

Part 1- General

1.1 SCOPE

To furnish all labor, materials and equipment necessary or required to fully complete the installation of the elevator as indicated on the Drawings and Specifications. This suggested specification is intended to cover the complete installation of the Nationwide Lifts Freedom 750 Residential Elevator design.

1.2 SYSTEM DESCRIPTION

The elevator assembly shall consist of a power unit, car, guide system, 1:2 cable hydraulic lifting device, control system, signals and alarms, electrical wiring, and parts and accessories necessary to provide required performance, operation, code and safety requirements.

1.3 QUALITY ASSURANCE

1.3.1

The elevator/lift shall meet or exceed the applicable regulations of all governing agencies and be in conformance with the applicable sections of the most current edition of the following codes and standards:

- a) ASME A17.1 "Safety Code for Elevators and Escalators; "Private Residence Elevators".
- b) ICC/ANSI A117.1-1998 "Accessible and Usable Buildings and Facilities".
- c) NFPA 70-1999 "The National Electric Code" (NEC).
- d) ADAAG "Americans With Disabilities Act Accessibility Guidelines" (where applicable).
- e) CSA B44.1/ASME A17.5 "Elevator and Escalator Electrical Equipment"
- f) Local codes and regulations, as applicable.

1.3.2 Requirements of the Regulatory Agencies

Requirements of the Regulatory Agencies

- a) Fabricate and install work in compliance with all applicable jurisdictional authorities.
- b) File shop drawings and submissions to local authorities as the information is made available. Company pre-inspection and jurisdictional authority inspections and permits are to be made on a timely basis as required. Work will include all inspections and re-inspections that are required to ensure licenses are issued.

1.3.3 Subcontractor Qualifications

- a) Execute work of this specification only by a contractor/company who has adequate product and public liability insurance in excess of one million dollars.
- b) Skilled tradesmen must be employees of the contractor and perform the work on a timely basis. Employees must be trained by the manufacturer and be supervised by the elevator contractor.

1.3.4 Substitutions

No substitutions will be considered unless written request for approval has been submitted by the bidder and received by the architect at least 10 days before the receipt of bids. Each such request shall include a complete description of the proposed substitute including drawings, test data, photographs, and any other information needed for consideration.

Part 2- Preparatory Work by Other**2.1**

The following preparatory work to accommodate/receive the elevator is to be done by others:

2.1.1

Provide power unit machine room to meet applicable Codes and Standards.

2.1.2

Permanent power (220 Volt, Single Phase, 30 Amp or 208 Volt, 3 Phase, 30 Amp.) to operate the elevator to be provided to a Lockable Fused/Cartridge Type Disconnect Switch with auxiliary contact/switch for emergency battery lowering. Refer to architectural drawings for permanent power specifications and location of disconnects.

2.1.3

Provide 110-volt lighting supply and disconnect. Refer to architectural drawings for permanent power specifications and location of disconnects.

2.1.4

Provide an enclosed, plumb and square hoist-way with smooth interior surfaces. Include for fascias or furring of hoist-way interior where applicable.

2.1.5

- a) Provide doors, frames, and door hardware.
- b) Provide rough openings as per elevator contractor's drawings.

2.1.6

Provide substantial, level pit floor slab to support loads indicated on elevator contractor's shop drawings.

2.1.7

Provide adequate support for guide rail fastenings.

2.1.8

Provide pit water proofing or sump pump, if required (see elevator contractor for location).

2.1.9

Provide 8" (203 mm) pit.

2.1.10

Provide 92" (2337 mm) minimum overhead (distance from floor at upper level to underside of roof).

Part 3- Submittals

3.1 SHOP DRAWINGS (presentation)

The shop drawings shall show a complete layout of the elevator equipment detailing dimensions, clearances and location of machinery. Including the following:

- a) Drawings show the dimensions including plans, elevations, and sections to show equipment locations.
- b) Load and reaction drawings shall be provided by the elevator manufacturer and detailed on drawings.

Part 4- Product Data

4.1 MANUFACTURER/PRODUCT

The elevator shall be the Nationwide Lifts Freedom 750 Residential Elevator manufactured by Savaria Concord Lifts, Inc. Toll Free (888) 323-8755

Dealer:	Name	Number
Rated Load:	750 lbs. (340 kg.) or 1000 lbs. (454 kg.)	_____
Rated Speed:	36-fpm (0.18 m/s) nominal	
Car Dimensions:	36" W x 48" Depth (914 W x 1220 D mm)	
Operation:	Automatic	
Gate Type:	Horizontally collapsible, accordion style with 3 vision panels	
Power Supply:	220 Volt, Single Phase, 30 Amps or 208 Volt, 3 Phase, 30 Amps	
Travel Distance:	50' (15.2 m) max:	
Levels Served:	Maximum 5:	_____
Number of Openings:	Two (2) Maximum	_____
Lighting Supply:	110 Volt, 1 Phase, 60 Cycle, 15 Amps	
Jack Type:	1:2 Cable Hydraulic	
Pump Type:	Submersible with Variable Speed Valve Leveling	
Device Type:	Magnetic	

4.2 CAR ENCLOSURE**4.2.1 WALLS**

1/2" (13 mm) Melamine panels and black anodized aluminum trim.

4.2.2 CEILINGS

Architectural white painted non-removable steel frame with four (4) recessed incandescent down lights

4.2.3 FLOOR

Plywood sub-flooring.

4.2.4 HANDRAIL

Black painted oak handrail located on control panel.

4.2.5 EMERGENCY OPERATION

The elevator car shall be equipped with a battery-powered emergency lowering device and alarm that can be actuated on the failure of normal building power supply. Battery will be rechargeable type with an automatic recharging system.

4.2.6 EMERGENCY LIGHT

The car shall be equipped with an integral emergency light that will illuminate automatically in the event of a main power failure.

4.2.7 CAR OPERATING PANEL

Car operating panel shall consist of metal push buttons with halo lighting for each landing, an emergency stop button, an alarm button and a key switch. The key is removable in both the on and off position. All mounted on a #4 finished stainless steel panel. Car station panel is hinged.

4.2.8 DIGITAL FLOOR INDICATOR

Digital floor indicator located in the control panel will display the location and direction of travel (floor number) of the elevator in the shaft.

4.2.9 CAR LIGHTING

The car lighting shall consist of four (4) low voltage recessed incandescent down lights. The failure of one lamp shall not cause the remaining lamp to extinguish.

4.2.10 AUTOMATIC LIGHTS

Overhead lights in the car compartment shall turn ON automatically when the elevator door is opened and to stay on while the elevator is in use. The elevator lights will shut off by a timer when the elevator is not in use.

4.3 DOOR LOCKS

Locks shall be electrically operated and electrically released at floor level and will remain unlocked until hall or car call is placed. When released, the locks' lag member will drop down and close the electrical circuitry to ensure the elevator cannot move unless the door is closed and locked (a true interlock).

4.4 HALL CALL STATIONS

Provide a keyless hall call station with an illuminated call button and stainless steel cover plate for each landing

4.5 PLATFORM TOE GUARD

A platform toe guard shall be provided at each car entrance opening to extend below the car entrance opening for safety.

4.6 LEVELING DEVICE

- a) The elevator shall be provided with a 2-way leveling device, which will maintain the car within 1/2" (13mm) of the landing.
- b) Leveling device sensors shall be located in a position to be inaccessible to unauthorized persons.

4.7 CAR GATE

Horizontally collapsible accordion style car gate with rattan panels and three (3) clear acrylic vision panels car gate shall enclose each car entrance.

4.8 HYDRAULIC POWER UNIT

- a) The pump and motor shall be the submersible type installed inside the oil tank.
- b) The controller shall be integrally mounted on the power unit frame and pre-wired and tested before shipment.
- c) Control circuitry to be "Programmable Logic Controls" and located at the top of the oil tank.
- d) The power unit control valve shall be a variable speed proportional valve type that includes all hydraulic control valving inherently.
This valve shall incorporate the following features:
 - (i) Up and down acceleration and deceleration speed adjustment for smooth starts and stops.
 - (ii) Smooth stops at each landing shall be an inherent feature of the valve.
 - (iii) Adjustable pressure relief valve.
 - (iv) Manually operating DOWN valve to lower elevator in an emergency.

- (v) Pressure gauge indicating in P.S.I. and Bars.
- (vi) Gate valve to isolate cylinder from pump unit.
- (vii) Negative pressure switch.

4.9 CYLINDER AND PLUNGER

4.9.1

The cylinder shall be constructed of steel pipe of a 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.

4.9.2

The plunger shall be constructed of a steel shaft of a 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.

4.10 CABLE

Minimum of two 3/8" (10 mm) IWRC Galvanized Aircraft Cables.
Minimum breaking strength of 14,400 lbs. each.

4.11 SAFETY DEVICE

A "slack/broken cable" safety device shall be supplied which will stop and sustain the elevator and its rated load, if either of the hoisting cables become slack or breaks. The safety device shall be resettable by the operation of the elevator in the upward direction. A switch shall be mounted in such a position as to sense the operation of the safety device, and will open the safety circuit to the controller to prevent operation of the elevator in either direction.

4.12 GUIDE YOKE

The 1:2 guide yoke/sheave arrangement shall be supplied with a sheave, guide shoes, roller bearings and adjustable cable guards. The sheave shall be finished with rounded grooves to fit the cables.

4.14 FINAL LIMIT SWITCH

The elevator shall be equipped with a final limit switch to cut off all power to the elevator if the upper normal terminal stopping devices fail.

4.15 GUIDE RAILS AND BRACKETS

4.15.1

Steel 8lb/ft "T" guide rails and brackets shall be securely fastened to the building structure.

4.15.2

Brackets shall securely hold the guides in a plumb and true position regardless of car loading.

4.15.3

Guides shall be bolted through the hoistway enclosure with back-up plates, washers and nuts. Subject to architects' alterations and approval.

4.16 CAR SLING**4.16.1**

Car sling shall be fabricated from steel members with adequate bracing to support the platform and cab.

4.16.2

The buffer-striking member on the underside of the car must stop the elevator before the jack plunger reaches its down limit of travel.

4.16.3

Guide shoes to be solid slipper type with polyurethane inserts.

4.17 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 wireways. Traveling cables shall be flexible and suitably suspended to relieve strain.

Part 5 - Execution**5.1 EXAMINATION**

All site dimensions shall be taken to ensure that tolerances and clearances have been maintained and meet local regulations.

5.2 PREPARATION

Pre-inspect the construction and service requirements for "Work by Others." These requirements will be included in drawings, diagrams, engineering data sheets and special instructions before the work commences.