

FILE NAME: 2004-180-06VMO.dwg | DATE: 2005.11.16 | DESCRIPTION: SECOND FLOOR PLAN - MECHANICAL & PLUMBING SPECIFICATIONS | PROJECT NO: 2004-180-6 | ADDRESS: 510 MAIN STREET

MECHANICAL SPECIFICATIONS

PART 1 - MECHANICAL GENERAL CONDITIONS

- 1. SCOPE
A. PROVIDE A FULLY FUNCTIONAL HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) SYSTEM FOR THE SPACES NOTED.
B. MODIFY THE BUILDING TO PERMIT THE HVAC SYSTEM RENOVATION.
2. REFERENCE CODES AND STANDARDS
A. PERFORM ALL WORK IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS.
3. SHOP DRAWINGS
A. SUBMIT SHOP DRAWINGS FOR ALL COMPONENTS PROVIDED, INCLUDING AIR HANDLING UNITS, CONTROLS, BUILDING PRODUCTS, ELECTRICAL COMPONENTS, ANY COMPONENTS SIGNIFICANT TO PROJECT SUCCESS.
4. DUCT WORK
A. SEAL CLASSIFICATION: USE SMACNA SEAL CLASS C. TRANSVERSE JOINT AND CONNECTIONS MADE AIR TIGHT WITH GASKETS SEALANT TAPE OR COMBINATION THEREOF.
5. DUCT ACCESSORIES
A. GENERAL MANUFACTURE IN ACCORDANCE WITH CSA B228.1
B. FLEXIBLE CONNECTIONS:
1. FRAME: GALVANIZED SHEET METAL FRAME WITH FABRIC CLENCHED BY MEANS OF DOUBLE LOCKED SEAMS.

