

## **DIVISION 14 – CONVEYING EQUIPMENT**

### **SECTION 14202**

#### **ELEVATORS AND WHEELCHAIR LIFTS**

##### **PART 1. GENERAL**

###### **1.1 SECTION INCLUDES**

- A. Commercial wheelchair lifts.

###### **1.2 RELATED SECTIONS**

- A. Division 16 Sections for electrical service for elevators to and including disconnect and fused switches at machine room.
- B. Section 03300 - Cast-in-Place Concrete: Concrete for elevator machine foundation, and pit.
- C. Section 06100 - Rough Carpentry: Hoistway framing, building-in hoistway door frames and overhead hoist beams.
- D. Section 08210 - Wood Doors: Hoistway doors.
- E. Section 08710 - Door Hardware.
- F. Section 09260 - Gypsum Board Assemblies: Gypsum shaft walls.
- G. Section 09650 - Resilient Flooring: Floor finish in cab.
- H. Section 09686 - Carpet: Floor finish in cab.
- I. Section 09900 - Paints and Coatings: Interior transparent wood finish in cab.
- J. Section 13850 - Detection and Alarm: Fire and smoke detectors and interconnecting devices.

###### **1.3 REFERENCES**

- A. American National Standards Institute (ANSI) B-29.2 - Chain Standards for Inverted Tooth (Silent) Chains and Sprockets.
- B. American Society of Mechanical Engineers (ASME) A17.1 - Safety Code for Elevators and Escalators.
- C. American Society of Mechanical Engineers (ASME) A18.1 - Safety Standard for Platform and Stairway Chair Lifts.
- D. CSA B44.1 - Elevator and Escalator Electrical Equipment.
- E. CSA B355 - Lifts for Persons with Physical Disabilities.
- F. CSA B613 - Private Residence Lifts for Persons with Physical Disabilities.
- G. U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)".
- H. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- I. NFPA 70 - National Electric Code.
- J. CSA - National Electric Code.

#### 1.4 REQUIREMENTS OF REGULATORY AGENCIES:

- A. Fabricate and install work in compliance with applicable jurisdictional authorities.
- B. File shop drawings and submissions with local authorities as the information is made available. Company pre-inspection and jurisdictional authority inspections and permits are to be made on timely basis as required.

#### 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Shop Drawings: Provide a complete layout of lift equipment detailing dimensions and clearances as required.
- D. Selection Samples: For each finish product specified requiring selection of color or finish, two complete sets of color charts representing manufacturer's full range of available colors and patterns.

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications:
  - 1. Skilled tradesmen shall be employees of the installing contractor approved by the manufacturer, with demonstrated ability to perform the work on a timely basis.
  - 2. Execute work of this section only by a company that has adequate product liability insurance.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

#### 1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install systems under environmental conditions outside manufacturer's absolute limits.

#### 1.9 WARRANTY

- A. Coverage - this warranty applies to the repair or replacement, at Manufacturer's option, of parts that fail due to defective material or workmanship. Manufacturer may, at its option, provide factory reconditioned parts. This warranty is provided to the Authorized Dealer on behalf of the final purchaser of the product and is not transferable. The Manufacturer's warranty does not cover labor charges for the removal, repair or replacement of warranty parts but such costs may be covered for a period of time by Authorized Dealer's warranty, which is provided to purchaser separately.

- 1. The manufacturer shall offer a 36-month limited warranty on parts from date of shipment.

### PART 2. PRODUCTS

#### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Savaria, which is located at: 2 Walker Drive, Brampton, ON, Canada, L6T 5E1; Toll Free Tel: 800-661-5112; Tel: 905-791-5555; Fax: 905-791-2222; Email: [request info](mailto:request@savaria.com); Web: [www.savaria.com](http://www.savaria.com)

- B. Substitutions: Acceptable Manufacturer: Garaventa Lift, United States P.O. Box 1769, Blaine, WA 98231 – 1769 1-800-663-6556, (604) 594-0422 , productinfo@garaventalift.com
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

## 2.2 COMMERCIAL WHEELCHAIR LIFT

- A. Hydraulic Vertical Platform Lifts: Savaria V1504-STD.
- B. Hydraulic Vertical Platform Lift: The lift described here, manufactured by Savaria Lifts Inc, is a vertical platform lift consisting of a hydraulic tower with a lifting platform. The platform is made to accommodate a wheelchair user or a person with impaired mobility. The lift can be used indoor or outdoor (with optional package) and in commercial or residential applications.
- C. Work described in this section includes providing equipment, incidental material and labor required for complete, operable roped hydraulic wheelchair lift installation. Lifts shall be erected, installed, adjusted, tested and placed in operation by lift system manufacturer, or manufacturer's authorized installer.
  - 1. Lifts shall be in accordance:
    - a. ASME A18.1 and ADAAG compliant (USA)
    - b. ASME A18.1 and A117.1 compliant (USA)
    - c. ASME 18.1 only (USA)
    - d. CSA B355 (Canada)
- D. The following preparatory work to receive the lifts specified in this section is part of the work of other sections:
  - 1. Permanent 120 VAC, 20 amp single phase power to operate lift to be provided from a lockable fused/cartridge type disconnect switch with auxiliary contacts for battery operation. Refer to drawings for permanent power specifications and location of disconnects. Temporary power may be provided to expedite installation of lift.
  - 2. Provide a plumb and square hoistway with smooth interior surfaces, including fascias or furring of the hoistway interior.
  - 3. Provide rough openings per lift contractor's shop drawings.
  - 4. Provide substantial, level pit floor slab as indicated on the lift contractor's shop drawings.
- E. Characteristics:
  - 1. Rated Load: 750 lb (340 kg).
  - 2. Rated Speed: 20 fpm (0.10 m/s).
  - 3. Car Dimensions:
    - a. 36 inches W by 54 inches D (914 mm by 1371 mm) – Standard
  - 4. Levels Serviced:
    - a. 2.
  - 5. Car Configuration:
    - a. 90 degree exit. (front and side)
  - 6. Travel: +/- 12 feet. Maximum of 14' in US and 23' in Canada.
  - 7. Pit Depth:
    - a. 3" – Standard
  - 8. Powder Coat Finish
    - a. Optional Color – From manufactures color chart
  - 9. Operation: Constant pressure.
  - 10. Power Supply: 110 volt, 20 amp, 1 phase, 60 Hz.
  - 11. Drive System: 2:1 Roller chain hydraulic.
  - 12. Emergency Power:
    - a. Battery operation in down direction – Standard.
  - 13. Controller: Relay logic based controller.
  - 14. Motor/Pump: 1 HP (112 kw), gear type
  - 15. Manual Lowering: Outside the hoistway at lower landing.
- F. Car Enclosure:
  - 1. Cab Configuration:
    - a. Side Guards of platform shall have a steel frame with a powder coat finish and steel panel inserts to a minimum of 42 inches (1067 mm) high.

- G. Call Stations: Provide flush, surface or door frame mounted landing call/send stations.
  - 1. Call stations will be:
    - a. Keyless
- I. Car Operation:
  - 1. Car Operating Panel shall consist of constant pressure buttons, emergency stop/alarm button, on/off key switch (when applicable) and emergency LED light mounted on a removable stainless steel panel (Type 304 #4 Stainless Steel Finish).
- J. Pumping Unit and Control:
  - 1. The pumping unit and control shall be enclosed in the tower. The controller and pump unit shall be pre-wired and tested prior to shipment. The controller is to be relay logic based operation for ease of maintenance and service. Pump unit shall incorporate the following features:
    - 2. Adjustable pressure relief valve.
    - 3. Manually operable down valve to lower lift in the event of an emergency. This valve shall be activated from outside of the hoistway through a keyed box.
    - 4. Pressure gauge isolating valve, manually operable.
    - 5. Gate valve to isolate cylinder from pump unit.
    - 6. Electrical solenoid for down direction control.
  - 7. Emergency Operation - A manual lowering device shall be located outside the hoistway in a lockable box positioned at a lower landing.
- K. Cylinder And Plunger:
  - 1. The cylinder shall be constructed of steel pipe of sufficient thickness and suitable safety margin. The top of the cylinder shall be equipped with a cylinder head with an internal guide ring and self-adjusting packing.
  - 2. The plunger shall be constructed of a steel shaft of proper diameter machined true and smooth. The plunger shall be provided with a stop electrically welded to the bottom to prevent the plunger from leaving the cylinder.
- L. Roller Chains: Two No.50 roller chains with 5/8 inch (16 mm) pitch. Minimum breaking strength 6100 lb (2773 kg) each.
- M. Leveling Device:
  - 1. The lift shall be provided with an anti-creep device which will maintain the carriage level within 1/2 inch (12 mm) of each landing.
  - 2. All limit switch and leveling device switches shall be located in a position to be inaccessible to unauthorized persons. They shall be located behind the mast wall and be accessible through removable panels.
- N. Guide Yoke: The 2:1 guide yoke/sprocket assembly shall be supplied with idler sheaves, roller guide shoes, bearings and guards.
- O. Terminal Stopping Devices: Normal terminal stopping devices shall be provided at top and bottom of runway to stop the car positively and automatically.
- P. Guide Rails and Brackets: Steel 'C' guide rails and brackets shall be used to guide the platform and sling. Guide rails shall form part of the structural integrity of the unit and be integral to the mast enclosure, ensuring stability and minimum platform deflection when loaded.
- Q. Car Sling: Car sling shall be fabricated from steel tubing 44 inches (1116 mm) high with adequate bracing to support the platform and car enclosure. Roller guide shoes shall be mounted on the top and bottom of the car sling to engage the guide rails. Guide shoes shall be roller type with 3 inches (76 mm) diameter wheels. Nylon guide shoes shall not be used for better ride quality and durability.
- R. Wiring: All wiring and electrical connections shall comply with applicable codes. Insulated wiring shall have flame-retardant and moisture-proof outer covering and shall be run in conduit or electrical wire ways if located outside the unit enclosure. Quick disconnect harnesses shall be used when possible.

### PART 3. EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until hoistway and machine room has been properly prepared.
- B. Site dimensions shall be taken to verify that tolerances and clearances have been maintained and meet local regulations.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding. PREPARATION
- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 ELEVATOR INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install the components of the elevator system that are required and that are required by jurisdictional authorities to license the elevator.
- A. Trained employees of the elevator contractor shall perform installation work.
- B. Adjust elevator for proper operation and clean unit thoroughly.
- C. Instruct users in operating procedures and owner's maintenance person in trouble-shooting and maintenance procedures.

### 3.4 LIFT INSTALLATION

- A. Install all the components of the lift system that are specified in this section to be provided, and that are required by jurisdictional authorities to license the lift.
- B. Trained employees of the lift contractor shall perform all installation work of this section.
- C. Adjust lift for proper operation and clean unit thoroughly.
- D. Instruct users in operation procedures and Owner's maintenance person in trouble-shooting and maintenance procedures.

### 3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION - 14202