Part 1 General

1.1 SECTION INCLUDES

.1 Overhead sectional door.

.2 Operating hardware and tracks.

.3 Electric operator.

1.2 RELATED SECTIONS

.1 Section 06 11 10 – Wood Framing.

.2 Section 07 92 10 - Joint Sealing.

.3 Section 08 71 10 – Glass and Glazing.

1.3 REFERENCES

.1 ASTM A123/A123M-11 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

.2 ASTM A653/A653M-11 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.3 CSA-C22.1-12 - Canadian Electrical Code, Part I (22th Edition), Safety Standard for Electrical Installations.

.4 CAN/CSA-C22.2 No. 100-04 (R2009) - Motors and Generators.

.5 NEMA MG1-2011 - Motors and Generators.

1.4 SYSTEM DESCRIPTION

.1 Panels: Insulated steel, flush panel sections; with insulated windows.

.2 Lift Type: Standard lift, Low headroom operating style with track and hardware.

.3 Operation: Electric, with manual override (existing electric operators to be re-used).

1.5 SUBMITTALS FOR REVIEW.

.1 Section 01 33 00: Submission procedures.

.2 Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, installation details.

.3 Product Data: Provide component construction, anchorage method, hardware.

1.6 SUBMITTALS FOR INFORMATION

.1 Section 01 33 00: Submission procedures.

.2 Installation Data: Manufacturer's installation requirements, special procedures and perimeter conditions requiring special attention.

1.7 CLOSEOUT SUBMITTALS

.1 Section 01 78 10: Submission procedures.

.2 Operation and Maintenance Data:

.1 Include electrical control adjustment.

.2 Include Operations & Maintenance Manuals.

.3 Warranty Documentation: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.8 QUALITY ASSURANCE

.1 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three (3) years experience.

.2 Installer Qualifications: Company specializing in performing the work of this section with minimum three (3) years documented experience and approved by the manufacturer.

1.9 REGULATORY REQUIREMENTS

.1 Conform to applicable code for motor and motor control requirements.

.2 Conform to UL 325.

.3 Products Requiring Electrical Connection: Listed and classified by CSA/ULC as suitable for the purpose specified.

1.10 WARRANTY

.1 Section 01 78 10: Warranties.

.2 Provide five (5) year manufacturer's warranty for degradation of finish, including cracking, rust through or delamination.

.3 Provide five (5) ten (10) year manufacturer's warranty for electric operating equipment.

Part 2 Products

2.1 MANUFACTURERS

.1 Sectional Overhead Door: Thermalex 2000, Series TX450-20 manufactured by Upwardor.

.2 Steelcraft Therm-o-dor.

2.2 MATERIALS

.1 Sheet Steel: ASTM A653/A653M galvanized to Z180 (G60; stucco embossed, pre-coated with silicone polyester finish.

.2 Aluminum Extrusions: ASTM B221M (ASTM B221), 6063-T6 alloy and temper.

.3 Glass: Float, CAN/CGSB-12.3, clear, 3 mm (1/8 inch) minimum thickness; insulated sealed units.

.4 Insulation: Foam-type polyurethane core; nominal RSI-2.8 (R-16) thermal value.

.5 Metal Primer Paint: Zinc chromate.

2.3 PANEL CONSTRUCTION

.1 Panels: Steel construction; outer steel sheet of 0.46 mm (26 gauge) thickness, flush - no ribs profile; inner steel sheet of 0.46 mm (26 gauge) thickness, flush - no ribs profile; continuous sheet steel reinforcement strips, 32 mm (1-1/4 inch) wide by 0.91 mm (20

gauge) thick mounted top and bottom for hinge mounting, tongue and groove weather joints at meeting rails; insulated.

.2 Door Thickness: Nominal 45 mm (1-3/4 inches) thick.

.3 Glazing: Double insulating sealed unit windows with moulded plastic (PVC) frame; nominal size 600 x 300 m (24 x 12 inches).

2.4 DOOR HARDWARE COMPONENTS

.1 Track:

.1 Rolled galvanized steel with Z180 (G60) zinc coating designation, 2.7 mm (12 gauge) base metal thickness mounted to continuous one-piece galvanized angle, minimum 1.9 mm (14 gauge) thickness or adjustable galvanized steel jamb brackets, minimum 3 mm (11 gauge) thick.

.2 Track size 50 mm (2 inch) with maximum 300 mm (12 inch) track radius.

.2 Hinge and Roller Assemblies:

.1 Heavy duty hinges and adjustable roller holders of galvanized steel.

.2 Rollers: 50 mm (2 inch) floating hardened steel bearing rollers, located at top and bottom of each panel, each side.

.3 Bottom Bracket: Galvanized steel, minimum 2.66 mm (12 gauge) thick with removable aluminum roller holder.

.3 Lift Mechanism: Torsion springs fitted on 25 mm (1 inch) cold rolled solid shaft, keyed and mounted on ball bearings, and supported by heavy gauge gusset plates; oil tempered with 50,000 cyclage.

.4 Cable Drums: Suitable for lift type specified, with galvanized steel aircraft grade lifting cables designed to suit door weight at a safety factor of 5:1.

2.5 ACCESSORIES

.1 Sill Weatherstripping: Low temperature resilient vinyl astragal, one-piece; fitted to retainer at bottom of door panel, full length contact.

.2 Jamb Weatherstripping: Roll formed end stile section full height of jamb, fitted with resilient weatherstripping, placed in moderate contact with door panels.

.3 Head Weatherstripping: Low temperature, one-piece full length top retainer/seal.

.4 Panel Joint Weatherstripping: Bulb-type, one-piece full length resilient weatherseal.

2.6 DOOR OPERATOR

Note regarding door operator: existing overhead door operator to be re-used for new doors. All components associated with electric operation that can reasonably be relocated to new doors are to be reused. All components (such as wiring or entrapments sensor ‘eye’s) that may not be reasonably relocated are to be supplied and installed new.

.1 Manufacturers:

.1 Product: LiftMaster RBH 7511.

.2 Product: Pow'Air'Dor, manufactured by Upwardor.

.3 Substitutions: Alternative products as per Section 01 60 00.

.2 Operation:

.1 Hoist style commercial door operator

.1 Floor level chain hoist with electrical interlock.

.2 Adjustable friction clutch.

.3 Maximum run timer.

.4 Delay on reverse circuit.

.5 Entrapment protection: 2 photos eyes.

2.7 ELECTRICAL CHARACTERISTICS

.1 Electrical Characteristics:

.1 Motor: 3/4 hp, manually operable in case of power failure, transit speed of 300 mm (12 inches) per second.

.2 Power Supply: 115 volts, single phase, 60 Hz.

.3 Refer to Electrical drawings.

.2 Motor: Continuous-duty high-starting torque motor.

.3 Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Enclose terminal lugs in terminal box sized to CSA-C22.1.

2.8 FINISHES

.1 Exterior Surfaces: Precoat, colour Charcoal Grey (to match existing doors).

.2 Interior Surfaces: Precoat, colour Bright White.

.3 Aluminum Window Extrusions: Painted Bright White.

Part 3 Execution

3.1 EXAMINATION

.1 Section 01 70 00: Verify existing conditions before starting work.

.2 Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

.3 Verify that electric power is available and of the correct characteristics.

3.2 PREPARATION

.1 Prepare opening to permit correct installation of door unit to perimeter air and vapour barrier seal.

.2 Apply primer to wood frame.

3.3 INSTALLATION

.1 Install door unit assembly to manufacturer's written instructions.

.2 Anchor assembly to wall construction and building framing without distortion or stress.

.3 Securely brace door tracks suspended from structure. Secure tracks to structural members only.

.4 Fit and align door assembly including hardware.

.1 Install operator including electrical motors, controller units, pushbutton stations, relays and other electrical equipment required for door operation.

.2 Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

.3 Coordinate installation of sealants and backing materials at frame perimeter.

.4 Install perimeter trim.

3.4 ERECTION TOLERANCES

.1 Maximum Variation from Plumb: 1.5 mm (1/16 inch).

.2 Maximum Variation from Level: 1.5 mm (1/16 inch).

.3 Longitudinal or Diagonal Warp: Plus or minus 3 mm (1/8 inch), from 3 m (10 ft) straight edge.

.4 Maintain dimensional tolerances and alignment with adjacent work.

3.5 ADJUSTING

.1 Lubricate and adjust door assembly to smooth operation and in full contact with weatherstripping.

3.6 CLEANING

.1 Clean doors, frames, and glass.

.2 Remove temporary labels and visible markings.

3.7 PROTECTION OF FINISHED WORK

.1 Protect installed work.

.2 Do not permit construction traffic through overhead door openings after adjustment and cleaning.

END OF SECTION