SECTION 14 20 10

RESIDENTIAL ELEVATORS

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\*\* NOTE TO SPECIFIER \*\* Garaventa Lift; Vertical Platform Wheelchair Lifts.

This section is based on the products of Garaventa Lift, which is located at:

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Blaine, WA 98231-1769

Canada

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Surrey, BC V3Z 0P6

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Tel: 604-594-0422
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[ [Click Here](http://www.arcat.com/company/32685) ] for additional information.

The Garaventa Lift Group is a global organization that provides solutions to improve the quality of life for people worldwide. Our name stands for reliability, safety and innovation.

Reliability: Reliable products, reliable services, on-time deliveries.
Safety: Passenger safety, public safety, safe practices.
Innovation: Innovative products, design creativity, unique solutions.

What we stand for: We promise to always look for the best possible solutions.

1. GENERAL
	1. SECTION INCLUDES

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

* + 1. Residential Elevators.
	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: Concrete hoistway, anchor placement and required sleeves for service penetrations.
		2. Section 04 80 00 - Masonry Assemblies: Masonry hoistway and anchor placement.
		3. Section 06 10 00 - Rough Carpentry: Blocking in framed construction for lift attachment.
		4. Section 08 20 00 - Solid Core Wood Doors: Access doors at hoistway landings.
		5. Section 09 26 00 - Gypsum Board Assemblies: Gypsum shaft walls.
		6. Section 09 65 00 - Resilient Flooring: Floor finish in cab.
		7. Section 09 68 00 - Carpet: Floor finish in cab.
		8. Section 13 85 00 - Detection and Alarm: Fire and smoke detectors and interconnecting devices.
		9. Division 16 - Electrical:
			1. Electrical characteristics and wiring connections.
			2. Electrical service and wiring connections.
			3. Telephone service and wiring connection.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American Society of Mechanical Engineers (ASME):
			1. ASME A17.1 /CSA B-44 - Section 5.2 Safety Code for Elevators and Escalators, Limited-Use/Limited Application Elevators.
			2. ASME A17.5 - Elevator and Escalator Electrical Equipment.
		2. National Fire Protection Association
			1. NFPA 70 - National Electric Code.
		3. Canadian Standards Association (CSA):
			1. CSA B44.1/ASME A17.5 - Elevator and Escalator Electrical Equipment.
			2. CSA C22.1 - Canadian Electrical Code.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data: Manufacturer's data sheets on elevator, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		3. Shop Drawings:
			1. Show typical details of assembly, erection and anchorage.
			2. Include wiring diagrams for power, control, and signal systems.
			3. Show complete layout and location of equipment, including required clearances and coordination with hoistway.

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

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
		2. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
	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 elevator 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. Note the Extended Warranty is optional. 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: An additional limited warranty covering replacement of defective parts and excluding labor for a total of seven years.
			1. Preventive maintenance agreement required.

\*\* NOTE TO SPECIFIER \*\* Delete warranty period option not required.

* + - 1. Warranty Period: 5 years.
			2. Warranty Period: \_\_ years.

\*\* 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. Service and maintenance for elevator system and components for the following period from Date of Substantial Completion.

\*\* NOTE TO SPECIFIER \*\* Delete maintenance period options not required.

* + - 1. Maintenance Period: One year.
			2. Maintenance Period: Two years.
			3. Maintenance Period: Three years.
			4. Maintenance Period: Four years.
			5. Maintenance Period: Five years.
		1. 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.
		2. Provide emergency call back service for this maintenance period.
		3. Perform maintenance work using competent and qualified personnel approved by elevator manufacturer or original installer.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Garaventa Lift which is located at: 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. Web: www.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 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Select the elevator required from the following paragraph and delete the one not required.

* 1. REGULATORY REQUIREMENTS

\*\* NOTE TO SPECIFIER \*\* Verify local regulatory requirements. Delete one of the two following paragraphs as required to suit local requirements. First paragraph is for installations in the United States as applicable. Second paragraph is for installations in Canada as applicable.

* + 1. Provide passenger elevator in compliance with:
			1. ASME A17.1 - Safety Code for Elevators and Escalators.
			2. ASME A17.5 - Elevator and Escalator Electrical Equipment.
			3. NFPA 70 - National Electric Code.
		2. Provide passenger elevator in compliance with:
			1. CSA B44.1/ASME A17.5 - Elevator and Escalator Electrical Equipment.
			2. CSA C22.1 - Canadian Electric Code.
	1. RESIDENTIAL ELEVATORS
		1. Garaventa Elvoron Residential Elevators:

\*\* NOTE TO SPECIFIER \*\* Delete capacity option not required.

* + - 1. Capacity: 750 pounds (340 kg).
			2. Capacity: 1,000 pounds (454 kg).
			3. Car Size: Maximum of 15 sq ft (1.39 sq m).

\*\* NOTE TO SPECIFIER \*\* Delete the car sizes not required. Verify that 42 and 48 inch by 60 size is permitted by the local code. Custom Cab Sizes are also available. Contact Garaventa Lift for details.

* + - * 1. 36 x 48 inches (914 x 1219 mm).
				2. 36 x 54 inches (914 x 1372 mm).
				3. 36 x 60 inches (914 x 1525 mm).
				4. 40 x 50 inches (1016 x 1270 mm).
				5. 40 x 54 inches (1016 x 1372 mm).
				6. 42 x 60 inches (1067 x 1525 mm).
				7. 48 x 60 inches (1219 x 1525 mm).

\*\* NOTE TO SPECIFIER \*\* Delete car height not required. The 96 inch height option is not available with upgrade or premium door packages.

* + - 1. Nominal Car Height: 84 inches (2134 mm).
				1. Overhead Clearance: 96 inches (2238 mm) above the upper landing level.

Exception: For In-line Drive System with Electrical Control box located inside hoistway the total overhead clearance is 108 inches (2743 mm).

* + - 1. Nominal Car Height: 96 inches (2438 mm).
				1. Overhead Clearance: 108 inches (2743 mm) above the upper landing level.

Exception: For In-line Drive System with Electrical Control box located inside hoistway the total overhead clearance is 120 inches (3048 mm).

* + - 1. Platform Configuration:

\*\* NOTE TO SPECIFIER \*\* Delete styles options not required.

* + - * 1. Style 1L: On/Off Same Side Entry/Exit, Adjacent to rails. One side opening.
				2. Style 1R: On/Off Same Side Entry/Exit, Adjacent to rails. One side opening.
				3. Style 2: Straight Through Entry/Exit. Front and rear openings.
				4. Style 3: 90 Degree Entry/Exit. Front and side openings.
				5. Style 4: 90 Degree Entry/Exit. Front and side openings.
				6. Style 5: On/Off Same Side Entry/Exit, Opposite rails. One front opening only.

\*\* NOTE TO SPECIFIER \*\* This series has a standard travel of 50 feet (15.2 m). Minimum distance between floors is 10 inches (254 mm).

* + - 1. Travel: \_\_\_\_ feet \_\_\_ inches (\_\_\_\_ m).

\*\* NOTE TO SPECIFIER \*\* Delete stops options not required.

* + - 1. Stops: 2 stops.
			2. Stops: 3 stops.
			3. Stops: 4 stops.
			4. Stops: 5 stops.
			5. Stops: 6 stops.
			6. Stops: As indicated on the Drawings.
			7. Speed: Nominal 40 ft per min (0.2 m per sec).
			8. Pit Depth: As per manufacturers shop drawings.

\*\* NOTE TO SPECIFIER \*\* Delete the drive system options not required.

* + - 1. Drive System: Hydraulic Drive.
				1. 1:2 Cable Hydraulic.
				2. Heavy duty car sling with roller guide shoes running on 8 lbs per ft steel T-rails.
				3. Quiet submersed pump and motor.
				4. Factory pre-set and tested 2-speed valve for smooth start and stop.
				5. Pump unit to be located in a machine room outside of the hoistway.
			2. Drive System: In-line Geared Drive.
				1. Counterweighted geared drive.
				2. Heavy duty car sling with roller guide shoes running on 8 lbs per ft steel T-rails.
				3. Motor mounted above the guide rails.
				4. No machine room required.
				5. Electronic Control Box: Locate at the top of the hoistway or remotely located.
				6. Access Hatch: 6 x 6 inch (152 x 152 mm) located at the upper landing for emergency manual lowering.
			3. Power Requirements:

\*\* NOTE TO SPECIFIER \*\* Delete the two power paragraphs not required.

* + - * 1. Single Phase (Hydraulic Drive): 230 VAC, 30 Amp.
				2. Three Phase (Hydraulic Drive): 208 VAC, 20 Amp.
				3. Single Phase (In-Line Geared Drive): 230 VAC, 15 Amp.
				4. A Separate 115 Volt, 15 Amp Circuit is always required for car lighting.
			1. Controls:
				1. Garaventa-Design PLC Controller with integrated self diagnostics.
				2. Fully automatic push button at car and hall landings.
				3. Automatic car lighting.
				4. Digital floor indicator in Car.
			2. Doors and Door Interlocks:

\*\* NOTE TO SPECIFIER \*\* Delete door package options not required. the first option is standard. The second option is an upgrade.

* + - * 1. Door Package: Swinging hoistway landing doors and an accordion car gate.

A passage door (swing type) that protects entrance into the hoistway to be supplied as specified in Section 08200 at each landing.

\*\* NOTE TO SPECIFIER \*\* Delete the hallway landing doors options not required.

Hallway Landing Doors and Flush Frames: Provided by others. Flush frames are special door frames that allow for the door to sit substantially flush to the elevator side of the hoistway wall and open away from the elevator.

Hallway Landing Doors: Provided by others. 36 x 80 x 1-3/4 inch (914 x 2032 x 44 mm) solid core.

Flush Door Frames: Provided by manufacturer for each landing.

Landing doors fitted to flush frames by others.

Hallway Landing Doors: Provided by manufacturer. 36 x 80 x 1-3/4 inch (914 x 2032 x 44 mm) six panel steel.

Prehung on flush frames provided by manufacturer.

Door Interlock: At each door entrance.

Prevents elevator operation unless the hoistway door is closed and locked.

Prevents opening of the hoistway door from the landing unless the elevator car is within the landing zone.

Accordion Style Gate with a Safety Switch: Mounted on all opening sides of the car. The safety switch prevents the car from leaving the landing zone when gate is open.

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

Finish on Accordion Gate Hardware: Nickel.

Finish on Accordion Gate Hardware: Bronze.

Finish on Accordion Gate Panels:

\*\* NOTE TO SPECIFIER \*\* Delete options not required.

3 clear acrylic panels located closest to the handle. The remainder of the panels to be white.

3 clear acrylic panels located closest to the handle. The remainder of the panels to be black.

Panels to be white.

Panels to be black.

Panels to be clear acrylic.

Panels to be bronze acrylic.

Panels to be perforated aluminum; nickel.

Panels to be perforated aluminum; white.

Panels to be perforated aluminum; black.

Power Door Operator: Automatically opens the door/gate when platform arrives at a landing. Also opens at landing by pressing the call button.

ADA Compliant and obstruction sensitive.

Low voltage, 24 VDC with all wiring concealed.

Provide power operators at the following locations:

Car Gates.

Hall Doors. Floor Locations: \_\_\_\_\_\_\_\_\_\_.

* + - * 1. Door Package: Swinging hall landing doors and automatic three speed side sliding elevator car doors.

A swing type passage door that protects entrance into the hoistway to be supplied as specified in Section 08200 at each landing.

\*\* NOTE TO SPECIFIER \*\* Delete hallway landing doors options not required.

Hallway Landing Doors and Flush Frames: Provided by others.

Flush Frames: Door frames that allow for the door to sit substantially flush to the elevator side of the hoistway wall and open away from the elevator.

Hallway Landing Doors: Provided by others. 36 x 80 x 1-3/4 inch (914 x 2032 x 44 mm) solid core.

Flush Door Frames: Provided by manufacturer for each landing. Landing doors fitted to flush frames by others.

Hallway Landing Doors: 36 x 80 x 1-3/4 inch (914 x 2032 x 44 mm) six panel steel.

Prehung on flush frames provided by manufacturer.

Door Interlock: At each door entrance.

Prevents elevator operation unless hoistway door is closed and locked.

Prevents opening of hoistway door from the landing unless the elevator car is in the landing zone.

Power Door Operator: Automatically opens the door when platform arrives at a landing. Also opens at landing by pressing the call button.

ADA Compliant and obstruction sensitive.

Low voltage, 24 VDC with all wiring concealed.

Provide power operators at the following locations:

Hall doors. Floor Locations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Three speed side sliding elevator doors to be mounted on all opening sides of the car.

Operation: Fully automatic.

Safety Light Obstruction Sensor: Opens the door if an obstruction is sensed while the door is closing.

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

Finish: White powdercoat.

Finish: Black powdercoat.

Finish: Brushed stainless steel.

* + - * 1. Premium Door Package: Tandem three speed side sliding elevator hall and car doors.

\*\* NOTE TO SPECIFIER \*\* Delete elevator door option not required.

Three Speed Side Sliding Elevator Doors: Mounted at all opening sides of the car.

Operation: Fully automatic.

Safety Light Obstruction Sensor: Opens the door if an obstruction is sensed while the door is closing.

\*\* NOTE TO SPECIFIER \*\*Delete finish options not required.

Finish: White powdercoat.

Finish: Black powdercoat.

Finish: Brushed stainless steel.

Three Speed Side Sliding Elevator Doors: Mounted at all hoistway entrances.

Sliding hall landing doors engage with sliding car doors as elevator car approaches each landing.

Sliding doors operate in tandem.

Safety Light Obstruction Sensor: Opens the door if an obstruction is sensed while the door is closing.

\*\* NOTE TO SPECIFIER \*\* Delete finish option not required.

Finish: Primer.

Finish: Brushed stainless steel.

* + - 1. Safety Features:
				1. Manual lowering device.
				2. Safety brake system.
				3. Car operator with integral gate switch; standard door package only.
				4. Safety light door obstruction sensor; Upgrade and Premium door packages only.
				5. Automatic bi-directional floor leveling.
				6. Emergency alarm button in car, Emergency keyed stop switch in car.
				7. Overspeed valve is provided for hydraulic drive only.
				8. Final limit switch.
				9. Low oil protection timer circuit is provided for hydraulic drive only.
				10. Pit prop.
			2. Automatic Home Parking: To be field set.
			3. Options:

\*\* NOTE TO SPECIFIER \*\* Delete options not required.

* + - * 1. Integrated telephone.
				2. Telephone box.
				3. Buffer springs. Increases pit depth.
				4. Keyed hall stations.

\*\* NOTE TO SPECIFIER \*\* Include the following paragraphs for hydraulic drive system only. Various arrangements are available to accommodate most machine room configurations. Coordinate the machine room size and location with the installer.

* + - 1. Machine Location: As indicated on the Drawings.
	1. CAB DESIGN

\*\* NOTE TO SPECIFIER \*\* Edit the following cab design paragraphs as required. Delete those not required. Floors are wood construction and are provided unfinished with finishes provided by others.

* + 1. Cab Design:
			1. Interior Walls: Panel selections.

\*\* NOTE TO SPECIFIER \*\* Delete panel selections options not required, then delete color or wood type options not required,

* + - * 1. MDF: 3/4 inch.
				2. Flat Melamine:

Color: White.

Color: Grey.

Color: Dark Maple.

Color: Black.

Color: Coastal.

Color: Sahara.

* + - * 1. Luxury Laminate:

Color: Beachwood.

Color: Dove Grain.

Color: Slate.

Color: Silverwood.

Color: Timber.

Color: Birch Stone.

* + - * 1. Unfinished Veneer:

Wood Type: Birch.

Wood Type: Maple.

Wood Type: Walnut.

Wood Type: White Oak.

* + - * 1. Unfinished Recessed Veneer:

Wood Type: Maple.

Wood Type: Red Oak.

Wood Type: Cherry.

* + - 1. Ceiling Finish: Panel selection.
				1. MDF: 3/4 inch.

\*\* NOTE TO SPECIFIER \*\* Delete ceiling selections options not required.

* + - * 1. Flat Melamine: Color: White.
				2. Flat Melamine: Color: Grey.
				3. Flat Melamine: Color: Dark Maple.
				4. Flat Melamine: Color: Black.
				5. Flat Melamine: Color: Coastal.
				6. Flat Melamine: Color: Sahara.
				7. Luxury Laminate: Color: Beachwood.
				8. Luxury Laminate: Color: Dove grain.
				9. Luxury Laminate: Color: Slate.
				10. Luxury Laminate: Color: Silverwood.
				11. Luxury Laminate: Color: Timber.
				12. Luxury Laminate: Color: Birch stone.
				13. Unfinished Veneer: Wood Type: Birch.
				14. Unfinished Veneer: Wood Type: Maple.
				15. Unfinished Veneer: Wood Type: Walnut.
				16. Unfinished Veneer: Wood Type: White Oak.
				17. Unfinished Recessed Veneer: Wood Type: Maple.
				18. Unfinished Recessed Veneer: Wood Type: Red Oak.
				19. Unfinished Recessed Veneer: Wood Type: Cherry.

\*\* NOTE TO SPECIFIER \*\* Delete handrail finish options not required.

* + - 1. Handrail Finish: Stainless Steel, brushed.
			2. Handrail Finish: Premium Stainless Steel, brushed.
			3. Handrail Finish: Premium Stainless Steel, polished.
			4. Handrail Finish: Premium Brass, brushed.
			5. Handrail Finish: Premium Brass, polished.

\*\* NOTE TO SPECIFIER \*\* Delete car operating panel finish options not required.

* + - 1. Car Operating Panel Finish: Stainless Steel, brushed.
			2. Car Operating Panel Finish: Premium Stainless Steel, brushed.
			3. Car Operating Panel Finish: Premium Bright Gold.
			4. Car Operating Panel Finish: Premium Oil Rubbed Bronze.
			5. Car Operating Panel Finish: Premium Stainless Steel Satin Black.
			6. Car Operating Panel Finish: Elite White Glass.
			7. Car Operating Panel Finish: Elite Black Glass.
			8. Floor: Unfinished 3/4 inch plywood construction.
				1. Floor Finish: Supplied by others.
			9. Lighting: Four recessed L.E.D. down lights.
				1. 110 VAC, single phase, 15 Amps.
				2. Failure of one lamp shall not cause the remaining lamps to extinguish.
				3. Lights are to turn on automatically when the elevator door is opened and stay on while the elevator is in use. Lights will automatically turn off after a predetermined time interval when the elevator is not in use.

\*\* NOTE TO SPECIFIER \*\* Delete trim finish options not required.

* + - * 1. Trim Finish: White.
				2. Trim Finish: Black.
				3. Trim Finish: Chrome.
		1. Hall Call Stations:

\*\* NOTE TO SPECIFIER \*\* Delete type options not required.

* + - 1. Push Button: Standard Keyless.
			2. Push Button: Premium Keyless.
			3. Push Button: Standard Keyed.
			4. Push Button: Premium Keyed.
			5. Push Button: Premium Keyless with Digital Position Indicator.
			6. Push Button: Premium Keyed with Digital Position Indicator.

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - 1. Finish: Standard Stainless Steel, brushed.
			2. Finish: Premium Stainless Steel, brushed.
			3. Finish: Premium Bright Gold.
			4. Finish: Premium Oil Rubbed Bronze.
			5. Finish: Premium Stainless Satin Black.
			6. Finish: Elite White Glass.
			7. Finish: Elite Black Glass.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until preliminary work including hoistway, landings and machine space has been properly prepared.
		2. Verify shaft and machine space are of correct size and within tolerances.
		3. Verify required landings and openings are of correct size and within tolerances.
		4. Verify hoistway shaft and machine room temperature is designed to have maintainable temperatures between 60 and 110 degrees F (16 and 43 degrees C).
		5. Verify machine room, when required, is provided with lighting, light switch, convenience outlets and meets the clear space requirements of ASME A17.1 /CSA B-44, NFPA 70 (CSA/C22.1) and all local codes.
		6. Verify hoistway and openings are of correct size and within tolerance.
		7. Verify electrical power is available and of correct characteristics.
		8. If preliminary work 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 elevator in accordance with applicable regulatory requirements including ASME A17.1 /CSA B-44 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 ASME A17.1 /CSA B-44 and as required by authorities having jurisdiction.
		2. Schedule tests with agencies and Architect, Owner, and Contractor present.
	5. CLEANING
		1. Remove protective coverings from finished surfaces.
		2. Clean surfaces and components.
	6. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION