Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 77 00 - Closeout Procedures.

.2 Section 08 11 14 - Metal Doors and Frames.

.3 Section 08 80 50 – Glazing.

.4 Section 26: Electrical wiring for magnetic strikes, electric releases and electric locks.

1.2 REFERENCES

.1 Canadian Steel Door and Frame Manufacturers' Association (CSDFMA).

.1 CSDFMA Canadian Metric Guide for Steel Doors and Frames (Modular Construction): standard hardware location dimensions.

.2 American National Standards Institute (ANSI).

.1 ANSI/ BHMA A156.115-2006, Hardware Preparation in Steel Doors and Steel Frames.

.2 ANSI/BHMA A156.2-2011, Bored and Preassembled Locks and Latches.

.3 ANSI/BHMA A156.13-2012, Mortise Locks and Latches.

.4 ANSI/BHMA A156.1-2006, Butts and Hinges.

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

.6 ANSI/BHMA A156.3-2008, Exit Devices.

.7 ANSI/BHMA A156.6-2008, Architectural Door Trim.

.8 ANSI/BHMA A156.15-1981, Release Devices - Closer/Holder, Electromagnetic and Electromechanical.

.9 ANSI/BHMA A156.16-2008, Auxiliary Hardware.

.10 CSA B651-04 (R2010), Accessible Design for the Built Environment.

.3 National Fire Protection Association (NFPA)

.1 NFPA 80: Standard for Fire Doors and Fire Windows.

1.3 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit copies of catalogue cuts and descriptions from manufacturer's catalogues, for each item of hardware.

.2 Samples:

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

.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 Schedule:

.1 Examine the Schedule of Finishing Hardware. Confirm to the Departmental Representative that the finish, operation and design of hardware proposed is proper for the specific functions and make alternative proposals deemed necessary to the full satisfaction of the Departmental Representative.

.2 Ensure that proposed hardware is compatible with all components proposed for each opening. Coordinate with security requirements. In case of incompatibility provide alternative products to ensure proper operation of hardware.

.3 Upon award of the Hardware Subcontract, prepare a detailed Schedule of Finishing Hardware incorporating accepted alternative hardware items and submit 6 copies to the Departmental Representative. Provide additional copies as required for project and office use. Schedule of Finishing Hardware shall include a complete list of abbreviations including finish symbols and list of manufacturers.

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

.4 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

.5 Closeout Submittals

.1 Provide operation and maintenance data for door closers, locksets, door holders , electrified hardware and fire exit hardware for incorporation into manual specified in Section 01 77 00 - Closeout Procedures.

1.4 QUALITY ASSURANCE

.1 Regulatory Requirements:

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

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

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

.4 Qualifications:

.1 It shall be clearly understood that within the terms of this Subcontract, the Hardware Supplier is bound not just as a supplier, but as a Subcontractor and is responsible for the supply of Project services relative to project co-ordination, supervision and inspection.

.2 Hardware Subcontractor must have a minimum of five years proven satisfactory experience. Provide a list of last three comparable jobs including, job name and location, specifying authority, and project manager.

.3 Hardware Subcontractor must have required training in installation and repair of all hardware supplied and installed.

.4 Hardware Subcontractor shall ensure that the hardware listed in the Schedule of Finishing Hardware is of proper selection for its intended function and ensure that hardware has been properly installed.

.5 No claims for extra money will be entertained if such claims are from a lack of co-ordination between the Hardware Supplier, Hardware Subcontractor and any other Subcontractor. Ensure that Work of other Subcontractors, as it proceeds, will accommodate the installation of hardware.

.6 Attend site meetings as requested by the Contractor or the Departmental Representative.

.7 Upon completion of installation of hardware, arrange and conduct, in company of the Departmental Representative and the Contractor, inspections to verify that hardware is installed and is functioning satisfactorily. Where necessary, recommend adjustments of such items and replace defective hardware. Check door closers after they have been installed to make sure that adjustment such as back-checking degree have been properly made, and if not, instruct those installing the hardware to make these adjustments.

.8 On completion of hardware installation, submit to the Contractor written certification that all products are accounted for, correctly installed and are functioning normally.

.9 Doors must be square in frame with 3mm-6mm gap around all sides of the door to allow for expansion/ contraction and recessed door contacts.

1.5 DELIVERY, STORAGE, AND HANDLING

.1 Packing, Shipping, Handling and Unloading:

.1 Deliver, store, handle and protect materials in accordance with Section 01 00 10 – General Instructions.

.2 Package each item of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

.2 Storage and Protection:

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

1.6 MAINTENANCE

.1 Extra Materials:

.1 Provide maintenance materials in accordance with Section 01 77 00 - Closeout Procedures.

.2 Supply two sets of wrenches or any specialized tools supplied by the manufacturers for door closers, locksets and fire exit hardware.

1.7 WARRANTY

.1 Submit a written warranty for the Work of this Section issued in the name of the Departmental Representative and signed by this Subcontractor.

.2 Warranty shall state that hardware, including related Work, will be promptly removed, replaced and reinstalled upon verification that defects in material, workmanship, or operation exist. Such repairs or replacement shall take place within a period of fourteen days after written notice by the Contractor.

.3 Warranty shall extend for a period of 1 year for all hardware except door closers, which shall be for 2 years. Hinges with concealed bearing hinges shall carry lifetime warranty when used as recommended by manufacturer.

.4 Warranty shall commence from the date of Substantial Performance of the Work.

.5 Provide service contract.

Part 2 Products

2.1 HARDWARE ITEMS

.1 Use one manufacturer's products only for similar items.

2.2 SCHEDULE OF FINISHING HARDWARE

.1 Refer to Schedule of Finishing Hardware Groups following this Section.

2.3 DOOR HARDWARE

.1 Locks and latches:

.1 Bored and preassembled locks and latches: to ANSI/BHMA A156.2, series 4000 bored lock, grade 1, designed for function and finish as stated in Hardware Schedule. Lever design with 90mm projection and 127mm length. Style to match mortise lock design. Plain rose design of 88mm diameter.

.2 Mortise locks and latches: to ANSI/BHMA A156.13, series 1000 mortise lock, grade 1, designed for function and finish as stated in Hardware Schedule. Lever design with 76 mm projection and 121mm length and 13mm return. Plain rose design of 65 mm diameter.

.3 Cylinders: key into keying system.

.2 Strikes:

.1 Lock strikes - ANSI with lip. Lip projection not beyond jamb unless required by hardware type.

.2 Deadlock strikes – as per manufacturer’s standard.

.3 Provide flat head Phillips drive screws.

.4 Strike plates are not to be modified using hand held tools on site.

.3 Butts and hinges:

.1 Butts and hinges: to ANSI/BHMA A156.1 - heavy duty, stainless steel with non-removable pins, as listed in Hardware Schedule.

.4 Exit devices: to ANSI/BHMA A156.3 - type ANSI 3, function F-XX-R-BA, grade 1, conventional modern-narrow stile design, as listed in Hardware Schedule.

.5 Door Closers and Accessories:

.1 Door controls (closers): heavy duty with minimum 20N closing power, designated by letter C and numeral identifiers listed in Hardware Schedule, size and finish listed in Hardware Schedule.

.6 Auxiliary locks and associated products: to CAN/CGSB-69.21, designated by letter E and numeral identifiers listed in Hardware Schedule.

.1 Dead bolt, listed in Hardware Schedule . Key into keying system, as directed.

.2 Cylinders: for installation in deadlocks provided with special doors as listed in Hardware Schedule. Key into keying system, as directed.

.7 Architectural door trim: to CAN/CGSB-69.22, designated by letter J and numeral identifiers listed in Hardware Schedule.

.1 Head and jamb seal:

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

.2 Adhesive backed neoprene material.

.2 Door protection plates: 1.27 mm thick stainless steel.

.3 Push plates: 1.27 mm thick stainless steel.

.4 Push/Pull units: stainless steel.

.8 Auxiliary hardware: to ANSI/BHMA A156.16-2008, listed in Hardware Schedule.

.1 Surface bolt, flush bolt, stainless steel finish.

.9 Thresholds: 150mm wide x full width of door opening, extruded aluminium with serrated surface,

.10 Astragal: adjustable, finished to match doors.

.11 Barrier Free Door Operator:

.1 Heavy duty pneumatically assisted door closer, capable of multi-door operation, complete with actuators, control boxes, pneumatic tubing and compressed air source.

.2 Unit shall be certified by BHMA to meet ANSI A117.1 and A156.19 requirements. Unit shall meet UL, cUL, UL10C and UL10B standards.

.3 Power assist function:

.1 When activated, the unit shall, by means of an integral motor and pump, assist in opening the door by reducing the amount of force required to open door. The required opening force shall be adjustable to comply with Accessible Design for the Built Environment Standards.

.2 The unit shall maintain its motorized assist cycle for 5 seconds (adjustable from 0 to 30 seconds in 5 second increments). During the motor assist cycle, the unit shall hold the door open at any position at which door is stopped up to full open position.

.3 If unit is initiated during the motor assist cycle, the units assist cycle time shall be reset to the maximum set time. Once motor assist has terminated, the unit shall close door under full spring power not to exceed a closing force of 67 Newton (15 lbf).

.4 Power operator function

.1 The door shall be powered from a door closed position to a full door open position and remain in momentary hold open for 5 seconds minimum (adjustable 0 to 30 seconds in 5 second increments).

.2 Once unit reaches full hold open position, if reinitiated, unit's momentary hold open time shall restart from the maximum set time. If unit is initiated during the closing cycle, unit shall revert to opening cycle beginning at that door position.

.3 Unit shall have a toggled hold open input that upon first initiation will power door to a maintained hold open position; a second initiation will allow door to close. Unit shall have obstruction detection on closing, which will reverse the closing door to the full open position then re-attempt to close door after momentary hold open time has elapsed.

Obstruction detection on opening shall shut motor off, allowing door to close under spring force. These obstruction detection features shall be integral to unit. During closing cycle, the unit shall close door under full spring power not to exceed a closing force of 67 Newton (15 lbf).

.5 The unit shall maintain its motorized assist cycle for 5 seconds (adjustable from 0 to 30 seconds in 5 second increments). During the motor assist cycle, the unit shall hold the door open at any position at which door is stopped up to full open position. If unit is initiated during the motor assist cycle, the units assist cycle time shall be reset to the maximum set time. Once motor assist has terminated, the unit shall close door under full spring power not to exceed a closing force of 67 Newton (15 lbf).

.6 Rack and pinion design contained within a precision cast aluminum housing

.7 Door closing force shall be adjustable to ensure adequate closing control.

.8 Door closing speed shall be controlled by independent hydraulic adjustment valves in the sweep and latch range of the closing cycle

.9 Door operator shall provide conventional door closer opening and closing forces unless the power operator motor is activated.

.10 Door operator to have an adjustable hydraulic back-check valve to cushion the door speed if opened violently.

.11 Unit shall have delay switches for motor activation, electric lock interfacing, and hold open time.

.12 Unit shall have a three-position Selector Mode Switch that will permit the unit to be switched “ON” to monitor for function inputs, switched to “H/O” for indefinite hold open function or switched “OFF” which will disable function inputs allowing unit to be used as a manual door closer.

.13 Self contained control box/compressor combination for independent operation of one door leaf.

.14 Control boxes: complete with electric strike relay.

.15 Mount operators on either push or pull sides of doors as required to place them inside rooms.

.16 Actuation of operators by card readers or motion detectors.

.17 Electrical box and actuator: Hardwired low voltage actuator with stainless steel 114 mm round plate, engraved blue filled with handicap symbol. Box 51 mm wide x 102 mm high x 50 mm deep single gang electrical box, flush mounted in wall, locations indicated.

.18 Provide switched line voltage to control box. Locate switch adjacent to box.

.19 Provide low voltage wiring to each actuator and 6 mm diameter air tubing to each operator.

.20 Mount control box in location as directed by Departmental Representative.

.12 As indicated in Schedule of Finishing Hardware and as specified herein. Acceptance of Products from other manufacturers, for Products other than those listed below, shall be subject to review by the Departmental Representative and Departmental Representative technical authority based on samples and/or manufacturers literature submitted to the Departmental Representative prior to receipt of bids.

.1 Special/ Modified lockset to match listed model only. No substitutes or alternates will be accepted.

.2 Electrical locks must have an integrated REX in the lockset.

.13 Cylinders: high security with unique controlled keys, key into existing keying system as directed. Coordinate keying with Departmental Representative prior to setting locks.

.14 Power transfers:

.1 To be UL listed. Provide a secure and unobtrusive means of channeling electrical wiring from the door frame into the door itself, for powering electric strikes, locks, exit bars, etc. Suitable for any door hung with butt type hinges, including continuous hinges or pivots offset 19mm or less. Conduit to be spring steel helix has internal diameter of approx. 16mm. Housing to be stamped steel, approx. 1.5mm thick. Short (105 degree swing) to be 292mm long. 180 degree version is 512mm long. Chrome finish.

.15 Push plates and kick plates: to ANSI/BHMA A156.6.

.16 Flush bolts: to ANSI/BHMA A156.16.

2.4 HARDWARE – GENERAL REQUIREMENTS

.1 Provide items of best quality, design, construction and finish, free of defects.

.2 Hardware shall comply with requirements of authorities.

.3 Equip panic devices with Chicago bolts where required.

.4 Door closers shall be fully adjustable and sized to operate each door efficiently and to ensure complete door closure. Doors closure shall be heavy duty.

.5 Confirm kickplate and threshold sizes before ordering.

.6 Provide Phillips or Robertson head screws for installing hardware.

.7 Confirm degree of swing for door closers and other items affected by door swing.

.8 All locksets to be of mortise design. Mortise locksets must meet security grade 1 and operational grade. Bored locks must only meet grade 1 and be heavy duty. Locksets must be compatible with new mortise cylinders without the use of additional retainers/ spacers. Locksets to be supplied with cylinders.

.9 25mm diameter holes in frame and door and junction box in door for alarm contacts shall be provided by steel door and frame subcontractor for concealed contacts.

.10 Escutcheons : round.

.11 Door bottom seal: heavy duty, door seal of extruded aluminum frame and solid closed cell neoprene seal, recessed in door bottom, closed ends, automatic retract mechanism when door is open, clear anodized finish.

.12 Thresholds: 100 mm wide x full width of door opening, extruded aluminum mill finish, serrated surface.

2.5 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.

2.6 KEYING

.1 Doors to be keyed, as directed by Departmental Representative.

.2 Provide keys as required. Assume 20 keys.

.3 Provide construction cores during construction.

.4 Provide all permanent cores and keys to Departmental Representative.

2.7 LOW VOLTAGE WIRING

.1 Low voltage electrical wiring for hardware: to be supplied and installed by division 26.

.2 Sargent electro-mechanical locks with integrated deadbolt and request to exit device to be installed by Contractor. Lock operation to be checked by installer for proper latching and operation. Locks will be wired by Departmental Representative technical authority.

Part 3 Execution

3.1 PREPARATION

.1 Check manufacturers shop drawings, Departmental Representative’s drawings, and templates to ensure door swings, sized, materials, finishes, and operating conditions before furnishing any hardware. Report any problems to the Contractor.

.2 Provide ULC or UL approved hardware where labeled doors are specified. Electrical devices must be approved to appropriate CSA standards.

.3 Ensure that hardware manufacturers are allowed adequate time for manufacture, assembly and shipment of items.

3.2 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.

3.3 INSTALLATION – GENERAL

.1 Installation guide:

.1 Refer to ANSI/DHI A115: Installation Guide for Doors and Hardware as a guide to the installation of commercial steel doors and steel frames, insulated steel doors in steel and wood frames, flush wood doors, and architectural hardware. Its use will contribute to the elimination of field problems due to faulty installation. Copies of this guide can be obtained from the Door and Hardware Institute,

14170 Newbrook Drive, Chantilly, VA 22021-2223; Telep: 703-222-2010; Fax: 703-222-2410. Ensure copy if guide is on site.

.2 Fire doors, fire door frames and hardware:

.1 NFPA 80 requires that all fire doors be machined for hardware before the doors can be labeled.

.2 NFPA 80 requires that all fire doors be prepared for locks, latches, hinges, concealed closers, glass lites, vision panels, louvres, astragals and laminated overlays by the door manufacturer or his licensee in conformance with the manufacturer's inspection service procedure and under label service. Exceptions to this ruling include: preparation for surface applied hardware; function holes for mortise locks; holes for labeled viewers; a maximum 19mm undercut on wood and composite doors; and application of protection plates. These exceptions may be done at the Place of the Work.

.3 Install fire labeled hardware in strict accordance with NFPA 80.

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

.4 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.

.5 Remove construction cores when directed by Departmental Representative; install permanent cores and check operation of locks.

3.4 INSTALLATION – HARDWARE

.1 Cut, drill and prepare doors to template to receive hardware.

.2 Install hardware to doors and frames in accordance with manufacturer's packaged installation, template, and adjusting instructions supplied by the Hardware Subcontractor. Adjust all hardware as and when required to provide smooth operation of doors and ensure clearances are maintained. Repair damage to adjacent surfaces resulting from failure to conform with this requirement.

.3 Use proper sized drills and taps for screws provided. Do not use self-drilling or self tapping screws. Do not use power screw drivers for installation of lock and latch sets, panic hardware, door closers, or hinges. Drill proper pilot holes and put screws in manually.

.4 Ensure fastening components are tightened snugly to manufacturers torque specifications. Do not burr or otherwise mar the edges of surfaces of hardware components. Repair defects caused by this work in an approved manner.

3.5 MOUNTING HEIGHTS

.1 The following are mounting heights of various hardware items:

.2 Locksets: 1028mm from centre of knob to finished floor.

.3 Push Plates: 1143mm from centre of plate to finished floor.

.4 Mortise Latches: 1028mm from centre of cylinder to finished floor.

3.6 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 Adjust door hardware, operators and closures to meet door-openings force requirements of CSA B651 of minimum 22N for interior doors.

3.7 CLEANING

.1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

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

.3 Remove protective material from hardware items where present.

.4 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.8 DEMONSTRATION

.1 Maintenance Staff Briefing:

.1 Brief maintenance staff regarding:

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

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

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

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

3.9 SCHEDULE

HARDWARE GROUP “A”

6	EA	HINGE	114X101 MM NRP	652
1	EA	EXIT DEVICE	F-XX-M-L/K GRADE 1 F14	626
1	EA	DOOR OPERATOR	110 DEG HD DOUBLE LEVER DROPPED	689
1	EA	POWER TRANS	EPT	CHROME
2	EA	WALL SWITCH	114MM DIA. ON 114MM PLATE HDCP LOGO	693
1	EA	CYLINDER	COORDINATE WITH EXISTING	626
2	EA	FLUSH BOLTS	MANUAL 1 ½ FRR	626
2	EA	KICKPLATE	200X1000 MM	630
2	EA	KICKPLATE	200X700 MM	630
2	EA	SIGNAGE	TYPE A1, SEE DWG. 3/K-08	

HARDWARE GROUP “B”

4	EA	KICKPLATE	200X900 MM	630

HARDWARE GROUP “C”
REMOVE EXISTING CLOSER, LOCK AND EXIT DEVICE. PATCH & FILL IN HOLES AND ADD:

1	EA	EXIT DEVICE	F-XX-M-L/K GRADE 1 F14	626
1	EA	DR. OPERATOR	110 DEG HD DOUBLE LEVER DROPPED	689
1	EA	POWER TRANS	EPT	CHROME
2	EA	WALL SWITCH	114MM DIA. ON 114MM PLATE HDCP LOGO	693
1	EA	CYLINDER	COORDINATE WITH EXISTING	626
1	EA	THRESHOLD	127 X 1800 X 6.4 MM THICK	627
1	EA	KICKPLATES	200X900 MM	630
1	EA	KICKPLATES	200X500 MM	630

HARDWARE GROUP “D”
REMOVE EXISTING CLOSER, RELOCATE REX. PATCH & FILL IN HOLES AND ADD:

1	EA	DR. OPERATOR	110 DEG HD DOUBLE LEVER DROPPED	689
2	EA	WALL SWITCH	114MM DIA. ON 114MM PLATE HDCP LOGO	693
1	EA	KICKPLATES	200X900 MM	630

HARDWARE GROUP “E”

6	EA	HINGE	114X101 NRP	652
1	EA	EXIT DEVICE	F-XX-M-L/K GRADE 1 F14	626
1	EA	DR. OPERATOR	110 DEG HD DOUBLE LEVER DROPPED	689
1	EA	POWER TRANS	EPT	CHROME
2	EA	WALL SWITCH	114MM DIA. ON 114MM PLATE HDCP LOGO	693
1	EA	CYLINDER	COORDINATE WITH EXISTING	626
2	EA	FLUSH BOLTS	MANUAL 1 ½ FRR	626
1	EA	KICKPLATES	200X900 MM	630
1	EA	KICKPLATES	200X500 MM	630
2	EA	SIGNAGE	TYPE A1, SEE DWG. 3/K-08	

HARDWARE GROUP “F”

6	EA	HINGE	114X101 NRP	652

1	EA	EXIT DEVICE	F-XX-M-L/K GRADE 1 F14	626
1	EA	DR. OPERATOR	110 DEG HD DOUBLE LEVER DROPPED	689
1	EA	POWER TRANS	EPT	CHROME
2	EA	WALL SWITCH	114MM DIA. ON 114MM PLATE HDCP LOGO	693
1	EA	CYLINDER	COORDINATE WITH EXISTING	626
2	EA	FLUSH BOLTS	MANUAL 1 ½ FRR	626
1	EA	KICKPLATES	200X900 MM	630
1	EA	KICKPLATES	200X500 MM	630
2	EA	SIGNAGE	TYPE A1, SEE DWG. 3/K-08	

HARDWARE GROUP “G”
REINSTALL & INTEGRATE EXISTING REX. PATCH & FILL IN HOLES AND ADD:

6	EA	HINGE	114X101 NRP	652
1	EA	EXIT DEVICE	F-XX-M-L/K GRADE 1 F14	626
1	EA	DR. OPERATOR	110 DEG HD DOUBLE LEVER DROPPED	689
1	EA	POWER TRANS	EPT	CHROME
2	EA	WALL SWITCH	114MM DIA. ON 114MM PLATE HDCP LOGO	693
1	EA	CYLINDER	COORDINATE WITH EXISTING	626
2	EA	FLUSH BOLTS	MANUAL 1 ½ FRR	626
1	EA	KICKPLATES	200X900 MM	630
1	EA	KICKPLATES	200X500 MM	630
2	EA	SIGNAGE	TYPE A1, SEE DWG. 3/K-08	

HARDWARE GROUP “H”
REMOVE EXISTING CLOSER. PATCH & FILL IN HOLES AND FRAME. ADD:

1	EA	DR. OPERATOR	110 DEG HD DOUBLE LEVER DROPPED	689
2	EA	WALL SWITCH	114MM DIA. ON 114MM PLATE HDCP LOGO	693

HARDWARE GROUP “J”
REMOVE EXISTING CLOSER. PATCH & FILL IN HOLES AND FRAME. ADD:

1	EA	DR. OPERATOR	110 DEG HD DOUBLE LEVER DROPPED	689
2	EA	WALL SWITCH	114MM DIA. ON 114MM PLATE HDCP LOGO	693

END OF SECTION