

MECHANICAL GENERAL SPECIFICATION

1. MECHANICAL CONTRACTOR SHALL EMPLOY ONLY CERTIFIED JOURNEYMEN NORMALLY ENGAGED IN THE SHEET METAL AND STEAM FITTING TRADES TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AND/OR OWNER OR HIS REPRESENTATIVE.
2. PROVIDE A WRITTEN ONE YEAR WARRANTY ON ALL WORK DONE UNDER THIS CONTRACT FROM DATE OF ACCEPTANCE.
3. THE MANITOBA BUILDING/PLUMBING CODE 2010 SHALL GOVERN THIS PROJECT MECHANICALLY.
4. ALL CHANGES AND ALTERATIONS REQUIRED BY THE AUTHORIZED INSPECTOR OF THE AUTHORITIES HAVING JURISDICTION SHALL BE CARRIED OUT WITHOUT CHARGE OR EXPENSES TO THE OWNER.
5. EACH CONTRACTOR SHALL COORDINATE THE WORK WITH OTHER CONTRACTORS IN ORDER TO AVOID CONFLICTS.
6. CONTRACTOR SHALL VERIFY EXACT LOCATIONS, SIZES, INVERTS, ETC PRIOR TO TENDER CLOSE AND COMMENCEMENT OF WORK.
7. COORDINATE THE EXACT LOCATION OF THE GRILLES AND DIFFUSERS ON SITE WITH THE ELECTRICAL CONTRACTOR, GENERAL CONTRACTOR, ARCHITECTURAL REFLECTED CEILING PLAN, LIGHTING LAYOUT, ETC. TO ENSURE THAT THERE ARE NO CONFLICTS DURING INSTALLATION.
8. AT THE COMPLETION OF THE INSTALLATION, PROVIDE TWO MARKED UP COPIES OF THE TENDER DRAWINGS FOR RECORD PURPOSES.
9. ALL PIPING, DUCTWORK, AND EQUIPMENT SHALL BE SECURELY SUPPORTED FROM THE BUILDING STRUCTURE TO ACCEPTABLE BUILDING DESIGN STANDARDS. PERFORATED STRAP HANGERS WILL NOT BE PERMITTED. ALL PIPE HANGERS SHALL BE OVERSIZED WITH BOTTOM SADDLE WHERE EXTERIOR PIPE INSULATION IS USED.
10. PERMANENT SYSTEMS AND/OR EQUIPMENT SHALL NOT BE USED DURING THE CONSTRUCTION PERIOD WITHOUT WRITTEN PERMISSION FROM THE OWNER.
11. PROVIDE INSTRUCTIONS TO OWNER ON ALL SYSTEMS AND ASSOCIATED EQUIPMENT.
12. TESTING OF ALL SAFETY DEVICES SHALL BE CARRIED OUT BY THE MECHANICAL CONTRACTOR AND WITNESSED BY THE OWNER'S REPRESENTATIVE, SIGNED OFF AND FORWARDED TO THE O/M MANUAL.
13. MEET SAFETY REQUIREMENTS OF PROVINCIAL DEPARTMENT OF LABOUR AND LOCAL AUTHORITIES HAVING JURISDICTION.
14. A WRITTEN GUARANTEE COVERING ALL MATERIALS AND WORKMANSHIP FOR ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE OF THE ENTIRE CONTRACT, SHALL BE SUPPLIED BY THE CONTRACTOR. THIS GUARANTEE WILL NOT CANCEL LONGER WARRANTIES.
15. UPON COMPLETION OF THE WORK, THE ENTIRE JOB SITE SHALL BE CLEARED UP AND LEFT IN GOOD OPERATING CONDITION. THOROUGHLY CLEAN PIPING, DUCTWORK, AND EQUIPMENT OF DIRT, CUTTINGS AND OTHER FOREIGN SUBSTANCES.
16. ALL CUTTING AND PATCHING AND RELATED CONSTRUCTION WORK ARE TO BE PERFORMED BY THE GENERAL CONTRACTOR UPON INSTRUCTION FROM THE MECHANICAL CONTRACTOR.
17. ALL GALVANIZED DUCTWORK IS TO BE MANUFACTURED IN ACCORDANCE WITH CURRENT S.M.A.C.N.A. SPECIFICATIONS. ALL DUCTWORK IS TO BE SEALED WITH HIGH VELOCITY BRUSHED ON DUCT SEALANT.
18. ALL GALVANIZED DUCTWORK IS TO BE MANUFACTURED IN ACCORDANCE WITH CURRENT S.M.A.C.N.A. SPECIFICATIONS. ALL DUCTWORK IS TO BE SEALED WITH HIGH VELOCITY BRUSHED ON DUCT SEALANT.
19. PERMITS: CONTRACTOR IS RESPONSIBLE FOR GIVING ALL NECESSARY NOTICES, OBTAINING ALL NECESSARY PERMITS AND PAYING ALL APPLICABLE FEES.
20. ASSUME FULL RESPONSIBILITY FOR LAYING OUT ALL WORK AND ENSURE THAT

