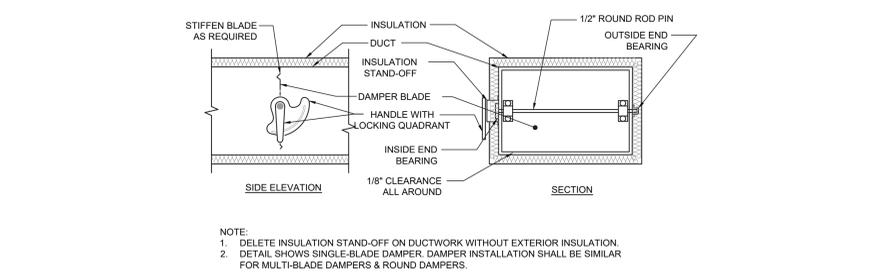


5 MG001 Typical Branch Take-Off Fitting Detail N.T.S.



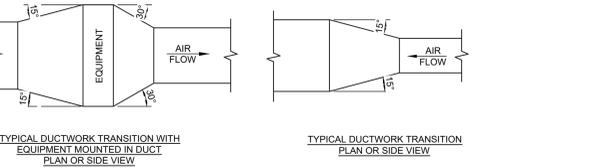
NOTE:
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

6 MG001 Ductwork Radius Elbow Detail N.T.S.



NOTE:
1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE-BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

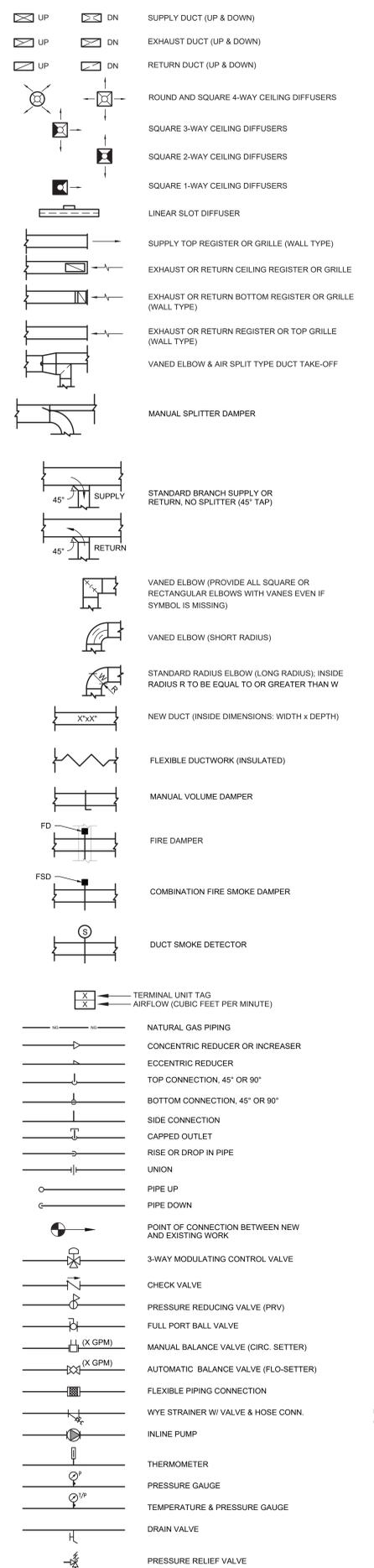
7 MG001 Ductwork Volume Damper Detail N.T.S.



NOTE:
UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

8 MG001 Ductwork Transition Detail N.T.S.

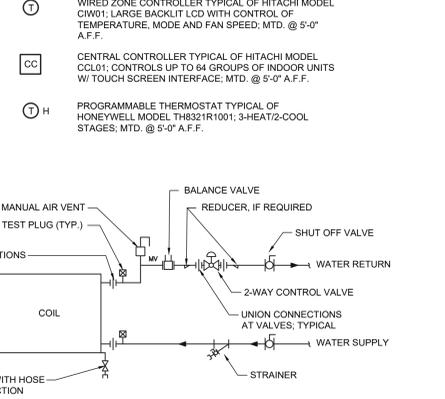
Mechanical Legend :



Mechanical Notes:

- ALL MATERIALS AND EQUIPMENT ARE TO BE NEW, UNUSED, AND FREE FROM DEFECTS OF ANY KIND. THE BASIS OF QUALITY SHALL BE THE LATEST REVISION OF ASTM, ANSI, OR OTHER ACCEPTABLE STANDARDS.
- THESE DRAWINGS ARE DIAGRAMMATIC, AND INDICATE GENERAL ARRANGEMENT OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE REVIEWED THE SITE FOR HIS WORK PRIOR TO HAVING SUBMITTED HIS PROPOSAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS FOUND DURING THE COURSE OF THE CONTRACT.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES.
- ALL WORK INCLUDING LABOR AND MATERIALS SHALL BE FULLY GUARANTEED FOR ONE (1) YEAR FROM THE DATE OF PAYMENT AND FINAL ACCEPTANCE BY THE OWNER AND ENGINEER.
- ALL CUTTING, PATCHING, FIRE-STOPPING, AND SURFACE RESTORATION IN CONNECTION WITH THIS TRADE SHALL BE COMPLETED BY THIS CONTRACTOR.
- A MINIMUM OF FOUR (4) COPIES OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING AND INSTALLATION OF THE EQUIPMENT AND/OR MATERIALS. BY SUBMITTING SHOP DRAWINGS, THE CONTRACTOR REPRESENTS THAT ACTUAL FIELD CONDITIONS ARE VERIFIED BY HIM AND ARE REFLECTED ON HIS SUBMITTALS.
- THIS CONTRACTOR SHALL PAY ALL FEES, GIVE ALL NOTICES, FILE ALL NECESSARY DRAWINGS AND OBTAIN ALL PERMITS, INSPECTIONS AND CERTIFICATES OF APPROVAL REQUIRED IN CONNECTION WITH WORK UNDER THIS CONTRACT.
- ALL WORK IN ASSOCIATION WITH THIS CONTRACT SHALL BE COMPLETED IN STRICT COMPLIANCE WITH THE 2020 BUILDING CODE OF NEW YORK STATE, 2020 MECHANICAL CODE OF NEW YORK STATE & 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE.
- ALL HYDRONIC HOT WATER PIPING AND FITTINGS ARE TO BE INSULATED WITH A MINIMUM OF R-3 INSULATION. ALL JOINTS ARE TO BE COMPLETELY SEALED A MINIMUM OF 8" BEYOND JOINT ENDS.
- ALL PIPING SHALL BE PROPERLY SUPPORTED AND ROUTED PARALLEL OR PERPENDICULAR TO BUILDING WALLS. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORT HANGERS AND MISCELLANEOUS METALS REQUIRED FOR PROPER INSTALLATION OF WORK.
- ALL PIPING SHALL BE PITCHED SUCH THAT AIR IN THE SYSTEM CAN BE VENTED THROUGH MANUAL AIR VENTS.
- TEST PIPING AND PROVE TIGHT FOR AT LEAST TWO HOURS TO TWICE THE SYSTEM WORKING PRESSURE. TEST SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER AND LOCAL INSPECTOR. TEST SHALL BE REPEATED IF NECESSARY UNTIL FINAL APPROVAL OF SYSTEM IS OBTAINED.
- SUPPORT HORIZONTAL PIPING UTILIZING A SPACING PER PIPING MANUFACTURER'S REQUIREMENTS.
- INSTALL VALVES ON THE ENTIRE DISTRIBUTION SYSTEM, SO LOCATED AS TO GIVE COMPLETE CONTROL TO ALL FIXTURES AND EQUIPMENT.
- INSTALL DRAIN VALVES AT BASE OF ALL RISERS AND AT LOW POINTS OF PIPING SYSTEM. INSTALL MANUAL AIR VENT VALVE FACILITIES AT THE TOP OF ALL RISERS AND AT HIGH POINTS OF THE PIPING SYSTEM.
- INSTALL ALL HYDRONIC PIPING AS HIGH AS POSSIBLE PROVIDING RISERS, DROPS AND OFFSETS TO CLEAR STRUCTURAL MEMBERS, LIGHT FIXTURES, OTHER PIPING, AND OTHER OBSTRUCTIONS. WHERE CONFLICTS ARISE, IT SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO PROCEEDING.
- THE ENTIRE HYDRONIC SYSTEM IS TO BE BALANCED TO WITHIN 10% OF THE SPECIFIED WATER FLOWRATE REQUIREMENTS. A CERTIFIED BALANCING REPORT AND VERIFICATION IS TO BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE.
- ALL DUCTWORK IS TO BE CONSTRUCTED OF GALVANIZED SHEET STEEL (EXCEPT WHERE OTHERWISE SPECIFIED) WITH GAUGES, BRACING AND CONSTRUCTION IN ACCORDANCE WITH THE LATEST SMACNA DUCT MANUAL STANDARDS AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
- PROVIDE MANUAL DAMPERS AT EACH SPLIT OR TAP CONNECTION TO TRUNK DUCTS FOR BALANCING PURPOSES WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS. EACH DAMPER SHALL BE OF THE OPPOSITE BLADE DAMPER TYPE INSTALLED WITH AN OPERATOR AND LOCKING DEVICE. ALL DAMPERS LOCATED ABOVE HARD OR INACCESSIBLE CEILINGS SHALL BE INSTALLED WITH REMOTE GEAR OPERATORS.
- FURNISH & INSTALL FUSIBLE LINK FIRE DAMPERS AT ALL LOCATIONS WHERE DUCT PENETRATES FIRE-RATED FLOOR OR CEILING ASSEMBLY WHETHER OR NOT SPECIFICALLY SHOWN. INSTALL DUCTWORK CASING ACCESS DOORS AND FRAMES AHEAD OF EACH FIRE DAMPER FOR INSPECTION AND MAINTENANCE. DOORS SHALL BE A MINIMUM OF 20 GA. DOUBLE PANEL INSULATED TYPE.
- INSTALL TURNING VANES ON ALL RECTANGULAR TURNS. TURNING VANES SHALL BE DOUBLE THICKNESS TYPE CONSTRUCTED IN ACCORDANCE WITH SMACNA MANUAL.
- ROUND SHEET STEEL ELBOWS ARE TO BE INSTALLED AT THE DUCT CONNECTION TO ALL SUPPLY AIR DIFFUSERS. SHEET STEEL PLENUM BOXES ARE TO BE INSTALLED AT THE DUCT CONNECTION TO ALL RETURN AND EXHAUST AIR GRILLES. THE CONTRACTOR IS TO PAINT THE INSIDE OF THE SHEET STEEL PLENUM BOXES FLAT BLACK.
- INSTALL ALL DUCTWORK AS HIGH AS POSSIBLE PROVIDING RISERS, DROPS AND OFFSETS TO CLEAR STRUCTURAL MEMBERS, LIGHT FIXTURES, OTHER PIPING, AND OTHER OBSTRUCTIONS. WHERE CONFLICTS ARISE, IT SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO PROCEEDING.
- THE ENTIRE AIR DISTRIBUTION SYSTEM IS TO BE BALANCED TO WITHIN 10% OF THE SPECIFIED AIRFLOW REQUIREMENTS.
- THE CONTRACTOR IS RESPONSIBLE TO TEST ALL EQUIPMENT, PIPING, FIXTURES, AND SYSTEMS INSTALLED UNDER THIS CONTRACT TO ENSURE PROPER OPERATION PRIOR TO FINAL ACCEPTANCE BY THE OWNER AND ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE TO DETERMINE WHETHER SPECIAL LICENSING IS REQUIRED IN ORDER TO PERFORM THE REQUIRED WORK IN THE MUNICIPALITY WHERE THE PROJECT IS LOCATED. IF THE CONTRACTOR CANNOT OBTAIN THE REQUIRED LICENSING TO COMPLETE THE WORK WITHIN THE PROJECT SCHEDULE, THEN THE CONTRACTOR SHALL NOT BE PERMITTED TO BID ON THIS PROJECT.
- CONTRACTOR IS RESPONSIBLE TO CREATE AND SUBMIT RED-LINE "AS-BUILT" PLANS TO THE ENGINEER AT THE END OF THE PROJECT. AS-BUILT PLANS SHALL ACCURATELY REPRESENT THE SYSTEMS AS THEY WERE INSTALLED.

Mechanical Equipment:



9 MG001 Coil Piping Connection Detail Scale: None

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19 NEW HAMPTON FIRE DEPARTMENT
NEW FIRE STATION
5024 STATE ROUTE 17M, NEW HAMPTON, NY 10958

MECHANICAL NOTES, LEGEND, SCHEDULE & DETAILS

MG001

CONSTRUCTION DOCUMENTS

| INDOOR MINI-SPLIT UNIT SCHEDULE | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|---------------------------------|-------------|-----------------------|-------------------------|---------------|----------------|----------|----------|----------------|----------|----------|---------------------|-------------------------------------|-------------------------------|-------|----|-------------|-------|-------------------------------------|-------------------------------------|
| EQUIPMENT TAG | MANUFACTURER (OR ACCEPT. EQUAL) | MODEL | MINI-SPLIT UNIT TYPE | AREA OF BUILDING SERVED | AIRFLOW (CFM) | COOLING | | | HEATING | | | PAIRED OUTDOOR UNIT | EXTERNAL STATIC PRESSURE (IN. W.C.) | ELECTRICAL POWER REQUIREMENTS | | | WEIGHT (LB) | NOTES | | |
| | | | | | | CAPACITY (MBH) | EDB (°F) | EWB (°F) | CAPACITY (MBH) | EDB (°F) | EWB (°F) | | | VOLT. | PHASE | HZ | | | | |
| FCU-1 | HITACHI | HIDM018B23S | DUCTED MEDIUM STATIC | RADIO ROOM | 653 | 18.0 | 80.0 | 67.0 | 20.0 | 70.0 | 60.0 | HP-1 | - | 208 | 1 | 60 | 57 | 190 | PROVIDE W/ BUILT IN CONDENSATE PUMP | |
| FCU-2 | HITACHI | HICM012B21S | CEILING RECESSED UNIT | CHIEF'S OFFICE | 459 | 10.8 | 80.0 | 67.0 | 12.0 | 70.0 | 60.0 | | - | 208 | 1 | 60 | 57 | 35 | 35 | PROVIDE W/ BUILT IN CONDENSATE PUMP |
| FCU-3 | HITACHI | HICM012B21S | CEILING RECESSED UNIT | ARCHIVE STORAGE | 459 | 7.2 | 80.0 | 67.0 | 12.0 | 70.0 | 60.0 | | - | 208 | 1 | 60 | 57 | 35 | 35 | PROVIDE W/ BUILT IN CONDENSATE PUMP |
| FCU-4 | HITACHI | HICM012B21S | CEILING RECESSED UNIT | COMM OFFICE | 459 | 10.8 | 80.0 | 67.0 | 12.0 | 70.0 | 60.0 | | - | 208 | 1 | 60 | 57 | 35 | 35 | PROVIDE W/ BUILT IN CONDENSATE PUMP |

| AIR-COOLED HEAT PUMP SCHEDULE | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|---------------------------------|--------------|---------------------|--------------------------|--------------------------|--------------------------|------------------------------------|----------|-------------------------|------|-----|-------------|---|-------------------------------|-------|----|-------------|-------|-----|--|
| EQUIPMENT TAG | MANUFACTURER (OR ACCEPT. EQUAL) | MODEL | INDOOR UNITS SERVED | COMPRESSOR TYPE | NOM. COOL CAPACITY (MBH) | NOM. HEAT CAPACITY (MBH) | OUTDOOR OPERATING TEMP. RANGE (°F) | | AHRU EFFICIENCY RATINGS | | | REFRIGERANT | SOUND PRESSURE LEVEL (COOLING/HEATING (DB)) | ELECTRICAL POWER REQUIREMENTS | | | WEIGHT (LB) | NOTES | | |
| | | | | | | | COOLING | HEATING | EER | SEER | COP | | | VOLT. | PHASE | HZ | | | | |
| HP-1 | HITACHI | HVAHP060B21S | FCU-1 THRU FCU-4 | INVERTER SCROLL HERMETIC | 60.0 | 66.0 | 23 TO 118 | -4 TO 59 | 12.2 | 16.8 | 3.9 | R410A | 53 | 208 | 1 | 60 | 31 | 40 | 267 | FURNISH W/ REQUIRED PIPING ACCESSORIES AS SHOWN ON RISER DIAGRAM |

| ENERGY RECOVERY VENTILATOR SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---------------------------------|-----------|---------------------------|-----------------------------|--------------------|-----------|------------------|-----------|-----------------|-----------|------------------------|--------|--------|--------|-----------------|-------|------------|-------------|-------|-------|-------|------------|-----|---|----|------|----|---|--|
| EQUIPMENT TAG | MANUFACTURER (OR ACCEPT. EQUAL) | MODEL | FRESH AIR FLOW RATE (CFM) | EXHAUST AIR FLOW RATE (CFM) | ROOM EXH. AIR (°F) | | OUTSIDE AIR (°F) | | SUPPLY AIR (°F) | | RECOVERY EFFECTIVENESS | | | | ELECTRICAL DATA | | | WEIGHT (LB) | NOTES | | | | | | | | | | |
| | | | | | WINTER DB | SUMMER WB | WINTER DB | SUMMER WB | WINTER DB | SUMMER WB | WINTER | SUMMER | WINTER | SUMMER | SENSIBLE | TOTAL | MOTOR QTY. | | | PWR. | VOLT. | PHASE | HZ | | | | | | |
| ERV-1 | RENEWAIRE | HE1.5XINV | 550 | 550 | 70.0 | 58.0 | 75.0 | 63.0 | 0.0 | 0.0 | 95.0 | 75.0 | 55.7 | 43.5 | 79.1 | 67.3 | 80.0% | 80.0% | 79.9% | 64.7% | 2 | 1 HP EA | 208 | 1 | 60 | 7.7 | 15 | - | PROVIDE W/ HIGH EFFICIENCY FILTERS, ECM MOTORS, DISCONNECT SWITCH, MOTORIZED DAMPERS & TIMER FOR OCCUPIED OPERATION |
| ERV-2 | RENEWAIRE | HE1XINV | 300 | 300 | 70.0 | 58.0 | 75.0 | 63.0 | 0.0 | 0.0 | 95.0 | 75.0 | 56.5 | 44.0 | 78.9 | 67.1 | 81.1% | 81.1% | 81.1% | 66.5% | 2 | 0.75 HP EA | 208 | 1 | 60 | 10.1 | 15 | - | PROVIDE W/ 3KW DUCT HEATER, HIGH EFF. FILTERS, ECM MOTORS, DISCONNECT SWITCH, MOTORIZED DAMPERS & TIMER FOR OCCUPIED OPERATION |

| AIR GRILLE/DIFFUSER SCHEDULE | | | | | | | | | | | | | | | | | |
|------------------------------|---------------------------------|----------------------------------|---------------------------------|---------------|-------|--------------------------------|-----------|------------------------|-----------------|--------|--------|-------------|---|--|--|--|--|
| EQUIPMENT TAG | MANUFACTURER (OR ACCEPT. EQUAL) | MODEL | AIR DEVICE TYPE | AIRFLOW (CFM) | | MAX AIR PRESS. DROP (IN. W.C.) | MOUNTING | PANEL/FRAME SIZE (IN.) | NECK SIZE (IN.) | MAX NC | DAMPER | FINISH | NOTES | | | | |
| | | | | MIN. | MAX. | | | | | | | | | | | | |
| D-1 | KRUEGER | PLQ-10-F23-24x24-06-IB-44 | LOUVERED FACE SUPPLY DIFFUSER | 241 | 400 | 0.10 | LAY-IN | 24"x24" | 10"Ø | 20 | OBD | WHITE | PROVIDE W/ INSULATED BLANKET ON BACKPAN | | | | |
| D-2 | KRUEGER | 880-H-6-F22-NONE-02-01-00-44 | DOUBLE DEFLECTION SUPPLY GRILLE | 0 | 175 | 0.10 | DUCT MTD. | 8"x8" | 6"x6" | 20 | OBD | WHITE | - | | | | |
| D-3 | KRUEGER | 5DMGDR-H-10-6-10-01-81 | DUCT MOUNTED SUPPLY GRILLE | 0 | 200 | 0.10 | DUCT MTD. | 12"x8" | 10"x6" | 20 | OBD | CLEAR ANOD. | - | | | | |
| R-1 / EG-1 | KRUEGER | S80P-20x20-F23-24x24-00-00-00-44 | PERFORATED FACE RETURN GRILLE | 0 | 1,300 | 0.10 | LAY-IN | 24"x24" | 20"x20" | 20 | - | WHITE | FURNISH & INSTALL FULL-SIZE SHEET METAL PLENUM BOX ON REAR OF GRILLE. PAINT INSIDE FLAT BLACK | | | | |
| EG-2 | KRUEGER | S80H-6x6-F22-NONE-00-00-00-44 | 35° DEFLECTION RETURN GRILLE | 0 | 150 | 0.08 | DUCT MTD. | 8"x8" | 6"x6" | 20 | - | WHITE | FURNISH & INSTALL FULL-SIZE INSULATED SHEET METAL BOX ON REAR OF GRILLE. PAINT INSIDE OF BOX FLAT BLACK | | | | |
| EG-3 | KRUEGER | S80H-36x24-F22-NONE-00-00-00-44 | 35° DEFLECTION RETURN GRILLE | 0 | 2500 | 0.08 | DUCT MTD. | 38"x26" | 36"x24" | 20 | - | WHITE | FURNISH & INSTALL FULL-SIZE INSULATED SHEET METAL BOX ON REAR OF GRILLE. PAINT INSIDE OF BOX FLAT BLACK | | | | |
| EG-4 | KRUEGER | S80H-8x8-F22-NONE-00-00-00-44 | 35° DEFLECTION RETURN GRILLE | 0 | 275 | 0.08 | DUCT MTD. | 10"x10" | 8"x8" | 20 | - | WHITE | FURNISH & INSTALL FULL-SIZE INSULATED SHEET METAL BOX ON REAR OF GRILLE. PAINT INSIDE OF BOX FLAT BLACK | | | | |

| HOT WATER UNIT HEATER SCHEDULE | | | | | | | | | | | | | | | | | |
|--------------------------------|---------------------------------|---------|---------------|----------|----------|----------------|----------------|----------------|----------|-----------------|-----------|-------|-------|-----|-----|-------|---------------------------------------|
| EQUIPMENT TAG | MANUFACTURER (OR ACCEPT. EQUAL) | MODEL | AIRFLOW (CFM) | EFT (°F) | LFT (°F) | CAPACITY (MBH) | E.A.T. DB (°F) | L.A.T. DB (°F) | FPD (°F) | FLOW RATE (GPM) | MOTOR | | | | | NOTES | |
| | | | | | | | | | | | NOM. H.P. | VOLT. | PHASE | HZ. | RPM | | FLA |
| UH-1 | STERLING | HS-144 | 2200 | 160 | 140 | 74.4 | 60 | 104 | 0.43 | 10.4 | 1/3 | 120 | 1 | 60 | - | 4.5 | PROPERLY SUPPORT FROM STRUCTURE ABOVE |
| UH-2 | STERLING | HS-136A | 850 | 160 | 140 | 25.6 | 60 | 99 | 3.0 | 3.6 | 1/20 | 120 | 1 | 60 | - | 1.4 | PROPERLY SUPPORT FROM STRUCTURE ABOVE |

| HOT WATER PUMP SCHEDULE | | | | | | | | | | | | | | | | | |
|-------------------------|---------------------------------|----------------|--------------|---------------------|-----------|----------------------|--------|------------|------------|-----------|-------|-------|-----|-------|-------|---------------------|--|
| EQUIPMENT TAG | MANUFACTURER (OR ACCEPT. EQUAL) | MODEL | LOCATION | AREA SERVED | PUMP TYPE | CIRCULATING FLUID | | | | MOTOR | | | | | NOTES | | |
| | | | | | | FLUID | G.P.M. | HEAD (FT.) | TEMP. (°F) | NOM. H.P. | VOLT. | PHASE | HZ. | RPM | | FLA | |
| CP-1 | GRUNDFOS | UPMXL | UTILITY ROOM | BOILER PUMP | IN-LINE | HOT WATER | 30.4 | 15.0 | 160 | - | 120 | 1 | 60 | 1160 | 1.7 | FURNISHED W/ BOILER | |
| CP-2 | GRUNDFOS | UPMXL | UTILITY ROOM | BOILER PUMP | IN-LINE | HOT WATER | 30.4 | 15.0 | 160 | - | 120 | 1 | 60 | 1160 | 1.7 | FURNISHED W/ BOILER | |
| CP-3 | GRUNDFOS | MAGNA3 32-100F | UTILITY ROOM | UNIT HEATERS | IN-LINE | HOT WATER | 34.2 | 14.0 | 160 | - | 120 | 1 | 60 | VARI. | 1.61 | VARIABLE SPEED ECM | |
| CP-4 | GRUNDFOS | ALPHA2 15-55F | UTILITY ROOM | INJECTION PUMP | IN-LINE | HOT WATER | 8.8 | 10.0 | 160 | - | 120 | 1 | 60 | VARI. | 0.65 | VARIABLE SPEED ECM | |
| CP-5 | GRUNDFOS | ALPHA2 15-55F | UTILITY ROOM | RADIANT ZONE RM-1 | IN-LINE | HOT WATER | 8.6 | 10.0 | 125 | - | 120 | 1 | 60 | VARI. | 0.65 | VARIABLE SPEED ECM | |
| CP-6 | GRUNDFOS | ALPHA2 15-55F | UTILITY ROOM | RADIANT ZONE RM-2 | IN-LINE | HOT WATER | 1.8 | 2.1 | 125 | - | 120 | 1 | 60 | VARI. | 0.65 | VARIABLE SPEED ECM | |
| CP-7 | GRUNDFOS | ALPHA2 15-55F | UTILITY ROOM | RADIANT ZONE RM-3 | IN-LINE | HOT WATER | 3.1 | 10.4 | 125 | - | 120 | 1 | 60 | VARI. | 0.65 | VARIABLE SPEED ECM | |
| CP-8 | GRUNDFOS | ALPHA2 15-55F | UTILITY ROOM | RADIANT ZONE RM-4 | IN-LINE | HOT WATER | 2.0 | 5.4 | 125 | - | 120 | 1 | 60 | VARI. | 0.65 | VARIABLE SPEED ECM | |
| CP-9 | GRUNDFOS | MAGNA3 40-80F | UTILITY ROOM | RADIANT ZONE RM-5 | IN-LINE | HOT WATER | 8.6 | 14.6 | 125 | - | 120 | 1 | 60 | VARI. | 2.57 | VARIABLE SPEED ECM | |
| CP-10 | GRUNDFOS | ALPHA2 15-55F | UTILITY ROOM | HEAT EXCHANGER HX-1 | IN-LINE | HOT WATER | 10.6 | 6.8 | 160 | - | 120 | 1 | 60 | VARI. | 0.65 | VARIABLE SPEED ECM | |
| CP-11 | GRUNDFOS | MAGNA3 40-80F | UTILITY ROOM | SNOW MELT | IN-LINE | 40% PROPYLENE GLYCOL | 13.5 | 38.7 | 135 | - | 120 | 1 | 60 | VARI. | 2.57 | VARIABLE SPEED ECM | |

| LOUVER SCHEDULE | | | | | | | | | | | | | | |
|-----------------|------|---------------------------------|-----------|-------------------|-------------|------|-------|---------------------|---------------|---------------------|---------------|--------|--------|----------|
| EQUIPMENT TAG | QTY. | MANUFACTURER (OR ACCEPT. EQUAL) | MODEL | AIR DEVICE TYPE | LOUVER SIZE | | | FREE AREA (SQ. FT.) | AIRFLOW (CFM) | VELOCITY (FT./MIN.) | MOUNTING | SCREEN | FINISH | NOTES |
| | | | | | WIDE | HIGH | DEPTH | | | | | | | |
| L-1 | 2 | RUSKIN | ELF6375DX | STATIONARY LOUVER | 72" | 36" | 6" | 10.38 | 5000 | 415.6 | EXTERIOR WALL | YES | TBD | 1, 2 & 3 |
| L-2 | 1 | RUSKIN | ELF6375DX | STATIONARY LOUVER | 24" | 12" | 6" | 0.90 | 500 | 426.1 | EXTERIOR WALL | YES | TBD | 1, 2 & 3 |

1. COLOR TO BE COORDINATED WITH OWNER/ARCHITECT BEFORE ORDERING
2. FURNISH WITH INSECT-SCREEN OPTION.
3. FURNISH W/ PROPER MOUNTING HARDWARE.

| EXHAUST FAN SCHEDULE | | | | | | | | | | | |
|----------------------|--------------|----------|------------------------|------------|--------|--|---------|-------|-------|-----|--|
| EQUIPMENT TAG | MANUFACTURER | MODEL | SERVICE | FAN C.F.M. | R.P.M. | EXTERNAL STATIC PRESSURE (INCH H ₂ O) | MOTOR | | | | REMARKS |
| | | | | | | | POWER | VOLT. | PHASE | HZ. | |
| EF-1 | GREENHECK | BSQ-200 | APPARATUS BAY EXHAUST | 4,200 | 868 | 0.25 | 1 HP | 208 | 1 | 60 | FURNISH W/ BACKDRAFT DAMPER & DISCONNECT SWITCH |
| EF-2 | GREENHECK | SQ-90-VG | ELECTRIC ROOM | 250 | 1144 | 0.25 | 1/10 HP | 120 | 1 | 60 | FURNISH W/ BACKDRAFT DAMPER & DISCONNECT SWITCH |
| EF-VEX | PLYMOVENT | TEV-559 | VEHICLE EXHAUST SYSTEM | 3,000 | 940 | 0.30 | 5 HP | 208 | 3 | 60 | FURNISH W/ SYSTEM CONTROLLER & DISCONNECT SWITCH |

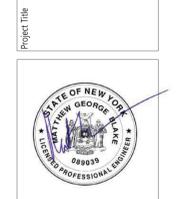
| CONDENSING BOILER SCHEDULE | | | | | | | | | |
|----------------------------|--------------|---------|-------------|------|--------------------|--------------|-----------------------|----------------|--|
| EQUIPMENT TAG | MANUFACTURER | MODEL | INPUT (MBH) | | THERMAL EFFICIENCY | OUTPUT (MBH) | NET AHRU RATING (MBH) | TURNDOWN RATIO | REMARKS |
| | | | MIN. | MAX. | | | | | |
| CB-1 | LOCHINVAR | WHB399N | 39.9 | 399 | 94.4% | 377 | 328 | 10:1 | FURNISH W/ ADD'L HIGH LIMIT & LOW WATER CUTOFF |
| CB-2 | LOCHINVAR | WHB399N | 39.9 | 399 | 94.4% | 377 | 328 | 10:1 | FURNISH W/ ADD'L HIGH LIMIT & LOW WATER CUTOFF |

VRF System Notes:

- VRF PROGRAMMABLE WIRED CONTROLLERS SHALL BE FURNISHED BY MECHANICAL CONTRACTOR FOR EACH INDOOR UNIT. CONTROLLERS SHIP LOOSE FOR FIELD INSTALLATION AND WIRING BY THE MECHANICAL CONTRACTOR.
- MECHANICAL CONTRACTOR TO PROVIDE CENTRAL CONTROLLER FOR LOCAL SET POINT CONTROL AND SYSTEM VIEWING. CONTROLLER TO BE INSTALLED AND WIRING BY MECHANICAL CONTRACTOR. 24V POWER BY ELECTRICAL CONTRACTOR.
- DISCONNECT SWITCH FOR HEAT PUMP UNITS AND INDOOR UNITS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
- EXTERNAL SUPPORTS FOR INDOOR AND HEAT PUMP UNITS SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- FILTER RACK AND 2" PLEATED MERV-8 FILTERS FOR DUCTED UNITS SHALL FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- CONDENSATE PUMPS SHIP FOR FIELD INSTALLATION BY MECHANICAL CONTRACTOR FOR WALL MOUNTED UNITS. DUCTED UNITS FURNISHED WITH FACTORY MOUNTED CONDENSATE PUMP. MECHANICAL CONTRACTOR TO PROVIDE CONDENSATE PIPING FROM ALL UNITS TO SANITARY DRAIN. FIELD VERIFY EXACT ROUTING AND TERMINATION POINT IN BUILDING.
- PROVIDE REFRIGERANT ISOLATION VALVES ON LIQUID AND GAS LINES AT EVERY FAN COIL UNIT.



NEW HAMPTON FIRE DEPARTMENT
NEW FIRE STATION
5024 STATE ROUTE 17M, NEW HAMPTON, NY 10958



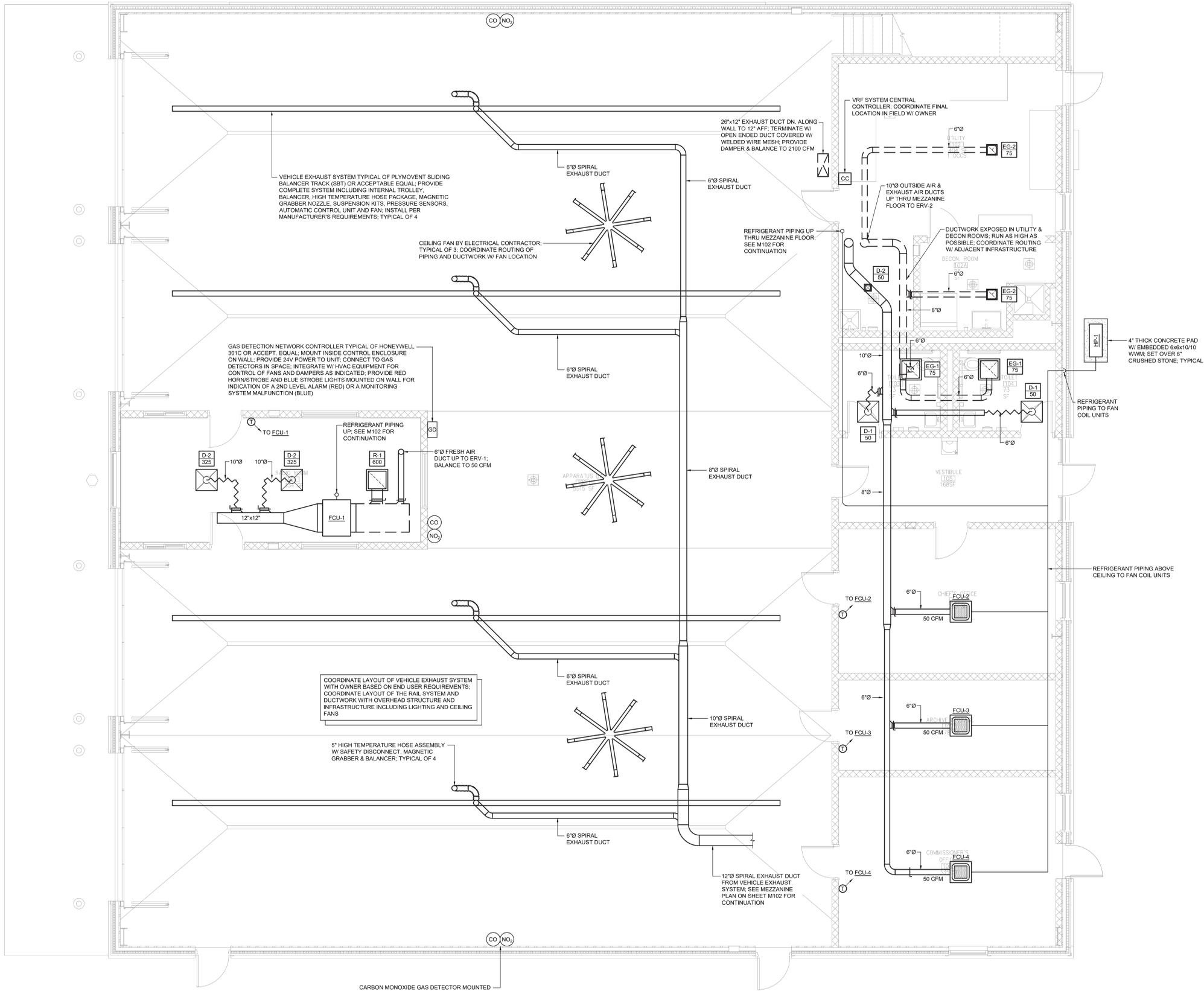
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Sheet Title
MECHANICAL SCHEDULES & DETAILS

Sheet No.
MG002

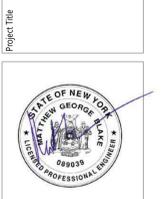
CONSTRUCTION DOCUMENTS



1 First Floor Mechanical Plan
 M101 Scale: 1/4" = 1'-0"



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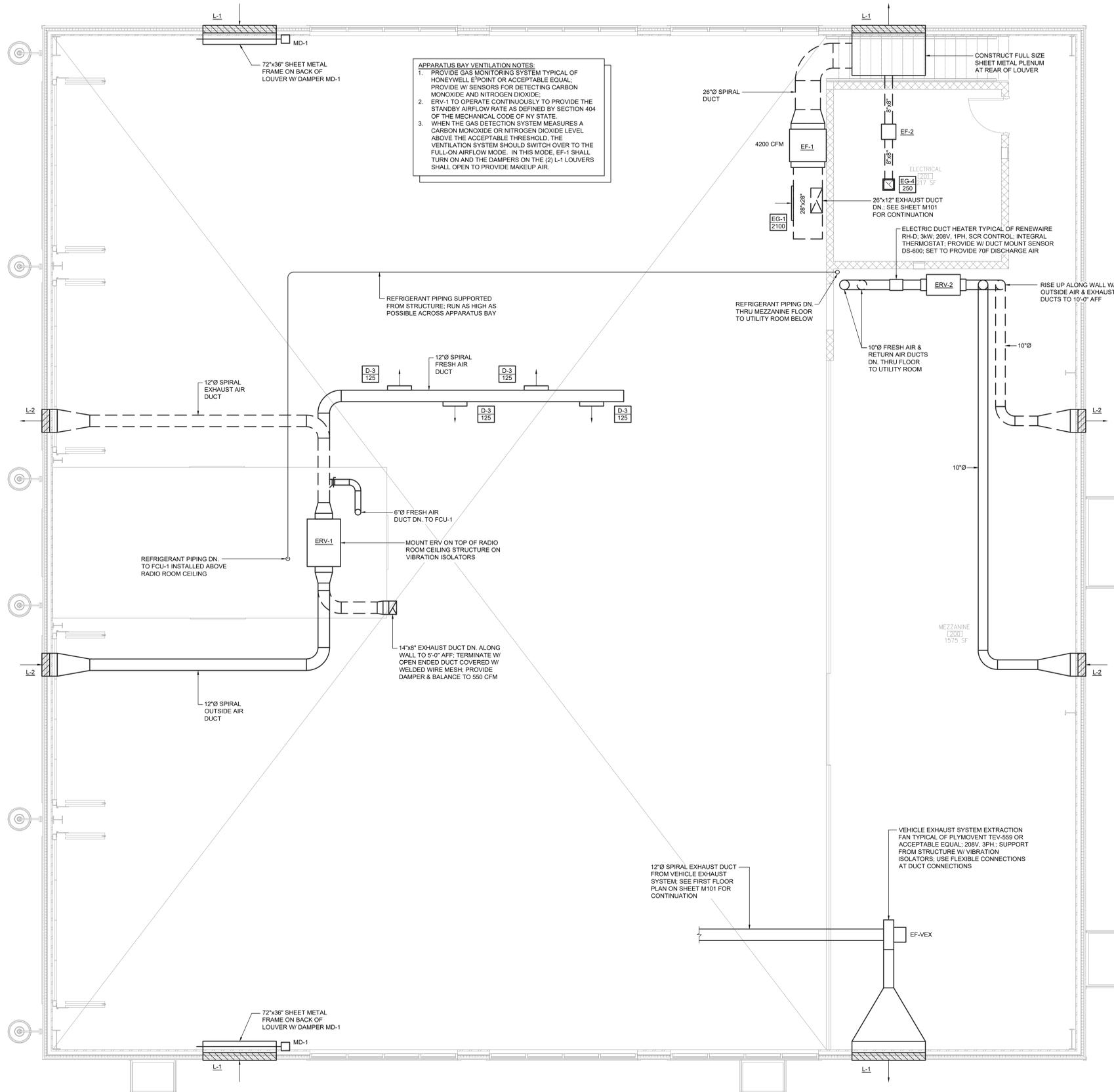
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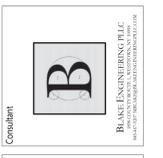
**FIRST FLOOR
 MECHANICAL
 PLAN**

Sheet No.

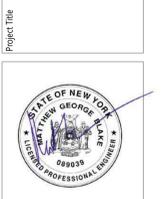
M101



1 Mezzanine Level Mechanical Plan
 Scale: 1/4" = 1'-0"



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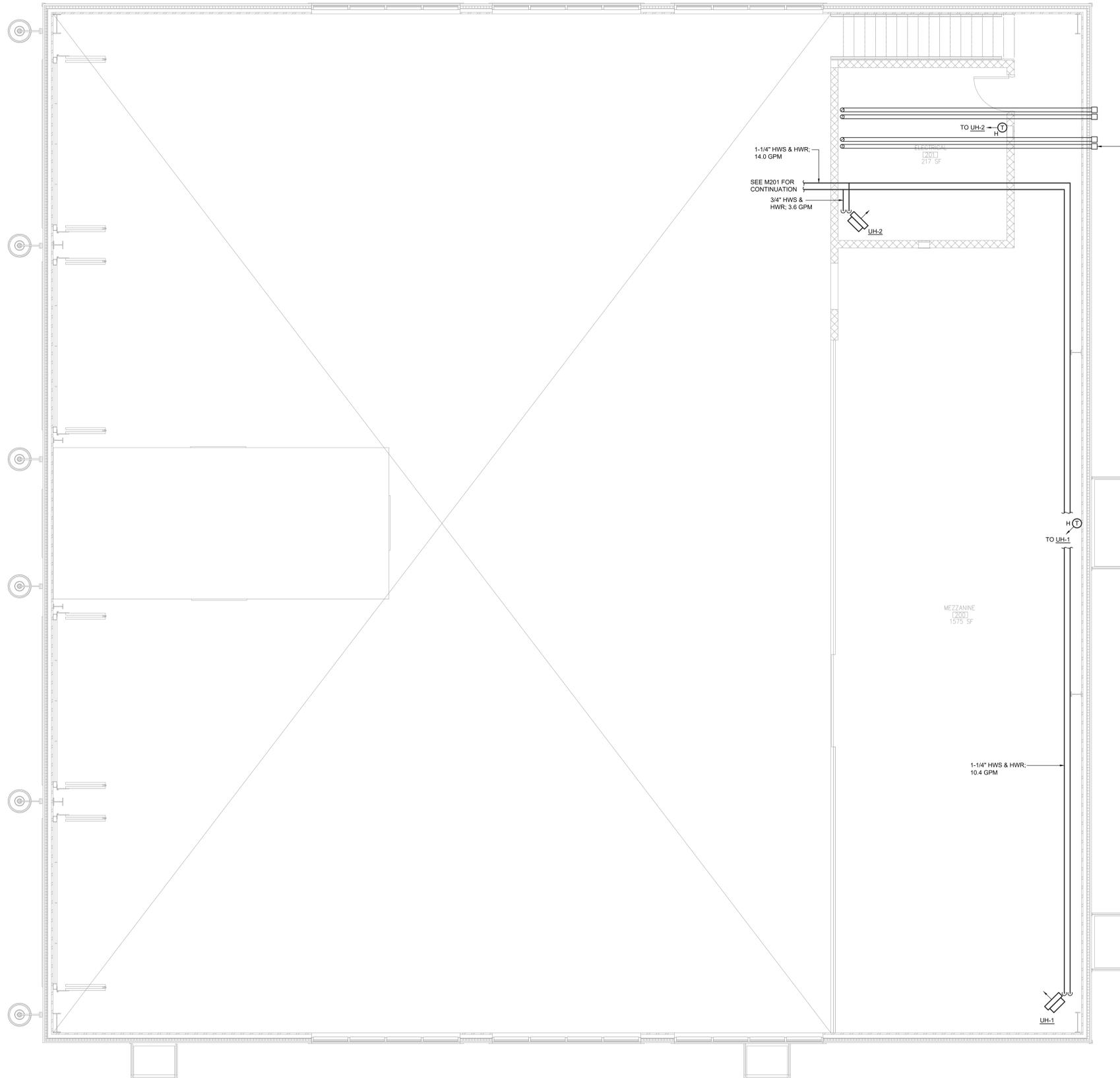


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Sheet Title
**MEZZANINE
 LEVEL
 MECHANICAL
 PLAN**

Sheet No.
M102



1 Mezzanine Level Hydronic Plan
M202 Scale: 1/4" = 1'-0"



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Project Title



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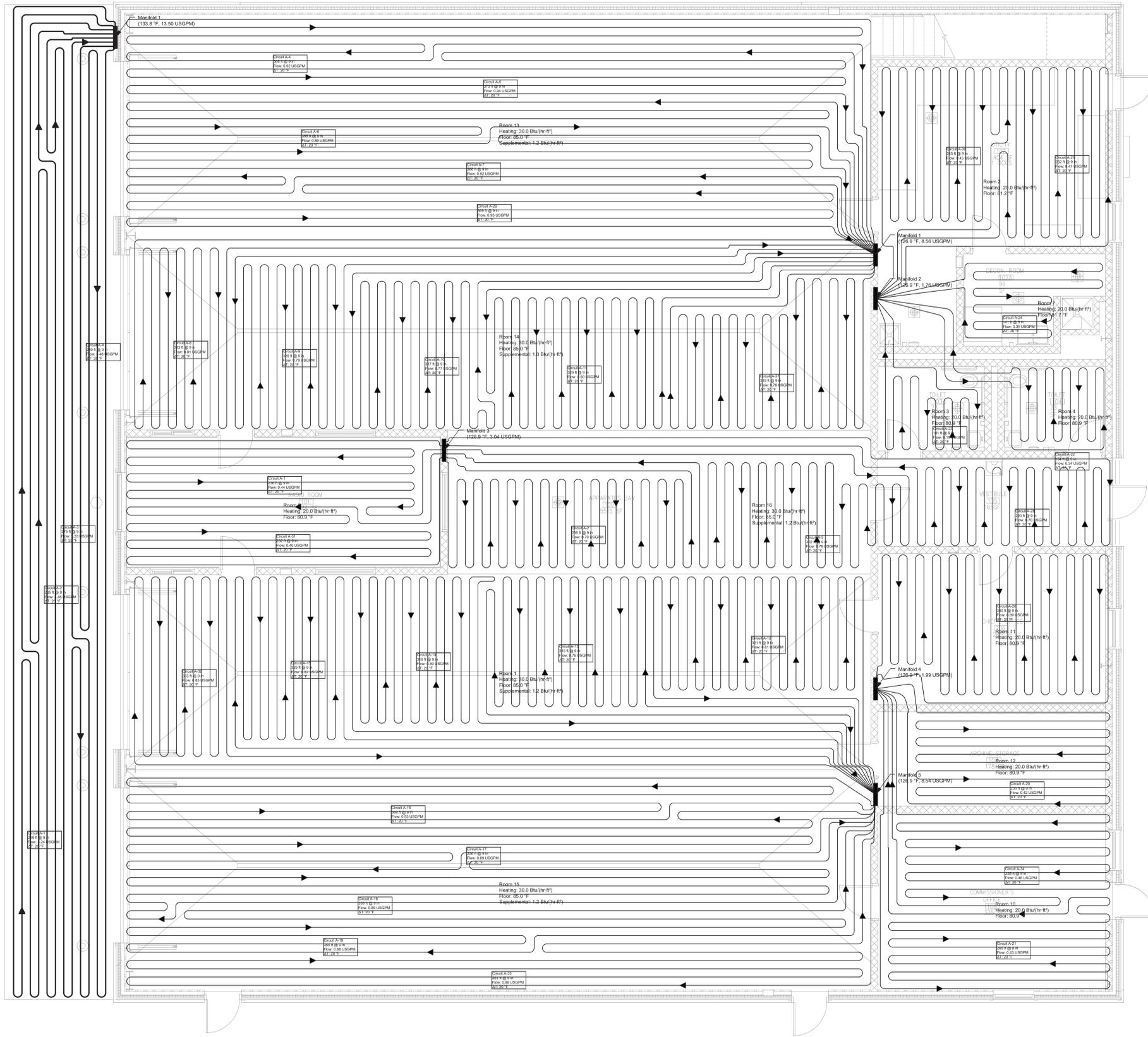
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Sheet Title

MEZZANINE
LEVEL
HYDRONIC
PLAN

Sheet No.

M202



Infloor Radiant Heating Notes:

1. RADIANT FLOOR TUBING LAYOUT IS PROVIDED FOR BIDDING PURPOSES & BASIS OF DESIGN ONLY. CONTRACTOR IS REQUIRED TO PROVIDE DETAILED SHOP DRAWING OF RADIANT FLOOR LAYOUT TO THE ENGINEER FOR REVIEW.
2. ALL TUBING IS TO BE TYPICAL OF WATTS RADIANTPEX+ BARRIER TUBING OR ACCEPTABLE EQUAL. ALL TUBING IS TO BE 5/8" IN SIZE WITH THE EXCEPTION OF THE SNOW MELT. THE SNOW MELT TUBING IS TO BE 3/4" IN SIZE.
3. ALL RADIANT MANIFOLD SETS ARE TO BE TYPICAL OF WATTS STAINLESS MANIFOLDS W/ SHUT OFF, BALANCING VALVES & FLOW METERS FOR EACH CIRCUIT.
4. EACH CIRCUIT SERVING INDIVIDUAL ROOMS IS TO BE EQUIPPED WITH A 24V POWERHEAD FOR ADDITIONAL ZONE CONTROL. FURNISH & INSTALL A HEATING THERMOSTAT TYPICAL OF WATTS DIGITAL THERMOSTAT OR ACCEPTABLE EQUAL IN EACH ROOM TO CONTROL THE INDIVIDUAL POWERHEADS. FURNISH THERMOSTAT WITH SLAB TEMPERATURE SENSOR.
5. GENERAL CONSTRUCTION CONTRACTOR IS TO FURNISH & INSTALL UNDER-CONCRETE INSULATION UNDER THE ENTIRE RADIANT FLOORING AND SNOW MELT SYSTEMS. UNDERSLAB INSULATION SHALL HAVE A MINIMUM RATING OF R-10. SUBMIT PRODUCT DATA TO ENGINEER & ARCHITECT FOR DESIGN CONFORMANCE REVIEW PRIOR TO ANY WORK. PROPERLY OVERLAP & SEAL ALL JOINTS PER MANUFACTURER'S REQUIREMENTS. COORDINATE INSTALLATION W/ GENERAL CONSTRUCTION CONTRACTOR.
6. PROPERLY SECURE ALL RADIANT TUBING TO THE WELDED WIRE MESH OR REBAR IN CONCRETE FLOOR.
7. RIGID PVC TUBING ELBOWS TO BE USED AS SLEEVES FOR THE PEX TUBING WHEREVER IT PENETRATES THE CONCRETE FLOOR.
8. MECHANICAL CONTRACTOR IS TO PRESSURE TEST THE ENTIRE SYSTEM WITH AIR TO 1.5 TIMES OPERATING PRESSURE, AND THE SYSTEM IS TO REMAIN PRESSURIZED DURING THE CONCRETE POUR.
9. MECHANICAL CONTRACTOR IS TO COORDINATE THE ROUTING OF ALL RADIANT TUBING WITH THE GENERAL CONSTRUCTION CONTRACTOR TO ENSURE THAT THE TUBING DOES NOT INCUR DAMAGE DURING THE INSTALLATION OF THE WALL FRAMING.

1 M301 First Floor Radiant Heating Plan
Scale: 1/4" = 1'-0"

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MECHANICAL ENGINEERING

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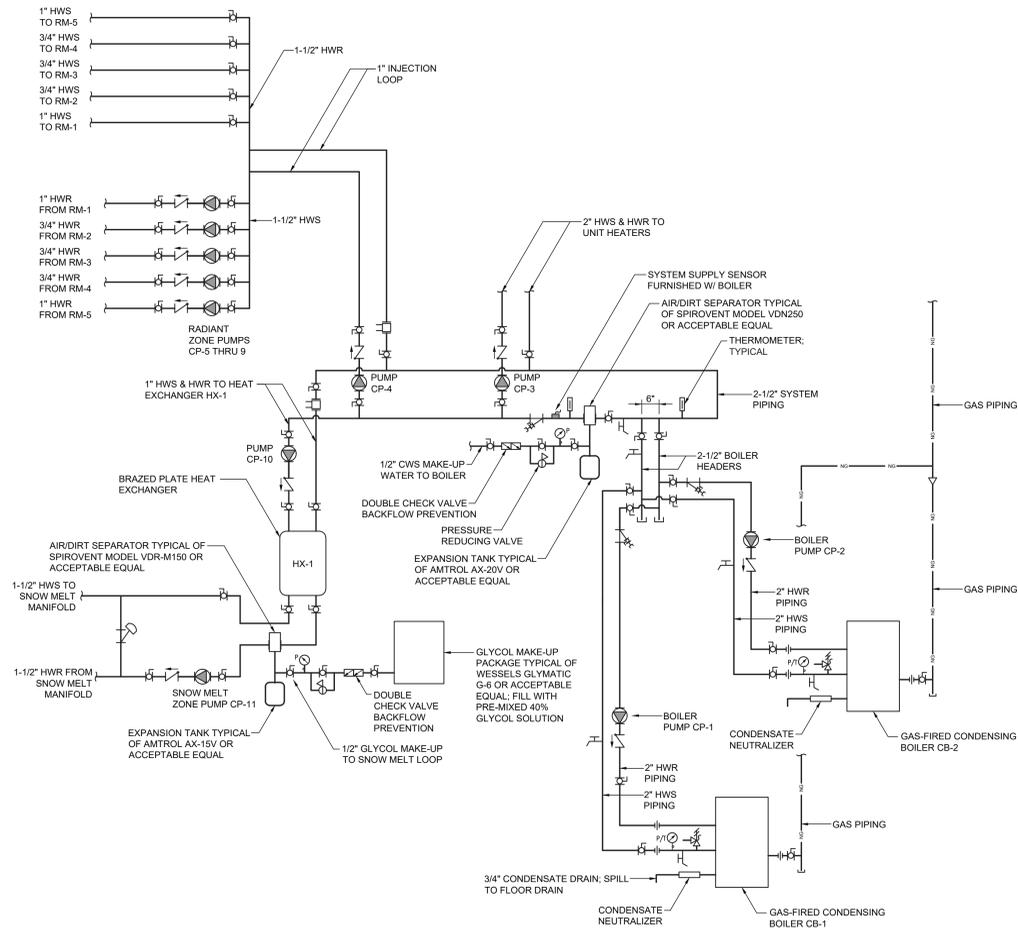


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Sheet Title
**FIRST FLOOR
RADIANT
HEATING
PLAN**

Sheet No.
M301



1 Heating Hot Water System Piping Diagram
 M302 N.T.S.



NEW HAMPTON FIRE DEPARTMENT
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HEATING HOT WATER SYSTEM PIPING DIAGRAM

Sheet No. M302