

FILE NAME: 2010031MVC.dwg DATE: 2012.03.09 SHEET TITLE: MECHANICAL & PLUMBING SPECIFICATIONS PROJECT No: 2010-031 ADDRESS: 836 RUE ST. JOSEPH

MECHANICAL SPECIFICATIONS

PART 1 - MECHANICAL GENERAL CONDITIONS

1. SCOPE

A. PROVIDE A FULLY FUNCTIONAL VENTILATION SYSTEM FOR THE SPACES NOTED.

2. REFERENCE CODES AND STANDARDS

- A. PERFORM ALL WORK IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS.
- B. ANSII/ASHRAE STANDARD 62.1 - LATEST EDITION, "VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY".
- C. NATIONAL BUILDING CODE OF CANADA, PART 6.

3. SHOP DRAWINGS

- A. SUBMIT SHOP DRAWINGS FOR ALL COMPONENTS PROVIDED INCLUDING CONTROLS, BUILDING PRODUCTS & ELECTRICAL COMPONENTS, ANY COMPONENTS SIGNIFICANT TO PROJECT SUCCESS.
- B. FOR EACH SUBMISSION, SUBMIT FIVE SETS OF LETTER OR 11"x17" SHOP DRAWINGS. IF SHOP DRAWINGS ARE LARGER THAN 11"x17" SUBMIT ONE REPRODUCIBLE AND ONE PRINT.

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
 - 3. CORRECT FAN ROTATION
 - 4. ALL OUTLETS INSTALLED, VOLUME CONTROL DAMPERS OPEN
 - 5. DO TAB TO PLUS 5%, MINUS 5% OF DESIGN VALUES
 - 6. 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, LOCK ALL DEVICES IN SET POSITIONS AND INTER-CONNECTED TO TIMER SWITCH AND BUILDING CONTROL PANEL.
 - 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), 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 & 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 GRILLE.

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 PIPING AND FITTINGS

PIPE APPLICATION	PIPE MATERIAL	FITTING MATERIAL
COLD ABOVE GROUND	TYPE 'L' HARD COPPER TUBING	'STREAMLINE' OR EQUAL SOLDER JOINT CAST BRASS C/W SILVER SOLDERED JOINT
COLD WATER, BURIED	TYPE 'K' SOFT COPPER TUBING	FLARED TUBE U/G SERVICE
- D. VALVES (BASED ON WATTS)
 - SEE PLUMBING SCHEDULE ON M1 DRAWING.
- E. PIPE SUPPORTS
 - AS SPECIFIED ON M1 DRAWING.
- F. SOLDER MATERIAL FOR COPPER SHALL BE LEAD FREE, SILVABRITE 100.

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 AND AS PER DRAWINGS.
 - 6. ALL HORIZONTAL & VERTICAL PIPING SHALL BE SUPPORTED AS PER DRAWINGS & CURRENT NATIONAL PLUMBING CODE OF CANADA.
 - 7. PIPE LINES SHALL RUN PARALLEL AND GROUP CLOSELY TO EACH OTHER. VERTICAL AND HORIZONTAL PIPE RUNS SHALL BE PARALLEL ALONG BUILDING LINES.
 - 8. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS.
 - 9. ALL PIPES SHALL BE CUT ACCURATELY TO MEASUREMENTS TAKEN ON SITE AND TO ACCOMMODATE WATER SERVICE METER INSTALLATION.
 - 10. GRADE ALL WATER PIPE FOR PROPER DRAINAGE
 - 11. 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.
 - 12. 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.
 - 13. 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.
 - 14. ALL WATER PIPING SHALL BE DEGREASED, FLUSHED, CLEANED AND PRESSURE TESTED BEFORE CONCRETING AND FILLING.
 - 15. PROVIDE CHROME PLATED ESCUTCHEON PLATES FOR ALL EXPOSED PIPING THROUGH FINISHED WALLS AND FLOORS.
 - 16. WHERE OPENINGS ARE MADE IN BUILDING STRUCTURE, SEAL OPENINGS TO PROVIDE WEATHER TIGHT WATER PROOF SEAL AND AS SPECIFIED IN M1 DRAWING.
 - 17. BEFORE START OF WORK ON INSTALLATION OF PIPING CHECK ALL LEVELS TO ENSURE ADEQUATE FALL ON THESE PIPES. IN THE EVENT THE SUB-CONTRACTOR FAILS TO DO THESE CHECKS AND THEN NOTIFIES CONTRACT ADMINISTRATOR OF DISCREPANCIES, ANY SUBSEQUENT EXPENSE SHALL BE BORNE BY THE SUB-CONTRACTOR.
 - 18. THE PLANS ARE CONSIDERED DIAGRAMMATIC ONLY AND THE CONTRACT ADMINISTRATOR RESERVES THE RIGHT TO CHANGE LOCATION OF EQUIPMENT OR PIPING WITHIN 10 FEET OF WHERE SHOWN ON PLANS, PROVIDED SUCH CHANGE IS MADE BEFORE INSTALLATION.
 - 19. IF, IN THE OPINION OF THE CONTRACT ADMINISTRATOR, THE PIPING AND EQUIPMENT IS NOT ADEQUATELY BRACED OR SUPPORTED, ADDITIONAL BRACING OR SUPPORT MUST BE PROVIDED AT NO EXTRA COST TO THE CITY.
 - 20. SYSTEM SCHEMATICS SHOWN ON THE DRAWINGS ARE MINIMUM REQUIREMENT. EQUIPMENT INSTALLATION, INCLUDING ALL CONTROLS, FITTINGS, AND ACCESSORIES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. THE CONTRACTOR SHALL BEAR AND INCLUDE ALL COSTS FOR SUCH INSTALLATIONS.

NOTES:

ALSO SEE CIVIL, ARCHITECTURAL, STRUCTURAL, MECHANICAL & ELECTRICAL DWGS

ORIGINAL STAMPED BY: DOUG PALEY
DATE: 2012.03.09

No.	REVISION/DESCRIPTION	BY	DATE
SEAL			

DRAWN	RCP	CHECKED	CAD	DESIGNED	RCP	APPROVED	CAD
DATE	2012.03.09	USER		APPROVAL			

THE CITY OF WINNIPEG
PLANNING, PROPERTY AND
DEVELOPMENT DEPARTMENT
MUNICIPAL ACCOMMODATIONS DIVISION
3-65 GARRY STREET, R3C 4K4

PROJECT
WHITTIER PARK
STORAGE BUILDING

836 RUE ST. JOSEPH

SHEET TITLE
MECHANICAL & PLUMBING
SPECIFICATIONS

SCALE	PROJECT No:	SHEET No:
AS SHOWN	2010-031	M2

DRAWING SHEET SIZE: A1 (841mm x 594mm) PLOT 1:1