SECTION 14 42 13

INCLINE WHEELCHAIR LIFTS

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\*\* NOTE TO SPECIFIER \*\* Garaventa Lift; Incline Wheelchair Lifts.  
This section is based on the products of Garaventa Lift, which is located at:

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98231-1769   
  
Canada  
18920 - 36th Avenue  
Surrey, BC, V3Z 0P6  
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 [ [Click Here](http://www.arcat.com/arcatcos/cos32/arc32685.html) ] for additional information.  
   
Garaventa Lift is an international company specializing in the manufacturing of wheelchair lifts and elevators. A world leader in the accessibility industry with a reputation for reliability, safety and innovation, Garaventa Lift has over 50,000 installations worldwide.  
  
Introduced in 1979, the Garaventa Stair-Lift was the first inclined platform wheelchair lift in North America capable of travel along straight or curving stairways, up several flights of stairs and across horizontal landings. This flexibility, and the most experienced design team in the industry, allows Garaventa Lift to solve difficult accessibility issues.  
  
The GSL Artira was introduced in 2001 and features a computer based control system, and Smart-Lite technology, making it the easiest lift on the market to use.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Stair Lift for Straight or Turning Stairs.
    2. Stair Lift for Straight Stairs with mains-powered drive.
    3. Stair Lift for Straight Stairs with battery-powered drive.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 30 00 - Cast-in-Place Concrete: Anchor placement in concrete.
    2. Section 04 20 00 - Unit Masonry: Anchor placement in masonry.
    3. Section 06 10 00 - Rough Carpentry: Blocking in framed construction for lift attachment.
    4. Section 09 21 16 - Gypsum Board Assemblies: Stair walls.
    5. Section 26 31 00 - Photovoltaic Collectors: Building Fire Alarm Integration system to connect the lift control system with the building fire alarm system.
    6. Division 26 - Electrical: Electrical power service panel and wiring connections.
    7. Division 26 - Electrical: Concealed low voltage control wiring.
    8. Division 26 - Electrical: Intercom and wiring.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section. Use ASME references for installations in the United States. Use CSA references for installations in Canada.

* + 1. ASME A17.5 - Elevator and Escalator Electrical Equipment.
    2. ASME A18.1a 2001 - Safety Standard for Platform Lifts and Stairway Chairlifts.
    3. CSA B44.1 - Elevator and Escalator Electrical Equipment.
    4. CSA B355 - Lifts for Persons with Physical Disabilities.
    5. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
    6. NFPA 70 - National Electric Code.
    7. CSA - National Electric Code.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00.
     2. Product Data: Manufacturer's data sheets on each product to be used, including:
        1. Submit manufacturer's installation instructions, including preparation, storage and handling requirements.
        2. Include complete description of performance and operating characteristics.
        3. Show maximum and average power demands.
     3. Shop Drawings:
        1. Show typical details of assembly, erection and anchorage.
        2. Show complete layout and location of equipment, including required clearances.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: For each finished product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
    2. Verification Samples: For each finished product specified, two samples, representing actual product, color, and patterns.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Firm with minimum 10 years documented experience in manufacturing of inclined wheelchair platform lifts of installations of type specified.
     2. Installer Qualifications: Firm licensed to install equipment of this scope, with evidence of experience with specified equipment. Installer shall maintain an adequate stock of replacement parts and have qualified people available to ensure timely maintenance and callback service at the project site.
  2. REGULATORY REQUIREMENTS

\*\* NOTE TO SPECIFIER \*\* Edit and delete one of the two following paragraphs to suit local requirements. First paragraph is for installations in the United States. Second paragraph is for installations in Canada.

* + 1. Provide platform lifts in compliance with:
       1. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
       2. ASME A17.5 - Elevator and Escalator Electrical Equipment.
       3. NFPA 70 - National Electric Code.
    2. Provide platform lifts in compliance with:
       1. CSA B355 - Lifts for Persons with Physical Disabilities.
       2. CSA B44.1/ASME A17.5 - Elevator and Escalator Electrical Equipment.
       3. CSA - National Electric Code.
  1. DELIVERY, STORAGE, AND HANDLING
     1. Store products in manufacturer's unopened packaging until ready for installation.
     2. Store components off the ground in a dry covered area, protected from adverse weather conditions.
  2. PROJECT CONDITIONS
     1. Do not use wheelchair lift for hoisting materials or personnel during construction period.
  3. WARRANTY

\*\* NOTE TO SPECIFIER \*\* The manufacturer's basic warranty is a limited 2 year warranty for the replacement at no cost of defective parts but does not include the labor costs required to replace the defective parts. Warranty requires maintenance agreement during period of the warranty. Delete if not required.

* + 1. Warranty: Provide a two year limited warranty covering replacement of defective parts and excluding labor. Preventive maintenance agreement required.
    2. Extended Warranty: Provide an additional five year limited warranty covering replacement of defective parts and excluding labor for a total of seven years. Preventive maintenance agreement required.

\*\* NOTE TO SPECIFIER \*\* Include the following paragraph if warranty is specified above and delete if not required. Adjust to match extended warranty period above.

* 1. MAINTENANCE SERVICE
     1. Furnish service and maintenance for elevator system and components for the following period from Date of Substantial Completion.
        1. One year.
        2. Two years.
        3. Three years.
        4. Four years.
        5. Five years.
        6. Six years.
        7. Seven years.
     2. Include systematic examination, adjustment, and lubrication of elevator equipment. Repair or replace parts whenever required. Use parts produced by manufacturer of original equipment. Replace wire ropes when necessary to maintain required factor of safety.
     3. Provide emergency call back service for this maintenance period.
     4. Perform maintenance work using competent and qualified personnel approved by elevator manufacturer or original installer.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Garaventa Lift; United States - P.O. Box 1769, Blaine, WA 98231-1769. Canada 18920 36th Ave., Surrey, BC V3Z 0P6. ASD. Toll Free: 800-663-6556. Tel: (604) 594-0422. Fax: (604) 594-9915. Email: productinfo@garaventalift.com; Webwww.garaventalift.com.

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

\*\* NOTE TO SPECIFIER \*\* Select one of the following three primary paragraphs for Stair Lifts at Straight or Turning Stairways, Stair Lifts at Straight Stairways, or battery powered lift for straight stairwars and delete the ones not required.