NO DAMAGE IS CAUSED TO THE OWNERS EQUIPMENT AND PREMISES. PROTECT AND MAINTAIN ALL WORK UNTIL WORK HAS BEEN COMPLETED AND ACCEPTED BY THE OWNER AND ENGINEER.

21. ALL WIRING AND THE SUPPLY AND INSTALLATION OF STARTERS AND/OR DISCONNECT SWITCHES FOR EQUIPMENT SHALL BE BY THE ELECTRICAL CONTRACTOR (DIV 16)
22. SUPPLY AND INSTALL ULC FIRE DAMPERS/FIRE STOPS AT ALL FIRE RATED PENETRATIONS.
23. ACCESS DOORS REQUIRED TO GAIN ACCESS TO BALANCING DAMPERS AT FIRE-RATED CEILING - SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR.
24. BALANCING - CONTRACTOR WILL ENGAGE AN INDEPENDENT AIR BALANCING AGENCY.
 - a. SYSTEM TO BE ADJUSTED TO DATA PROVIDED.
 - b. BALANCING CONTRACTOR TO CONFIRM OPERATION OF COMPLETE MECHANICAL SYSTEM.
 - c. PROVIDE REPORT TO ENGINEER. (4 COPIES)

INSPECTION AND TESTING

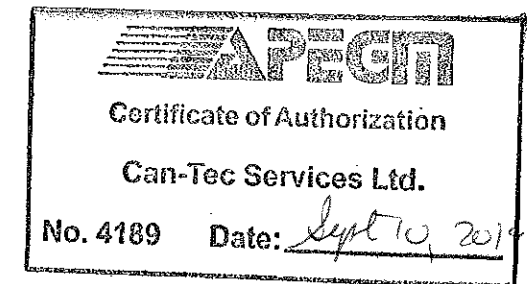
1. THE WORK SHALL BE AT ALL TIMES AVAILABLE FOR INSPECTION BY AN OWNER REPRESENTATIVE. ALL WORK SHALL BE IN ACCORDANCE WITH AND SHALL BE INSPECTED TO MEET THE REQUIREMENTS OF THIS SPECIFICATION.
2. ALL START-UP AND TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER. NOTICE OF DATE WHEN TESTS SHALL BE PERFORMED MUST BE RECEIVED BY OWNER
3. WORK SHALL NOT BE INSULATED OR CONCEALED PRIOR TO BEING TESTED AND APPROVED.
4. OPERATE SYSTEM FOR A SUFFICIENT PERIOD OF TIME TO ENSURE COMPLETE ACCEPTANCE; DEFECTS SHALL BE REMEDIATED AT CONTRACTOR'S EXPENSE .
5. AIR BALANCING SHALL BE PERFORMED BY AN INDEPENDENT CERTIFIED AIR BALANCING CONTRACTOR AND THE BALANCING REPORT SUBMITTED TO THE ENGINEER. COST FOR THIS WORK IS TO BE CARRIED BY THE MECHANICAL CONTRACTOR.

INSULATION:

1. PROVIDE 1/2"(12mm) THICK, FOIL-FACED RIGID PRE-FORMED FIBREGLASS EXTERNAL THERMAL PIPE INSULATION (TO MEET MECB REQUIREMENTS) ON ALL NEW NATURAL GAS PIPING FOR 10'(3000mm) ON THE WARM SIDE OF A PENETRATION THROUGH A WALL OR CEILING/ROOF TO A COLD SPACE.
2. PROVIDE 2"(50mm) THICK, FOIL-FACED RIGID (FIBREGLASS OR FIBREBOARD) OR FLEXIBLE FIBREGLASS EXTERNAL THERMAL INSULATION (TO MEET MECB REQUIREMENTS) ON ALL NEW EXHAUST OR RELIEF DUCTWORK FOR 10'-0"(3.0M) ON THE WARM SIDE OF A PENETRATION THROUGH A WALL/FLOOR/CEILING/ROOF TO A COLD SPACE, WHERE A BACKDRAFT DAMPER IS PROVIDED AT THE PENETRATION TO THE COLD SPACE WHERE THE BACKDRAFT DAMPER IS PROVIDED IN THE DUCTWORK, INSULATION SHALL EXTEND FROM THE PENETRATION TO 10'-0"(3.0M) UPSTREAM OF THE BACK DRAFT DAMPER.
3. PROVIDE 1"(25mm) THICK, FOIL-FACED EXTERNAL THERMAL INSULATION (TO MEET MECB REQUIREMENTS) ON ALL NEW SUPPLY AIR DUCT MAINS, AND INDIVIDUAL RUN-OUTS TO DIFFUSERS. INSULATION SHALL BE FLEXIBLE FIBREGLASS, OR RIGID FIBREBOARD.
4. PROVIDE 2"(50mm) THICK, FOIL-FACED RIGID FIBREGLASS OR FIBREBOARD EXTERNAL THERMAL INSULATION (TO MEET MECB REQUIREMENTS) ON ALL NEW OUTSIDE AIR INTAKE, MIXED AIR AND COMBUSTION AIR DUCTWORK, ROUND COMBUSTION AIR DUCTWORK MAY BE FLEXIBLE FIBREGLASS.
5. PROVIDE 3"(75mm) THICK, FOIL-FACED RIGID FIBREGLASS OR FIBREBOARD EXTERNAL THERMAL INSULATION (TO MEET MECB REQUIREMENTS) ON ALL NEW DUCTWORK LOCATED OUTDOORS. PROVIDE WEATHERPROOFING EQUAL TO:
 - .1 PROVIDE DIMPLE FINISH .016 ALUMINUM JACKET OR GALVANIZED SHEET.
6. PROVIDE 1"(25mm) THICK, BLACK CELLULAR FOAM RUBBER INSULATION (TO MEET MECB REQUIREMENTS) ON ALL REFRIGERATION PIPING, INSTALL USING PLASTIC WIRE

TIES.

7. ALL JOINTS AND ELBOWS SHALL BE COMPLETELY INSULATED EXCEPT JOINTS AND ELBOWS MAY BE LEFT UNCOVERED ON HOT PIPING IN CONCEALED SPACES.
8. ALL VALVES AND UNIONS SHALL BE COMPLETELY INSULATED, EXCEPT VALVES AND UNIONS MAY BE LEFT UNCOVERED ON HOT PIPING IN CONCEALED SPACES.
9. SEAMS OF FOIL-FACED THERMAL INSULATION SHALL BE SEALED WITH ALUMINUM DUCT TAPE.
10. COVER BUTT JOINTS WITH A STRIP OF THE SAME MATERIAL AS THE JACKET.
11. FLEXIBLE INSULATION SHALL BE INSTALLED IN A MANNER THAT DOES NOT REDUCE ITS THICKNESS.



PROJECT TITLE:
KILDONAN PARK GOLF COURSE
SHEET TITLE:
SPECIFICATION - HVAC
PROJECT NUMBER:
19-043-14-30

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REV. # REVISION DATE (YY MM DD) REV. BY

TENDER 1123-2019

REV. # REVISION DATE (YY MM DD) REV. BY

SCALE:
AS NOTED
DATE (YY MM DD):
19 07 19

DRAWING NUMBER:

M2.1

REVISION NUMBER:
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