SECTION 087100 DOOR HARDWARE

PART 1 - GENERAL

1.1 WORK INCLUDED

A. The work in this section shall include furnishing of all items of finish hardware as hereinafter specified or obviously necessary to complete the building, except those items that are specifically excluded from this section of the specification.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Hollow Metal Doors and Frames

1.3 DESCRIPTION OF WORK

A. Furnish labor and material to complete hardware work indicated, as specified herein, or as may be required by actual conditions at building.
B. Include all necessary screws, bolts, expansion shields, other devices, if necessary, as required for proper hardware application. The hardware supplier shall assume all responsibility for correct quantities.
C. Hardware shall meet the requirements of Federal, State and Local codes having jurisdiction over this project, notwithstanding any real or apparent conflict therewith in these specifications.
D. Fasteners:
   1. Hardware as furnished shall conform to published templates generally prepared for machine screw installation.
   2. Furnish each item complete with all screws required for installation. Typically, all exposed screws installation.
   3. Insofar as practical, furnished concealed type fasteners for hardware units that have exposed screws shall be furnished with Phillips flat head screws, finished to match adjacent hardware.
   4. Door closers and exit devices to be installed with closed head through bolts (sex bolts).

1.4 QUALITY ASSURANCE

A. The supplier to be a directly franchised distributor of the products to be furnished and have in their employ an AHC (Architectural Hardware Consultant). This person is to be available for consultation to the architect, owner and the general contractor at reasonable times during the course of work.
B. The finish hardware supplier shall prepare and submit to the architect six (6) copies of a complete schedule identifying each door and each set number, following the numbering system and not creating any separate system himself. He shall submit the schedule for review, make corrections as directed and resubmit the corrected schedule for final approval. Approval of schedule will not relieve Contractor of the responsibility for furnishing all necessary hardware, including the responsibility for furnishing correct quantities.
C. No manufacturing orders shall be placed until detailed schedule has been submitted to the architect and written approval received.
D. After hardware schedule has been approved, furnish templates required by manufacturing contractors for making proper provisions in their work for accurate fitting, finishing hardware setting. Furnish templates in ample time to facilitate progress of work.
E. Hardware supplier shall have an office and warehouse facilities to accommodate the materials used on this project. The supplier must be an authorized distributor of the products specified.
F. The hardware manufactures are to supply both a pre-installation class as well as a post-installation walk-thru. This is to insure proper installation and provide for any adjustments or replacements of hardware as required.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Wrap; protect finishing hardware items for shipment. Deliver to manufacturing contractors hardware items required by them for their application; deliver balance of hardware to job; store in designated location. Each item shall be clearly marked with its intended location.

1.6 WARRANTY

A. The material furnished shall be warranted for one year after installation or longer as the individual manufacturer's warranty permits.
B. Mechanical locks and Electronic Access locks shall be warranted, in writing by the manufacturer against failure due to defective materials and workmanship, for a period of five (5) years commencing from the Date of Purchase. All other electronic hardware (i.e. Power supplies, EL/RX/LX switches ect.) shall be warranted for one (1) year from the Date of Purchase.
C. Overhead door closers shall be warranted, in writing by the manufacturer against failure due to defective materials and workmanship, for a period of ten (10) years commencing on the Date of Final Completion and Acceptance. In the event of failure, the manufacture is to promptly repair or replace the defective with no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. To the greatest extent possible, obtain each kind of hardware from only one manufacturer.
B. All numbers and symbols used herein have been taken from the current catalogues of the following manufacturers.

PRODUCT	SPECIFIED MANUFACTURER	ACCEPTABLE SUBSTITUTE
1) Hinges	Ives	Hager, Stanley
2) Locks & Latches	Schlage	NONE (Owners Standard)
3) Cylinders, Keys, Keying	Schlage Everest D	NONE (Owners Standard)
4) Exit Devices	Von Duprin	NONE (Owners Standard)
5) Door Closers	LCN	Norton
6) OH Stops/Holders	Glynn Johnson	Rixson
7) Wall Stops/Floor Stops, Flushbolts	Ives	Rockwood, Glynn Johnson
8) Kick Plates	Ives	Quality, Rockwood
9) Threshold/Weather-strip	National Guard	Pemko, Zero
10) Silencers	Ives	Glynn Johnson, Rockwood

C. If material manufactured by other than that specified or listed herewith as an equal, is to be bid upon, permission must be requested from the architect seven (7) days prior to bidding. If substitution is allowed, it will be so noted by addendum.

2.2 FINISH OF HARDWARE:

A. Exterior Hinges to be Stainless Steel (32D), Interior Hinges to be Satin Chrome (26D). Door Closers to be Aluminum. Locks to be Satin Chrome (26D), Exit Devices to be Satin Chrome (26D). Overhead Holders to be Satin Chrome (26D), Flat Goods to be Satin Chrome (26D) or Stainless Steel (32D) and the Thresholds to be Mill Finish Aluminum.

2.3 HINGES AND PIVOTS:

A. Exterior butts shall be Stainless Steel. Butts on all out swinging doors shall be furnished with non-removable pins (NRP).
B. Interior butts shall be as listed.
C. Doors 5' or less in height shall have two (2) butts. Furnish one (1) additional butt for each 2'6" in height or fraction thereof. Dutch door shall have two (2) butts per leaf.