\*\* NOTE TO SPECIFIER \*\* The following paragraphs are for platform lifts at straight or turning stairways and where lifts serve two or more landings. Edit to suit project requirements. Indicate locations and stair and landing requirements on the Drawings.

* 1. STAIR LIFT FOR STRAIGHT OR TURNING STAIRWAYS
     1. Inclined Platform Lift: Garaventa Stair-Lift, Model GSL Artira inclined platform lift for straight and turning stairways. Lift consists of a tubular guide rail system, a folding platform that is moved along the guide rails by a rope sprocket drive system, overspeed safety system and call stations at each landing. Conform to the following design requirements:
        1. Application:

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs and delete the one not required.

* + - * 1. Indoor.
        2. Outdoor.
      1. Platform Load Rating: 660 lbs (330 kg).
      2. Travel Speed: 20 fpm (101.6 mm/s), slowing to 50 percent of rated speed before entering and while rounding corners.
      3. Platform Deck: 16 gauge (1.6 mm) sheet metal coated with electrostatically applied and baked anti-skid Sandex black paint.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph for standard ADA compliant platform size. Delete if not required.

* + - * 1. Platform Size A (ADA Compliant): 31-1/2 inches (800 mm) wide by 48 inches (1220 mm) long.

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs for alternate platforms sizes when required for the project. Delete the paragraphs not required. Custom platform sizes are available for narrow stairs. Consult with manufacturer for sizes available.

* + - * 1. Platform Size B: 31-1/2 inches (800 mm) wide by 41-3/8 inches (1050 mm) long.
        2. Platform Size C: 31-1/2 inches (800 mm) wide by 35-3/8 inches (900 mm) long.
        3. Platform Size D: 27-1/2 inches (700 mm) wide by 29-1/2 inches (750 mm) long.
      1. Platform Operation:
         1. Automatic Fold: Folded and unfolded electrically from the call station.
         2. Emergency Manual Fold: When unit is left in the open position, platform may be manually folded and retained in closed position.
      2. Under Platform Obstruction Sensing:
         1. Provide an under platform sensing device to stop the platform from traveling in the downward direction when encountering 4 lbs (1.8 kg) of pressure.
         2. Platform is permitted to travel in the opposite direction of obstruction to allow clearing.
      3. Passenger Restraining Arms:
         1. Platform equipped with retractable passenger restraining arms in compliance with ASME A18.1a.
         2. Arms stop moving when an obstruction causing 4 lbs (1.8 kg) of pressure is encountered and will immediately retract when the signal is removed.
         3. Provide with means to manually unlock and open the restraining arms for passenger emergency evacuation.
         4. Arms are folded and unfolded electrically from the call stations or platform controls.
         5. Top of arms mounted 37-3/8 inches (948 mm) above the platform deck. When in guarding position the arms are located above the perimeter of the platform.
         6. The gaps between ends of arms shall not exceed 4 inches (100 mm).
      4. Boarding Ramps:
         1. Provide boarding sides of platform with retractable ramps positioned for travel at a height of 6 inches (152 mm) measured vertically above the platform deck.
         2. Lock ramps in their guarding positions during travel. When the platform is at the landing, only the retractable ramp servicing the landing shall be operable.
         3. Ramps shall be folded and unfolded electrically.
         4. Retractable ramps, in the guarded position, shall withstand a force of 125 lbs (556 N) applied on any 4 inch (100 mm) by 4 inch (100 mm) area. This force shall not cause the height of the ramp, at any point in its length, to be less than 6 inches (152 mm) measured vertically above the platform deck.
         5. Provide a means to manually unlock the ramps for emergency evacuation when platform is located at a landing.
         6. Provide with a bi-directional obstruction sensitive device on the travel direction side end of the platform to stop lift when 1.8 kg (4 lbs.) of pressure is encountered. Platform is permitted to travel in the opposite direction of obstruction to allow clearing.
         7. When platform folds, passenger restraining arms shall fold down and be covered by the folded platform.
      5. Platform Kick Plate:
         1. Provide non-boarding and non-guide-rail side of the platform with a kick plate barrier not less than 6 inches (152 mm) in height, measured vertically from the platform deck.
         2. When the platform is folded the side-wall shall cover the platform controls providing protection from vandalism.
      6. Pedestrian Safety Lights:
         1. Equip platform with amber pedestrian safety lights located at both ends of the platform to alert pedestrian traffic that the platform is on the stairway.
      7. Hand Grips:
         1. Equip platform with two 6-7/8 inch (174 mm) long by 1-1/4 inch (32 mm) diameter aluminum hand grips or grab bars on the front face of the platform with the top being 33-1/4 inch (845 mm) above the platform deck.
      8. Clearance Dimensions:
         1. When folded platform shall not protrude more than 12-5/8 inches (321 mm) to 13-5/8 inches (346 mm) from mounting surface.
         2. When unfolded and in use platform shall not protrude more than 40 inches (1015 mm) to 41 inches (1040 mm) from wall.
      9. Controls:
         1. Platform Controls: 24 V Low Voltage type.
         2. Platform equipped with emergency stop switch located within reach of the passenger 37-1/8 inches (942 mm) above platform deck. When activated emergency stop button shall cause electric power to be removed from the drive system stopping lift immediately.
         3. Operating controls shall be two separate 1-1/2 inches (36 mm) round continuous pressure buttons with directional arrows mounted on the front surface of the platform control panel.
         4. Directional buttons shall prompt the user with the available travel direction by illuminating the appropriate button.
         5. When platform arrives at landing and the user releases the directional button, the passenger restraining arms and boarding ramp shall unfold automatically allowing passenger to disembark.
         6. Platform shall equipped for:

\*\* NOTE TO SPECIFIER \*\* Select key switch or keyless operation. Delete paragraph not required for the Project.

Keyed Operation.

Keyless operation.

* + - 1. Passenger Seat: Fold-down type with safety belt.

\*\* NOTE TO SPECIFIER \*\* The following paragraphs are optional platform lift features. Delete paragraphs for features not required for the Project.

* + - 1. Side Loading Platform: Provide with automatic folding ramps and kickplates at boarding sides of platform.
      2. Platform Deck Light: Integral lamp automatically activated when platform is in unfolded position.
      3. Platform Security Lock: Provide to prevent unauthorized unfolding of the platform.
      4. Attendant Hand Held Pendant Control: Provide with plug-in socket on platform control panel.

