Part 1 General

1.1 SECTION INCLUDES

.1 Non-rated steel frames and doors.

.2 Non-rated steel frames for wood doors.

.3 Non-rated frames for borrowed lights.

1.2 RELATED SECTIONS

.1 Section 07 92 00 - Joint Sealants.

.2 Section 08 14 16 - Wood Doors.

.3 Section 08 71 00 - Door Hardware.

.4 Section 08 80 00 - Glazing.

.5 Section 09 91 23 - Interior Painting: Field painting of frames

1.3 REFERENCES

.1 Canadian Steel Door and Frame Manufacturers Association - Manufacturing Standard for Steel Doors and Frames.

.2 Canadian Steel Door and Frame Manufacturers Association - Manufacturing Specifications for Steel Doors and Frames.

.3 Canadian Steel Door and Frame Manufacturers Association - Canadian Metric Guide for Steel Doors and Frames (Modular Construction).

1.4 SUBMITTALS FOR REVIEW

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data: Indicate door and frame configurations and finishes, location of cut-outs for hardware reinforcement.

.3 Shop Drawings:

.1 Indicate frame elevations, reinforcement, anchor types and spacing, location of cut-outs for hardware, and finish.

.2 Indicate door elevations, internal reinforcement, closure method, and cut-outs for glazing, and finishes.

1.5 SUBMITTALS FOR INFORMATION

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Manufacturer's Installation Instructions: Indicate special installation instructions.

.3 Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

.1 Conform to requirements of Canadian Steel Door and Frame Manufacturers Association standards.

1.7 DELIVERY, STORAGE, AND PROTECTION

.1 Remove doors and frames from wrappings or coverings upon receipt on site and inspect for damage.

.2 Store in vertical position, spaced with blocking to permit air circulation between components.

.3 Store materials on planks or dunnage, out of water and covered to protect from damage.

.4 Clean and touch up scratches or disfigurement caused by shipping or handling with zinc-rich primer.

1.8 COORDINATION

.1 Coordinate the work with frame opening construction, door, and hardware installation.

.2 Sequence installation to ensure wire connections are achieved in an orderly and expeditious manner.

Part 2 Products

2.1 MATERIALS

.1 Sheet Steel: Galvanized steel to ASTM A653/A653M, commercial grade (CS), Type B,

.1 Coating designation ZF120 (A40) for interior doors and frames.

.2 Reinforcement Channel: To CSA G40.20/G40.21, Type 44W, coating designation to ASTM A653M, ZF75.

2.2 DOOR CORE MATERIALS

.1 Honeycomb Core: Structural small cell 25.4 mm maximum kraft paper honeycomb, sanded to required thickness.

2.3 ADHESIVES

.1 Cores and Steel Components: Heat resistant, structural reinforced epoxy, resin based adhesive.

.2 Lock Seam: Reinforced epoxy resin, high viscosity, thicksotroptic sealant.

2.4 ACCESSORIES

.1 Primer: Zinc chromate type.

.2 Joint Sealers - Interior: Acrylic, to Section 07 92 00.

.3 Door Silencers: Single stud rubber/neoprene.

.4 Removable Glazing Stops: Formed galvanized steel channel, minimum 16 mm high, accurately fitted, butted at corners and fastened to frame sections with counter-sunk tamper proof sheet metal screws.

.5 Glass: In accordance with Section 08 80 00.

2.5 FABRICATION - DOORS

.1 Interior Doors: Laminated core construction.

.1 Both face sheets of 1.5 mm base metal thickness with honeycomb core, laminated under pressure to face sheets.

.2 Longitudinal Edges: Mechanically interlocked with adhesive; exterior doors to be tack welded with filled seams or fully welded seams.

.3 Mortised, blanked, reinforced, drilled and tapped for templated hardware, in accordance with templates provided by hardware supplier.

.4 Reinforce for surface mounted hardware, anchor hinges, thrust pivots, pivot reinforced hinges, or non-templated hardware.

.5 Top and Bottom Channels: Inverted, recessed, welded steel channels.

.6 Provide factory-applied touch-up primer at areas where zinc coating has been removed during fabrication.

2.6 FABRICATION - FRAMES

.1 Interior Frames: 1.5 mm thick base metal thickness.

.1 Door Frame Assemblies: Welded type construction.

.2 Sidelight Assemblies: Welded type construction.

.2 Mortised, blanked, reinforced, drilled and tapped for templated hardware, in accordance with templates provided by hardware supplier.

.3 Reinforce frames wider than 1200 mm with roll formed steel channels fitted tightly into frame head, flush with top.

.4 Prepare frames for silencers. Provide three single silencers for single doors and mullions of double doors on strike side. Provide two silencers on frame head at double doors without mullions.

2.7 FINISH

.1 Finish: Field painted in accordance with Section 09 91 23.

Part 3 Execution

3.1 EXAMINATION

.1 Verify that opening sizes and tolerances are acceptable; check floor area within path of door swing for flatness.

.2 Verify frames are correct size, swing, rating and opening number.

.3 Remove temporary shipping spreaders.

3.2 INSTALLATION

.1 Install doors and frames to CSDMA.

.2 Coordinate with wall construction for anchor placement.

.3 Coordinate installation of glass and glazing.

.4 Coordinate installation of doors and frames with installation of hardware specified in Section 08 71 00

.5 Set frames plumb, square, level and at correct elevation.

.6 Secure anchorages and connections to adjacent construction.

.7 Brace frames rigidly in position while building-in. Install wood spreaders at third points of frame rebate height to maintain frame width. Provide vertical support at centre of head for openings exceeding 1200 mm in width.

.8 Remove wood spreaders after frames have been built-in.

.9 Make allowance for deflection to ensure structural loads are not transmitted to frame product.

.10 Install doors and hardware in accordance with hardware templates and manufacturer's instructions.

.11 Adjust operable parts for correct clearances and function.

.12 Install glazing and door silencers.

.13 Finish paint in accordance with Section 09 91 23.

3.3 ERECTION TOLERANCES

.1 Maximum Diagonal Distortion: 3 mm measured with straight edges, crossed corner to corner.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Flush wood doors; non-rated.

1.2 RELATED SECTIONS

.1 Section 08 11 13 - Standard Metal Doors and Frames.

.2 Section 08 71 00 - Door Hardware.

.3 Section 08 80 00 - Glazing.

1.3 REFERENCES

.1 AWMAC (Architectural Woodwork Manufacturers Association of Canada) - Quality Standards.

.2 CAN4 S104-80(R1985) - Fire Tests of Door Assemblies.

.3 NFPA 80-1999 - Standard for Fire Doors and Fire Windows.

.4 NFPA 252-1999 - Standard Method of Fire Tests of Door Assemblies.

1.4 SUBMITTALS FOR REVIEW

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

.3 Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, factory machining criteria, factory finishing criteria.

1.5 SUBMITTALS FOR INFORMATION

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Manufacturer's Installation Instructions: Indicate special installation instructions.

1.6 QUALITY ASSURANCE

.1 Perform work in accordance with AWMAC Quality Standard, Premium Grade.

.2 Finish doors in accordance with AWMAC Quality Standard.

.3 Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum ten years’ experience.

1.7 DELIVERY, STORAGE, AND PROTECTION

.1 Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.

1.8 PROJECT CONDITIONS

.1 Coordinate the work with door opening construction, door frame and door hardware installation.

Part 2 Products

2.1 ACCEPTABLE PRODUCTS

.1 Acceptable Manufacturers: Baillargeon, Lambton, Algoma.

2.2 NON-RATED FLUSH DOORS

.1 Flush Interior Doors: 45 mm thick;

.1 Face: Veneer Facing to AWMAC Grade AA face veneer, Uniform White Maple, plain sliced, for clear factory finish.

.2 Particleboard Core: urea-formaldehyde free particleboard.

.3 Stiles and Rails: Manufacturer’s optional lifetime anti-warping warranty.

2.3 FABRICATION

.1 Fabricate non-rated doors in accordance with AWMAC Quality Standards requirements.

.2 Size doors to have 13 mm gap between bottom of door and finished floor.

.3 Factory Preparation for Light Openings and Louvers: Cut and trim openings through doors to comply with NFPA 80 requirements where indicated; maintain door manufacturer's warranty.

.4 Provide lock blocks at lock edge and top of door for closer and for hardware reinforcement.

.5 Vertical Exposed Edge of Stiles: Matching wood veneer.

.6 Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware.

.7 Provide solid blocking for through bolted hardware.

.8 Factory fit and bevel doors for frame opening dimensions identified on shop drawings.

.9 Provide edge clearances in accordance with AWMAC unless noted otherwise.

2.4 FINISHING

.1 Factory finish veneer doors in accordance with AWMAC Quality Standard Section 1500 to the following finish designations:

.1 Premium Finish: Conversion Varnish system, sheen selected by Departmental Representative.

.2 Factory pre-finished doors to be individually protected with either transparent or opaque poly-wrap at the factory.

Part 3 Execution

3.1 EXAMINATION

.1 Verify that opening sizes and tolerances are acceptable.

.2 Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.2 INSTALLATION

.1 Install fire rated and non-rated doors in accordance with AWMAC Quality Standard.

.2 Trim door height by cutting bottom edges to a maximum of 13 mm.

.3 Machine cut for hardware.

.4 Coordinate installation of doors with installation of frames specified in Section 08 11 13 and hardware specified in Section 08 71 00.

3.3 INSTALLATION TOLERANCES

.1 Conform to AWMAC requirements for fit and clearance tolerances.

.2 Conform to AWMAC Section 1300 requirements for maximum diagonal distortion.

3.4 ADJUSTING

.1 Adjust door for smooth and balanced door movement.

.2 Adjust closer for full closure.

END OF SECTION

Part 1 General

1.1 GENERAL REQUIREMENTS

.1 Comply with requirements of Division 1.

.2 Furnish and delivery of all finish hardware necessary for all doors. Also hardware as specified herein and as enumerated in "Set Numbers" and as indicated and requested by actual conditions of the building. The hardware shall include the furnishing of all necessary screws, special screws, bolts, special bolts, expansion shields, drop plates and all other devices necessary for the proper installation of the hardware.

.3 The Engineer-Architect approval of the schedule will not be construed as certifying that the list is complete. Acceptance of the Hardware Schedule does not relieve the supplier of responsibility of errors or omissions.

.4 Hardware should not be ordered unless a corrected copy of the shop drawings is reviewed and returned from the specification writer and bearing the approval of the Engineer-Architect.

.5 Aluminum Door hardware is to be ordered immediately after approval of shop drawings and shipped directly to the Aluminum Door supplier.

.6 Furnish, deliver and install all finish hardware necessary for all doors, also hardware as specified herein and as enumerated in hardware group indicated by actual conditions at the project site.

.7 The electrical hardware shall include the furnishing of plug in connections and final connections of Low voltage wiring at the door opening. Electrical hardware devices to be installed by section 08 71 00 with all final connection with termination above the frame. Electric hardware devices for the proper operation and application of the hardware noted by connection notes in the hardware schedule. Power, conduit, low voltage wire to junction box above the frame. Connection of the card readers, maglocks and high voltage wire by the electrical section Division 28.

.8 Division 28 to provide high voltage wiring and conduit to the door opening or power supplies including conduit to hardware locations.

1.2 REFERENCES

.1 American National Standards Institute (ANSI) A117.1 Specification

- .1 ANSI/BHMA A156.1-2006, Butts and Hinges.
- .2 ANSI/BHMA A156.13-2005, Mortise Locks and Latches.
- .3 ANSI/BHMA A156.4-2000, Door Controls (Closers)
- .4 ANSI/BHMA A156.5-2001, Auxiliary Locks and Associated Products.
- .5 ANSI/BHMA A156.6-2005, Architectural Door Trim.
- .6 ANSI/BHMA A156.7-2003, Template Hinge Dimensions.
- .7 ANSI/BHMA A156.8-2005, Door Controls - Overhead Holders.

.8 ANSI/BHMA A156.18-2006, Materials and Finishes.

.9 ANSI/BHMA A156.19-2007, Power Assist and Low Energy Power Operated Doors.

.10 ANSI/BHMA A156.22-2005, Door Gasketing and Edge Seal Systems.

.11 ANSI/BHMA A156.30-2003, American National Standards for High Security Cylinders.

.12 ANSI/BHMA A156.31-2001, American National Standards for Electric Strikes and Frame Mounted Actuators.

.2 Canadian Standards Association (CSA)

.1 CAN/CSA-B651-04.Accessible Design for the Built Environment.

.3 Canadian Steel Door Manufacturer's Association (CSDMA).

.1 Standard Hardware Locations in Accordance with the Canadian Steel Door and Frame Association Guidelines.

.2 Recommended locations for Architectural Hardware for Wood Flush Doors.

.4 National Fire Protection Agency (NFPA)

.1 NBC - National Building Code – Latest Edition

.2 NFPA-80 - Standard for Fire Doors and Windows – Latest Edition

.3 NFPA101 - Life Safety Code – Latest Edition

.4 NFPA-105 - Smoke and Draft Control – Latest Edition

1.3 ABBREVIATIONS

.1 The following abbreviations are applicable to this section:

.1	AHC	Architectural Hardware Consultant
.2	ALD ALF	Aluminum Door and Frame
.3	ATMS/STMS	Arm/Strike to Template with Machine Screws
.4	BB or FBB	Ball Bearing Hinges
.5	BC	Back Check
.6	BTB	Back to Back
.7	B3E or B4E	Bevel 3 or 4 sides
.8	C to C, C/L	Centerline to Centerline
.9	CDC	Certified Door Consultant
.10	CMK	Construction Masterkeyed
.11	CSC	Construction Specifications Canada
.12	CSK	Countersunk Screw Holes.
.13	Cyl.	Cylinder of a lock
.14	Deg.	Degree of opening
.15	DEL	Delay Action
.16	DHI	Door and Hardware Institute
.17	DR	Door
.18	FC	Full Cover

.19	FS	Fail Safe
.20	FSE	Fail Secure
.21	FTMS	Full template machine screws
.22	$^1/_2$ TMS	Half template machine screws
.23	GMK	Grand Masterkeyed
.24	KA/KD	Keyed Alike, Keyed Different
.25	HMD/PSF	Hollow Metal Door, Pressed Steel Frame
.26	LH/RH	Left Hand, Right Hand
.27	LHR/RHR	Left Hand Reverse, Right Hand Reverse
.28	MK or MKD	Master Keyed
.29	NBC	National Building Code
.30	NRP	Non removable pin
.31	TB/SB	Thru Bolts, Sex Bolts
.32	TJ	Top Jamb
.33	ULC	Underwriters Laboratories Canada
.34	WD	Wood Door

1.4 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheets in accordance with Sections Section 01 33 00.

.2 Samples:

.1 Upon Engineer-Architect request submit samples of door hardware.

.2 Identify each sample by label indicating applicable specification paragraph number, brand name and number, finish and hardware package number.

.3 After approval samples will be returned for incorporation in the Work.

.3 Hardware List:

.1 Submit detailed hardware list and keying schedule.

.2 Hardware Schedule is to be submitted as per DHI vertical format which is in the "Sequence and Format for Hardware Schedules".

.3 Indicate specified hardware including make, model, material, function, size, finish and other pertinent information.

.4 Furnish other Sections with templates required for hardware preparation and installation. Issue templates when requested so as not to cause any delays but not before hardware list has received final review by Engineer-Architect.

.5 Keying Schedule to be in accordance with DHI manual "Keying Systems Names and Nomenclature". Key schedule is not to hold up the processing of the hardware list.

.6 Wiring Diagrams will only be supplied after the final approval of the Hardware Schedule. Submit wiring diagrams as requested for proper installation of electrical, electrical-mechanical and electrical-magnetic products.

.4 Manufacturer's Instructions: Submit manufacturer's installation instructions.

.5 Sustainable Design Submittals:

.1 LEED Canada-NC Version 1.0 CI Version 1.0 Submittals: in accordance with Section 01 35 21 - LEED Requirements.

.2 Construction Waste Management:

.1 Submit project Waste Management Plan Waste Reduction Workplan highlighting recycling and salvage requirements.

.2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50 75% of construction wastes were recycled or salvaged.

.3 Recycled Content:

.1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer post-industrial content, and total cost of materials for project.

.4 Regional Materials: submit evidence that project incorporates required percentage 10 20 % of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.

.6 Closeout Submittals: Provide operation and maintenance data for door closers, locksets, door holders, electrified hardware and fire exit hardware for incorporation into Operations and Maintenance Manuals specified in Section 01 78 00.

1.5 WARRANTY

.1 Provide guarantee.

.1	Closers	10 year
.2	Mortise Locks	10 year mechanical / 2 year electrical
.3	Electronic Closer	2 year
.4	Exit Device	3 years
.5	Hinges	Lifetime of Building
.6	All other Hardware	1 year

1.6 QUALITY ASSURANCE

.1 Regulatory Requirements: hardware for doors in fire separations and exit doors certified by a Canadian Certification Organization accredited by Standards Council of Canada.

.2 Meet requirements of National Building Code of Canada and other applicable regulations.

.3 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.

.4 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

.5 Pre-installation Meetings: conduct pre-installation meeting to verify project requirements, manufacturer’s installation instructions and manufacturer’s warranty requirements.

.6 Upon completion of finish hardware installation, hardware supplier shall inspect work and shall certify in writing that all items and their installation are in accord with requirements of Contract Documents and are functioning properly.

1.7 PRODUCT DELIVERY, HANDLING & STORAGE

.1 Packing, Shipping, Handling and Unloading:

.1 Deliver, store, handle and protect materials in accordance with Section 01 61 00.

.2 Package each item of hardware including fastenings, separately or in like groups of hardware, with necessary screws, keys, instructions and installation templates.

.3 All items of hardware should be itemized and tagged as per the approved Finish Hardware Schedule.

.4 Hardware for Aluminum Doors to be shipped directly to the Aluminum Door supplier. Hardware for Aluminum Doors will be ordered immediately after approval of shop drawings. Delays in ordering the Aluminum Door hardware will not be accepted.

.5 Shortages will not delay installation.

.6 Items damaged in shipment will be replaced properly with proper material.

.7 All Hardware shall be handled in a manner to avoid damage, marking and scratching.

.8 Hardware is to be inventoried on site and confirmed by the Contractor and Hardware Supplier.

.2 Storage and Protection:

.1 Store hardware in locked, clean and dry area.

1.8 WASTE DISPOSAL AND MANAGEMENT

.1 Separate and recycle waste materials in accordance with Section 01 74 21.

.2 Collect and separate metal, plastic, paper packing and corrugated cardboard and deposit in appropriate on site recycling bins.

.3 Dispose of corrugated cardboard, plastic packaging material in appropriate on-site bin for recycling in accordance with site waste management program.

1.9 MAINTENANCE

.1 Provide maintenance materials in accordance with Section 01 78 00.

.2 Provide three sets of maintenance tools for closers, locks and exit devices as well as a complete set of installation instructions.

.3 After the building is occupied, arrange for an appointment with the owner to instruct them of proper use, service, adjusting and maintenance of the hardware furnished in this section.

.4 Extra Material if required.

1.10 INSPECTION

.1 The hardware supplier shall arrange at least four visits to the job site.

.1 Visit project at time of delivery of hardware and inspect the personnel who will be looking after the installation and issuing of hardware at the job site. Delivered hardware to be received, sorted and itemized at the jobsite with contractor.

.2 Second visit will be required for key meeting with the owner/representative at a location at their request.

.3 Third visit will take place when about sixty percent of hardware is installed.

.4 Check all hardware on site and correct any errors or shortages. Co-ordinate with contractor to determine proper time for visit.

.5 Fourth visit shall take place just prior to building turnover. All hardware shall be checked for proper installation and adjustment. Any errors shall be corrected and adjustments made. Check the key system and furnish a report along with maintenance manuals detailing any errors found.

.6 Cost of this service will be included as part of this Section and is not covered by any allowance amount.

Part 2 Products

2.1 HARDWARE ITEMS

.1 Only locksets and latchsets listed are acceptable for use on this project.

.2 Use one manufacturer's products only for all similar items.

2.2 DOOR HARDWARE

.1 All fasteners to come complete with the hardware as described. Hardware supplier must be Advised immediately if required fasteners are not enclosed with hardware.

.2 Hardware must be installed with fasteners supplied by the manufacturer.

.3 Hinges Butts and hinges:

.1 To ANSI/BMHA A156.1, designated by letter A and numeral identifiers, followed by size and finish, as listed in Hardware Schedule.

.2 Non removable pins (NRP) for all exterior and out swinging secure doors.

.3 Exterior hinges and hinges in wet areas of stainless steel, brass or bronze.

.4 Interior hinges of plated steel, unless otherwise noted.

.5 Size and quantity to be as the manufacturers hinge selection guide.

.6 Unless otherwise scheduled, supply (1) hinge for every 762mm of door height.

.7 The width of hinges shall be sufficient to clear all trim.

.8 All hinges to be five-knuckle design and ball bearing.

.9 All electric hinges to be supplied with Electrolynx QC plug in connectors as specified.

.10 Finish to Dull Chrome 26D.

.11 Standard of Acceptance:

.1	Specified	Acceptable Alternates	
. 2	ANSI	McKinney	Hager
.3	A8112	TA2714	BB1279
.4	A2112	TA2314	BB1191
.5	A8111	TA3786	BB1168
.6	A5111	TA3386	BB1199

.4 Mortise locks and latches: to ANSI/BMHA A156.13, Series 1000 mortise lock, grade 1, designed for function as stated in Hardware Schedule.

.1 Locks shall meet or exceed the requirements of ANSI/BHMA A156.13 Series 1000, Operational Grade 1, and Security Grade 1 with all standard trims.

.2 Meets or exceeds impact requirements of ASTM F1577-95b Detention Locks for Swinging Doors.

.3 Locks shall be easily re-handed without opening the lock body.

.4 Multi-functional lock body to make it easy to change functions in the field.

.5 Locks shall comply with UL10C and UBC.

.6 Construction: Lock functions shall be manufactured in a single-sized case formed from 2.6mm steel minimum.

.7 Locks shall have field adjustable, beveled, armored front, with a 3mm thickness minimum.

.8 Locks shall have a one piece, 19mm throw anti-friction stainless steel latch.

.9 Deadbolts, where specified, shall be full one inch 25mm throw made of one-piece hardened stainless steel.

.10 Locks shall have a 70mm backset, standard.

.11 Electrical functions Fail Safe and Fail Secure, Voltage 12VDC or 24VDC Regulated. Full wave rectification installed inside the lockbody. Current .25 at 24VDC and .5 at 12VDC. UL and CUL listed for use on fire doors. Operating temperature: Max 66 (C) degrees and Min. -35(C) degrees.

.12 Strikes shall be non-handed with a curved lip. Strikes for pairs of doors to be supplied with short lip strike (82-0229). Not to extend beyond the face of the door.

.13 To ensure proper alignment, trim, knobs or levers, shall be through-bolted and fully interchangeable between rose and escutcheon.

.14 Lever handles: “LNL” design.

.15 Roses: round.

.16 Designed for function as stated in Hardware Schedule.

.17 Finished to 26D.

.18 Standard of acceptance:

.1	Specified		Acceptable Alternates	
. 2	Function	Description	Sargent	Schlage
.3	F01	Passage	8215	L9010
.4	F04	Office	8205	L9050
.5	F07	Storeroom	8204	L9080
.6	F22	Privacy	8265	L9040

.5 Door controls (closers): to ANSI/BMHA A156.4 as listed in Hardware Schedule.

.1 Designated by letter C and numeral identifiers listed in Hardware Schedule, size in accordance with ANSI/BHMA A156.4, table A1.

.2 All closers for both interior and exterior doors shall be the product of one manufacturer and be matched in style.

.3 Surface closers shall be adjustable to provide sizes 1 through 6 and comply with ADA.

.4 Full rack and pinion construction.

.5 Closing speed, latching speed and backcheck shall be controlled by key operated valves.

.6 Captivated valves.

.7 Delayed action feature shall be available and controlled by a separate valve.

.8 Delayed action shall be available in addition to, not in lieu of, backcheck.

.9 The one piece closer body shall be of die cast aluminum alloy with 14% silicon minimum content. An increase of 15% in closing power shall be provided by means of adjustment of the arm leverage at the foot connection. (Standard Arm).

.10 All arms shall be finely finished with heavy duty forged steel main arm.

.11 Two mounting positions of the closer shall meet all requirements. Standard mountings shall provide 120° door opening and alternate mounting 180° door opening.

.12 All closers shall be suitable for standard, top jamb, parallel arm and track type applications when provided with proper brackets and arms.

.13 Closer covers shall be of high impact plastic material of flame retardant grade.

.14 Secured by machine screws.

.15 Spring power shall be continuously adjustable over the full range of closer sizes and allow for reduced opening force for the physically handicapped. Hydraulic regulation shall be tamper proof, non-critical valves. Closers shall have separate adjustment for latch speed, general speed and backcheck.

.16 All closer to have a forged steel main arm and forged forearm for parallel arm closers.

.17 Finish to Aluminum 689.

.18 Standard of acceptance:

.1	Specified	Acceptable Alternates:		
.2	ANSI Type	Sargent	Norton	Corbin
.3	C02011	1431	8500	DC6200
.4	C02021	351	7500	DC3000
.5		421	2800ST	DC5000

.6 Door Stops and Holders and Auxiliary hardware: to ANSI/BMHA A156.16 designated by letter L and numeral identifiers as listed in Hardware Schedule finished to 26D.

.1 Floor stops dome style classification. Low dome or High dome. Die cast brass. Stops to be sized according to door clearances, thresholds or undercuts as noted in the Door Schedule. Fasteners to suite floor conditions.

.1 Standard of acceptance:

	Specified	Acceptable Alternates	
.2	ANSI Type	Rockwood	Standard Metal
.3	L02141	441	S101
.4	L02161	443	S103
.5	L02131	483	S110
.6	L02141	441H	

.2 Wall stops classification, convex or concave, cast brass or bronze. Fasteners to suite wall conditions.

.1 Standard of acceptance:

	Specified	Acceptable Alternates	
.2	ANSI Type	Rockwood	Standard Metal
.3	L02101	406	S121
.4	L02251	409	S123

.3 Flush Bolts classification. Meets ANSI/BMHA A156.16. Bolt tip is 13mm Diameter with 19mm throw and bolt backset of 19mm. To be supplied with F68 Dust Proof Strike.

.1 Standard of acceptance:

	Specified	Acceptable Alternates	
.2	ANSI Type	Rockwood	Standard Metal
.3	L04261	557	
.4	L04251	555	F65
.5	L04021	570	F68
.6	Type 27	2845	840
.7	Type 27	2945	940

.7 Power assist and low energy power operated doors: to ANSI/BMHA A156.19.

.1 Automatic operators shall be complete with all components including Operator Housing, Power Operator, Electronic Control, Soft Start, Switching Networks and all Connecting Hardware.

.2 Size and type to be as indicated in Hardware Groups.

.3 Operator Housing shall be complete with finished end caps prepared for mounting to door frame.

.4 Operator shall be factory assembled with all necessary components for proper operation and switching. Relays, wiring harness and other components shall be plug-in type.

.5 Operator controls shall include adjustable time delay, safe-swing circuit as well as provision for accessories as detailed in Hardware Groups.

.6 All wiring shall be of the shielded type with proper number of conductor wires to install all components specified.

.7 Operator shall include sufficient power supplies to operate all hardware and accessory items as detailed in Hardware groups. In the event additional power supplies are required it shall be added at no increase in contract price.

.8 Complete unit shall be mounted with provisions for easy servicing or replacement without removing the door or frame.

.9 Confirm frame detail and if necessary provide a suitable mounting plate to install operator properly.

.10 Standard of acceptance:

.1	Specified	Acceptable Alternates
. 2	Besam	Gyro-Tech
.3	SW100i	GT20

.8 Door Gasketing and Edge Seal Systems: to ANSI/BMHA A156.22.

.1 Head and Jamb seal:

.1 Extruded aluminum frame and neoprene insert, clear anodized finish.

.2 Surface overhead stops and exit device strikes to mount on top of weatherstrip to provide continuous seal.

.3 Adhesive backed black “Santoprene” to provide smoke, light and sound control. Fire labeled 1 1/2hrs.

.4 Standard of acceptance:

.1	Specified	Acceptable Alternates	
.2	ANSI Type	PEMKO	KN Crowder
.3	R3E165	319S	W-14S
.4	R3E164	2891AS	W20S
.5	ROE154	S44	W22

.9 Power Supplies:

.1 Dual output, field selectable 12 or 24 VDC via clearly marked toggle switch.

.2 Supplies 1 full AMP continuous current output, even while charging back-up batteries.

.3 SPDT AC monitoring output allows for remote monitoring of the power supply’s 110V AC input.

.4 Separate voltage inputs for load and battery allow the batteries to charge at a higher output while the load remains at exactly 12 or 24 VDC.

.5 LED indication (AC & DC) showing power supply status UL listed low current fire alarm disconnect requires only a minimum size fire alarm relay and wire gauge Polyswitch type breakers allow for large short duration inrush current if batteries are installed (approx. 20A for 1 second) Line voltage and DC fuses Sealed lead acid-gel battery charging capability (battery not included).

.6 UL Class 2, linear regulated power supply provides the cleanest power available sensitive, active safety and security devices.

.7 UL Listed.

.8 CFAR Relay - Securitron’s Fire Alarm reset module interconnects with a Securitron BPS series power supply and a fire alarm (made by others). The purpose is to provide additional safety and control in an installation where activation of the fire alarm is intended to switch off the BPS power supply.

.9 This is often done to release power to magnetic locks which are installed on perimeter doors so as to permit safe evacuation in the event of a fire. The module has three specific functions:

.1 It will maintain the released condition of devices released by activation of the fire alarm even after the fire alarm resets and until the module itself is reset by key.

.2 It allows key controlled release of the same devices (separate from the fire alarm control).

.3 It signals the released or "normal" condition of the devices via a bicolor LED.

.10 Standard of acceptance:

	Specified	Acceptable Alternates
.1		
.2	Securitron	Sargent
.3	BPS	3500

.10 Door Status Switch:

.1 Monitors door position remotely.

.2 SPDT concealed switch (3 wire).

.3 Contacts rated .25 Amp @24 VDC, requires 25mm diameter hole.

.4 Standard of acceptance:

	Specified	Acceptable Alternates
.1		
.2	Sargent	Securitron
.3	3287	DPS W/M

2.3 FASTENINGS

.1 Use only fasteners provided by manufacturer. Failure to comply may void warranties and applicable licensed labels.

.2 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.

.3 Exposed fastening devices to match finish of hardware.

.4 Where pull is scheduled on one side of door and push plate on other side, supply fastening devices, and install so pull can be secured through door from reverse side. Install push plate to cover fasteners.

.5 Use fasteners compatible with material through which they pass.

2.4 FINISHES

.1	Description	Material	BMHA
.2	Exterior Hinges	Stainless Steel Metal, Satin	630
.3	Interior Hinges	Satin Chromium Plated	626
.4	Locks	Stainless Steel Metal, Satin	630

.5	Exit Devices	Satin Chromium Plated	626
.6	Closers	Aluminum Powder Coated	689
.7	Flatware	Stainless Steel Metal, Satin	630
.8	All other items	Satin Chromium Plated	626

2.5 KEYING

.1 All locks to be masterkeyed to the existing ASSA Key System to be supplied and installed by Maritime Safe and Lock (Bernie Cormier 1-506-532-6449).

.2 All cylinders to be construction master keyed.

.3 Consult with the Architect/Engineer and the owner and secure written approval of the complete keying layout prior to placing lock order with the factory.

.4 Supply:

1. Masterkeys 3 per group
2. Change Keys/Lock 4

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

.2 Furnish metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.

.3 Furnish manufacturers' instructions for proper installation of each hardware component.

.4 Wiring Diagrams: Provide any special information, voltage requirements and wiring diagrams to other trades requiring such information.

3.2 INSTALLATION

.1 Install door hardware in accordance with manufacturer's instructions, using special tools and jigs. Fit accurately and apply securely. Ensure that hardware is installed correctly. Issue instructions if required to Sections concerned.

.2 Install hardware to standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door Manufacturers' Association.

.3 Installation is to be done by a qualified tradesman, if technical assistance is required contact the hardware supplier.

.4 Where door stop contacts door pulls, mount stop to strike bottom of pull.

.5 Install key control cabinet.

.6 Use only manufacturer's supplied fasteners. Failure to comply may void manufacturer's warranties and applicable licensed labels. Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.

.7 Remove construction cores and locks when directed by Contractor; install permanent cores and check operation of locks.

.8 Hardware should not be installed until all finishing is complete.

.9 All hardware to be installed level plumb and true.

.10 All operating parts to work freely and smoothly.

.11 Exterior thresholds to be set in exterior sealants.

.12 Install Power Operators as per manufacturer’s instructions and by a qualified installer.

.13 Access control to be installed by a certified installer.

.14 High voltage wiring by Division 28. Low voltage wiring by access control supplier.

3.3 ADJUSTING

.1 Adjust door hardware, operators, closures and controls for optimum, smooth operating condition, safety and for weather tight closure.

.2 Lubricate hardware, operating equipment and other moving parts.

.3 Adjust door hardware to provide tight fit at contact points with frames.

.4 All defective or damaged hardware will have to be repaired or replaced at the contractors expense.

3.4 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.

.1 Leave Work area clean at end of each day.

.2 Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacturer's instructions.

.3 Remove protective material from hardware items where present.

.4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

3.5 DEMONSTRATION

.1 Keying System Setup and Cabinet:

.1 Set up key control system with file key tags, duplicate key tags, numerical index, alphabetical index and key change index, label shields, control book and key receipt cards.

.2 Place file keys and duplicate keys in key cabinet on their respective hooks.

.3 Lock key cabinet and turn over key to Owner's Representative.

.2 Maintenance Staff Briefing:

.1 Brief maintenance staff regarding:

.2 Proper care, cleaning, and general maintenance of projects complete hardware.

.3 Description, use, handling, and storage of keys.

.4 Use, application and storage of wrenches for door closers, locksets and fire exit hardware.

.5 Demonstrate operation, operating components, adjustment features, and lubrication requirements.

3.6 FIELD QUALITY CONTROL

.1 An inspection report will be required 6 months after substantial completion by a qualified Architectural Hardware Consultant to note any deficiencies. The inspection should include checking each lock against the key schedule to make sure the correct locks and cylinders are on the proper doors.

3.7 PROTECTION

.1 Protection must be given to all products and finishes until such time as the owner accepts the project.

3.8 CERTIFICATION

.1 After installation, Hardware Supplier is to have a regular member of the Architectural Hardware Consultants'' (AHC) Association inspect and certify in writing that all items and their installations are in accordance with specified requirements.

3.9 HARDWARE SCHEDULE

.1 The door hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

.2 The supplier is responsible for handing and sizing all products as listed in the door hardware sets. Quantities listed are for each pair of doors, or for each single door.

.3 Products listed in the Door Hardware Sets must meet the requirements described in the specification sections noted.

3.10 Hardware Schedule

Set: 1.0

Single 3388A, 914 x 2134 x 45, Wood x Hollow Metal,

3 Hinge (heavy weight) (ANSI A8111)	T4A3786 114mm x 114mm	US26D
1 Storeroom Lock (ANSI F07)	LC 8204 LNP	US26D
1 ABLOY Mortise Cylinder	Maritime Lock and Safe CY415 x Kwy x Master Keyed	Std
1 Electric Strike (ANSI E09321)	1006-LBM	630
1 SMART Pac Bridge Rectifier	2005M3	
1 Power Operator (ANSI A156.19)	SW100i (Pull Side Mount)	689
1 Mounting Pate	Mounting Plate x Full Header	689
1 Backing Plate	Backing Plate x Full Header	689
2 Jamb Actuator	10PBJML - Jamb Mount Actuator	32D
2 Escutcheon	10BOXJAMBSM	Std
1 Sensor	Superscan 11 (Push Side)	Std
1 Sensor	Superscan 11 (Pull Side)	Std
1 Door Switch	10SWITCH75	Std
1 Switching Network	CX-33	Std
1 Lock Out Relay	LE-21	Std
1 Floor Stop (ANSI L02161)	441H	US26D
1 Gasketing (ANSI ROE154)	S44BL x 3 Sides	
1 Existing to be Reused	Motion Sensor	
1 Position Switch	DPS-M-BK	
1 Power Supply	BPS-24-1	
1 Battery Backup	B-24-5	
1 Existing to be Reused	Card Reader	
1 Existing to be Reused	Controller	
1 Wiring Harness Wires W/Pins-25'0	93970-QC-C2500P-QC12-12	Std
1 Wiring Diagrams	Wirung Diagrams (Elevations & Point to Point)	Std

Notes:
CARD ACCESS EXISTING. INTERCOM SYSTEM AT DOOR.

REQUIRES 120VAC POWER TO POWER OPERATOR LOCATION BY ELECTRICAL CONTRACTOR.
REQUIRES 120VAC POWER TO POWER SUPPLY LOCATION BY ELECTRICAL CONTRACTOR.
REQUIRES LOW VOLTAGE FROM POWER OPERATOR TO POWER SUPPLY LOCATION.
REQUIRES LOW VOLTAGE FROM POWER OPERATOR TO ELECTRIC STRIKE LOCATION.

REQUIRES LOW VOLTAGE FROM POWER OPERATOR TO ACTUATOR BUTTON LOCATION.
REQUIRES LOW VOLTAGE FROM POWER SUPPLY TO ELECTRIC STRIKE LOCATION.
REQUIRES LOW VOLTAGE AND COMMUNICATION WIRE BY THE ELECTRICAL CONTRACTOR. REQUIRES CONDUIT TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. REQUIRES WIRE AND WIRE PULL BY THE ELECTRICAL CONTRACTOR.

MODE OF OPERATION:
DOOR TO BE SECURED BY ELECTRIC STRIKE AT ALL TIMES. ACCESS BY AUTHORIZED CARD OR KEY. ACCESS BY AUTHORIZED CARD WILL ACTIVATE ELECTRIC STRIKE FOR THE DOOR TO BE MANUALLY PULLED OPEN. DOOR MAY BE MANUALLY PULLED OPEN OR AUTOMATICALLY BY ACTIVATING THE ACTUATOR SWITCHES EITHER SIDE OF THE DOOR. THE INTERIOR ACTUATOR SWITCH WILL SIMULTANEOUSLY ACTIVATE THE ELECTRIC STRIKE AND POWER OPERATOR.
FREE EXIT AT ALL TIMES. LOCATION OF ACTUATOR BUTTONS TO BE DETERMINED.

Set: 2.0

Single 3390A, 914 x 2134 x 45, Wood x Hollow Metal,

3 Hinge (ANSI A8112)	TA2714 114mm x 101mm	US26D
1 Passage Set (ANSI F01)	8215 LNP	US26D
1 Floor Stop (ANSI L02161)	441H	US26D

Set: 3.0

Single 3389A, 914 x 2134 x 45, Wood x Hollow Metal,

3 Hinge (ANSI A8112)	TA2714 114mm x 101mm	US26D
1 Passage Set (ANSI F01)	8215 LNP	US26D
1 Floor Stop (ANSI L02161)	441H	US26D
1 Sound Seal (ANSI R3G164)	312CR x 3 Sides	
1 Acoustic Adhesive Corner Pad	ACP112BL/2	
1 Gasketing (ANSI ROE154)	S44BL x 3 Sides	
1 Concealed Auto Door Bottom (ANSI R3G324)	PDB411AE x Door Width	

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Glass and glazing for sections referencing this section for Products and installation.

.2 Glass films.

1.2 RELATED SECTIONS

.1 Section 06 20 00 - Finish Carpentry.

.2 Section 06 40 00 - Architectural Woodwork.

.3 Section 08 11 13 - Standard Metal Doors and Frames.

.4 Section 08 14 16 - Wood Doors.

1.3 REFERENCES

.1 ASTM D4802-16 - Standard Specification for Poly(Methyl Methacrylate) Acrylic Plastic Sheet.

.2 IGMAC (Insulated Glass Manufacturers Association of Canada) - Quality Standard Specification.

.3 GANA - Glazing Manual and Glazing Sealing Systems Manual.

.4 CAN/CGSB 12.1-M90 - Tempered or Laminated Safety Glass.

1.4 SYSTEM DESCRIPTION

.1 Glass and glazing materials of this section shall provide continuity of building enclosure air barrier and vapour retarder.

.2 Size glass to withstand dead loads and positive and negative live loads acting normal to plane of glass.

.3 Limit glass deflection to flexure limit of glass with full recovery of glazing materials, whichever is less.

1.5 SUBMITTALS

.1 Product Data on Glass Types Specified: Provide structural, physical and environmental characteristics, size limitations, and special handling or installation requirements.

.2 Samples: Submit two samples 300 x 300 mm in size, illustrating unit coloration and design.

1.6 QUALITY ASSURANCE

.1 Perform Work in accordance with GANA Glazing Manual and IGMAC for glazing installation methods.

.2 Select glazing compounds and sealants in accordance with glass manufacturer's instructions.

Part 2 Products

2.1 GLASS MATERIALS AND SCHEDULE

.1 Type GL1 Glazing for Interior Use and Borrowed Lights:

.1 Tempered Glass: CAN/CGSB 12.1 clear; 6 mm thick unless noted otherwise.

2.2 GLASS FILM

.1 Type GF1 Decorative Film: Polyester film, 3 to 3.5 mil thickness, pressure-sensitive adhesive, CAN/ULC-S102 Class A, types as follows:

.1 Decorative Pattern: Refer to Finishes Schedule.

.2 Custom Laser-cut Graphics: Refer to Drawings; final artwork to be provided by the Departmental Representative.

2.3 GLAZING COMPOUNDS

.1 Sealant: manufacturer's standard to attain specified performance criteria.

2.4 GLAZING ACCESSORIES

.1 Setting Blocks: Neoprene, EPDM or Silicone, 80 to 90 Shore A durometer hardness.

.2 Spacer Shims: Neoprene, Silicone, 50 to 60 - Shore A durometer hardness.

.3 Glazing Tape: Preformed butyl compound with integral resilient tube spacing device.

.4 Glazing Splines: Resilient silicone extruded shape.

Part 3 Execution

3.1 EXAMINATION

.1 Verify that openings for glazing are correctly sized, within tolerance and clean.

3.2 PREPARATION

.1 Clean contact surfaces with solvent and wipe dry.

.2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.

.3 Prime surfaces scheduled to receive sealant.

.4 Prepare glazing cut-outs for installation of accessories.

3.3 GLAZING METHODS

.1 Verify that selected sealants and glazing tapes are compatible.

.2 Perform glazing as required by frame manufacturer to achieve specified performance criteria.

.3 Completed exterior glazed assemblies to provide full perimeter air and vapour seal to the glazed frames and be pressure equalized.

3.4 FILM APPLICATION

.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 Install in accordance with manufacturer's written instructions.

.4 Apply film using slip solution for proper positioning. Squeegee to remove excess solution.

.5 After 30 days, film to be free of wrinkles and bubbles when viewed under normal viewing conditions.

3.5 CLEANING

.1 Remove glazing materials from finish surfaces.

.2 Remove labels after Work is complete.

.3 Clean glass.

END OF SECTION