Part 1 General

1.1 GENERAL REQUIREMENTS

.1 The Contractor shall be responsible to carry out all the Work set out or referred to in this Section 22 33 00.01.

1.2 RELATED SECTIONS

.1 Division 01 – General Requirements.

1.3 REFERENCES

.1 Canadian Gas Association (CGA).

.2 Canadian Standards Association (CSA International):

.1 CSA B51-97, Boiler, Pressure Vessel, and Pressure Piping Code.

.2 CAN/CSA-C309-M90 (R1998), Performance Requirements for Glass-Lined Storage Tanks for Household Hot Water Service.

.3 ANSI/AWWAD120 – Thermosetting Fiberglass – Reinforced Plastic Tanks.

.4 NSF/ANSI Standard 61: Drinking Water System Components – Health Effects.

1.4 SHOP DRAWINGS

.1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Indicate:

.1 Equipment, including connections, fittings, control assemblies and ancillaries, identifying factory and field assembled.

1.5 CLOSEOUT SUBMITTALS

.1 Provide maintenance and engineering data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.6 WASTE MANAGEMENT AND DISPOSAL

.1 Separate and recycle waste materials in accordance with Section 01 74 19 – Waste Management and Disposal.

.2 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, packaging material in appropriate on-site for recycling in accordance with Waste Management Plan.

.4 Divert unused metal and wiring materials from landfill to metal recycling facility approved by Department Representative.

Part 2 Products

2.1 DOMESTIC WATER PRE-HEAT TANK (DHWT-2)

.1 The tank shall be constructed in accordance with ASME Boiler and Pressure Vessel Code Section IV requirements.

.2 The tank shall be furnished with the following connections:

.1 Two 75mm NPT dielectric circulating connections at the bottom of the tank for inlet.

.2 One 50mm NPT dielectric circulating connection at the top of the tank for outlet.

.3 One 31mm NPT pressure relief connection at tank top.

.4 One thermowell NPT connection.

.5 One 25mm NPT drain connection.

.3 The tank shall have a working pressure of 125 PSI. The interior of the tank shall be cement lined and conform to NSF/ANSI Standard 61. Tank shall be NSF/ANSI Standard 61 listed and labeled.

.4 Tank shall be constructed with an inner chamber baffle designed to receive all circulation to and from the heating source to eliminate turbulence in the tanks. The tank shall supply 80% of the tank capacity without a drop in outlet temperature.

.5 Tank shall be furnished with magnesium anodes and carry a five (5) year warranty.

.6 The tank shall be completely encased in a minimum of 50mm thick, high density polyurethane foam insulation that forms a watertight jacket that is approved for outdoor use that meets the energy efficiency requirements of the latest edition of the ASHRAE 90.1 Standard.

.7 Storage tanks shall be furnished with a manway for ease of inspection, cleanout, and service.

.8 Storage tank to be 452 L storage capacity.

.9 Piping and Fittings:

.1 Carbon steel and stainless steel NPT fittings shall withstand minimum 150 foot pounds of torque and 1,000 foot pounds of bending, both with 2:1 safety factor.

.2 Provide NPS 1 drain valve with nose end.

.3 Provide 100mm dial type thermometer with red painter filled with conductive paste.

.4 Thermowells to be filled with conductive paste for temperature sensor (sensor by others).

.5 ASME rated pressure relief valve sized for full capacity of tank. Discharge termination over funnel floor drain and visible to operators.

Part 3 Execution

3.1 INSTALLATION

.1 Install in accordance with manufacturer's recommendations and authority having jurisdiction.

.2 Locate as shown on insulated base.

3.2 FIELD QUALITY CONTROL

.1 Manufacturer's factory trained, certified technician to start up and commission domestic water heaters.

END OF SECTION