1. GENERAL
	1. SECTION INCLUDES

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

* + 1. Commercial Dumbwaiters.
	1. RELATED SECTIONS

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

* + 1. Section 06100 - Rough Carpentry: Hoistway framing, building-in hoistway door frames and overhead hoist beams.
		2. Section 05500 - Metal Fabrications: Miscellaneous supports.
		3. Section 07724 - Roof Hatches: Smoke venting hatch at top of hoistway.
		4. Section 08210 - Wood Doors: Hoistway doors.
		5. Section 08310 - Access Doors and Panels: Fire rated access doors into hoistway.
		6. Section 08710 - Door Hardware.
		7. Section 09260 - Gypsum Board Assemblies: Gypsum shaft walls.
		8. Section 13850 - Detection and Alarm: Fire and smoke detectors and interconnecting devices.
		9. Division 16 - Electrical:
			1. Electrical characteristics and wiring connections.
			2. Electrical service to lockable fused disconnect in Dumbwaiter machine Area.
			3. Electrical service for machine room/ Area, machine room convenience outlets, and lighting in dumbwaiter Hoistway/pit.
	1. REFERENCES

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

* + 1. ASME A17.1/CSA B-44 - Safety Code for Elevators and Escalators; Part 7 - Dumbwaiters and Material Lifts.
		2. ASME A17.2/CSA B-44 - Inspector's Manual for Electric Elevators.
	1. DESIGN / PERFORMANCE REQUIREMENTS
		1. Conform with ASME A17.1/CSA B-44 and to applicable code for manufacture and installation of dumbwaiter system.
		2. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc., as suitable for purpose specified and indicated.
	2. SUBMITTALS
		1. Submit under provisions of Section 01300.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		3. Shop Drawings:
			1. Machine, controller, selector, and other component locations.
			2. Car, machine, guide rails, buffers, and other components in hoistway.
			3. Rail bracket spacing; maximum loads imposed on guide rails requiring load transfer to building structural framing.
			4. Individual weight of principal components; load reaction at points of support.
			5. Clearances and overall travel of car.
			6. Locations in hoistway and machine room of traveling cables.
			7. Location and sizes of access doors, doors, and frames.
			8. Electrical characteristics and connection requirements.
			9. Show arrangement of equipment in machine room so rotating elements and other equipment can be removed for repairs or replaced without disturbing other components. Arrange equipment for clear passage through access door.

\*\* 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. Verification Samples: For each finish product specified, two samples, minimum size 3 inches (76 mm) square, representing actual product, color, and patterns.
		3. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.
		2. Installer Qualifications: Company specializing in performing Work of this section and approved by dumbwaiter manufacturer.
	2. PRE-INSTALLATION MEETINGS
		1. Convene minimum two weeks prior to start of work of this section.
		2. Review hoistway, electrical, fire alarm and other requirements with appropriate representatives.
	3. DELIVERY, STORAGE, AND HANDLING
		1. Store products in manufacturer's unopened packaging until ready for installation.
		2. Store materials, indoors and under cover, in accordance with requirements of the manufacturer.
		3. Store materials on install site, secure, indoors and under cover, in accordance with

 requirements of the manufacturer.

* 1. SEQUENCING
		1. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
		2. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
	2. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
	3. WARRANTY
		1. Provide manufacturer's standard two year limited warranty.

\*\* NOTE TO SPECIFIER \*\* Include the following paragraph if required, Delete if not required.

* 1. MAINTENANCE SERVICE
		1. Provide minimum quartey service and maintenance for Dumbwaiter system and components for one year from Date of Substantial Completion.
		2. Include systematic examination, adjustment, and lubrication of dumbwaiter equipment. Repair or replace parts whenever required. Use parts produced by manufacturer of original equipment. Replace components 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 dumbwaiter manufacturer or original installer.
1. PRODUCTS
	1. SUPPLIED BY
		1. Acceptable Supplier: CITI Elevator., Tel: 416-900-6974 (CAN); TEL 716-513-9535 (USA) Web: www.citielevator.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:
		2. Requests for substitutions will be considered in accordance with provisions of Section 01600.
			1. \*\* NOTE TO SPECIFIER \*\* Select optional equipment required from the following marked with (\*\*)
	1. HEAVY DUTY COMMERCIAL DUMBWAITER (Please Select one \*\*)

\*\* NOTE TO SPECIFIER \*\* The Paca-Waiter® PW-311 is intended for multi-floor heavy duty commercial applications. Standard car sizes are specified in the following paragraphs. Select the car size and capacity required and delete those not required. Custom car sizes and finishes are available. Contact Waupaca Elevator Company, Inc. for additional information on a custom dumbwaiter to meet specific needs for form and function.

* + 1. The Dumbwaiter, Model DWH (Select one):
			- 1. DWH-200lbs (90kg)
				2. DWH-300 lbs (136kg)
				3. DWH-400 lbs (182kg)
				4. DWH-500 lbs (227 kg)
				5. DWH-Custom ( )
			1. Standard Car size: (Select one\*\*)
				1. 24” (609mm)W X 24” (609mm)D X 36” (914mm)H min capacity is 200lbs
				2. 30” (762mm)W X 30” (762mm)D X 36” (914mm)H min capacity is 300lbs
				3. 36” (914mm)W X 36” (914mm)D X 36” (914mm)H min capacity is 400lbs
				4. 36” (914mm)W X 36” (914mm)D X 48” (1219mm)H min capacity is 500lbs
				5. Custom ( )

* + - 1. Maximum Travel: 25 feet.

Total Travel: (Please Provide\*\*)

\*\* NOTE TO SPECIFIER \*\* Select the number of stops required in the following paragraphs and delete those not required.

* + - 1. Car Style: (Select One)
				1. Style 1 (On/Off Same side).
				2. Style 2 (On/Off opposite side).
			2. Standard Loading Height: (Select one\*\*)
				1. Counter loading height 36 inches.
				2. Floor loading require 30” min pit.
			3. Speed: 30 feet per minute.
			4. Voltage (Standard): 208 VAC./3 PH
			5. Motor HP: 1.5hp- 2 hp
			6. Position Control: limit Switch at each floor.
			7. Power Requirements:
				1. 208 Volt, 15 Amp, Three Phase, 60 Hertz.
				2. A separate manual disconnect circuit is required.

\*\* NOTE TO SPECIFIER \*\* Interlock is required at each opening to prevent car from operating if any hoistway door is open.

* + - 1. Interlocks (required): Included at each opening.
			2. Metal Car/Car Gates:

\*\* NOTE TO SPECIFIER \*\* Select the Metal Car material and gate type required from the following paragraphs and delete the ones not required.

* + - * 1. Bi-parting steel gate and shelf (1) shop primed coated.
				2. Bi-parting stainless steel gate and shelf (1)
				3. \*\* NOTE TO SPECIFIER \*\* Select optional hoistway doors and frames from the following paragraphs and delete the ones not required. Delete entirely if provided by others.
			1. Hoistway Doors and Frames:
				1. Doors and Frames: Bi-parting steel door shop primed. (finish by others)
				2. Doors and Frames: Bi-parting stainless steel door.
				3. Doors: Slide-up steel door shop primed. (finish by others)
				4. Doors: Slide-up stainless steel doors.
			2. Guide Rails: T-Rails
			3. Brake: electromagnetic disc brake, electrically released and spring applied.
			4. Chain: #50
			5. . Safety’s and spring buffers required when habitable space below shaft.
			6. Top and Bottom Final Limit Switches.
			7. CSA/UL Certified Controller both B44/ANSI 17 and B44.1 compliant
			8. Call-Send Stations: Momentary contact call/send push buttons at each landing.

\*\* NOTE TO SPECIFIER \*\* Select optional equipment required from the following paragraphs and delete the ones not required.

* + - 1. "In-Use light" Indicator.
			2. Shaft access doors. (Please Select one)

\*\* NOTE TO SPECIFIER \*\* Select the shaft access door required from the following paragraphs and delete the ones not required.

* + - * 1. Stainless Steel.
				2. Primed Steel.

\*\* NOTE TO SPECIFIER \*\* The Paca-Waiter® PW-511 is intended for multi-floor heavy duty commercial applications. Standard car sizes are specified in the following paragraphs. Select the car size and capacity required and delete those not required. Custom car sizes and finishes are available. Contact Waupaca Elevator Company, Inc. for additional information on a custom dumbwaiter to meet specific needs for form and function.

\*\* NOTE TO SPECIFIER \*\* Select the number of stops required in the following paragraphs and delete those not required.

* + - 1. Number of Stops: (Please select one)
				1. 2 stops.
				2. 3 stops.
				3. 4 stops.
				4. 5 stops.
			2. Standard Loading Height: 36 inches counter loading unit.
			3. Standard Pit depth: 30” for floor loading units.
			4. Voltage (Standard): 208 VAC/3Phase 60hz
			5. Motor HP: 1.5 to 2 hp warm gear motor with 58:1 Reducer
			6. Position Control: Limit Switches
			7. Power Requirements:
				1. 208 Volt, 15 Amp, three (3) Phase, 60 Hertz with 15amp time delay fuse.
				2. A separate manual disconnect circuit is required.

\*\* NOTE TO SPECIFIER \*\* Interlock is required at each opening to prevent car from operating if any hoistway door is open.

* + - 1. Interlocks (required): Included at each opening.
			2. Metal Car/Cab Gates: (Select One)

\*\* NOTE TO SPECIFIER \*\* Select the Metal Car material and gate type required from the following paragraphs and delete the ones not required.

* + - * 1. Bi- Parting Material Primed Steel Car gate(s)
				2. Bi- Parting Material Stainless Steel Car gate (s)

\*\* NOTE TO SPECIFIER \*\* Select optional hoistway doors and frames from the following paragraphs and delete the ones not required. Delete entirely if provided by others.

* + - 1. Hoistway Doors and Frames (Select one)
				1. Doors and Frames: Bi-parting steel door shop primed.
				2. Doors and Frames: Bi-parting stainless steel door.
			2. Guide Rails: heavy gauge steel T-rails.
			3. Brake: electromagnetic disc brake, electrically released and spring applied.
			4. Safety’s and spring buffers required when habitable space below shaft.
			5. Top and Bottom Final Limit Switches.
			6. CSA/UL Certified Controller both B44/ASME A-17.1 and B44.1 compliant
			7. Call-Send Stations: Momentary contact call/send push buttons at each landing.
			8. \*\* NOTE TO SPECIFIER \*\* Select optional equipment required from the following paragraphs and delete the ones not required.

* + - 1. Shaft access doors.

\*\* NOTE TO SPECIFIER \*\* Select the shaft access door required from the following paragraphs and delete the ones not required.

* + - * 1. Stainless Steel.
				2. Primed Steel.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until preliminary work including hoistway, landings and machine space has been properly prepared.
2. GENERAL
	1. SECTION INCLUDES

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

* + 1. Electric Dumbwaiters.
	1. RELATED SECTIONS

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

* + 1. Section 06100 - Rough Carpentry: Hoistway framing, building-in hoistway door frames and overhead hoist beams.
		2. Section 05500 - Metal Fabrications: Miscellaneous supports.
		3. Section 07724 - Roof Hatches: Smoke venting hatch at top of hoistway.
		4. Section 08210 - Wood Doors: Hoistway doors.
		5. Section 08310 - Access Doors and Panels: Fire rated access doors into hoistway.
		6. Section 08710 - Door Hardware.
		7. Section 09260 - Gypsum Board Assemblies: Gypsum shaft walls.
		8. Section 13850 - Detection and Alarm: Fire and smoke detectors and interconnecting devices.
		9. Division 16 - Electrical:
			1. Electrical characteristics and wiring connections.
			2. Electrical service to lockable fused disconnect in elevator machine room.
			3. Electrical service for machine room, machine room convenience outlets, and lighting in elevator pit.
	1. REFERENCES

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

* + 1. ASME A17.1 - Safety Code for Elevators and Escalators; Part 7 - Dumbwaiters and Material Lifts.
		2. ASME A17.2 - Inspector's Manual for Electric Elevators.
	1. DESIGN / PERFORMANCE REQUIREMENTS
		1. Conform with ASME A17.1 and to applicable code for manufacture and installation of dumbwaiter system.
		2. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc., as suitable for purpose specified and indicated.
	2. SUBMITTALS
		1. Submit under provisions of Section 01300.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		3. Shop Drawings:
			1. Machine, controller, selector, and other component locations.
			2. Car, sheaves, machine, guide rails, buffers, ropes, and other components in hoistway.
			3. Rail bracket spacing; maximum loads imposed on guide rails requiring load transfer to building structural framing.
			4. Individual weight of principal components; load reaction at points of support.
			5. Clearances and overall travel of car.
			6. Locations in hoistway and machine room of traveling cables.
			7. Location and sizes of access doors, doors, and frames.
			8. Electrical characteristics and connection requirements.
			9. Show arrangement of equipment in machine room so rotating elements and other equipment can be removed for repairs or replaced without disturbing other components. Arrange equipment for clear passage through access door.
	3. WARRANTY
		1. Provide manufacturer's standard one year limited warranty.

\*\* NOTE TO SPECIFIER \*\* Include the following paragraph if required, Delete if not required.

1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until preliminary work including hoistway, landings and machine space has been properly prepared.
		2. Verify hoistway and openings are of correct size and within tolerance.
		3. Verify electrical power is available and of correct characteristics.
		4. 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 in accordance with ASME A17.1/CSA B-44 Part 7 and the manufacturer's instructions.
		2. Install system components. Connect equipment to building utilities.
		3. Install conduit, boxes, wiring, and accessories.
		4. Isolate machine on structural supports and bearing plates. Securely fasten to building supports. Prevent lateral displacement.
		5. Accommodate equipment in space indicated.
		6. Install guide rails using threaded bolts and lock washers under nuts.
		7. Accurately align guide rails. Form smooth joints with machined splice plates.
		8. Bolt brackets directly to hoistway framing.
		9. Coordinate installation of hoistway wall construction.
		10. Tack hoistway doors, sills, frames, and headers in hoistway walls. Final finishing by others.
		11. Set entrances in vertical alignment with car openings and aligned with plumb hoistway lines.
		12. Coordinate installation of hoistway door hardware. Install interlocks as required.
		13. Adjust equipment for smooth and quiet operation.
	4. FIELD QUALITY CONTROL
		1. Perform tests required by ASME A17.1/CSA B-44.
		2. Provide two weeks written notice of date and time of tests.
		3. Supply instruments and execute specific tests.
		4. Perform following tests in presence of Architect:
			1. Test dumbwaiter system by transporting the rated load up from main floor during five minute period.
			2. At an agreed time during contract warranty period, and with building normally occupied using normal building traffic, conduct tests to verify performance.
			3. Time dumbwaiter travel between typical floors at not more than rated travel time. Measure time from moment doors start to close until car has stopped level at next floor and doors are opening.
	5. FIELD SERVICES
		1. Obtain required permits to perform tests. Perform tests required by regulatory agencies.
		2. Schedule tests with agencies and Architect and Contractor present.
		3. Submit test and approval certificates issued by jurisdictional authorities.
	6. ADJUSTING
		1. Adjust for smooth movement of car.
		2. Adjust for consistent stopping between landings.
	7. CLEANING
		1. Remove protective coverings from finished surfaces.
		2. Clean surfaces and components ready for inspection.
	8. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

* + 1. Verify electrical power is available and of correct characteristics.
		2. If preliminary work is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
	1. 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.
	2. INSTALLATION
		1. Install in accordance with ASME A17.1/CSA B-44 Part 7 and the manufacturer's instructions.
		2. Install system components. Connect equipment to building utilities.
		3. Install conduit, boxes, wiring, and accessories.
		4. Isolate machine on structural supports and bearing plates. Securely fasten to building supports. Prevent lateral displacement.
		5. Accommodate equipment in space indicated.
		6. Install guide rails using threaded bolts and lock washers under nuts.
		7. Accurately align guide rails. Form smooth joints with machined splice plates.
		8. Bolt brackets directly to hoistway framing.
		9. Coordinate installation of hoistway wall construction.
		10. Install hoistway doors, sills, frames, and headers in hoistway walls.
		11. Set entrances in vertical alignment with car openings and aligned with plumb hoistway lines.
		12. Coordinate installation of hoistway door hardware. Install interlocks as required.
		13. Adjust equipment for smooth and quiet operation.
	3. FIELD QUALITY CONTROL
		1. Perform tests required by ASME A17.1/CSA B-44.
		2. Provide two weeks written notice of date and time of tests.
		3. Supply instruments and execute specific tests.
		4. Perform following tests in presence of Architect:
			1. Test dumbwaiter system by transporting the rated load up from main floor during five minute period.
			2. Time dumbwaiter travel between typical floors at not more than rated travel time. Measure time from moment doors start to close until car has stopped level at next floor and doors are opening.
	4. FIELD SERVICES
		1. Obtain required permits to perform tests. Perform tests required by regulatory agencies.
		2. Schedule tests with agencies and Architect and Contractor present.
		3. Submit test and approval certificates issued by jurisdictional authorities.
	5. ADJUSTING
		1. Adjust for smooth movement of car.
		2. Adjust for consistent stopping between landings.
	6. CLEANING
		1. Remove protective coverings from finished surfaces.
		2. Clean surfaces and components ready for inspection.
	7. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION