INDEX OF SPECIFICATION

PART 1: GENERAL

1.1 RELATED WORK

.1 This Section is to be read in conjunction with the Bid Documents and drawings.

.2 Refer to Division 15 for all related control work to be provided by Division 16.

1.2 APPLICABLE SPECIFICATIONS

.1 While not identified and specified by number in this document, Contractor will comply with all requirements of Division 16, CSA Electrical Bulletins and all Provincial and local rules, ordinances and codes.

.2 The electrical installation shall be done in accordance with the current edition of the Canadian Electrical Code, Provincial and other codes, rules and regulations. Supply material and labour necessary to meet the requirements of these codes, rules and regulations even though the work may not be shown on the drawings or mentioned in the specifications. Where the electrical installation call for a better quality of material or construction than the minimum requirements of these codes, rules and regulations, the electrical installation shall be as shown on the drawings and as specified.

.3 The electrical installation shall be done in accordance with the requirements of the electrical supply authority and the City of Winnipeg Electrical Inspection Department. The Contractor shall obtain a permit and pay all associated fees. The Contractor shall provide a Certificate of Approval from the Electrical Inspection Department on completion of the work and submit it to the Contact Administrator prior to the final inspection of the work.

1.3 SCOPE OF WORK

.1 Disconnect and remove the entire electrical service for the 6 existing electric pool heaters which are to be replaced including, but not limited to; connections at the heaters; feeder conduit and wire back to panel CP-101.

.2 Disconnect and remove the existing panel CP-101 including all contactors and control functions. The panel shall be disposed of as directed by the Contract Administrator.

.3 Supply and install a new 800A, 600V, 3 phase, 3 wire Panel ‘101’ where shown on the drawings and connect to the existing breaker in the existing main distribution with the existing Corflex feeders.

.4 Supply and install 2 new 300A 3P breakers in Panel ‘101’ for the 2 new Pool Boilers supplied by Division 15.

.5 Supply and install 2 new feeders from the new Panel ‘101’ to the new Pool Boilers as shown on the Single Line Diagram and connect the boilers.

.6 Supply and install new combination magnetic starters and conduit and wire from existing panel LP4 for new boiler circulation pumps PU-1 and PU-2 as shown on the drawings.

.7 Supply and install a new Control Panel CP-101 as shown on the drawings to control the existing pump functions presently provided by existing panel CP-101 which is to be removed.

PART 1: PRODUCTS

1.1 BUILDING WIRE

.1 All conductors shall be copper, with 600V insulation of chemically cross-linked thermosetting polyethylene material rated RW90.

.2 Minimum wire size shall be 12 AWG.

1.2 ALUMINUM SHEATHED CABLE

.1 Conductors shall be copper RA90 Corflex, sized as shown on the Single Line Diagram.

.2 Insulation: RA90 rated 90C at 1000V.

.3 Sheath: Aluminum applied to form a corrugated continuous seamless sheath.

.4 Outer jacket of PVC applied over the aluminum sheath.

.5 Fastening for aluminum sheathed cables: use 2 part aluminum Unistrut clips for cables on suspended channels.

PART 2: EXECUTION

1.1 INSTALLATION

.1 Install building wire in EMT conduit as per Section 16133.

.2 Install Corflex on channels with appropriate spacing for free air rating. Re-use existing channel supports where appropriate. Install new channel supports as may be necessary.

PART 1: PRODUCTS

1.1 LOCATION OF CONDUITS

.1 The drawings do not indicate the exact location of conduits but are in diagrammatic form only

1.2 CONDUITS & FITTINGS

.1 Conduits shall be EMT complete with appropriate di-cast couplings and connectors.

PART 2: EXECUTION

1.1 INSTALLATION

.1 Conduits shall be installed to conserve headroom in exposed areas and cause minimum interference in the spaces through which they pass.

.2 Use liquid tight flexible metal conduit for connection to motors or vibrating equipment.

.3 Mechanically bend conduits over 3/4” in diameter.

PART 1: PRODUCTS

1.1 CONTROL PANELS

.1 The new control panel CP-101 shall is to be custom made to provide control functions currently provided by the existing CP-101 which is to be removed.

.2 The new control panel shall be generally as detailed on the drawings.

.3 Provide lamacoid labels on the panel to indicate the function of all control components.

PART 2: EXECUTION

1.1 INSTALLATION

.1 Install the new control panel adjacent to the existing MCC as shown on the drawings.

.2 Provide new conduit and wiring between the new control panel and the existing MCC and LP-100 and connect as required to re-establish all existing control functions.

PART 1: PRODUCTS

1.1 PANELBOARDS

.1 Panelboards shall be manufactured by Square D, Cutler Hammer, Siemens or approved equal.

.2 Panelboard interiors shall be shall be rated for 22,000A symmetrical.

.3 Panelboard bussing shall be aluminum suitable for bolt on breakers.

.4 Each breaker shall be identified with a lamacoid nameplate.

.5 Provide 2 keys for each panelboard.

.6 Provide a lamacoid nameplate identifying the panel designation.

1.2 BREAKERS

.1 Bolt on moulded case circuit breakers; quick make, quick break type for manual operation, rated 250V or 600V 3P as may be applicable.

.2 Common trip breakers for single handle for multi-pole applications.

PART 2: EXECUTION

1.1 INSTALLATION

.1 Install panelboards as indicated and mount securely, plumb, true and square to adjoining surfaces and building lines.

.2 Install panelboards on plywood backboards, painted with 1 coat of primer and 2 coats of ASA 61, grey oil based paint.