- 6. TESTING, ADJUSTING AND BALANCING (TAB)
A. SCOPE
1. TAB MEANS TO TEST, ADJUST AND BALANCE. TO PERFORM IN ACCORDANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS AND TO DO ALL OTHER WORK AS SPECIFIED IN THIS SECTION.
2. TEST TO VERIFY PROPER AND SAFE OPERATION, DETERMINE ACTUAL POINT OF PERFORMANCE, EVALUATE QUALITATIVE AND QUANTITATIVE PERFORMANCE OF EQUIPMENT, SYSTEMS AND CONTROLS AT DESIGN, AVERAGE AND LOW LOADS USING ACTUAL OR SIMULATED LOADS.
3. ADJUST AND REGULATE EQUIPMENT AND SYSTEMS SO AS TO MEET SPECIFIC PERFORMANCE REQUIREMENTS AND TO ACHIEVE SPECIFIC INTERACTION WITH ALL OTHER RELATED SYSTEMS UNDER ALL NORMAL AND EMERGENCY LOADS AND OPERATING CONDITIONS.
4. BALANCE SYSTEMS AND EQUIPMENT AND REGULATE FLOW RATES TO MATCH LOAD REQUIREMENTS OVER FULL OPERATING RANGE.
B. EQUIPMENT STARTUP
1. FOLLOW STARTUP PROCEDURES AS RECOMMENDED BY EQUIPMENT MANUFACTURER UNLESS SPECIFIC OTHERWISE.
C. START OF TAB
1. START TAB ONLY WHEN CONSTRUCTION IS ESSENTIALLY COMPLETE
2. STARTUP VERIFICATION FOR PROPER, NORMAL AND SAFE OPERATION OF ALL MECHANICAL AND ASSOCIATED ELECTRICAL CONTROL SYSTEMS AFFECTING TAB INCLUDING BUT NOT LIMITED TO
1. PROPER THERMAL OVERLOAD PROTECTION IN PLACE FOR ELECTRICAL EQUIPMENT
2. AIR SYSTEMS
1. FILTERS IN PLACE, CLEAN
2. DUCT SYSTEM CLEAN
3. DUCTS, AIR SHAFTS, CEILING PLENUMS ARE AIRTIGHT TO WITHIN SPECIFIC TOLERANCES.
4. CORRECT FAN ROTATION
5. FIRE, SMOKE, VOLUME CONTROL DAMPERS INSTALLED AND OPEN
6. COIL FINS COMBED, CLEAN
7. ACCESS DOORS, INSTALLED, CLOSED
8. ALL OUTLETS INSTALLED, VOLUME CONTROL DAMPERS OPEN
3. DO TAB TO PLUS 5%, MINUS 5% OF DESIGN VALUES
4. ACCURACY TOLERANCES: MEASURED VALUES TO BE ACCURATE TO WITHIN PLUS OR MINUS 2% OF ACTUAL VALUES.
D. INSTRUMENTS:
CALIBRATE IN ACCORDANCE WITH REQUIREMENTS OF MOST STRINGENT OF REFERENCED STANDARDS FOR HVAC SYSTEM
E. TAB REPORT:
1. FORMAT TO BE IN ACCORDANCE WITH REFERENCED STANDARD
2. TAB REPORT TO SHOW ALL RESULTS IN IMPERIAL UNITS AND TO INCLUDE:
1. PROJECT RECORD DRAWINGS
2. SYSTEM SCHEMATICS
3. SUBMIT 6 COPIES OF TAB REPORT TO CONTRACT ADMINISTRATOR FOR VERIFICATION AND APPROVAL APPROVAL, IN ENGLISH, COMPLETE WITH INDEX TABS.
F. VERIFICATION:
1. ALL REPORTED RESULTS SUBJECT TO VERIFICATION BY CONTRACT ADMINISTRATOR.
2. PROVIDE MANPOWER AND INSTRUMENTATION TO VERIFY UP TO 30% OF ALL REPORTED RESULTS.
3. NUMBER AND LOCATION OF VERIFIED RESULTS TO BE AT DISCRETION OF CONTRACT ADMINISTRATOR.
4. BEAR COSTS TO REPEAT TAB AS REQUIRED TO SATISFACTION OF CONTRACT ADMINISTRATOR.
G. SETTINGS:
1. AFTER TAB IS COMPLETED TO SATISFACTION OF CONTRACT ADMINISTRATOR, REPLACE DRIVE GUARDS, CLOSE ALL ACCESS DOORS, LOCK ALL DEVICES IN SET POSITIONS, ENSURE SENSORS ARE AT REQUIRED SETTINGS.
2. PERMANENTLY MARK ALL SETTINGS TO ALLOW RESTORATION AT ANY TIME DURING LIFE OF FACILITY. MARKINGS NOT TO BE ERADICATED OR COVERED IN ANY WAY.
H. AIR SYSTEMS:
1. STANDARD: TAB TO BE TO MOST STRINGENT OF THIS SECTION OR TAB STANDARDS OF AABC NEBB SMACNA ASHRAE.
2. DO TAB OF ALL SYSTEMS, EQUIPMENT, COMPONENTS, CONTROLS SPECIFIED IN THE MECHANICAL DRAWINGS.
3. QUALIFICATIONS: PERSONNEL PERFORMING TAB TO BE CURRENT MEMBER IN GOOD STANDING OF AABC OR NEBB QUALIFIED TO STANDARDS OF AABC OR NEBB.
4. QUALITY ASSURANCE: PERFORM TAB UNDER DIRECTION OF SUPERVISOR QUALIFIED BY TO STANDARDS OF AABC OR NEBB.
5. MEASUREMENTS: TO INCLUDE, BUT NOT LIMITED TO, FOLLOWING AS APPROPRIATE FOR SYSTEMS, EQUIPMENT, COMPONENTS, CONTROLS: AIR VELOCITY, STATIC PRESSURE, FLOW RATE, PRESSURE DROP (OR LOSS), TEMPERATURES (DRY BULB, WET BULB, DEWPOINT), DUCT CROSS SECTIONAL AREA, RPM, ELECTRICAL POWER, VOLTAGE, NOISE, VIBRATION.
6. LOCATIONS OF EQUIPMENT MEASUREMENTS: TO INCLUDE, BUT NOT BE LIMITED TO, FOLLOWING AS APPROPRIATE:
1. INLET AND OUTLET OF EACH DAMPER, FILTER, COIL, HUMIDIFIER, FAN, OTHER EQUIPMENT CAUSING CHANGES IN CONDITIONS.
2. AT EACH CONTROLLER, CONTROLLED DEVICE
3. LOCATIONS OF SYSTEMS MEASUREMENTS TO INCLUDE, BUT NOT LIMITED TO, FOLLOWING AS APPROPRIATE:
EACH MAIN DUCT, MAIN BRANCH, SUB-BRANCH, RUN-OUT (OR GRILLE, REGISTER OR DIFFUSER)

PLUMBING SPECIFICATIONS

- 1. GENERAL
A. CONTRACTOR SHALL SUPPLY ALL LABOUR AND MATERIAL FOR A COMPLETE PLUMBING PIPING INSTALLATION AS INDICATED ON THE MECHANICAL DRAWINGS.
B. THE APPLICABLE CODES ARE CONSIDERED TO BE MINIMUM STANDARD REQUIREMENTS. IT IS NOTED IN SOME CASES, THE CODE REQUIREMENTS ARE EXCEEDED, AS SHOWN ON DRAWINGS.
2. PRODUCTS
A. GENERAL
1. EQUIPMENT AND MATERIALS ARE TO BE NEW AND CSA CERTIFIED, WHERE APPLICABLE
2. EQUIPMENT SCHEDULES ARE SHOWN ON THE MECHANICAL DRAWINGS
B. SHOP DRAWINGS
1. SUBMIT FIVE (5) COPIES OF MANUFACTURERS' SHOP DRAWINGS FOR ALL NEW EQUIPMENT.
2. SUBMIT SHOP DRAWINGS FOR CONTRACT ADMINISTRATOR'S APPROVAL PRIOR TO PLACING ANY ORDER.
C. COLD, HOT WASTE AND VENT PIPING AND FITTINGS
PIPE APPLICATION PIPE MATERIAL FITTING MATERIAL
COLD, HOT AND HOT WATER RECIRC. ABOVE GROUND TYPE 'L' HARD COPPER TUBING 'STREAMLINE' OR EQUAL SOLDER JOINT CAST BRASS CIW SILVER SOLDERED JOINT
COLD WATER, BURIED TYPE 'K' SOFT COPPER TUBING FLARED TUBE U/G SERVICE
SOIL, WASTE & VENT ABOVE GROUND OR NOT MORE THAN 2' BELOW CAST IRON M.J. STAINLESS STEEL COUPLINGS
BURIED BELOW 2' DWV COPPER SOLDER JOINT
SOIL AND WASTE, BURIED PVC SCHED. 40 PVC-DWV SCHED. 40
D. VALVES (BASED ON CRANE NO.)
SIZE JOINT GATE GLOBE CHECK VERT. CHECK
UP TO 2" SOLDER 1320C 1310 1342
OVER 2" SCREW 428 5 41 29
E. HANGERS
1. COPPER PIPING HANGERS, GRINWELL.
2. DRAINAGE PIPING HANGERS, GRINWELL.
3. GALVANIZED HANGER ROD SIZE 1/4"
4. PIPE SUPPORT SPACING AS FOLLOWS:
SIZE (Inch diameter) COPPER C.I.
3/8", 1/2" 5 FEET
3/4", 1" 6 FEET
1 1/4" TO 2" 8 FEET
2" AND UP 6 FEET
F. SOLDER MATERIAL FOR COPPER SHALL BE LEAD FREE, SILVABRITE 100.
G. WATER HAMMER ARRESTORS SHALL BE ZURN #1700
3. EXECUTION
A. INSTALLATION
1. THE LATEST EDITION OF ALL CODES AND STANDARDS SHALL APPLY. OBTAIN ALL WORK PERMITS, APPROVALS, AND THE LIKE TO COMPLETE THE WORK READY FOR OPERATION.
2. CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOUR AND PLANT NECESSARY TO COMPLETE THE WORK AS SHOWN ON DRAWINGS OR HEREIN.
3. ALL WORKMANSHIP AND FABRICATION SHALL MEET STANDARDS SET FOR THIS TRADE. ALL WORK TO BE DONE BY COMPETENT AND EXPERIENCED WORKMEN.
4. IN THE CASE OF THE CONTRACTOR USING PRODUCTS OTHER THAN SPECIFIED, THIS WILL INCLUDE ALTERNATE AND/OR APPROVED EQUAL ITEMS THAT MAY INCUR ADDITIONAL COSTS DUE TO DIMENSION DIFFERENCE, MODIFICATION TO EXISTING STRUCTURES, POWER, AND CONTROL REQUIREMENTS; CONTRACTOR MUST BEAR ALL ADDITIONAL COSTS TO MAKE SYSTEMS FUNCTIONAL.
5. ALL EQUIPMENT AND PIPING REQUIRING SUPPORT SHALL BE SECURED TO THE BUILDING STRUCTURE.
6. WIRE HANGERS OR PERFORATED STRAPS WILL NOT BE PERMITTED.
7. HANGERS AND SUPPORTS SHALL NOT DAMAGE OR PIERCE INSULATION.
8. ALL HORIZONTAL PIPING SHALL BE SUPPORTED WITH GALV. HANGER ROD, 'CANSTRAUT' OR PAINTED IRON ANGLE MEMBERS, CLAMPS AND SADDLES.
9. PIPE LINES SHALL RUN PARALLEL AND GROUP CLOSELY TO EACH OTHER. VERTICAL AND HORIZONTAL PIPE RUNS SHALL BE PARALLEL ALONG BUILDING LINES.
10. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS.
11. ALL PIPES SHALL BE CUT ACCURATELY TO MEASUREMENTS TAKEN ON SITE
12. GRADE ALL WATER PIPE FOR PROPER DRAINAGE AND INSTALL 1/2" DRAIN VALVE WITH 1/2 THREADED HOSE END AT LOW POINT IN MECH. ROOM.
13. UNIONS AND FLANGES SHALL BE PROVIDED AT ALL EQUIPMENT REQUIRING DISCONNECTION FOR REPAIRS OR REPLACEMENT, LOCATED BETWEEN SHUT OFF VALVES AND EQUIPMENT. ALL UNIONS SHALL BE ACCESSIBLE.
14. INSTALL WATER HAMMER ARRESTOR AT PLUMBING RISES, FIXTURE GROUPS, AND QUICK SHUT OFF VALVE OUTLETS. AT COMPLETION OF WORK, WATER SYSTEM MUST BE WATER HAMMER FREE UNDER NORMAL OPERATION.
15. SHUT OFF VALVES SHALL BE PROVIDED WHERE INDICATED AND SPECIFIED. IF NOT INDICATED, OR SPECIFIED DIRECTLY, VALVES SHALL BE INSTALLED ON MAIN BRANCHES AT POINT OF TAKE OFF FROM SUPPLY MAIN, ON EACH INDIVIDUAL PIECE OF EQUIPMENT INLET AND OUTLET TO PERMIT UNIT REMOVAL WITHOUT AFFECTING OPERATION OF SYSTEM. LOCATE VALVES FOR ACCESS AND OPERATION. DO NOT LOCATE VALVE STEMS BELOW HORIZONTAL.
16. ALL FLOOR DRAINS SHALL HAVE A 18" X 18" CHLORINATED POLYETHYLENE(CPE) WATERPROOF MEMBRANE INSTALLED AROUND BODY OF DRAIN AND BURIED IN THE CONCRETE, TO FORM A WATER TIGHT BARRIER THE MEMBRANE MUST FORM A WATER TIGHT SEAL WITH DRAIN BODY.
17. PROVIDE CLEAN OUTS IN ALL DRAINS, AND SOIL PIPE WHERE OBSTRUCTIONS MIGHT OCCUR, AT THE BASE OF EACH STACK, AT CHANGE OF DIRECTION MORE THAN 45 DEGREES, AT THE END OF ALL HORIZONTAL PIPES, AND AT 50' INTERVALS ALONG STRAIGHT RUNS AS WHERE SHOWN ON DRAWINGS.

NOTES :

ORIGINAL STAMPED BY: D. PALEY, P.ENG
DATE: 2005.11.16

Table with 4 columns: NO., REVISION/DESCRIPTION, BY, DATE

Table with 3 columns: DRAWN BY, CHECKED BY, APPROVED
DATE: 2005.11.16

CITY OF WINNIPEG
PLANNING, PROPERTY & DEVELOPMENT DEPARTMENT
CIVIC ACCOMMODATIONS DIVISION
300 - 65 GARRY ST. R3C 4K4

PROJECT
ADMINISTRATION BUILDING
2ND FLOOR RENOVATIONS
CONVERSION TO OFFICE AREA
510 MAIN STREET

SHEET TITLE
SECOND FLOOR PLAN
MECHANICAL & PLUMBING SPECIFICATIONS

Table with 3 columns: SCALE, PROJECT NO., SHEET NO.
AS SHOWN, 2004-180-6, M6