PART 1 General

1.1 ADMINISTRATIVE

.1 Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

.2 Do not proceed with Work affected by submittal until review is complete.

.3 Present shop drawings, product data, samples and mock-ups in SI Metric units.

.4 Where items or information is not produced in SI Metric units converted values are acceptable.

.5 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

.6 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.7 Verify field measurements and affected adjacent Work are co-ordinated.

.8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.

.9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.

.10 Keep one reviewed copy of each submission on site.

.11 Submit number of hard copies specified for each type and format of submittal and also submit in electronic format as pdf files. Forward pdf, NMSEdit Professional spp, MS Word, MS Excel, MS Project and Autocad dwg files on USB compatible with PWGSC encryption requirements or through email or alternate electronic file sharing service such as ftp, as directed by Departmental Representative.

1.2 SHOP DRAWINGS AND PRODUCT DATA

.1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.

.2 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Ontario of Canada.

.4 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

.5 Allow ten working days for Departmental Representative's review of each submission.

.6 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Amount. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.

.7 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.

.8 Accompany submissions with transmittal letter, in duplicate, containing:

- .1 Date.
- .2 Project title and number.
- .3 Contractor's name and address.
- .4 Identification and quantity of each shop drawing, product data and sample.
- .5 Other pertinent data.

.9 Submissions shall include:

- .1 Date and revision dates.
- .2 Project title and number.
- .3 Name and address of:
  - .1 Subcontractor.
  - .2 Supplier.
  - .3 Manufacturer.
- .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .5 Details of appropriate portions of Work as applicable:
  - .1 Fabrication.

.2 Layout, showing dimensions, including identified field dimensions, and clearances.
.3 Setting or erection details.
.4 Capacities.
.5 Performance characteristics.
.6 Standards.
.7 Operating weight.
.8 Wiring diagrams.
.9 Single line and schematic diagrams.
.10 Relationship to adjacent work.

.10 After Departmental Representative's review, distribute copies.

.11 Submit one transparency on plastic film, three hard copies and one electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.

.12 Submit three hard copies and one electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.

.13 Submit three hard copies and one electronic copy of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
.1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
.2 Testing must have been within 3 years of date of contract award for project.

.14 Submit three hard copies and one electronic copy of certificates for requirements requested in specification Sections and as requested by Departmental Representative.
.1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
.2 Certificates must be dated after award of project contract complete with project name.

.15 Submit three hard copies and one electronic copy of manufacturers' instructions for requirements requested in specification Sections and as requested by Departmental Representative.
.1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.

.16 Submit three hard copies and one electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections

and as requested by Departmental Representative.

.17 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.

.18 Submit three hard copies and one electronic copy of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.

.19 Delete information not applicable to project.

.20 Supplement standard information to provide details applicable to project.

.21 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, transparency or copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

.22 The review of shop drawings by Public Works and Government Services Canada (PWGSC) is for sole purpose of ascertaining conformance with general concept.

.1 This review shall not mean that PWGSC approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.

.2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

1.3 SAMPLES

.1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.

.2 Deliver samples prepaid to Departmental Representative's business address.

.3 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.

.4 Where colour, pattern or texture is criterion, submit full range of samples.

.5 Adjustments made on samples by Departmental Representative are not

intended to change Contract Amount. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.

.6 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.

.7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.4 MOCK-UPS

.1 Erect mock-ups in accordance with Section 01 45 00.

1.5 PHOTOGRAPHIC DOCUMENTATION

.1 Submit electronic copy of colour digital photography in jpg format, fine resolution monthly with progress statement and as directed by Departmental Representative.

.2 Project identification: name and number of project and date of exposure indicated.

.3 Number of viewpoints: 8 locations.
.1 Viewpoints and their location as determined by Departmental Representative.

.4 Frequency of photographic documentation: weekly.
.1 Upon completion of: excavation, foundation, framing and services before concealment, of Work, and as directed by Departmental Representative.

1.6 CERTIFICATES AND TRANSCRIPTS

.1 Immediately after award of Contract, submit Workers' Safety and Insurance Board Experience Report.

1.7 FEES, PERMITS AND CERTIFICATES

.1 Provide authorities having jurisdiction with information requested.

.2 Pay fees and obtain certificates and permits required.

.3 Furnish certificates and permits.

.4 Submit acceptable certificate stating that suspended ceiling systems provide adequate support for electrical fixtures, as required by current bulletin of Electrical Inspection Department of Ontario Hydro.

PART 2 PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Division 26 - Electrical: Supply and connection of operator power.

1.2 REFERENCES

.1 American National Standards Institute (ANSI).

.1 ANSI A216.1 - 1977 - Specifications for Sectional Overhead Type Doors.

1.3 QUALITY ASSURANCE

.1 Sectional overhead doors and all accessories and components required for a complete operable installation manufactured as a system from one manufacturer.

1.4 SUBMITTALS

.1 Submit shop drawings and product data in accordance with Section 01 33 00 – Submittal Procedures.

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

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

.4 Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

.5 Maintenance Data: Include data for shaft and gearing, lubrication frequency, spare part sources.

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

1.5 QUALITY ASSURANCE

.1 Perform Work in accordance with ANSI A216.1, Application Type Commercial.

.2 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum ten (10) years documented experience.

.3 Installer: Company specializing in performing the work of this section with minimum ten (10) years documented commercial experience and approved by manufacturer.

Part 2 Products

2.1 ACCEPTABLE MANUFACTURER

.1 Motor-operated insulated steel doors: Overhead Door Company Thermacore 592, Richards-Wilcox Thermatite ADV200, Wayne-Dalton Thermospan 200, Upwardor Thermalex TX500.

2.2 MATERIALS

.1 Door sections: 51 mm thickness thermally broken steel-polyurethane-steel sandwich construction.

.2 Steel skins: nominal 0.41 mm galvanized steel sheet, factory primed finish.

.3 End caps: 16 gauge, hot-dipped galvanized steel.

.4 Insulation: foamed-in-place polyurethane core, minimum RSI 3.1.

.5 Finish: Factory painted finish, white colour.

.6 Track: commercial duty hardware, low headroom design, 75 mm track size with graduated wedge type closing, fabricated with hot-dipped galvanized steel components. Provide continuous galvanized steel angle track supports welded to jambs. Secure track assemblies for back-to-back doors as a single unit.

.7 Hinge and roller assembly: full floating, grease packed, hardened steel, ball bearing minimum 75 mm diameter, fabricated with hot-dipped galvanized steel components.

.8 Counterbalance: helically wound torsion springs with 50,000 heavy duty cycle rating, aluminum drums with galvanized steel aircraft cables, solid steel shaft, cast steel pulleys.

.9 Weatherstripping: factory installed top seal at header, continuous joint seals between sections, site installed aluminum extrusions with flap seal at jambs.

.10 Locking: Provide manufacturer’s standard throw-bolt interior locking assembly to engage each track; equip for padlock supplied by others.

2.3 ELECTRIC OPERATOR

.1 Electrical jack shaft side mounted operator.

.1 Motor: 115/230 V, single phase, 1/2 HP. Verify electrical characteristics with Division 26.

.2 Operation:

.1 Hard wired pushbutton stations: 24 VAC control voltage, surface mounted, with "OPEN-STOP-CLOSE" designations on pushbuttons. Mount adjacent to doors, height as directed by Departmental Representative.

.2 Emergency operation by chain during power interruption.

.3 Bottom Safety Bar: electro-mechanical reversing edge, to reverse door to open position when coming in contact with object on closing cycle, integral weatherstripping.

.4 Infrared Safety Sensors: low-voltage system consisting of infrared transmitter/receiver designed to reverse door closing upon interruption of IR beam. Mount on door jambs to either side of door opening, mounting height maximum 300 mm above finished floor. All wiring to be run in conduit.

.5 Mounting brackets: designed and fabricated by door installer to support operator, mounted as directed by Departmental Representative. Fabricate from hot dipped galvanized steel angles, size and gauge to suit conditions.

Part 3 Execution

3.1 INSTALLATION

.1 Install doors and hardware in accordance with manufacturer's instructions.

.2 Rigidly support rail and operator and secure to supporting structure.

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

.4 Install infrared safety system.

.5 Lubricate and adjust door operating components to ensure smooth opening and closing of doors.

.6 Adjust weatherstripping to form a weathertight seal.

3.2 ERECTION TOLERANCES

.1 Maximum Variation from Plumb: 1.5 mm.

.2 Maximum Variation from Level: 1.5 mm.

.3 Longitudinal or Diagonal Warp: Plus or minus 3 mm from 3 m straight edge.

.4 Maintain dimensional tolerances and alignment with adjacent work.

3.3 ADJUSTING

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

3.4 CLEANING

.1 Clean doors and frames.

.2 Remove temporary labels and visible markings.

3.5 DEMONSTRATION AND TRAINING

.1 Test each door for proper operation using manual chain hoists, push button stations and remote controls.

.2 Instruct Departmental Representative and Owner's representative in proper operation of systems, including safety features. Provide instructions for Owner-performed maintenance, if any.

END OF SECTION