2.4 CYLINDERS AND KEYING:

A. All locks and cylinders shall be Schlage Everest "D234" restricted, Grand Master keyed for New system at the factory.
B. Contact Manatee County Government Parks and Recreation Maintenance Department to coordinate final lock set selections.
C. Provide Two (2) each change keys per lock, Six (6) each grand master and master keys, six (6) temporary control keys, six (6) permanent control keys and fifteen (15) construction master keys.
D. Hardware supplier to provide temporary cylinders or cores during the construction phase. The contractor is to change out the temporary cylinders for the permanent cylinders.

2.5 LOCKSETS:

A. Locksets shall be heavy-duty Grade 1, cylindrical type, unless specified otherwise, in "ND" series, RHO design as manufactured by Schlage. ND85PD on staff toilets. ND95PD security classroom at exterior classrooms and classroom corridors.

2.6 DOOR CLOSERS:

A. All closers shall be LCN 4111 EDA series having non-ferrous covers, forged steel arms separate valves for adjusting backcheck, closing and latching cycles and adjustable spring to provide up to 50% increase in spring power. Provide and Advanced Variable Backcheck (AVB) at all exterior doors.
B. Closers shall be furnished with parallel arm mounted on all doors opening into corridors or other public spaces and shall be mounted to permit 180 degrees door swing wherever wall conditions permit. Furnish with non-hold open arms unless otherwise indicated. Provide a special template arm on closers where there is an additional overhead stop.
C. Door closer cylinders shall be of high strength cast iron construction to provide low wear operating capabilities of internal parts throughout the life of the installation. All door closers shall be tested to ANSI/BHMA A156.4 test requirements by a BHMA certified testing laboratory. A written certification showing successful completion of a minimum of 10,000,000 cycles must be provided.
D. Door closer spindles shall be of high strength heat treated steel with a minimum diameter of 11/16th of an inch by 3 ¼ inches in length with a minimum of 12 teeth.
E. Door closers shall utilize temperature stable fluid capable of withstanding temperature ranges of 120 degrees Fahrenheit to -30 degrees Fahrenheit, without requiring seasonal adjustment of closer speed to properly close the door. Closers for fire-rated doors shall be provided with temperature stabilizing fluid that complies with the standards UBC 7-2 (1997) and UL 10C.
F. Door closers shall incorporate tamper resistant non-critical screw valves of V-slot design to reduce possible clogging from particles within the closer. Closers shall have separate and independent screw valve adjustments for latch speed, general speed, and hydraulic backcheck. Backcheck shall be properly located so as to effectively slow the swing of the door at a minimum of 10 degrees in advance of the dead stop location to protect the door frame and hardware from damage. The use of Pressure Release Valves (PRV) are not acceptable.
   Acceptable equal: Norton PR7500

2.7 TRIM AND PLATES:

A. Kick plates, mop plates, and armor plates, shall be .050 gauge with 32D finish. Kick plates to be 10" high, mop plates to be 4" high. All plates shall be two (2) inches less full width of door.

B. Push plates, pull plates, door pulls, and miscellaneous door trim shall be shown in the hardware schedule.

2.08 DOOR STOPS:

A. Doorstops shall be furnished for all doors to prevent damage to doors or hardware from striking adjacent walls or fixtures. Wall bumpers equal to Ives WS407CCV are preferred, but where not practical furnish floor stops equal to Ives FB438 series.
B. Where conditions prohibit the use of either wall or floor type stops, furnish surface mounted overhead stops equal to Glynn Johnson, 90 series exterior and 450 series interior.

2.09 THRESHOLDS AND WEATHERSTRIP:

A. Thresholds and weather-strip shall be as listed in the hardware schedule.

2.10 DOOR SILENCERS:

A. Furnish rubber door silencers equal to Ives SR64 all new interior hollow metal frames, (2) per pair and (3) per single door frame.

PART 3 - EXECUTION

3.1 INSTALLATION:

A. All hardware shall be applied and installed in accordance with the Finish Hardware schedule. Care shall be exercised not to mar or damage adjacent work.
B. Contractor to provide a secure lock-up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items that are not immediately replaceable, so that the completion of the work will not be delayed by hardware losses both before and after installation.
C. No hardware is to be installed until the hardware manufactures have provided a pre-installation class. This is to insure proper installation of the specified products.

3.2 ADJUSTING AND CLEANING:

A. Contractor shall adjust all hardware in strict compliance with manufacturer's instructions. Prior to turning project to owner, contractor shall clean and make any final adjustments to the finish hardware.

3.3 PROTECTION:

A. Contractor shall protect the hardware, as it is stored on construction site in a covered and dry place.
B. Contractor shall protect exposed hardware installed on doors during the construction phase.

3.4 HARDWARE SCHEDULE:

A. The following schedule is furnished for whatever assistance it may afford the contractor; do not consider it as entirely inclusive. Should any particular door or item be omitted in any scheduled hardware group, provide door or item with hardware same as required for similar purposes. Quantities listed are for each pair of doors or for each single door.
B. This hardware schedule is the basis of design by. Substitutions are allowed provided that they meet the following manufacturing standards.

Ingersoll Rand Security Technology
735 W. SR 434, Suite H
Longwood, Fl 32750
Ph: 407-571-2000
Fax 407-571-2006

C. Any subistutions must be submitted to the Archtiect for review. The burden of documentation is the sole responsibility of the contractor. The Archtiect reserves the right to reject any substitutions based on incomplete submission or by cause.

Hardware Group No. 01 ALL DOORS FOR PROJECT
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfr
3	EA	HINGE	3CB1 4.5 X 4.5 NRP	630	IVE
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	CORE ONLY	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	5050B	BRN	NGP
1	EA	DRIP CAP	16A	AL	NGP
1	EA	THRESHOLD	896V	AL	NGP

END OF SECTION 087100