\*\* NOTE TO SPECIFIER \*\* Select the following optional Autofold Platform paragraph where required Delete if not required.

* + - 1. Autofold Platform: Provide to automatically fold platform into storage position when left unused in open position at a landing for:

\*\* NOTE TO SPECIFIER \*\* Select the paragraph required for the Project. Specify a delay of 1 to 10 minutes, a 3 minute delay is recommended.

* + - * 1. A delay of 3 minutes.
        2. A delay of of \_\_\_ minutes.
      1. Pedestrian Audio Alert: Provide chime mounted on platform to indicate platform is folded up and in motion, traveling on stairway.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph when alarm is required to meet local code requirements or for remotely located lifts.

* + - 1. Platform On Board Emergency Alarm: Provide platform with on board alarm that sounds when emergency stop button is pushed. Provide battery back up for platform on board alarm.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph where required to minimize the impact of platform boarding at stairway egress width. Delete if not required.

* + - 1. Remote Platform Boarding: Platform shall travel beyond standard boarding position to remote boarding location away from stairs. Provide with ramp extensions 3 inch (76 mm) extruded aluminum added to the boarding ramps.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph where required. Delete if not required.

* + - 1. Under Hanger Sensing: Provide bottom of platform hanger with a sensing plate to stop the platform from traveling in the downward direction when encountered with 4 lbs (1.8Kg) of pressure. It shall be possible to drive the platform away from the obstruction.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph where required. Delete if not required.

* + - 1. Side of Hanger Obstruction Device: Provide a sensor that detects obstructions in the path of the side of the hanger. Lift shall stop immediately and not travel until the obstruction is removed. It shall be possible to drive the platform away from the obstruction.
    1. Drive and Guide Rail System
       1. Operation:
          1. Motor: 2 H.P. electric motor with an integrated brake.
          2. Required Power: 208-240 VAC, single phase, 50/60 Hz. on a dedicated 20 amp circuit. Rated current shall be 7 amps for operation with rated load.
          3. Locate roped sprocket drive system consisting of a motor, gearbox and PCC controller (Programmable Configuration Controller) at the upper end of the tubes. PCC controller shall be custom programmed to soft start and stop and the slow down platform travel speed for all corners and landings of the lift. Normal operating speed shall be 20 feet per minute (6 m per minute), slowing to 50 percent of this speed before entering and while rounding corners.
          4. Equip drive with an emergency manual lowering system.

\*\* NOTE TO SPECIFIER \*\* Select one of the following two drive cabinet paragraphs. The first paragraph is standard and the second paragraph is a space saving option. Delete paragraph not required for the Project.

* + - 1. Standard Drive Cabinet:
         1. Cabinet: 20-1/2 inches (520 mm) wide by 41-1/2 inches (1053 mm) high by 10-5/8 inches (270 mm) deep.
         2. Cabinet door is key locked and monitored with an electrical cutout safety switch.
         3. Provide an integrated lockable main disconnect switch and breaker on the drive cabinet.
      2. Compact Drive Cabinet with Separate Control Box:
         1. Compact drive cabinet will house all mechanical drive system components and shall be located at the end of the tube system.
         2. Controller box will contain all the electrical components of the drive system and be located up to 20 feet (6 M) away from the compact drive. Control box dimensions are 12 inches (305 mm) wide by 24 inches (610 mm) high by 11-1/4 inches (284 mm) deep.
         3. Provide an integrated lockable mains disconnect and breaker in the compact drive control box.
      3. Guide Rail:
         1. Construct of two 2 inch (51 mm) diameter steel tubes spaced 23-5/8 inches (600 mm) apart vertically. Tubes will run parallel to the stairs and horizontal to landings throughout the length of travel.
         2. When negotiating a horizontal landing a third 2 inch (51 mm) diameter steel tube shall be added to the tube system to guide and stabilize platform.
         3. Tube system shall not protrude more than 4-7/8 inches (125 mm) to 5-7/8 inches (150 mm) from the wall.
         4. Suspension means contained in the tubes shall be a 3/8 inch (8 mm) diameter galvanized steel core wire rope with a breaking strength of 9460 pounds (4300 kg).
         5. Locate overspeed safety at the bottom of the tube assembly and shall consist of a mechanical overspeed sensor and brake with electrical drive cut-out protection.
         6. Provide a final limit switch at the upper end of the tubes to stop the platform if it travels past the normal terminal stopping device.

\*\* NOTE TO SPECIFIER \*\* The following paragraph is optional. Delete if not required for the Project.

* + - 1. Auxiliary Power: Provide battery back-up system for normal up / down lift operation during power failure for a minimum period of 1/2 hour with rated load.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph where required to keep stairway clear when lift is not in use. Delete if not required.

* + - 1. Platform Storage Beyond Upper/Lower Landings:
         1. Platform shall travel in the folded position beyond the upper landing at the top stair nose to a remote parking position away from the stairs.
         2. Platform shall travel in the folded position beyond the lower landing to a remote parking position. Provide with a ramp extension for this configuration.

\*\* NOTE TO SPECIFIER \*\* The following paragraph is required for certain stair configurations. Delete if not required for the Project.

* + - 1. Final Limit Switch at Lower Landing: Platform will land over a flight of stairs and will have a final lower limit switch.

\*\* NOTE TO SPECIFIER \*\* Select one of the following rail mounting paragraphs and delete the ones not required. Direct mounting is recommended only for solid concrete walls. Mounting to a 2 by 8 inch board is intended for wood frame walls where the 2 by 8 inch board can be securely attached to the wooden studs. Use of steel support posts is for installations where there is no wall to attach to or where wall construction does not provide enough strength. See the Garaventa GSL Artira Design and Planning Guide for further rail mounting information and a loading diagram.

* + - 1. Rail Mounting:
         1. Direct Mount Solid Walls: Rails directly mounted to the stairway wall.
         2. Direct Mount Wood Stud Walls: Upper rail attached to a 2 inch (51 mm) by 8 inch (203 mm) board that is secured to the wall. Lower rail attached to a 2 inch (51 mm) by 4 inch (102 mm) board secured to the wall. Fasten each board to every available stud with a minimum of two fasteners.
         3. Tower Mount Struts: Provide with 2-1/2 inches (65 mm) by 2-1/2 inches (65 mm) hollow structural steel tubular posts to support the guide rails.

\*\* NOTE TO SPECIFIER \*\* Infill panels are optional. Select one of the following three paragraphs for in-fill safety panels. Delete entirely if not required for the Project.

* + - 1. In-Fill Safety Panels: Provide a filler panel system to act as a barrier where existing handrails are removed and there is no wall behind the lift. Filler panels between the support posts shall be between 34 inches (864 mm) and 38 inches (965 mm) above the stair nosing.

\*\* NOTE TO SPECIFIER \*\* Select one of the following three paragraphs for in-fill safety panels. Delete the paragraphs not required for the Project.

* + - * 1. Steel Screen Fill Panels: Supports posts with steel mesh infill.

NOTE to SPECIFIER: If using paragraph below add information on material to be used as a filler panel such as glass or Plexiglas.

* + - * 1. Filler Panel Mounting Brackets: Brackets welded to support posts to allow for a barrier panel system supplied by others.

Filler Panel provided by others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* The following paragraphs may be required to meet local code requirements. This is an alternate to infill panels. Delete if not required for the Project.

* + - * 1. Steel Tube Filler: Provide additional 2 inch (51 mm) diameter steel tubes added to the guide rail system for aesthetics or to create a further safety barrier with a maximum 6 inch (152 mm) opening between tubes.

\*\* NOTE TO SPECIFIER \*\* With the installation of guide rails existing handrails are often obstructed or removed. The following paragraphs represent the minimum requirements for adding optional pedestrian handrails. Edit as required for the Project.

* + 1. Pedestrian Handrail Integrated with Guide Rail:
       1. A third rail acting as a handrail shall be added where existing handrails are either removed or blocked by the lifting equipment.
       2. The top of the handrail gripping surface shall be between 34 inches (864 mm) and 38 inches (965 mm) above the stair nosing and have a smooth gripping surface 1-1/2 inch (38 mm) in diameter.
       3. Handrail shall be in the same vertical plane as the guide rail system.
       4. Handrails shall be mounted to the tube assembly and shall not be interrupted by newel posts, or other construction elements or obstructions.
    2. Call Stations:
       1. Provide a call station at each serviced landing that will automatically shut off if left unattended for over 2 minutes.
       2. Call stations, 24 V low voltage with four illuminated 2 inches (51 mm) by 2 inches (51mm) square membrane touch sensitive buttons: one touch platform fold, one touch platform unfold and two directional call and send buttons.
       3. Provide call stations with Smart-Lite Technology to prompt the user with the next sequential step of operation. Call station buttons will emit an audible "beep" when pushed to confirm button activation to the user.

\*\* NOTE TO SPECIFIER \*\* The following paragraphs include additional or optional call station features. Select and edit paragraphs required and delete those not required for the Project.

* + - 1. Provide intermediate stops between the upper and lower landings at the following locations:
         1. As indicated on the Drawings.
         2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
         3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
      2. Call stations shall equipped for:

\*\* NOTE TO SPECIFIER \*\* Select key switch or keyless operation. Delete paragraph not required for the Project.

* + - * 1. Keyed Operation.
        2. Keyless operation.

\*\* NOTE TO SPECIFIER \*\* The following paragraph is optional delete if not required for the Project.

* + - 1. Provide Attendant Call buttons on each call station.

\*\* NOTE TO SPECIFIER \*\* Select the call station mounting requirements from the following paragraphs. Delete the paragraphs not required.

* + - 1. Call Station Mounting:
         1. Lower and Intermediate landing call station.

Provide surface mounted call station.

Provide flush mounting call station painted finish collars to trim all call stations that are recessed into the walls.

* + - * 1. Upper landing call station.

Provide surface mounted call station on guide rail.

Surface mount on wall.

Provide flush mounting call station painted finish collars to trim all call stations that are recessed into the walls.

* + - * 1. Provide free-standing mounting pedestals for call stations located as follows:

Lower landing.

Intermediate Landing.

Upper landing.

\*\* NOTE TO SPECIFIER \*\* Select additional safety or code requirements from the following paragraphs and delete those not required.

* + 1. Additional Safety or Code Requirements
       1. Wall Mounted Audio Visual Alerts: Provide with adjustable volume control that sound while the lift is in operation and are visible by pedestrian traffic from all flights and landings.
       2. Building Fire Alarm Integration: Coordinate with Section 26 31 00 - Photovoltaic Collectors. If the lift is not in operation when the building fire alarm system is activated power will be cut to the lift preventing use during fire evacuation. If the lift is in use when the building fire alarm system is activated, the lift shall only allow the passenger to travel to the designated landing with the emergency exit.

\*\* NOTE TO SPECIFIER \*\* The following paragraphs include provisions for indoor and outdoor locations. Select the paragraph required and delete those not required.

* + 1. Finish Environment Requirements:
       1. Design and fabricate lift to manufacturer's standard design for indoor location.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph for aesthetic or outdoor use. Stainless steel guide rails are required for outdoor use. Delete if not required.

* + - 1. Stainless Steel Components: Design and fabricate lift using the following:
         1. Guide rails shall be supplied in stainless steel.
         2. Handrails shall be supplied in stainless steel.
         3. Support towers shall be supplied in stainless steel.
         4. Drive box shall be supplied in stainless steel.
         5. Platform sensing plate shall be supplied in stainless steel.
         6. Fasteners for rail assembly and anchoring shall be supplied in stainless steel.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph for outdoor use. Delete if not required.

* + - 1. Design and fabricate lift to manufacturer's standard design for outdoor location.
         1. Lift to include all modifications recommended by manufacturer for reliable performance in outdoor climate of lift installation site.
         2. Provide an outdoor weatherproofing package including zinc rich primer on steel surfaces, weather-resistant sealant on the electrical components, stainless steel or plated fasteners and a weatherproofed stainless steel or zinc plated drive box.
         3. Platform control cover shall be fabricated of a Silver Grey injection-molded polymer.
      2. Painting: After pretreating paint with electrostatically applied and baked powder coat as follows:

\*\* NOTE TO SPECIFIER \*\* Select the paragraph for standard or custom color and delete the one not required.

* + - * 1. Fine Textured Satin Grey (RAL 7030).
        2. Custom color as selected by Architect from manufacturers standard RAL colors.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph for platform lifts at straight stairways serving two adjacent landings. Edit to suit project requirements. Indicate locations and stair and landing requirements on the Drawings.

* 1. STAIR LIFT FOR STRAIGHT STAIRWAYS
     1. Inclined Platform Lift: Garaventa Stair-Lift Model XPRESS II to serve one flight of straight stairs, with two landings and two stops. Lift consists of an extruded aluminum guide rail, a folding platform that is moved along the guide rail by an integrated rack and pinion drive system, overspeed safety system and call stations at each landing and powered by buildings main power supply. Conform to the following design requirements:
        1. Application:

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs and delete the one not required.

* + - * 1. Indoor.
        2. Outdoor.
      1. Platform Load Rating: 550 lbs (250 kg).
      2. Travel Speed: 13 fpm (4 m/min) traveling up; 16 fpm (5 m/min) traveling down.
      3. Platform Deck: Surface shall be slip resistant with the following features:

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph for standard ADA compliant platform size. Delete if not required.

* + - * 1. Platform Size A (ADA Compliant): 31-1/2 inches (800 mm) wide by 49-1/4 inches (1250 mm) long.

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs for alternate platforms sizes when required for the project. Delete the paragraphs not required. Custom platform sizes are available for narrow stairs. Consult with manufacturer for sizes available. Note that the 26.5 inches (675 mm) wide by 39.4 inches (1000 mm) long platform is not available with full-sized passenger restraining arms. Consult with manufacturer.

* + - * 1. Platform Size B: 31-1/2 inches (800 mm) wide by 39-3/8 inches (1000 mm) long.
        2. Platform Size C: 29-1/2 inches (750 mm) wide by 35-1/2 inches (900 mm) long.
        3. Platform Size D: 28-1/2 inches (725 mm) wide by 39-3/8 inches (1000 mm) long.
        4. Platform Size E: 26-1/2 inches (675 mm) wide by 39-3/8 inches (1000 mm) long.
      1. Platform Operation:
         1. Automatic Fold: Folded and unfolded electrically from the call station.
         2. Emergency Manual Fold: When left in the open position, platform may be manually folded and retained in the closed position.
      2. Under Platform Obstruction Sensing:
         1. Provide under-platform sensing device to stop platform from traveling in the downward direction when encountering 4 lb/f (20 N) of pressure.
         2. Platform is permitted to travel in the opposite direction of the obstruction to allow clearing.
      3. Passenger Restraining Arms:
         1. Platform equipped with retractable passenger restraining arms in compliance with ASME A18.1a.
         2. Arms stop moving when an obstruction causing 4 lb/f (20 N) of pressure is encountered and immediately retract when signal is removed.
         3. Arms folded and unfolded electrically from the call stations or platform controls.
         4. Provide with means to manually unlock and open the restraining arms for passenger emergency evacuation.
         5. Top of arms mounted 32 inches (800 mm) to 38 inches (1000 mm) above platform deck. When in guarding position arms are located above the perimeter of the platform.
         6. Gaps between ends of the arms shall not exceed 4 inches (100 mm).
      4. Boarding Ramps:
         1. Provide boarding sides of platform with retractable ramps positioned for travel at a height of 6 inches (150 mm) measured vertically above platform deck.
         2. Lock ramps in guarding positions during travel. When platform is at the landing, only the retractable ramp servicing the landing shall be operable.
         3. Ramps folded and unfolded electrically.
         4. Retractable ramps, in the guarded position, shall withstand a force of 125 lb/f (550 N) applied on any 4 inches (100 mm) by 4 inches (100 mm) area. This force shall not cause the height of the ramp, at any point in its length, to be less than 6 inches (150 mm) measured vertically above the platform deck.
         5. Provide a means to manually unlock the ramps for emergency evacuation when platform is located at landing.
         6. Provide with a bi-directional obstruction sensitive device on the travel direction side end of the platform to stop the lift when 4 lb/f (20 N) of pressure is encountered. Platform is permitted to travel in the opposite direction of obstruction to allow clearing.
      5. Platform Sidewall:
         1. Provide on the non-boarding and non-guide rail side of the platform a sidewall of not less 6 inches (150 mm) in height, measured vertically from the platform deck.
         2. When the platform is folded sidewall shall cover the platform controls, providing protection from vandalism.
      6. Hand Grips:
         1. Equip platform with a 1-1/4 inch (32 mm) tubular steel hand grip or grab bar at the top of the platform. Hand grip is to cover the entire width of the platform.
      7. Clearances Dimensions:
         1. Platform shall not protrude more than 10-1/4 inches (260 mm) from the mounting surface when folded and stored.
         2. Platform shall not protrude more than 40-1/4 inches (1020 mm) from the mounting surface when unfolded and in use.
      8. Controls:
         1. Controls: 24 VDC Low Voltage type.
         2. Platform equipped with emergency stop switch located within reach of passenger. Emergency stop button shall cause electric power to be removed from the drive system stopping lift immediately.
         3. Platform operating controls shall be two separate 1-1/2 inch (36 mm) diameter round illuminated continuous pressure buttons with directional arrows, mounted on the front surface of the platform control panel.
         4. When the platform arrives at landing and the user releases the directional control button, the passenger restraining arms and boarding ramp shall unfold automatically allowing passenger to disembark.
         5. Platform control panel includes a receptacle for an optional plug-in hand-held attendant pendant control.
         6. Platform equipped for:

\*\* NOTE TO SPECIFIER \*\* Select standard keyless or optional keyed platform operation. Delete the paragraph not required for the Project.

Keyless Operation.

Keyed Operation.

\*\* NOTE TO SPECIFIER \*\* The following paragraphs include additional or optional call station features. Select the paragraphs required and delete the one not required for the Project. Choose one or the other but not both.

* + - * 1. Provide control wiring to allow the platform to be folded into the storage position from the opposite call station.
        2. Provide control wiring to allow the platform to be called to the opposite landing in the folded open position.

\*\* NOTE TO SPECIFIER \*\* The following paragraphs are optional platform lift features. Delete paragraphs for features not required for the Project.

* + - 1. Passenger Seat: Fold-down type with safety belt. Minimum rated load of 250 lbs (115 kg).
      2. Side Loading Platform: Provide with automatic folding ramps and kick plates at boarding sides of platform.

\*\* NOTE TO SPECIFIER \*\* Select platform security lock if required. Delete if not required for the Project.

* + - 1. Platform Security Lock: Provide to prevent unauthorized unfolding of the platform.
      2. Attendant Hand-Held Pendant Control: Provide lift with a plug-in pendant control for attendant operation.

\*\* NOTE TO SPECIFIER \*\* Select the following optional Autofold Platform paragraph if required Delete if not required.

* + - 1. Autofold Platform: Automatically folds platform into storage position when left unused in open position at any landing for:

\*\* NOTE TO SPECIFIER \*\* Complete the paragraph as required for the Project. Specify a delay of 1 to 10 minutes, a 3 minute delay is recommended.

* + - * 1. A delay of 3 minutes.
        2. A delay of \_\_\_ minutes.
      1. Platform on-Board Emergency Alarm: Provide platform with an on-board alarm that sounds when emergency stop button is pushed. The alarm shall have a battery back-up so that it will continue to function if lift power is lost.
    1. Drive and Guide Rail System:
       1. Operation:
          1. Motor: 3/4 HP (0.6 kW) electric motor with an integrated brake.
          2. Required Power: 208-240 VAC, single phase, 50/60 Hz. on a dedicated 20 amp circuit.
          3. Power Transmission: Worm gear reduction to a pinion moving on a fixed gear rack.
          4. Provide a frequency inverter to smoothly start and stop the platform motion.
          5. Locate drive carriage and associated control devices within the platform conveyance.
          6. Provide an upper final limit switch to stop the lift in the event of a failure of the primary limit switch.
          7. Equip drive system with an hour counter.
       2. Guide Rail System:
          1. Two-part guide rail system consisting of:

Main Upper Rail: Anodized aluminum extrusion weighing 8 lb/ft (11.9 kg/m) with integrally mounted zinc plated gear rack.

Lower Rail: 1-1/2 inches (38 mm) by 2-1/2 inches (64 mm) anodized aluminum extrusion.

\*\*NOTE TO SPECIFIER\*\* Select one of the following rail mounting paragraphs and delete the ones not required. Direct mounting is recommended only for solid concrete walls. Mounting to a 2 by 8 inch board is intended for wood frame walls where the 2 by 8 inch board can be securely attached to the wooden studs. Use of steel support posts is for installations where there is no wall to attach to or where wall construction does not provide enough strength. See the Garaventa Xpress II Design and Planning Guide for further rail mounting information and a loading diagram.

* + - * 1. Rail Mounting:

Rails directly mounted to the stairway wall.

Upper rail attached to a 2 inch (51 mm) by 8 inch (203 mm) board that is secured to the wall. Lower rail attached to a 2 inch (51 mm) by 4 inch (102 mm) board secured to the wall. Fasten each board to every available stud with a minimum of two fasteners.

Mount rails to steel support posts secured to the lower landing floor and stair treads. Support posts shall be 2-1/2 inches (64 mm) by 2-1/2 inches (64 mm) hollow structural steel.

* + - * 1. Provide a mechanical stop at the upper landing to prevent over-travel of the drive carriage in the event of a switch failure.
      1. Provide overspeed governor and brake on upper carriage drive, containing mechanical overspeed sensor and lock, with electrical drive cut-out protection.
      2. Provide with manual handwheel for emergency operation.

\*\* NOTE TO SPECIFIER \*\* The following paragraphs are optional. Select one of the following paragraphs and delete the one not required or delete both if not required for the Project.

* + - 1. Emergency Battery Operation:
         1. Auxiliary Power: Provide an external battery back-up system for normal up/down lift operation during a power failure for a minimum period of one hour with rated load.
         2. Emergency battery lowering: provide an on-board battery system to allow the user to lower the platform during a power failure.

\*\* NOTE TO SPECIFIER \*\* With the installation of guide rails existing handrails are often obstructed or removed. The following paragraphs represent the minimum requirements for adding optional pedestrian grabrails. Edit as required for the Project. Note that the height of the grabrail above stair noses varies with the stair angle and platform size. Refer to the Design and Planning guide for tabulated grabrail heights. The Xpress II grabrail will generally not meet code requirements and a variance may be required.

* + 1. Pedestrian Grabrail Integrated with Guide Rail:
       1. Provide a pedestrian grabrail to be mounted to the top of the upper rail.
       2. The top of the grabrail gripping surface shall be between 31 inches (785 mm) and 50 inches (1270 mm) above the stair nosing and have a smooth gripping surface 1-1/2 inch (38 mm) in diameter.
       3. Grabrail will be on the same plane as the upper rail of the lift.
       4. Grabrail shall meet local code requirements for height above stair noses depending on stair angle and platform size.
    2. Call Stations:
       1. Provide surface mounted call stations at both landings.
       2. Call station:

\*\*NOTE TO SPECIFIER\*\* Select wired or optional wireless call station operation. Delete the one not required for the Project.

* + - * 1. Operating voltage 24V wired.
        2. 9V DC wireless.
      1. Call stations shall be provided with directional control buttons for call and send.
      2. A one-touch control system shall be used to automatically fold/unfold the platform, boarding ramps and passenger restraining arms.
      3. Call stations shall be equipped for:

\*\*NOTE TO SPECIFIER\*\* Select key switch or keyless call station operation. Delete paragraph not requiring for the Project.

* + - * 1. Keyed Operation.
        2. Keyless Operation.

\*\*NOTE TO SPECIFIER\*\* Select optional attendant call station operation. Delete if not required for the Project.

* + - 1. Provide Attendant Call buttons on each call station.
      2. Mounting:

\*\*NOTE TO SPECIFIER\*\* Select the call station mounting requirements from the following paragraphs and delete the ones not required. Flush mounting collars are included with the lift as standard equipment (subject to change).

* + - * 1. Lower landing call station:

Surface mounted call station.

Flush mounted call station: Provide powder-coated trim collar.

Pedestal mounted call station: Provide free-standing mounting pedestal.

* + - * 1. Upper landing call station:

Surface mounted call station.

Flush mounted call station: Provide powder-coated trim collar.

Pedestal mounted call station: Provide free-standing mounting pedestal.

\*\* NOTE TO SPECIFIER \*\* Select additional safety or code requirements from the following paragraphs and delete those not required.

* + 1. Additional Safety or Code Requirements:
       1. Wall Mounted Audio-Visual Alert: Provide wall mounted audio-visual alert(s) with adjustable volume control that sound while the lift is in operation and are visible by pedestrian traffic from all flights and landings.
       2. Building Fire Alarm Integration: Coordinate with Section 26 31 00 - Photovoltaic Collectors. If the lift is not in operation when the building fire alarm system is activated power will be cut to the lift preventing use during fire evacuation. If the lift is in use when the building fire alarm system is activated, the lift shall only allow the passenger to travel to the designated landing with the emergency exit.

\*\* NOTE TO SPECIFIER \*\* The following paragraphs include provisions for both indoor and outdoor locations.

* + 1. Finish:
       1. Design and fabricate lift to manufacturer's standard design for indoor and outdoor locations.
          1. Aluminum guide rails and ramps to be anodized aluminum. Steel components shall be painted with electrostatically applied and baked powder coat as follows:

\*\*NOTE TO SPECIFIER\*\* Select the paragraph for standard or custom color and delete one not required.

Fine Textured Silver Moon (RAL 7047).

Custom color as selected by Architect from an RAL color chart.

* + - * 1. Electrical printed circuit boards and control transformers to be treated with a conformal coating for resistance to ambient moisture.

\*\*NOTE TO SPECIFIER\*\* Delete paragraph for optional platform cover if not required.

* + - 1. Platform Cover: Provide a durable and weather resistant nylon platform cover for protection.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph for battery powered inclined platform lifts at straight stairways serving two adjacent landings. The X3 model is suitable for residential or light commercial applications. Edit to suit project requirements. Indicate locations and stair and landing requirements on the Drawings.

* 1. BATTERY POWERED STAIR LIFT FOR STRAIGHT STAIRWAYS
     1. Inclined Platform Lift: Garaventa Lift Stair-Lift Model X3 to serve one flight of straight stairs, with two landings and two stops. Lift consists of an extruded aluminum guide rail, a folding platform that is moved along the guide rail by an integrated rack and pinion drive system, overspeed safety system and call stations at each landing. Conform to the following design requirements:
        1. Application: Indoor.

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs and delete the one not required.

* + - * 1. Commercial. (Installed in an area open to the public)
        2. Residential. (Installed in a private residence)
      1. Platform Load Rating: 550 lbs (250 kg).
      2. Travel Speed: 13 fpm (4 m/min) traveling up; 16 fpm (5 m/min) traveling down.
      3. Platform Deck: Surface shall be slip resistant with the following features:

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph for commercial standard ADA compliant platform size. Delete if not required.

* + - * 1. Platform Size A (ADA Compliant): 31-1/2 inches (800 mm) wide by 48 inches (1220 mm) long.

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs for residential alternate platforms sizes when required for the project. Delete the paragraphs not required. Custom platform sizes are available for narrow stairs. Consult with manufacturer for sizes available.

* + - * 1. Platform Size B: 31-1/2 inches (800 mm) wide by 41-3/8 inches (1050 mm) long.
        2. Platform Size C: 31-1/2 inches (800 mm) wide by 35-1/2 inches (900 mm) long.
        3. Platform Size D: 27-1/2 inches (700 mm) wide by 29-1/2 inches (750 mm) long.
      1. Platform Operation:

\*\* NOTE TO SPECIFIER \*\* Select one the following two paragraphs for manual or optional automatic fold when required for the project. Automatic fold is required for commercial application. Delete the paragraph not required.

* + - * 1. Manual fold: Platform is manually folded and unfolded at the landing.
        2. Automatic Fold: Folded and unfolded electrically from the call station.
        3. Emergency Manual Fold: When left in the open position, platform may be manually folded and retained in the closed position.
      1. Under Platform Obstruction Sensing:
         1. Provide under-platform sensing device to stop platform from traveling in the downward direction when encountering 4 lb/f (20 N) of pressure.
         2. Platform is permitted to travel in the opposite direction of the obstruction to allow clearing.
      2. Passenger Curved Safety Arms:
         1. Platform equipped with retractable passenger restraining arms.
         2. Arms stop moving when an obstruction causing 4 lb/f (20 N) of pressure is encountered and immediately retract when signal is removed.
         3. Arms folded and unfolded electrically from the call stations or platform controls.
         4. Provide with means to manually unlock and open the restraining arms for passenger emergency evacuation.
         5. Top of arms mounted 37-3/8 inches (948 mm) above platform deck. When in guarding position arms are located above the perimeter of the platform.
         6. Gaps between ends of the arms shall not exceed 4 inches (100 mm).
      3. Boarding Ramps:
         1. Provide boarding sides of platform with retractable ramps positioned for travel at a height of 6 inches (150 mm) measured vertically above platform deck.
         2. Ramps lock in guarding positions during travel. When platform is at the landing, only the retractable ramp servicing the landing shall be operable.

\*\* NOTE TO SPECIFIER \*\* Select one the following two ramp paragraphs for manual or optional automatic fold when required for the project. Electrically operated folding ramps are required for commercial applications. Delete the paragraph not required.

* + - * 1. Ramps fold and unfold manually, simultaneous to the manual fold or unfolding of the platform.
        2. Ramps folded and unfolded electrically.
        3. Retractable ramps, in the guarded position, shall withstand a force of 125 lb/f (550 N) applied on any 4 inches (100 mm) by 4 inches (100 mm) area. This force shall not cause the height of the ramp, at any point in its length, to be less than 6 inches (150 mm) measured vertically above the platform deck.
        4. Provide a means to manually unlock the ramps for emergency evacuation when platform is located at landing.
        5. Provide with a bi-directional obstruction sensitive device on the travel direction side end of the platform to stop the lift when 4 lb/f (20 N) of pressure is encountered. Platform is permitted to travel in the opposite direction of obstruction to allow clearing.
      1. Platform Sidewall:
         1. Provide on the non-boarding and non-guide rail side of the platform a sidewall of not less 6 inches (150 mm) in height, measured vertically from the platform deck.
      2. Controls:
         1. Controls: 24 VDC Low Voltage type.
         2. Platform equipped with emergency stop switch located within reach of passenger. Emergency stop button shall cause electric power to be removed from the drive system stopping lift immediately.
         3. Platform controls shall be two separate 1-1/2 inch (36 mm) diameter round constant pressure buttons with directional arrows, and an emergency stop switch mounted on the front surface of the platform control panel.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph for optional automatic fold when specified for the project. Delete if paragraph not required.

* + - * 1. When the platform arrives at landing and the user releases the directional control button, the user manually raises the arm on the entry side of the platform thus lowering the platform ramp.
        2. Platform control panel includes a receptacle for an optional plug-in hand-held attendant pendant control.

\*\* NOTE TO SPECIFIER\*\* The following optional paragraph is required. Delete if not required.

* + - 1. Attendant Hand-Held Remote Control: Provide wireless remote control for attendant operation.
      2. Platform on-Board Emergency Alarm: Provide platform with an on-board alarm that sounds when emergency stop button is pushed. The alarm shall have a battery back-up so that it will continue to function if lift power is lost.
    1. Drive and Guide Rail System:
       1. Operation:
          1. Motor: 24 Volt PMDC motor with IP54 protection.
          2. Power requirements: 2 x12 VDC 7.2Ah batteries located behind conveyance. Equipped with "out of charging station" alarm.
          3. Charger: 120 VAC single phase, 50 Hz. On a dedicated circuit, providing 2 amp charging current to unit.
          4. Power Transmission: Worm gear reduction to a pinion moving on a fixed gear rack.
          5. Provide a frequency inverter to smoothly start and stop the platform motion.
          6. Locate drive carriage and associated control devices within the platform conveyance.
          7. Provide an upper final limit switch to stop the lift in the event of a failure of the primary limit switch.
          8. Equip drive system with an hour counter.
       2. Guide Rail System:
          1. Two-part guide rail system consisting of:

Main Upper Rail: Anodized aluminum extrusion weighing 8 lb/ft (11.9 kg/m) with integrally mounted zinc plated gear rack.

Lower Rail: 1-1/2 inches (38 mm) by 2-1/2 inches (64 mm) anodized aluminum extrusion.

\*\* NOTE TO SPECIFIER \*\* Select one of the following rail mounting paragraphs and delete the ones not required. Direct mounting is recommended only for solid concrete walls. Mounting to a 2 by 8 inch board is intended for wood frame walls where the 2 by 8 inch board can be securely attached to the wooden studs. Use of steel support posts is for installations where there is no wall to attach to or where wall construction does not provide enough strength. See the Garaventa X3 Design and Planning Guide for further rail mounting information and a loading diagram.

* + - * 1. Rail Mounting:

Direct Mount Solid Walls: Rails directly mounted to the stairway wall.

Direct Mount Wood Stud Walls: Upper rail attached to a 2 inch (51 mm) by 8 inch (203 mm) board that is secured to the wall. Lower rail attached to a 2 inch (51 mm) by 4 inch (102 mm) board secured to the wall. Fasten each board to every available stud with a minimum of two fasteners.

Tower Mount Struts: Provide with 2-1/2 inches (65 mm) by 2-1/2 inches (65 mm) hollow structural steel tubular posts to support the guide rails.

* + - * 1. Provide a mechanical stop at the upper landing to prevent over-travel of the drive carriage in the event of a switch failure.
      1. Provide overspeed governor and brake on upper carriage drive, containing mechanical overspeed sensor and lock, with electrical drive cut-out protection.
      2. Provide with manual handwheel for emergency operation.
      3. Provide platform with folding seat.

\*\* NOTE TO SPECIFIER\*\* The following paragraphs are required for commercial applications and optional for residential. Delete if not required.

* + 1. Call Stations:
       1. Provide wireless call stations at both landings.
       2. Call stations shall be provided with directional control buttons for call and send.
       3. A one-touch control system shall be used to automatically fold/unfold the platform, boarding ramps and passenger safety arms.

\*\*NOTE TO SPECIFIER\*\* Select optional attendant call station operation. Delete if not required for the Project.

* + - 1. Provide Attendant remote control call station.

\*\*NOTE TO SPECIFIER\*\* The following paragraphs include provisions for both indoor and outdoor locations.

* + 1. Finish:
       1. Design and fabricate lift to manufacturer's standard design for indoor and outdoor locations.
          1. Aluminum guide rails and ramps to be anodized aluminum. Steel components shall be painted with electrostatically applied and baked powder coat as follows:

\*\*NOTE TO SPECIFIER\*\* Select the paragraph for standard or custom color and delete one not required.

Fine Textured Silver Moon (RAL 7047).

Custom color as selected by Architect from an RAL color chart.

* + - * 1. Electrical printed circuit boards and control transformers to be treated with a conformal coating for resistance to ambient moisture.

\*\*NOTE TO SPECIFIER\*\* Delete paragraph for optional platform cover if not required.

* + - 1. Platform Cover: Provide a durable and weather resistant nylon platform cover for protection.

\*\* NOTE TO SPECIFIER \*\* Include the following paragraphs for emergency evacuation device for use on stairways for manual emergency evacuation. Indicate locations on the Drawings. Delete if not required.

* 1. EMERGENCY EVACUATION DEVICE
     1. Portable evacuation chair, Garaventa "Evacu-Trac" with steel storage enclosure:
        1. Capacity: 1 person, 400 lbs (180 kg).
        2. Maximum Stair Angle: 40 degrees.
        3. Speed Governor: Piston brake.
        4. Brake: By manual mechanical brake, attendant must release for descent.
        5. Surface Mount Cabinet:
           1. Steel cabinet and door panel. Available only in Satin Gray, left hinged only.
           2. Size: Height 45-3/8 inches (1151 mm), width 20 inches (508 mm), depth 11 inches (279 mm).

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. Verify required supports are correct.
      3. Verify electrical rough-in is at correct locations.
      4. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install platform lifts in accordance with in compliance with regulatory requirements specified and the manufacturer's instructions.
      2. Install system components and connect to building utilities.
      3. Accommodate equipment in space indicated.
      4. Startup equipment in accordance with manufacturer's instructions.
      5. Adjust for smooth operation.
   4. FIELD QUALITY CONTROL
      1. Perform tests in compliance with regulatory requirements specified and as required by authorities having jurisdiction.
      2. Schedule tests with agencies and Architect, Owner, and Contractor present.
   5. PROTECTION
      1. Protect installed products until completion of project.
      2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION