

# Project Manual

Addendum No. 04 to Construction  
Document  
Volume 01



COLLEGE OF  
**Osteopathic Medicine**  
AT THE CHEROKEE NATION

Tahlequah, Oklahoma

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September 20, 2019



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## LEGEND

First Column:	Current Date for Section
Second Column:	Checked Indicates Section is Included in Current Issue
Third Column:	Section Number
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## ISSUES

Bid Package 01, Demolition	2019-01-18	
Addendum No. 01 (to bid pack 01)	2019-02-08	
Bid Package No. 02, Rough Grading	2019-02-08	
Bid Package No. 03, Foundation	2019-03-20	
Bid Package No. 04, Underground	2019-05-10	
Utilities-Steel		
Construction Document	2019-08-23	Issued for Construction
Add. No. 01 to Const. Doc.	2019-09-09	
Add. No. 02 to Const. Doc.	2019-09-16	MEP only
Add. No. 03 to Const. Doc.	2019-09-18	Drawings only, no Specs issued.
Add. No. 04 to Const. Doc.	2019-20-18	



SEPT. 20, 2019

### NOTE FOR REVISED SPECIFICATION SECTIONS

1. DELETED INFORMATION IS INDICATED BY A STRIKETHROUGH (IE, ~~THIS IS DELETED~~).
2. NEW INFORMATION IS INDICATED BY A DOUBLE UNDERLINE (IE, THIS IS ADDED).
3. ALL REVISED INFORMATION IS FURTHER IDENTIFIED BY A HEAVY VERTICAL LINE TO THE RIGHT OF ALL REVISIONS IN EACH INDIVIDUAL SPECIFICATION SECTION (REFER TO HEAVY BOLD LINE TO THE RIGHT FOR AN EXAMPLE).

## VOLUME 1

### DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

	<input type="checkbox"/>	00 1115	Invitation to Bid
	<input type="checkbox"/>	00 2113	Instructions to Bidders
2019-02-08	<input type="checkbox"/>	00 3100	Available Project Information
	<input type="checkbox"/>	00 4100	Bid Form
	<input type="checkbox"/>	00 5200	Agreement Form
	<input type="checkbox"/>	00 6100	Bonds
2019-02-08	<input type="checkbox"/>	00 7200	General Conditions
	<input type="checkbox"/>	00 7300	Supplementary Conditions

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Childers Architect  
2019-09-09

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## DIVISION 01 - GENERAL REQUIREMENTS

	<input type="checkbox"/>	01 0500	Design Selections
	<input type="checkbox"/>	01 0510	Exterior Design Selections
	<input type="checkbox"/>	01 0520	Interior Design Selections
	<input type="checkbox"/>	01 1000	Summary
	<input type="checkbox"/>	01 2100	Allowances
2019-02-08	<input type="checkbox"/>	01 2200	Unit Prices
2019-02-08	<input type="checkbox"/>	01 2300	Alternates
2019-02-08	<input type="checkbox"/>	01 2500	Substitution Procedures
2019-02-08	<input type="checkbox"/>	01 2500a	Substitution Procedures Form
2019-02-08	<input type="checkbox"/>	01 2600	Contract Modification Procedures
2019-02-08	<input type="checkbox"/>	01 2900	Payment Procedures
2019-02-08	<input type="checkbox"/>	01 3100	Project Management and Coordination
2019-02-08	<input type="checkbox"/>	01 3200	Construction Progress Documentation
	<input type="checkbox"/>	01 3233	Photographic Documentation
2019-02-08	<input type="checkbox"/>	01 3300	Submittal Procedures
2019-02-08	<input type="checkbox"/>	01 4000	Quality Requirements
	<input type="checkbox"/>	01 4200	References
2019-02-08	<input type="checkbox"/>	01 4323	Special Inspection
2019-02-08	<input type="checkbox"/>	01 4339	Visual Mock-Up Requirements
2019-02-08	<input type="checkbox"/>	01 4516	Field Test for Water Leakage
	<input type="checkbox"/>	01 4540	Testing Mock-Up for Building Enclosure Systems
2019-02-08	<input type="checkbox"/>	01 5000	Temporary Facilities and Controls
2019-02-08	<input type="checkbox"/>	01 6000	Product Requirements
2019-02-08	<input type="checkbox"/>	01 7300	Execution
2019-02-08	<input type="checkbox"/>	01 7419	Construction Waste Management and Disposal
	<input type="checkbox"/>	01 7420	LEED Construction Waste Management and Disposal
2019-02-08	<input type="checkbox"/>	01 7700	Closeout Procedures
2019-02-08	<input type="checkbox"/>	01 7823	Operations and Maintenance Data
2019-02-08	<input type="checkbox"/>	01 7839	Project Record Documents
2019-02-08	<input type="checkbox"/>	01 7900	Demonstration and Training
	<input type="checkbox"/>	01 7910	Demonstration and Training
2019-02-08	<input type="checkbox"/>	01 8111	Sustainable Construction Requirements
			<b>This section is being deleted.</b>
	<input type="checkbox"/>	01 8112	LEED Construction Requirements
	<input type="checkbox"/>	01 8113	LEED Construction Requirements for New Construction and Major Renovations
	<input type="checkbox"/>	01 8123	LEED Construction Requirements for Commercial Interiors
	<input type="checkbox"/>	01 8133	LEED Construction Requirements for Core and Shell Development
	<input type="checkbox"/>	01 8143	LEED Construction Requirements for Schools
2019-02-08	<input type="checkbox"/>	01 9113	General Commissioning Requirements

## DIVISION 02 - EXISTING CONDITIONS

<input type="checkbox"/>	02 1113	Selective Site Demolition
	02 1116	Building Demolition

2019-01-18	<input type="checkbox"/>	02 4113	Selective Site Demolition
	<input type="checkbox"/>	02 4119	Selective Demolition

### **DIVISION 03 - CONCRETE**

	<input type="checkbox"/>	03 0150	Concrete Patching
2019-03-20	<input type="checkbox"/>	03 1000	Concrete Forming and Accessories
	<input type="checkbox"/>	03 1100	Concrete Forming
	<input type="checkbox"/>	03 1500	Concrete Accessories
2019-03-20	<input type="checkbox"/>	03 2000	Concrete Reinforcing
2019-03-20	<input type="checkbox"/>	03 3000	Cast-In-Place Concrete
2019-08-23	<input type="checkbox"/>	03 3500	Concrete Finishing
	<input type="checkbox"/>	03 3600	Special Concrete Finishes
	<input type="checkbox"/>	03 3800	Post-Tensioned Concrete
	<input type="checkbox"/>	03 4100	Plant-Precast Structural Concrete
2019-09-09	<input type="checkbox"/>	03 4500	Architectural Precast Concrete
	<input type="checkbox"/>	03 4713	Tilt-Up Concrete
	<input type="checkbox"/>	03 4900	Glass-Fiber Reinforced Precast Concrete (GFRC)
	<input type="checkbox"/>	03 5216	Lightweight Insulating Concrete
	<input type="checkbox"/>	03 5300	Concrete Toppings
	<input type="checkbox"/>	03 5416	Hydraulic Cement Underlayment

### **DIVISION 04 - MASONRY**

	<input type="checkbox"/>	04 2100	Masonry Veneer
2019-03-20	<input type="checkbox"/>	04 2200	Concrete Unit Masonry
	<input type="checkbox"/>	04 2300	Glass Unit Masonry
	<input type="checkbox"/>	04 4200	Exterior Stone Cladding
	<input type="checkbox"/>	04 4216	Steel Supported Stone Cladding
	<input type="checkbox"/>	04 7200	Cast Stone Masonry
2019-08-23	<input type="checkbox"/>	04 7500	Adhered Masonry Veneer

### **DIVISION 05 – METALS**

2019-04-19	<input type="checkbox"/>	05 1000	Structural Steel
	<input type="checkbox"/>	05 1200	Structural Steel Framing
2019-04-14	<input type="checkbox"/>	05 1213	Architecturally Exposed Structural Steel (AESS) Framing
	<input type="checkbox"/>	05 1636	Barrier Cables
	<input type="checkbox"/>	05 2100	Steel Joists Framing
2019-04-19	<input type="checkbox"/>	053000	Metal Decking
	<input type="checkbox"/>	05 3100	Steel Decking
	<input type="checkbox"/>	05 3123	Steel Roof Deck System
	<input type="checkbox"/>	05 3133	Permanent Metal Forming
2019-08-23	<input type="checkbox"/>	05 4000	Cold-Formed Steel Framing
2019-08-23	<input type="checkbox"/>	05 4300	Slotted Channel Framing
2019-08-23	<input type="checkbox"/>	05 5000	Metal Fabrications
2019-05-10	<input type="checkbox"/>	05 5100	Metal Stairs

2019-08-23	<input type="checkbox"/>	05 5213	Pipe and Tube Railings
	<input type="checkbox"/>	05 5813	Ornamental Metal Column Covers
2019-05-10	<input type="checkbox"/>	05 6000	Metal Equipment Support System
2019-08-23	<input type="checkbox"/>	05 7000	Ornamental Metal
2019-08-23	<input type="checkbox"/>	05 7300	Ornamental Handrails and Railings

## **DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES**

2019-08-23	<input type="checkbox"/>	06 1053	Miscellaneous Rough Carpentry
2019-08-23	<input type="checkbox"/>	06 1643	Exterior Gypsum Sheathing
2019-08-23	<input type="checkbox"/>	06 4023	Interior Architectural Woodwork
	<input type="checkbox"/>	06 4223	Slatwall Paneling
	<input type="checkbox"/>	06 6100	Simulated Stone Fabrications
	<input type="checkbox"/>	06 6413	Translucent Resin Panel Fabrications
	<input type="checkbox"/>	06 6419	Simulated Stone Paneling
	<input type="checkbox"/>	06 6713	Louvered Light Diffusers
	<input type="checkbox"/>	06 6813	Plastic Gratings

## **DIVISION 07 - THERMAL AND MOISTURE PROTECTION**

	<input type="checkbox"/>	07 0151	Preparation for Re-Roofing
	<input type="checkbox"/>	07 0152	Patching of Existing Roofing
	<input type="checkbox"/>	07 1114	Asphalt Mastic Dampproofing
	<input type="checkbox"/>	07 1328	Pre-Applied Sheet Waterproofing
	<input type="checkbox"/>	07 1352	Modified Bituminous Sheet Waterproofing
	<input type="checkbox"/>	07 1413	Hot Fluid-Applied Rubberized Asphalt Waterproofing
	<input type="checkbox"/>	07 1416	Cold Fluid Applied Waterproofing
2019-08-23	<input type="checkbox"/>	07 1616	Crystalline Waterproofing
	<input type="checkbox"/>	07 1700	Bentonite Waterproofing
2019-08-23	<input type="checkbox"/>	07 1800	Traffic Coatings
2019-08-23	<input type="checkbox"/>	07 1900	Water Repellents
	<input type="checkbox"/>	07 2100	Thermal Insulation
2019-08-23	<input type="checkbox"/>	07 2119	Spray-Applied Foam Insulation
2019-08-23	<input type="checkbox"/>	07 2400	EIFS
	<input type="checkbox"/>	07 2423	DEFS for Soffits
	<input type="checkbox"/>	07 2500	Mechanically Fastened Air and Water Barriers
2019-03-20	<input type="checkbox"/>	07 2600	Under-Slab Vapor Retarder
	<input type="checkbox"/>	07 2613	Rubberized Asphalt Vapor Retarders
	<input type="checkbox"/>	07 2617	Below Slab Vapor Retarders
2019-08-23	<input type="checkbox"/>	07 2713	Self-Adhering Air and Water Barriers
2019-08-23	<input type="checkbox"/>	07 2726	Fluid-Applied Air and Water barriers
	<input type="checkbox"/>	07 3113	Asphalt Shingles
	<input type="checkbox"/>	07 3127	Simulated Slate Roofing
	<input type="checkbox"/>	07 3200	Roof Tiles
	<input type="checkbox"/>	07 4114	Metal Roof Panels

2019-08-23	<input type="checkbox"/>	07 4213	Formed Metal Wall Panels
	<input type="checkbox"/>	07 4216	Modular Metal Wall Panels
	<input type="checkbox"/>	07 4229	Terra Cotta Wall Panels
2019-08-23	<input type="checkbox"/>	07 4243	Composite Metal Wall Panels
2019-08-23	<input type="checkbox"/>	07 4244	Composite Wood Wall Panels
2019-08-23	<input type="checkbox"/>	07 4623	Cedar Soffit Siding
2019-08-23	<input type="checkbox"/>	07 4800	Rainscreen Attachment System
2019-08-23	<input type="checkbox"/>	07 5013	Single-Ply Membrane Roofing
2019-08-23	<input type="checkbox"/>	07 5216	Modified Bituminous Membrane Roofing
	<input type="checkbox"/>	07 5556	Fluid-Applied Protected Membrane Roofing
	<input type="checkbox"/>	07 5563	Vegetated Protected Membrane Roofing
2019-09-09	<input type="checkbox"/>	07 6200	Flashing and Sheet Metal
2019-09-09	<input type="checkbox"/>	07 7200	Roof Accessories
	<input type="checkbox"/>	07 7600	Roof Pavers and Pedestal Assemblies
2019-08-23	<input type="checkbox"/>	07 8116	Cementitious Fireproofing
	<input type="checkbox"/>	07 8123	Intumescent Mastic Fireproofing
2019-08-23	<input type="checkbox"/>	07 8413	Penetration Firestopping
2019-08-23	<input type="checkbox"/>	07 8446	Fire-Resistive Joint Firestopping
	<input type="checkbox"/>	07 9100	Preformed Joint Seals
2019-08-23	<input type="checkbox"/>	07 9200	Joint Sealants
	<input type="checkbox"/>	07 9500	Expansion Control

## **DIVISION 08 - OPENINGS**

	<input type="checkbox"/>	08 0610	Door Schedule
2019-08-23	<input type="checkbox"/>	08 1113	Hollow Metal Doors and Frames
	<input type="checkbox"/>	08 1114	Interior Hollow Metal Frames
	<input type="checkbox"/>	08 1170	Steel Fire Door and Frame Assembly
2019-08-23	<input type="checkbox"/>	08 1216	Interior Aluminum Frames
2019-08-23	<input type="checkbox"/>	08 1416	Prefinished Flush Wood Doors
	<input type="checkbox"/>	08 1433	Stile and Rail Wood Doors
2019-08-23	<input type="checkbox"/>	08 3113	Access Doors and Frames
	<input type="checkbox"/>	08 3313	Coiling Counter Doors
	<input type="checkbox"/>	08 3323	Overhead Coiling Doors
	<input type="checkbox"/>	08 3326	Overhead Coiling Grilles
	<input type="checkbox"/>	08 3338	Interior Side Coiling Grilles
2019-08-23	<input type="checkbox"/>	08 3400	Special – Function Doors
	<input type="checkbox"/>	08 3470	Acoustical Metal Door, Window, and Frame Assemblies
	<input type="checkbox"/>	08 3513	Folding Doors
	<input type="checkbox"/>	08 3515	Accordion Folding Fire Doors
	<input type="checkbox"/>	08 3613	Sectional Overhead Doors
2019-08-23	<input type="checkbox"/>	08 3616	Barn All Glass Doors
2019-08-23	<input type="checkbox"/>	08 4110	Interior Storefront
	<input type="checkbox"/>	08 4127	Exterior All-Glass Entrances and Storefronts
	<input type="checkbox"/>	08 4128	Interior All-Glass Entrances and Storefronts
	<input type="checkbox"/>	08 4213	Exterior Aluminum Entrance Doors
2019-08-23	<input type="checkbox"/>	08 4216	Interior Aluminum Entrance Doors
	<input type="checkbox"/>	08 4229	Automatic Entrances
	<input type="checkbox"/>	08 4233	Revolving Entrance Doors

2019-08-23	<input type="checkbox"/>	08 4243	Medical Specialty Sliding Entrances
2019-08-23	<input type="checkbox"/>	08 4400	Glazed Aluminum Framing Systems
	<input type="checkbox"/>	08 4426	Structural Glass Curtainwall
	<input type="checkbox"/>	08 4500	Translucent Insulating Panel Assemblies
	<input type="checkbox"/>	08 5113	Aluminum Windows
2019-08-23	<input type="checkbox"/>	08 5619	Sliding Pass Windows
	<input type="checkbox"/>	08 5656	Bullet-Resistive Windows
	<input type="checkbox"/>	08 6200	Unit Skylights
	<input type="checkbox"/>	08 6300	Metal-Framed Skylights
2019-09-20	<input checked="" type="checkbox"/>	08 7100	Door Hardware
	<input type="checkbox"/>	08 7121	Interior Automatic Door Operators for Staff Use
2019-08-23	<input type="checkbox"/>	08 7122	Automatic Door Operators for the Disabled
2019-08-23	<input type="checkbox"/>	08 8000	Glazing
	<input type="checkbox"/>	08 8300	Unframed Mirrored Glazing
2019-08-23	<input type="checkbox"/>	08 8816	Between Glass Blinds Units
	<input type="checkbox"/>	08 8840	Switchable Privacy Glass Units
	<input type="checkbox"/>	08 9100	Wall Louvers

## DIVISION 09 - FINISHES

	<input type="checkbox"/>	09 0565	Floor Preparation for Renovation Work
	<input type="checkbox"/>	09 0600	Room Finish Schedule
	<input type="checkbox"/>	09 2300	Gypsum Plastering
2019-08-23	<input type="checkbox"/>	09 2400	Portland Cement Plastering
	<input type="checkbox"/>	09 2600	Veneer Plastering
	<input type="checkbox"/>	09 2613	Gypsum Veneer Plastering
	<input type="checkbox"/>	09 2713	GFRG Fabrications
2019-09-09	<input type="checkbox"/>	09 2900	Gypsum Board Assemblies
2019-09-20	<input checked="" type="checkbox"/>	09 3000	Tiling
2019-08-23	<input type="checkbox"/>	09 5113	Acoustical Panel Ceilings
	<input type="checkbox"/>	09 5133	Acoustical Metal Pan Ceilings
	<input type="checkbox"/>	09 5135	Snap-in Metal Pan Ceilings
	<input type="checkbox"/>	09 5423	Linear Metal Ceilings
	<input type="checkbox"/>	09 5436	Suspended Decorative Grids
2019-08-23	<input type="checkbox"/>	09 6115	Concrete Floor Sealer
	<input type="checkbox"/>	09 6116	Liquid Floor Hardener
	<input type="checkbox"/>	09 6119	Moisture Floor Treatment
	<input type="checkbox"/>	09 6340	Stone Flooring
	<input type="checkbox"/>	09 6400	Wood Flooring
2019-08-23	<input type="checkbox"/>	09 6500	Resilient Flooring
2019-08-23	<input type="checkbox"/>	09 6513	Resilient Base and Accessories
	<input type="checkbox"/>	09 6520	Interlocking Rubber Tile Flooring
2019-09-20	<input checked="" type="checkbox"/>	09 6566	Resilient Athletic Flooring
	<input type="checkbox"/>	09 6603	Precast Terrazzo Flooring for Stairs
	<input type="checkbox"/>	09 6613	Thick-Set Terrazzo Flooring
2019-08-23	<input type="checkbox"/>	09 6623	Thin-Set Terrazzo Flooring
	<input type="checkbox"/>	09 6723	Resinous Flooring
2019-08-23	<input type="checkbox"/>	09 6800	Carpeting
	<input type="checkbox"/>	09 6900	Access Flooring
2019-08-23	<input type="checkbox"/>	09 7200	Wall Covering
	<input type="checkbox"/>	09 7213	Tackboard Wall Coverings
	<input type="checkbox"/>	09 7500	Interior Stone Facing

	<input type="checkbox"/>	09 7723	Fabric Wrapped Panels
2019-08-23	<input type="checkbox"/>	09 8433	Acoustical Wall Panels
2019-08-23	<input type="checkbox"/>	09 9100	Painting
	<input type="checkbox"/>	09 9413	Textured Interior Coatings
	<input type="checkbox"/>	09 9600	High-Performance Coatings
	<input type="checkbox"/>	09 9613	Multicolored Interior Coatings
2019-08-23	<input type="checkbox"/>	09 9653	Elastomeric Coatings
2019-08-23	<input type="checkbox"/>	09 9663	Textured Acrylic Coating

## **DIVISION 10 - SPECIALTIES**

2019-08-23	<input type="checkbox"/>	10 1100	Visual Display Boards
	<input type="checkbox"/>	10 1146	Visual Display Fabrics
2019-08-23	<input type="checkbox"/>	10 1400	Interior Signage
	<input type="checkbox"/>	10 1443	Photoluminescent Exit Path Marking System
	<input type="checkbox"/>	10 1700	Telephone Specialties
2019-08-23	<input type="checkbox"/>	10 2113	Toilet Compartments
2019-08-23	<input type="checkbox"/>	10 2115	Cubicle Specialties
	<input type="checkbox"/>	10 2213	Wire Mesh Partitions
	<input type="checkbox"/>	10 2223	Accordion Folding Partitions
2019-09-09	<input type="checkbox"/>	10 2238	Operable Panel Partition
	<input type="checkbox"/>	10 2239	Vertically Folding Panel Partitions
2019-08-23	<input type="checkbox"/>	10 2613	Wall and Corner Guards
2019-08-23	<input type="checkbox"/>	10 2813	Toilet Accessories
	<input type="checkbox"/>	10 2819	Shower Doors and Enclosures
2019-08-23	<input type="checkbox"/>	10 4116	Emergency Key Cabinets
2019-08-23	<input type="checkbox"/>	10 4400	Fire Protection Specialties
	<input type="checkbox"/>	10 4450	Automated External Defibrillators (AED)
2019-08-23	<input type="checkbox"/>	10 5113	Metal Lockers
	<input type="checkbox"/>	10 5116	Wood Lockers
	<input type="checkbox"/>	10 5503	USPS-Delivery Postal Specialties
	<input type="checkbox"/>	10 5506	Private-Delivery Postal Specialties
2019-08-23	<input type="checkbox"/>	10 5713	Wall Mounted Coat Rack and Shelf
2019-08-23	<input type="checkbox"/>	10 7310	Aluminum Walkways and Canopies

## **DIVISION 11 - EQUIPMENT**

	<input type="checkbox"/>	11 1300	Loading Dock Equipment
2019-08-23	<input type="checkbox"/>	11 2400	Building Maintenance Equipment
2019-08-23	<input type="checkbox"/>	11 5213	Projection Screens
2019-08-23	<input type="checkbox"/>	11 7000	Medical Equipment
	<input type="checkbox"/>	11 7313	Wall-Mounted Fold-Up Writing Surface
	<input type="checkbox"/>	11 7316	Wall-Mounted Chart Rack

## **DIVISION 12 - FURNISHINGS**

	<input type="checkbox"/>	12 2113	Horizontal Louver Blinds
	<input type="checkbox"/>	12 2116	Vertical Louver Blinds
2019-08-23	<input type="checkbox"/>	12 2413	Roller Window Shades



	<input type="checkbox"/>	12 2500	Between Glass Blinds
2019-09-09	<input type="checkbox"/>	12 3553	Laboratory Casework
2019-09-09	<input type="checkbox"/>	12 3571	Stainless Steel Casework
	<input type="checkbox"/>	12 3640	Stone Countertops
2019-08-23	<input type="checkbox"/>	12 3661	Simulated Stone Countertops
	<input type="checkbox"/>	12 4816	Entrance Floor Grilles
	<input type="checkbox"/>	12 4843	Entrance Floor Mats
	<input type="checkbox"/>	12 6300	Stadium Seating
2019-08-23	<input type="checkbox"/>	12 9313	Bicycle Racks

## **DIVISION 13 - SPECIAL CONSTRUCTION**

	<input type="checkbox"/>	13 2817	Ballpark Netting and Supports
	<input type="checkbox"/>	13 3448	Pre-Fabricated Rooftop Helipad
	<input type="checkbox"/>	13 4900	Radiation Protection
	<input type="checkbox"/>	13 4923	RF/MRI Modular Shielding Enclosure
2019-05-10	<input type="checkbox"/>	13 8500	Seismic Protection

## **DIVISION 14 - CONVEYING EQUIPMENT**

	<input type="checkbox"/>	14 1000	Dumbwaiters
2019-05-10	<input type="checkbox"/>	14 2100	Electric Traction Elevators
	<input type="checkbox"/>	14 2400	Hydraulic Elevators
	<input type="checkbox"/>	14 3100	Escalators
	<input type="checkbox"/>	14 9100	Chutes
	<input type="checkbox"/>	14 9200	Pneumatic Tube Systems

## **DIVISION 31 - EARTHWORK**

2019-01-18	<input type="checkbox"/>	31 1000	Site Clearing
	<input type="checkbox"/>	31 2000	Earth Moving
2019-02-08	<input type="checkbox"/>	31 2200	Grading
2019-02-08	<input type="checkbox"/>	31 2300	Excavation and Fill
2019-03-20	<input type="checkbox"/>	31 2311	Earthwork for Building Construction
	<input type="checkbox"/>	31 2400	Earthwork for Structures
2019-01-18	<input type="checkbox"/>	31 2500	Erosion and Sedimentation Controls
	<input type="checkbox"/>	31 3116	Termite Control
	<input type="checkbox"/>	31 6213	Prestressed Concrete Piles
	<input type="checkbox"/>	31 6216	Steel H Piles
	<input type="checkbox"/>	31 6218	Mini-Piles
	<input type="checkbox"/>	31 6329	Drilled Concrete Piers

## **DIVISION 32 - EXTERIOR IMPROVEMENTS**

2019-02-08	<input type="checkbox"/>	32 1100	Base Courses
2019-02-08	<input type="checkbox"/>	32 1200	Flexible Paving
	<input type="checkbox"/>	32 1300	Rigid Paving
2019-02-08	<input type="checkbox"/>	32 1313	Concrete Paving
	<input type="checkbox"/>	32 1373	Concrete Paving Joint Sealants

	<input type="checkbox"/>	32 1413	Interlocking Precast Concrete Paving
	<input type="checkbox"/>	32 1416	Brick unit Paving
	<input type="checkbox"/>	32 1440	Stone Paving
2019-02-08	<input type="checkbox"/>	321613	Curbs and Gutters
2019-09-09	<input type="checkbox"/>	321700	Paving Specialties
	<input type="checkbox"/>	32 1715	Parking Accessories
	<input type="checkbox"/>	32 3113	Chain Link Fencing
	<input type="checkbox"/>	32 3115	Tubular Steel Fencing
	<input type="checkbox"/>	32 3117	Gate Operators
	<input type="checkbox"/>	32 3121	Cable Guardrail System

## **DIVISION 33 - UTILITIES**

2019-01-18	<input type="checkbox"/>	33 1000	Water Utilities
2019-05-10	<input type="checkbox"/>	33 3000	Sanitary Sewerage Utilities
2019-05-10	<input type="checkbox"/>	33 3200	Wastewater Utility Pumping stations
	<input type="checkbox"/>	33 3400	Sanitary Utility Sewerage Force Mains
2019-05-10	<input type="checkbox"/>	33 4000	Storm Drainage Utilities
2019-05-10	<input type="checkbox"/>	33 4600	Sub drainage Pipe
	<input type="checkbox"/>	33 4613	Foundation Drainage System

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## **SECTION 08 71 00**

### **DOOR HARDWARE**

#### **PART 1 - GENERAL**

##### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

##### **1.02 SUMMARY**

- A. Section includes:

- 1. Mechanical and electrified door hardware for:
  - a. Swinging doors.
  - b. Sliding doors.
  - c. Gates.
- 2. Electronic access control system components, including:
  - a. Biometric access control reader.
  - b. Electronic access control devices.
- 3. Field verification, preparation and modification of existing doors and frames to receive new door hardware.
- 4. Lead-lining door hardware items required for radiation protection at door openings.
- 5. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

- B. Exclusions: Unless specifically listed in hardware sets, hardware is not specified in this section for:

- 1. Windows
- 2. Cabinets (casework), including locks in cabinets
- 3. Signage

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**DOOR HARDWARE**

4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 Section "Alternates" for alternates affecting this section.
2. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
3. Division 09 sections for touchup, finishing or refinishing of existing openings modified by this section.
4. Division 13 Section "Radiation Protection" for requirements for lead-lining for door hardware at openings indicated to receive radiation protection.
5. Division 26 sections for connections to electrical power system and for low-voltage wiring.
6. Division 28 sections for coordination with other components of electronic access control system.

### 1.03 REFERENCES

A. UL - Underwriters Laboratories

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Key Systems and Nomenclature

C. ANSI - American National Standards Institute

1. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties

### 1.04 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 requirements.
2. Highlight, encircle, or otherwise specifically identify on submittals deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.
3. Prior to forwarding submittal, comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, "EXAMINATION" article, herein.

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**DOOR HARDWARE**

**B. Action Submittals:**

1. **Product Data:** Technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. **Riser and Wiring Diagrams:** After final approval of hardware schedule, submit details of electrified door hardware, indicating:
  - a. **Wiring Diagrams:** For power, signal, and control wiring and including:
    - 1) Details of interface of electrified door hardware and building safety and security systems.
    - 2) Schematic diagram of systems that interface with electrified door hardware.
    - 3) Point-to-point wiring.
    - 4) Risers.
3. **Samples for Verification:** If requested by Architect, submit production sample or sample installations of each type of exposed hardware unit in finish indicated, and tagged with full description for coordination with schedule.
  - a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.
4. **Door Hardware Schedule:** Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:
  - a. Door Index; include door number, heading number, and Architects hardware set number.
  - b. Opening Lock Function Spreadsheet: List locking device and function for each opening.
  - c. Quantity, type, style, function, size, and finish of each hardware item.
  - d. Name and manufacturer of each item.
  - e. Fastenings and other pertinent information.
  - f. Location of each hardware set cross-referenced to indications on Drawings.
  - g. Explanation of all abbreviations, symbols, and codes contained in schedule.
  - h. Mounting locations for hardware.
  - i. Door and frame sizes and materials.
  - j. Name and phone number for local manufacturer's representative for each product.
  - k. Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and access control components). Operational description should include operational descriptions for: egress, ingress (access), and fire/smoke alarm connections.
    - 1) **Submittal Sequence:** Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work that is critical in Project construction schedule.

5. Key Schedule:

- a. After Keying Conference, provide keying schedule listing levels of keying as well as explanation of key system's function, key symbols used and door numbers controlled.
  - b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
  - c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
  - d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
  - e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion.
    - 1) Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
  - f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.
6. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory or shop prepared for door hardware installation.

C. Informational Submittals:

1. Qualification Data: For Supplier, Installer and Architectural Hardware Consultant.
2. Product data for electrified door hardware:
  - a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
3. Certificates of Compliance:
  - a. UL listings for fire-rated hardware and installation instructions if requested by Architect or Authority Having Jurisdiction.
  - b. Installer Training Meeting Certification: Letter of compliance, signed by Contractor, attesting to completion of installer training meeting specified in "QUALITY ASSURANCE" article, herein.
  - c. Electrified Hardware Coordination Conference Certification: Letter of compliance, signed by Contractor, attesting to completion of electrified hardware coordination conference, specified in "QUALITY ASSURANCE" article, herein.
4. Warranty: Special warranty specified in this Section.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:

- a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
- b. Catalog pages for each product.
- c. Factory order acknowledgement numbers (for warranty and service)
- d. Name, address, and phone number of local representative for each manufacturer.
- e. Parts list for each product.
- f. Final approved hardware schedule, edited to reflect conditions as-installed.
- g. Final keying schedule
- h. Copies of floor plans with keying nomenclature
- i. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.
- j. Copy of warranties including appropriate reference numbers for manufacturers to identify project.

## **1.05 QUALITY ASSURANCE**

- A. Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
  - 1. Warehousing Facilities: In Project's vicinity.
  - 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
  - 3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
  - 4. Coordination Responsibility: Assist in coordinating installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.
    - a. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.
- B. Architectural Hardware Consultant Qualifications: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
  - 1. For door hardware, DHI-certified, Architectural Hardware Consultant (AHC).
  - 2. Can provide installation and technical data to Architect and other related subcontractors.
  - 3. Can inspect and verify components are in working order upon completion of installation.
  - 4. Capable of producing wiring diagrams.
  - 5. Capable of coordinating installation of electrified hardware with Architect and electrical engineers.
- C. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.



- D. Fire-Rated Door Openings: Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.
- E. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.
- F. Accessibility Requirements: For door hardware on doors in an accessible route, comply with governing accessibility regulations cited in "REFERENCES" article, herein.
- G. Keying Conference
  - 1. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
    - a. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
    - b. Preliminary key system schematic diagram.
    - c. Requirements for key control system.
    - d. Requirements for access control.
    - e. Address for delivery of keys.
- H. Pre-installation Conference
  - 1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 2. Inspect and discuss preparatory work performed by other trades.
  - 3. Inspect and discuss electrical roughing-in for electrified door hardware.
  - 4. Review sequence of operation for each type of electrified door hardware.
  - 5. Review required testing, inspecting, and certifying procedures.
- I. Coordination Conferences:
  - 1. Installation Coordination Conference: Prior to hardware installation, schedule and hold meeting to review questions or concerns related to proper installation and adjustment of door hardware.
  - 2. Electrified Hardware Coordination Conference: Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

#### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site.

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#### **DOOR HARDWARE**

- B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
  - 1. Deliver each article of hardware in manufacturer's original packaging.
- C. Project Conditions:
  - 1. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
  - 2. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.
- D. Protection and Damage:
  - 1. Promptly replace products damaged during shipping.
  - 2. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work.
  - 3. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.
- E. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.
- F. Deliver keys to Owner by registered mail or overnight package service.

#### **1.07 COORDINATION**

- A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.
- B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.
- D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.
- E. Existing Openings: Where existing doors, frames and/or hardware are to remain, field verify existing functions, conditions and preparations and coordinate to suit opening conditions and to provide proper door operation.

## 1.08 WARRANTY

- A. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Beginning from date of Substantial Completion, for durations indicated.
    - a. Closers:
      - 1) Mechanical: LCN 4000 series, 30 years
      - 2) Electrified: 2 years.
    - b. Automatic Operators: LCN, 2 years
    - c. Exit Devices:
      - 1) Mechanical: 3 years.
      - 2) Electrified: 1 year.
    - d. Locksets:
      - 1) Mechanical: Schlage ND series, 10 years
      - 2) Electrified: 1 year.
    - e. Continuous Hinges: Lifetime warranty.
    - f. Key Blanks: Lifetime
  - 2. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

## 1.09 MAINTENANCE

- A. Maintenance Tools: Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURERS

- A. NO SUB: The Owner requires use of certain products for their unique characteristics and project suitability to insure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."
  - 1. Where "No Substitute" is noted, submittals and substitution requests for other products will not be considered.

- B. Approval of manufacturers and/or products other than those listed as “Scheduled Manufacturer” or “Acceptable Manufacturers” in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.
- C. Approval of products from manufacturers indicated in “Acceptable Manufacturers” is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer’s product.
- D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect’s approval.

## **2.02 MATERIALS**

### **A. Fasteners**

- 1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
- 2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
- 3. Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru-bolts are required.
- 4. Install hardware with fasteners provided by hardware manufacturer.

### **B. Modification and Preparation of Existing Doors: Where existing door hardware is indicated to be removed and reinstalled.**

- 1. Provide necessary fillers, Dutchmen, reinforcements, and fasteners, compatible with existing materials, as required for mounting new opening hardware and to cover existing door and frame preparations.
- 2. Use materials which match materials of adjacent modified areas.
- 3. When modifying existing fire-rated openings, provide materials permitted by NFPA 80 as required to maintain fire-rating.

### **C. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.**

- 1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

### **D. Cable and Connectors: Hardwired Electronic Access Control Lockset and Exit Device Trim:**

- 1. Data: 24AWG, 4 conductor shielded, Belden 9843, 9841 or comparable.
- 2. DC Power: 18 AWG, 2 conductor, Belden 8760 or comparable.

3. Provide type of data and DC power cabling required by access control device manufacturer for this installation.
4. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with sufficient number and wire gauge with standardized Molex plug connectors to accommodate electric function of specified hardware. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

## 2.03 HINGES

### A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Ives 5BB series.
2. Acceptable Manufacturers and Products: Hager BB series, McKinney TA/T4A series, Stanley FBB Series.

### B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
  - a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
  - b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
3. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
  - a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
  - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
4. 2 inches or thicker doors:
  - a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
  - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
5. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
6. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
7. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
  - a. Steel Hinges: Steel pins
  - b. Non-Ferrous Hinges: Stainless steel pins
  - c. Out-Swinging Exterior Doors: Non-removable pins
  - d. Out-Swinging Interior Lockable Doors: Non-removable pins
  - e. Interior Non-lockable Doors: Non-rising pins

8. Width of hinges: 4-1/2 inches (114 mm) at 1-3/4 inch (44 mm) thick doors, and 5 inches (127 mm) at 2 inches (51 mm) or thicker doors. Adjust hinge width as required for door, frame, and wall conditions to allow proper degree of opening.
9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component.
10. Provide mortar guard for each electrified hinge specified.
11. Provide spring hinges where specified. Provide two spring hinges and one bearing hinge per door leaf for doors 90 inches (2286 mm) or less in height. Provide one additional bearing hinge for each 30 inches (762 mm) of additional door height.

## 2.04 CONTINUOUS HINGES

### A. Stainless Steel

1. Manufacturers:
  - a. Scheduled Manufacturer: Ives.
  - b. Acceptable Manufacturers: Markar, Stanley.
2. Requirements:
  - a. Provide pin and barrel continuous hinges conforming to ANSI/BHMA A156.26., Grade 1.
  - b. Provide pin and barrel continuous hinges fabricated from 14 gauge, type 304 stainless steel.
  - c. Provide twin self-lubricated nylon bearings at each hinge knuckle, with 0.25-inch (6 mm) diameter stainless steel pin.
  - d. Provide hinges capable of supporting door weights up to 600 pounds, and successfully tested for 1,500,000 cycles.
  - e. On fire-rated doors, provide pin and barrel continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
  - f. Provide pin and barrel continuous hinges with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
  - g. Install hinges with fasteners supplied by manufacturer.
  - h. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

### B. Cold-Rolled Steel

1. Manufacturers:
  - a. Scheduled Manufacturer: Ives.
  - b. Acceptable Manufacturers: Markar, Stanley.
2. Requirements:

- a. Provide pin and barrel continuous hinges conforming to ANSI/BHMA A156.26., Grade 1.
- b. Provide pin and barrel continuous hinges fabricated from type 1012 cold rolled steel.
- c. Provide twin self-lubricated nylon bearings at each hinge knuckle, with 0.25-inch (6 mm) diameter stainless steel pin.
- d. Provide hinges capable of supporting door weights up to 600 pounds, and successfully tested for 1,500,000 cycles.
- e. On fire-rated doors, provide pin and barrel continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
- f. Provide pin and barrel continuous hinges with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
- g. Install hinges with fasteners supplied by manufacturer.
- h. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

#### C. Aluminum Geared

##### 1. Manufacturers:

- a. Scheduled Manufacturer: Ives.
- b. Acceptable Manufacturers: Select, Stanley.

##### 2. Requirements:

- a. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
- b. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
- c. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
- d. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
- e. On fire-rated doors, provide aluminum geared continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
- f. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
- g. Install hinges with fasteners supplied by manufacturer.
- h. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

## 2.05 ELECTRIC POWER TRANSFER

#### A. Manufacturers:

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- a. Scheduled Manufacturer: Von Duprin EPT-10.
  - b. Acceptable Manufacturers: ABH PT1000, Securitron CEPT-10.
- B. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires sufficient to accommodate electric function of specified hardware.
- C. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

## **2.06 PIVOT SETS**

- A. Manufacturers:
  - 1. Scheduled Manufacturer: Ives.
  - 2. Acceptable Manufacturers: Dorma, Rixson.
- B. Requirements:
  - 1. Provide pivot sets complete with oil-impregnated top pivot, unless indicated otherwise.
  - 2. Where offset pivots are specified, Provide one intermediate pivot for doors less than 91 inches (2311 mm) high and one additional intermediate pivot per leaf for each additional 30 inches (762 mm) in height or fraction thereof. Intermediate pivots spaced equally not less than 25 inches (635 mm) or not more than 35 inches (889 mm) on center, for doors over 121 inches (3073 mm) high.
  - 3. Provide appropriate model where pivot sets are scheduled at fire rated openings.
  - 4. Provide lead-lined model where pivot sets are specified at lead-lined doors.
  - 5. Provide pivots with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware. Locate electrified pivot nearest to electrified locking component. If manufacturer of electrified locking component requires another device for power transfer then provide recommended power transfer device and appropriate quantity of pivots.
  - 6. Provide mortar guard for each electric pivot specified, unless specified in hollow metal frame specification.

## **2.07 EMERGENCY HARDWARE**

- A. Double Lipped Strike
  - 1. Manufacturers:
    - a. Scheduled Manufacturer: Ives.
    - b. Acceptable Manufacturers: ABH, Hager.
  - 2. Provide double lip strike offset-hung to allow door to swing open in opposite direction unless detailed otherwise. Size for specific frame depth. Coordinate special latchbolt-hole



location and special template, as required, to operate with mortise lock being used as specified.

3. Provide compatible emergency stop/release as recommended by manufacturer of double lip strike or engineered to operate with double lip strike.

**B. Emergency Stop/Release**

**1. Manufacturers:**

- a. Scheduled Manufacturer: Ives.
- b. Acceptable Manufacturers: Hager, Stanley.

2. Provide emergency stop/release for doors with double lip strikes offset-hung to allow door to swing open in opposite direction unless detailed otherwise.

**2.08 FLUSH BOLTS**

**A. Manufacturers:**

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

**B. Requirements:**

1. Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

**2.09 SURFACE BOLTS**

**A. Manufacturers:**

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

**B. Requirements:**

1. Surface bolts to have 1" throw for maximum security with concealed mounting that prevents vandalism. Units to be constructed of heavy duty steel and cUL listed up to three (3) hours when used on the inactive door of a pair up to 8' in height.

## 2.10 COORDINATORS

### A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

### B. Requirements:

1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
2. Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers, surface vertical rod exit device strikes or other stop mounted hardware. Factory-prepared coordinators for vertical rod devices as specified.

## 2.11 CYLINDRICAL LOCKS – GRADE 1

### A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage ND series. – No Substitutions

### B. Requirements:

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3 hour fire doors.
2. Cylinders: Refer to “KEYING” article, herein.
3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2 inch latch throw. Provide proper latch throw for UL listing at pairs.
4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
7. Provide electrified options as scheduled in the hardware sets.
8. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.
  - a. Lever Design: Schlage RHO.
  - b. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

## 2.12 HOSPITAL LATCHES

### A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage HL6E series.
2. Acceptable Manufacturers and Products: ABH 6000 series, Sargent 114P/115P series.

**B. Requirements:**

1. Provide hospital latches conforming to ANSI/BHMA A156 with covers engraved "Push" and "Pull".
2. Provide hospital latches with standard 5 inches (127 mm) backset, unless noted otherwise, with 1/2 inch (13 mm) latch throw. Provide proper latch throw for UL listing at pairs.
3. Dampened paddle action – depression and snap back – to reduce noise associated with lock operation.
4. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
5. Mount trim with push paddle mounted up and pull paddle mounted down except at psychiatric or security areas provide both paddles mounted down, unless noted otherwise.

## **2.13 EXIT DEVICES**

**A. Manufacturers and Products:**

1. Scheduled Manufacturer and Product: Von Duprin 98/35A Series – No Substitutions

**B. Requirements:**

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
6. Provide flush end caps for exit devices.
7. Provide exit devices with manufacturer's approved strikes.
8. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
9. Mount mechanism case flush on face of doors, or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
10. Provide cylinder or hex-key dogging as specified at non fire-rated openings.
11. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
12. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
13. Provide electrified options as scheduled.
14. QM 98/99 Rim Exit Devices: provide devices with damper controlled re-latching to reduce operational noise. Where lever trim is specified, provide damper controlled lever return.

15. Top latch mounting: double or single tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
16. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.
  - a. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

## **2.14 ELECTRIC STRIKES**

### **A. Manufacturers and Products:**

1. Scheduled Manufacturer and Product: Von Duprin 6000 Series.
2. Acceptable Manufacturers and Products: Folger Adam 300 Series, HES 1006 Series.

### **B. Requirements:**

1. Provide electric strikes designed for use with type of locks shown at each opening.
2. Provide electric strikes UL Listed as burglary-resistant.
3. Where required, provide electric strikes UL Listed for fire doors and frames.
4. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

## **2.15 PASSIVE INFRARED MOTION SENSORS**

### **A. Manufacturers and Products:**

1. Scheduled Manufacturer and Product: Schlage SCAN II Series.
2. Acceptable Manufacturers and Products: RCI 915 Series, Securitron XMS Series, Security Door Controls MD-31D Series.

### **B. Requirements:**

1. Provide motion sensors as specified in hardware groups.

## **2.16 POWER SUPPLIES**

### **A. Manufacturers and Products:**

1. Scheduled Manufacturer and Product: Schlage/Von Duprin PS900 series.
2. Acceptable Manufacturers and Products: Precision ELR series, Sargent 3500 series, Dynalock 5000 series, Securitron BPS series, Security Door Controls 600 series.

### **B. Requirements:**

1. Provide power supplies approved by manufacturer of supplied electrified hardware.
2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Provide power supplies with the following features:
  - a. 12/24 VDC Output, field selectable.
  - b. Class 2 Rated power limited output.
  - c. Universal 120-240 VAC input.
  - d. Low voltage DC, regulated and filtered.
  - e. Polarized connector for distribution boards.
  - f. Fused primary input.
  - g. AC input and DC output monitoring circuit w/LED indicators.
  - h. Cover mounted AC Input indication.
  - i. Tested and certified to meet UL294.
  - j. NEMA 1 enclosure.
  - k. Hinged cover w/lock down screws.
  - l. High voltage protective cover.

## **2.17 CYLINDERS: MATCH EXISTING KEY SYSTEM**

### **A. Manufacturers:**

1. Scheduled Manufacturer: Schlage SFIC Everest core

### **B. Requirements:**

1. Provide permanent interchangeable cylinders/cores to match Owner's existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.

### **C. Construction Keying:**

1. Temporary Construction Cylinder Keying.
  - a. Provide construction cores that permit voiding construction keys without cylinder removal, furnished in accordance with the following requirements.
    - 1) Split Key or Lost Ball Construction Keying System.
    - 2) 3 construction control keys, and extractor tools or keys as required to void construction keying.
    - 3) 12 construction change (day) keys.
  - b. Owner or Owner's Representative will void operation of temporary construction keys.
2. Replaceable Construction Cores.

- a. Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
  - 1) 3 construction control keys
  - 2) 12 construction change (day) keys.
- b. Owner or Owner's Representative will replace temporary construction cores with permanent cores.

## 2.18 KEYING

- A. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
- B. For factory registered existing system: Provide cylinders/cores keyed into Owner's existing factory registered keying system.
- C. Comply with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
- D. For non-factory existing system: Provide cylinders/cores keyed into Owner's existing keying system managed by Owner's locksmith, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference. Contact:
  - 1. Firm Name:
  - 2. Contact Person:
  - 3. Telephone:
- E. Requirements:
  - 1. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
    - a. Master Keying system as directed by the Owner.
    - b. No Master Keying: Cylinders/cores only operated by change (day) keys.
  - 2. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
  - 3. Provide keys with the following features:
    - a. Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
    - b. Patent Protection: Keys and blanks protected by one or more utility patent(s) for Schlage Everest 29 until the year, 2029.
  - 4. Identification:
    - a. Mark permanent cylinders/cores and keys with applicable blind code per DHI publication "Keying Systems and Nomenclature" for identification. Do not provide blind code marks with actual key cuts.

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- b. Identification stamping provisions must be approved by the Architect and Owner.
  - c. Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.
  - d. Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
  - e. Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
5. Quantity: Furnish in the following quantities.
- a. Change (Day) Keys: 3 per cylinder/core.
  - b. SFIC: Permanent Control Keys: 3.
  - c. Master Keys: 6.

## 2.19 KEY CONTROL SYSTEM

### A. Manufacturers:

- 1. Scheduled Manufacturer: Telkee.
- 2. Acceptable Manufacturers: HPC, Lund.

### B. Requirements:

- 1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
  - a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
  - b. Provide hinged-panel type cabinet for wall mounting.

## 2.20 KEY MANAGEMENT SOFTWARE

### A. Manufacturers and Products:

- 1. Scheduled Manufacturer and Product: Schlage SITEMASTER 200.
- 2. Acceptable Manufacturers and Products: Best Keystone 600N, Corbin-Russwin KeyWizard, Medeco KeyWizard, Sargent KeyWizard, Yale KeyWizard.

### B. Requirements:

- 1. Software: Provide tracking, issuing, collecting and transferring information regarding keys. Provide customized query, reporting, searching capability, comprehensive location hardware listings, display key holder photos and signature for verification, and provide automatic reminders for maintenance, back-ups and overdue keys.

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2. Provide training for Owner's personnel on proper operation and application of key management software.

## **2.21 DOOR CLOSERS**

### **A. Manufacturers and Products:**

1. Scheduled Manufacturer and Product: LCN 4040XP series – No Substitutions

### **B. Requirements:**

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2 inch (38 mm) diameter with 3/4 inch (19 mm) diameter double heat-treated pinion journal.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

## **2.22 PROTECTION PLATES**

### **A. Manufacturers:**

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

### **B. Requirements:**

1. Provide kick plates, mop plates, and armor plates minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes of plates:



- a. Kick Plates: 10 inches (254 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
- b. Mop Plates: 4 inches (102 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
- c. Armor Plates: 36 inches (914 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs

## **2.23 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS**

### **A. Manufacturers:**

- 1. Scheduled Manufacturers: Glynn-Johnson.
- 2. Acceptable Manufacturers: Rixson, Sargent.

### **B. Requirements:**

- 1. Provide heavy duty concealed mounted overhead stop or holder as specified for exterior and interior vestibule single acting doors.
- 2. Provide heavy duty concealed mounted overhead stop or holder as specified for double acting doors.
- 3. Provide heavy or medium duty and concealed or surface mounted overhead stop or holder for interior doors as specified. Provide medium duty surface mounted overhead stop for interior doors and at any door that swings more than 140 degrees before striking wall, open against equipment, casework, sidelights, and where conditions do not allow wall stop or floor stop presents tripping hazard.
- 4. Where overhead holders are specified provide friction type at doors without closer and positive type at doors with closer.

## **2.24 DOOR STOPS AND HOLDERS**

### **A. Manufacturers:**

- 1. Scheduled Manufacturer: Ives.
- 2. Acceptable Manufacturers: Burns, Rockwood.

### **B. Provide door stops at each door leaf:**

- 1. Provide wall stops wherever possible. Provide convex type where mortise type locks are used and concave type where cylindrical type locks are used.
- 2. Where a wall stop cannot be used, provide universal floor stops for low or high rise options.
- 3. Where wall or floor stop cannot be used, provide medium duty surface mounted overhead stop.

## **2.25 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING**

### **A. Manufacturers:**

1. Scheduled Manufacturer: Zero International.
2. Acceptable Manufacturers: National Guard, Reese.

### **B. Requirements:**

1. Provide thresholds, weather-stripping (including door sweeps, seals, and astragals) and gasketing systems (including smoke, sound, and light) as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Size of thresholds:
  - a. Saddle Thresholds: 1/2 inch (13 mm) high by jamb width by door width
  - b. Bumper Seal Thresholds: 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width
4. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.

## **2.26 SILENCERS**

### **A. Manufacturers:**

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Rockwood.

### **B. Requirements:**

1. Provide "push-in" type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

## **2.27 MAGNETIC HOLDERS**

### **A. Manufacturers:**

1. Scheduled Manufacturer: LCN.
2. Acceptable Manufacturers: Rixson, Sargent.

### **B. Requirements:**

1. Provide wall or floor mounted electromagnetic door release as specified with minimum of 25 pounds of holding force. Coordinate projection of holder and armature with other hardware and wall conditions to ensure that door sits parallel to wall when fully open. Connect magnetic holders on fire-rated doors into the fire control panel for fail-safe operation.

## **2.28 DOOR POSITION SWITCHES**

### **A. Manufacturers:**

1. Scheduled Manufacturer: Schlage.
2. Acceptable Manufacturers: GE-Interlogix, Sargent.

### **B. Requirements:**

1. Provide recessed or surface mounted type door position switches as specified.
2. Coordinate door and frame preparations with door and frame suppliers. If switches are being used with magnetic locking device, provide minimum of 4 inches (102 mm) between switch and magnetic locking device.

## **2.29 FINISHES**

### **A. Finish: BHMA 626/652 (US26D); except:**

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Continuous Hinges: BHMA 630 (US32D)
3. Continuous Hinges: BHMA 628 (US28)
4. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
5. Protection Plates: BHMA 630 (US32D)
6. Overhead Stops and Holders: BHMA 630 (US32D)
7. Door Closers: Powder Coat to Match
8. Wall Stops: BHMA 630 (US32D)
9. Latch Protectors: BHMA 630 (US32D)
10. Weatherstripping: Clear Anodized Aluminum
11. Thresholds: Mill Finish Aluminum

### **B. Finish: BHMA 625/651 (US26); except:**

1. Hinges at Exterior Doors: BHMA 629 (US32)
2. Continuous Hinges: BHMA 630 (US32D)
3. Continuous Hinges: BHMA 628 (US28)
4. Push Plates, Pulls, and Push Bars: BHMA 629 (US32)
5. Protection Plates: BHMA 629 (US32)
6. Overhead Stops and Holders: BHMA 629 (US32)
7. Door Closers: Powder Coat to Match
8. Wall Stops: BHMA 629 (US32)
9. Latch Protectors: BHMA 630 (US32D)

10. Weatherstripping: Clear Anodized Aluminum
11. Thresholds: Mill Finish Aluminum

C. Finish: BHMA 612/639 (US10); except:

1. Continuous Hinges: BHMA 630 (US32D)
2. Continuous Hinges: BHMA 709 (US10)
3. Door Closers: Powder Coat to Match
4. Latch Protectors: BHMA 630 (US32D)
5. Weatherstripping: Dark Bronze Anodized Aluminum
6. Thresholds: Extruded Architectural Bronze – Mill Finish

D. Finish: BHMA 613/640 (US10B); except:

1. Continuous Hinges: US32D (BHMA 630).
2. Continuous Hinges: BHMA 710 (US10B)
3. Door Closers: Powder Coat to Match.
4. Latch Protectors: US32D (BHMA 630).
5. Weatherstripping: Dark Bronze Anodized Aluminum.
6. Thresholds: Extruded Architectural Bronze, Oil-Rubbed

E. Finish: BHMA 605/632 (US3); except:

1. Continuous Hinges: BHMA 630 (US32D)
2. Door Closers: Powder Coat to Match
3. Latch Protectors: BHMA 630 (US32D)
4. Weatherstripping: Gold Anodized Aluminum.
5. Thresholds: Extruded Architectural Bronze, Polished

F. Finish: BHMA 606/633 (US4); except:

1. Continuous Hinges: BHMA 630 (US32D)
2. Continuous Hinges: BHMA 688 (US4)
3. Door Closers: Powder Coat to Match
4. Latch Protectors: BHMA 630 (US32D)
5. Weatherstripping: Gold Anodized Aluminum
6. Thresholds: Extruded Architectural Bronze – Mill Finish

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.

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- B. Field verify existing doors and frames receiving new hardware and existing conditions receiving new openings. Verify that new hardware is compatible with existing door and frame preparation and existing conditions.
- C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.02 INSTALLATION

- A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
  - 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
  - 2. Custom Steel Doors and Frames: HMMA 831.
  - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.
- C. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.
- D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
- E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
- G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- H. Intermediate Offset Pivots: Where offset pivots are indicated, provide intermediate offset pivots in quantities indicated in door hardware schedule but not fewer than one intermediate offset pivot per door and one additional intermediate offset pivot for every 30 inches (750 mm) of door height greater than 90 inches (2286 mm).
- I. Lock Cylinders: Install construction cores to secure building and areas during construction period.
  - 1. Replace construction cores with permanent cores as indicated in keying section.

- 2. Furnish permanent cores to Owner for installation.
- J. Lead Protection: Lead wrap hardware penetrating lead-lined doors. Levers and roses to be lead lined. Apply kick and armor plates on lead-lined doors with adhesive as recommended by manufacturer.
- K. Wiring: Coordinate with Division 26, ELECTRICAL sections for:
  - 1. Conduit, junction boxes and wire pulls.
  - 2. Connections to and from power supplies to electrified hardware.
  - 3. Connections to fire/smoke alarm system and smoke evacuation system.
  - 4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
  - 5. Testing and labeling wires with Architect's opening number.
- L. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
- M. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.
- N. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
- O. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.
- P. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- Q. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.
- R. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- S. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- T. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

### **3.03 FIELD QUALITY CONTROL**

- A. Engage qualified manufacturer trained representative to perform inspections and to prepare inspection reports.

1. Representative will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

### 3.04 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
  1. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
  2. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
- B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, Installer's Architectural Hardware Consultant must examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

### 3.05 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

### 3.06 DOOR HARDWARE SCHEDULE

Hardware items are referenced in the following hardware. Refer to the above-specifications for special features, options, cylinders/keying, and other requirements.

#### **HARDWARE GROUP NO. 003**

PROVIDE EACH SL DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
EA	NOTE	REMAINDER OF HARDWARE BY DOOR MANUFACTURER		

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**DOOR HARDWARE**

**HARDWARE GROUP NO. 005**

PROVIDE EACH SL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
	EA	NOTE	REMAINDER OF HARDWARE BY DOOR MANUFACTURER		

**HARDWARE GROUP NO. 103**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE LOCK	ND53HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

**HARDWARE GROUP NO. 103G**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE LOCK	ND53HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER

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DOOR HARDWARE



**HARDWARE GROUP NO. 200**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	SET	AUTO FLUSH BOLT	FB31P/FB41P AS REQ	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	COORDINATOR	COR X FL X MB X HW PREPS X LENGTH AS REQUIRED	628	IVE
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS REQUIRED (OMIT @ NON-RATED DOORS)	AA	ZER

**HARDWARE GROUP NO. 200S**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	SET	AUTO FLUSH BOLT	FB31P/FB41P AS REQ	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	COORDINATOR	COR X FL X MB X HW PREPS X LENGTH AS REQUIRED	628	IVE
1	EA	OH STOP	900S SERIES X SIZE & MOUNTING AS REQ	630	GLY
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS REQUIRED (OMIT @ NON-RATED DOORS)	AA	ZER

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**DOOR HARDWARE**

**HARDWARE GROUP NO. 201**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

**HARDWARE GROUP NO. 201C**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

**HARDWARE GROUP NO. 201CW**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

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**HARDWARE GROUP NO. 201W**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

**HARDWARE GROUP NO. 203S**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	OH STOP	900S SERIES X SIZE & MOUNTING AS REQ	630	GLY
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

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DOOR HARDWARE

**HARDWARE GROUP NO. 214**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
2	EA	MANUAL FLUSH BOLT	FB458-12"	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	OH STOP	900S SERIES X SIZE & MOUNTING AS REQ (INACTIVE LEAF)	630	GLY
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ (ACTIVE LEAF)	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS REQUIRED	AA	ZER
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	GASKETING	188S PSA HEIGHT AS REQ (MOUNT ON ASTRAGAL)	BK	ZER
1	EA	GASKETING	328AA H & J	AA	ZER
2	EA	DOOR SWEEP	8198AA LENGTH AS REQ	AA	ZER
1	EA	THRESHOLD	65A LENGTH AS REQ	A	ZER

**HARDWARE GROUP NO. 216**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	SET	CONST LATCHING BOLT	FB51P/FB61P AS REQ	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
2	EA	OH STOP	900S SERIES X SIZE & MOUNTING AS REQ	630	GLY
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS REQUIRED (OMIT @ NON-RATED DOORS)	AA	ZER

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**DOOR HARDWARE**

**HARDWARE GROUP NO. 303**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	ND40S RHO	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

**HARDWARE GROUP NO. 373**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	630	IVE
1	EA	PRIVACY LOCK	ND40S RHO	626	SCH
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

**HARDWARE GROUP NO. 401**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

**HARDWARE GROUP NO. 401CG**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
<u>3</u>	<u>EA</u>	<u>HINGE</u>	<u>5BB1 4.5 X 4.5</u>	<u>652</u>	<u>IVE</u>
<u>1</u>	<u>EA</u>	<u>PASSAGE SET</u>	<u>ND10S RHO</u>	<u>626</u>	<u>SCH</u>
<u>1</u>	<u>EA</u>	<u>SURFACE CLOSER</u>	<u>4040XP SCUSH X MTG BRKT, SPCR &amp; PLATE AS REQ</u>	<u>689</u>	<u>LCN</u>
<u>1</u>	<u>EA</u>	<u>PROTECTION PLATE</u>	<u>8400 10" X 2" LDW B-CS</u>	<u>630</u>	<u>IVE</u>
<u>1</u>	<u>EA</u>	<u>GASKETING</u>	<u>188S PSA H &amp; J</u>	<u>BK</u>	<u>ZER</u>
<u>1</u>	<u>EA</u>	<u>DOOR BOTTOM</u>	<u>364AA-Z49 LENGTH AS REQ</u>	<u>AA</u>	<u>ZER</u>

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**HARDWARE GROUP NO. 401G**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER
4	EA	DOOR BOTTOM	360AA-Z49 LENGTH AS REQ	AA	ZER

**HARDWARE GROUP NO. 403**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

**HARDWARE GROUP NO. 403G**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER

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**HARDWARE GROUP NO. 406**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b>QTY</b>		<b>DESCRIPTION</b>	<b>CATALOG NUMBER</b>	<b>FINISH</b>	<b>MFR</b>
6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	SET	AUTO FLUSH BOLT	FB31P/FB41P AS REQ	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	COORDINATOR	COR X FL X MB X HW PREPS X LENGTH AS REQUIRED	628	IVE
2	EA	OH STOP	900S SERIES X SIZE & MOUNTING AS REQ	630	GLY
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS REQUIRED (OMIT @ NON-RATED DOORS)	AA	ZER

**HARDWARE GROUP NO. 406G**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b>QTY</b>		<b>DESCRIPTION</b>	<b>CATALOG NUMBER</b>	<b>FINISH</b>	<b>MFR</b>
6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	SET	AUTO FLUSH BOLT	FB31P/FB41P AS REQ	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	COORDINATOR	COR X FL X MB X HW PREPS X LENGTH AS REQUIRED	628	IVE
2	EA	OH STOP	900S SERIES X SIZE & MOUNTING AS REQ	630	GLY
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS REQUIRED (OMIT @ NON-RATED DOORS)	AA	ZER
2	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER

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**DOOR HARDWARE**

**HARDWARE GROUP NO. 407G**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	OH STOP	900S SERIES X SIZE & MOUNTING AS REQ	630	GLY
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	DOOR BOTTOM	360AA-Z49 LENGTH AS REQ	AA	ZER

**HARDWARE GROUP NO. 493G(493)**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER

**HARDWARE GROUP NO. 493GSW**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 5 X 4.5	652	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	OH STOP	100S SERIES X SIZE & MOUNTING AS REQ	630	GLY
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER

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**DOOR HARDWARE**



**HARDWARE GROUP NO. 493SW**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 5 X 4.5	652	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	OH STOP	100S SERIES X SIZE & MOUNTING AS REQ	630	GLY
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

**HARDWARE GROUP NO. 501**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ND70HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

**HARDWARE GROUP NO. 503**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ND70HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

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DOOR HARDWARE

**HARDWARE GROUP NO. 503G**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ND70HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER

**HARDWARE GROUP NO. 503W**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ND70HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

**HARDWARE GROUP NO. 507**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ND70HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	OH STOP	900S SERIES X SIZE & MOUNTING AS REQ	630	GLY
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

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DOOR HARDWARE

**HARDWARE GROUP NO. 700C**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	PANIC HARDWARE	9847-L-LBR-17 (WDC @ WD) LENGTH & HEIGHT AS REQ	626	VON
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
2	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

**HARDWARE GROUP NO. 701**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	98-L-17 LENGTH AS REQ	626	VON
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HARDWARE GROUP NO. 701C**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	98-L-17 LENGTH AS REQ	626	VON
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

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**HARDWARE GROUP NO. 701CG**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b>QTY</b>		<b>DESCRIPTION</b>	<b>CATALOG NUMBER</b>	<b>FINISH</b>	<b>MFR</b>
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	98-L-17 LENGTH AS REQ	626	VON
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER

**HARDWARE GROUP NO. 701G**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b>QTY</b>		<b>DESCRIPTION</b>	<b>CATALOG NUMBER</b>	<b>FINISH</b>	<b>MFR</b>
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	98-L-17 LENGTH AS REQ	626	VON
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER

**HARDWARE GROUP NO. 701GW**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b>QTY</b>		<b>DESCRIPTION</b>	<b>CATALOG NUMBER</b>	<b>FINISH</b>	<b>MFR</b>
3	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	98-L-17 LENGTH AS REQ	626	VON
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER

**HARDWARE GROUP NO. 701W**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	98-L-17 LENGTH AS REQ	626	VON
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HARDWARE GROUP NO. 708R**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	FIRE EXIT HARDWARE	9847-L-F-LBR-17 (WDC @ WD) LENGTH & HEIGHT AS REQ	626	VON
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7800 SERIES AS REQUIRED	689	LCN
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS REQUIRED	AA	ZER
1	EA	GASKETING	188S PSA H & J	BK	ZER

**HARDWARE GROUP NO. 711C**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	98-L-NL LENGTH AS REQ	626	VON
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

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**DOOR HARDWARE**

**HARDWARE GROUP NO. 711CR**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	FIRE EXIT HARDWARE	98-L-NL-F LENGTH AS REQ	626	VON
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER

**HARDWARE GROUP NO. 711CRW**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	FIRE EXIT HARDWARE	98-L-NL-F LENGTH AS REQ	626	VON
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER

**HARDWARE GROUP NO. 715A**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112XY HEIGHT AS REQ	628	IVE
1	EA	PANIC HARDWARE	35A-NL-OP LENGTH AS REQ	626	VON
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	90 DEG OFFSET PULL	8190-O 10"	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	SET	SEAL	PERIMETER SEAL BY FRAME MANUFACTURER		
1	EA	DOOR SWEEP	8198AA LENGTH AS REQ	AA	ZER
1	EA	THRESHOLD	65A LENGTH AS REQ	A	ZER

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**DOOR HARDWARE**

**HARDWARE GROUP NO. 725R**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	FIRE EXIT HARDWARE	98-EO-F LENGTH AS REQ	626	VON
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	328AA H & J	AA	ZER
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	DOOR SWEEP	8198AA LENGTH AS REQ	AA	ZER
1	EA	THRESHOLD	65A LENGTH AS REQ	A	ZER

**HARDWARE GROUP NO. 725RW**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 5 X 4.5 NRP	630	IVE
1	EA	FIRE EXIT HARDWARE	98-EO-F LENGTH AS REQ	626	VON
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	GASKETING	328AA H & J	AA	ZER
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	DOOR SWEEP	8198AA LENGTH AS REQ	AA	ZER
1	EA	THRESHOLD	65A LENGTH AS REQ	A	ZER

**HARDWARE GROUP NO. 728DX**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	PANIC HARDWARE	LD-9847-EO-LBR (WDC @ WD) LENGTH & HEIGHT AS REQ	626	VON
2	EA	SURFACE CLOSER	4040XPT DE X MTG BRKT, SPCR & PLATE AS REQ (MAX REV 2 11/16")	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7800 SERIES AS REQUIRED	689	LCN
2	EA	SILENCER	SR64	GRY	IVE

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**DOOR HARDWARE**

**HARDWARE GROUP NO. 731**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	98-L-BE-17 LENGTH AS REQ	626	VON
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HARDWARE GROUP NO. 731CR**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	FIRE EXIT HARDWARE	98-L-BE-F-17 LENGTH AS REQ	626	VON
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER

**HARDWARE GROUP NO. 801**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PULL PLATE	8303 CTC10" 4"X16"	630	IVE
1	EA	PUSH PLATE	8200 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

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DOOR HARDWARE



**HARDWARE GROUP NO. A710A**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
2	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
2	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-3547A-NL-OP-LBR-CON LENGTH & HEIGHT AS REQ	626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-3547A-EO-LBR-CON LENGTH & HEIGHT AS REQ	626	VON
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
2	EA	90 DEG OFFSET PULL	8190-O 10"	630	IVE
2	EA	SURF. AUTO OPERATOR	AUTOMATIC OPENERS BY ANOTHER SECTION	ANCLR	LCN
2	EA	ACTUATOR, WALL MOUNT	ACTUATOR(S) BY ANOTHER SECTION	630	LCN
2	EA	WALL STOP	WS406/407CCV	630	IVE
1	SET	SEAL	PERIMETER SEAL BY FRAME MANUFACTURER		
1	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MANUFACTURER		
2	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
2	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	PS902 900-4RL 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)		VON

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DOOR HARDWARE

**HARDWARE GROUP NO. AC714A**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
2	EA	CONT. HINGE	112XY EPT HEIGHT AS REQ	628	IVE
2	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-3547A-EO-CON LENGTH & HEIGHT AS REQ	626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-3547A-NL-OP-CON LENGTH & HEIGHT AS REQ	626	VON
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
2	EA	90 DEG OFFSET PULL	8190-O 10"	630	IVE
2	EA	SURF. AUTO OPERATOR	AUTOMATIC OPENERS BY ANOTHER SECTION	ANCLR	LCN
1	EA	ACTUATOR, WALL MOUNT	ACTUATOR(S) BY ANOTHER SECTION	630	LCN
1	SET	SEAL	PERIMETER SEAL BY FRAME MANUFACTURER		
1	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MANUFACTURER		
2	EA	DOOR SWEEP	8198AA LENGTH AS REQ	AA	ZER
1	EA	THRESHOLD	65A LENGTH AS REQ	A	ZER
2	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
2	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 900-4RL 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)		VON

**HARDWARE GROUP NO. AD01**

PROVIDE EACH SL DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
1	EA	SLIDING DOOR	EXAMSLIDE SYSTEM, SECTION 08 34 00		ADS

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**DOOR HARDWARE**

**HARDWARE GROUP NO. C241**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
2	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 CON TW8	652	IVE
1	EA	STOREROOM LOCK	ND80HDEL RHO RX (FAIL SAFE)	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)	LGR	SCE

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DOOR HARDWARE

**HARDWARE GROUP NO. C700**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
4	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	ELECTRIC HINGE	5BB1HW 4.5 X 4.5 CON TW8	652	IVE
2	EA	ELEC PANIC HARDWARE	RX-9847-L-LBR-E996-17-FSE-CON (FAIL SECURE) LENGTH & HEIGHT AS REQ	626	VON
2(4)	EA	SFIC EVEREST CORE	80-037	626	SCH
2(4)	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE
2	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
2	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

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**DOOR HARDWARE**

**HARDWARE GROUP NO. C700C**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
4	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	ELECTRIC HINGE	5BB1HW 4.5 X 4.5 CON TW8	652	IVE
2	EA	ELEC PANIC HARDWARE	RX-9847-L-LBR-E996-17-FSE-CON (FAIL SECURE) LENGTH & HEIGHT AS REQ	626	VON
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
2	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	SILENCER	SR64	GRY	IVE
2	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
2	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		

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DOOR HARDWARE

**HARDWARE GROUP NO. C700CG**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b>QTY</b>		<b>DESCRIPTION</b>	<b>CATALOG NUMBER</b>	<b>FINISH</b>	<b>MFR</b>
4	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	ELECTRIC HINGE	5BB1HW 4.5 X 4.5 CON TW8	652	IVE
2	EA	ELEC PANIC HARDWARE	RX-9847-L-LBR-E996-17-FSE-CON (FAIL SECURE) LENGTH & HEIGHT AS REQ	626	VON
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
2	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
2	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER
2	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
2	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

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**DOOR HARDWARE**

**HARDWARE GROUP NO. C700G**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b>QTY</b>		<b>DESCRIPTION</b>	<b>CATALOG NUMBER</b>	<b>FINISH</b>	<b>MFR</b>
4	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	ELECTRIC HINGE	5BB1HW 4.5 X 4.5 CON TW8	652	IVE
2	EA	ELEC PANIC HARDWARE	RX-9847-L-LBR-E996-17-FSE-CON (FAIL SECURE) LENGTH & HEIGHT AS REQ	626	VON
2	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
2	EA	SFIC EVEREST CORE	80-037	626	SCH
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
2	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER
2	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
2	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		

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**DOOR HARDWARE**

**HARDWARE GROUP NO. C701**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
2	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1HW 4.5 X 4.5 CON TW8	652	IVE
1	EA	ELEC PANIC HARDWARE	RX-98-L-E996-17-FSE-CON (FAIL SECURE) LENGTH AS REQ	626	VON
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

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DOOR HARDWARE



**HARDWARE GROUP NO. C701G**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b>QTY</b>		<b>DESCRIPTION</b>	<b>CATALOG NUMBER</b>	<b>FINISH</b>	<b>MFR</b>
<u>2</u>	<u>EA</u>	<u>HINGE</u>	<u>5BB1HW 4.5 X 4.5</u>	<u>652</u>	<u>IVE</u>
<u>1</u>	<u>EA</u>	<u>ELECTRIC HINGE</u>	<u>5BB1HW 4.5 X 4.5 CON TW8</u>	<u>652</u>	<u>IVE</u>
<u>1</u>	<u>EA</u>	<u>ELEC PANIC</u>	<u>RX-98-L-E996-17-FSE-CON (FAIL</u>	<u>626</u>	<u>VON</u>
		<u>HARDWARE</u>	<u>SECURE) LENGTH AS REQ</u>		
<u>1</u>	<u>EA</u>	<u>SFIC RIM CYLINDER</u>	<u>80-159 W/CONST. CORE</u>	<u>626</u>	<u>SCH</u>
<u>1</u>	<u>EA</u>	<u>SFIC EVEREST CORE</u>	<u>80-037</u>	<u>626</u>	<u>SCH</u>
<u>1</u>	<u>EA</u>	<u>SURFACE CLOSER</u>	<u>4040XP RW/PA X MTG BRKT, SPCR &amp;</u>	<u>689</u>	<u>LCN</u>
			<u>PLATE AS REQ</u>		
<u>1</u>	<u>EA</u>	<u>PROTECTION PLATE</u>	<u>8400 10" X 2" LDW B-CS</u>	<u>630</u>	<u>IVE</u>
<u>1</u>	<u>EA</u>	<u>WALL STOP</u>	<u>WS406/407CCV</u>	<u>630</u>	<u>IVE</u>
<u>1</u>	<u>EA</u>	<u>GASKETING</u>	<u>188S PSA H &amp; J</u>	<u>BK</u>	<u>ZER</u>
<u>1</u>	<u>EA</u>	<u>DOOR BOTTOM</u>	<u>364AA-Z49 LENGTH AS REQ</u>	<u>AA</u>	<u>ZER</u>
<u>1</u>	<u>EA</u>	<u>HARNESS (TO POWER</u>	<u>CON-6P (CONNECTION LEADS)</u>		<u>SCH</u>
		<u>SUPPLY)</u>			
<u>1</u>	<u>EA</u>	<u>HARNESS (IN DOOR)</u>	<u>ALLEGION CONNECT TYPE &amp;</u>		<u>SCH</u>
			<u>LENGTH AS REQ</u>		
<u>1</u>	<u>EA</u>	<u>CREDENTIAL READER</u>	<u>CREDENTIAL READER BY ANOTHER</u>		
			<u>SECTION</u>		
<u>1</u>	<u>EA</u>	<u>DOOR CONTACT</u>	<u>679-05 TYPE AS REQ</u>	<u>WHT</u>	<u>SCE</u>
<u>1</u>	<u>EA</u>	<u>POWER SUPPLY</u>	<u>POWER SUPPLY FOR CARD READER</u>		
			<u>BY ANOTHER SECTION</u>		
<u>1</u>	<u>EA</u>	<u>POWER SUPPLY</u>	<u>PS902 120/240 VAC</u>	<u>LGR</u>	<u>SCE</u>

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**DOOR HARDWARE**

**HARDWARE GROUP NO. C701W**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
2	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1HW 5 X 4.5 CON TW8	652	IVE
1	EA	ELEC PANIC HARDWARE	RX-98-L-E996-17-FSE-CON (FAIL SECURE) LENGTH AS REQ	626	VON
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

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DOOR HARDWARE

**HARDWARE GROUP NO. C708**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
4	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	ELECTRIC HINGE	5BB1HW 4.5 X 4.5 CON TW8	652	IVE
2	EA	ELEC PANIC HARDWARE	RX-9847-L-LBR-E996-17-FSE-CON (FAIL SECURE) LENGTH & HEIGHT AS REQ	626	VON
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CCV	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7800 SERIES AS REQUIRED	689	LCN
2	EA	SILENCER	SR64	GRY	IVE
2	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
2	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		

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DOOR HARDWARE

**HARDWARE GROUP NO. C715**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-L-NL-CON LENGTH AS REQ.	626	VON
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	GASKETING	328AA H & J	AA	ZER
1	EA	DOOR SWEEP	8198AA LENGTH AS REQ	AA	ZER
1	EA	THRESHOLD	65A LENGTH AS REQ	A	ZER
1	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)		VON
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		

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DOOR HARDWARE

**HARDWARE GROUP NO. C720DR**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
6	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC FIRE EXIT HARDWARE	RX-9847-EO-F-LBR-CON (WDC @ WD) LENGTH & HEIGHT AS REQ	626	VON
1	EA	FIRE EXIT HARDWARE	9847-EO-F-LBR (WDC @ WD) LENGTH & HEIGHT AS REQ	626	VON
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	MORTISE CYLINDER	20-061 ICX W/CONST. CORE	626	SCH
1	EA	DELAYED EGRESS MAG	M490DEP MTG BRKT & VOLTAGE AS REQ	628	SCE
2	EA	SURFACE CLOSER	4040XPT DE X MTG BRKT, SPCR & PLATE AS REQ (MAX REV 2 11/16")	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	MEETING STILE	44STST (188S SEAL @ SMOKE DOORS) X HEIGHT AS REQ	STST	ZER
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	KEY SWITCH	653-SERIES X L2 {MAGNETIC LOCK(S) RESET}	630	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)	LGR	SCE

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**DOOR HARDWARE**

**HARDWARE GROUP NO. C741RW**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
2	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1HW 5 X 4.5 CON TW8	652	IVE
1	EA	ELEC FIRE EXIT HARDWARE	RX-98-L-F-E996-17-FS-CON (FAIL SAFE) LENGTH AS REQ	626	VON
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ MOUNT THE CLOSER ON THE LEAST PUBLIC SIDE OF THE DOOR.	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)	LGR	SCE

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**DOOR HARDWARE**

**HARDWARE GROUP NO. CE200**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
5	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 CON TW8	652	IVE
1	SET	AUTO FLUSH BOLT	FB31P/FB41P AS REQ	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE (PAIR DOORS)	LOCKNETICS NC450 (FAIL SECURE)	630	VON
1	EA	LOCK GUARD	LG-1/LG-14 TYPE AS REQ.	US32D	IVE
1	EA	COORDINATOR	COR X FL X MB X HW PREPS X LENGTH AS REQUIRED	628	IVE
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS REQUIRED (OMIT @ NON-RATED DOORS)	AA	ZER
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	MOTION SENSOR	SCANII 12/24 VDC	WHT	SCE
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)	LGR	SCE

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**DOOR HARDWARE**

**HARDWARE GROUP NO. CE200S**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
5	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 CON TW8	652	IVE
1	SET	AUTO FLUSH BOLT	FB31P/FB41P AS REQ	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE (PAIR DOORS)	LOCKNETICS NC450 (FAIL SECURE)	630	VON
1	EA	LOCK GUARD	LG-1/LG-14 TYPE AS REQ.	US32D	IVE
1	EA	COORDINATOR	COR X FL X MB X HW PREPS X LENGTH AS REQUIRED	628	IVE
1	EA	OH STOP	100S SERIES X SIZE & MOUNTING AS REQ	630	GLY
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS REQUIRED (OMIT @ NON-RATED DOORS)	AA	ZER
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	MOTION SENSOR	SCANII 12/24 VDC	WHT	SCE
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)	LGR	SCE

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**DOOR HARDWARE**



**HARDWARE GROUP NO. CE201**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE (SGL DOOR - HMF)	LOCKNETICS NC450 (FAIL SECURE)	630	VON
1	EA	LOCK GUARD	LG-1/LG-14 TYPE AS REQ.	US32D	IVE
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	MOTION SENSOR	SCANII 12/24 VDC	WHT	SCE
1	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)	LGR	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		

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DOOR HARDWARE

**HARDWARE GROUP NO. CE201C**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE (SGL DOOR - HMF)	LOCKNETICS NC450 (FAIL SECURE)	630	VON
1	EA	LOCK GUARD	LG-1/LG-14 TYPE AS REQ.	US32D	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	MOTION SENSOR	SCANII 12/24 VDC	WHT	SCE
1	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)	LGR	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		

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DOOR HARDWARE

**HARDWARE GROUP NO. CE201G**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b>QTY</b>		<b>DESCRIPTION</b>	<b>CATALOG NUMBER</b>	<b>FINISH</b>	<b>MFR</b>
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE (SGL DOOR - HMF)	LOCKNETICS NC450 (FAIL SECURE)	630	VON
1	EA	LOCK GUARD	LG-1/LG-14 TYPE AS REQ.	US32D	IVE
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J	BK	ZER
1	EA	DOOR BOTTOM	364AA-Z49 LENGTH AS REQ	AA	ZER
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	MOTION SENSOR	SCANII 12/24 VDC	WHT	SCE
1	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC	LGR	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		

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**DOOR HARDWARE**

**HARDWARE GROUP NO. CE201W**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
3	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE (SGL DOOR - HMF)	LOCKNETICS NC450 (FAIL SECURE)	630	VON
1	EA	LOCK GUARD	LG-1/LG-14 TYPE AS REQ.	US32D	IVE
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	MOTION SENSOR	SCANII 12/24 VDC	WHT	SCE
1	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)	LGR	SCE

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DOOR HARDWARE

**HARDWARE GROUP NO. CE206**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
5	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 CON TW8	652	IVE
1	SET	AUTO FLUSH BOLT	FB31P/FB41P AS REQ	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE (PAIR DOORS)	LOCKNETICS NC450 (FAIL SECURE)	630	VON
1	EA	LOCK GUARD	LG-1/LG-14 TYPE AS REQ.	US32D	IVE
1	EA	COORDINATOR	COR X FL X MB X HW PREPS X LENGTH AS REQUIRED	628	IVE
2	EA	OH STOP	100S SERIES X SIZE & MOUNTING AS REQ	630	GLY
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS REQUIRED (OMIT @ NON-RATED DOORS)	AA	ZER
1	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
1	EA	MOTION SENSOR	SCANII 12/24 VDC	WHT	SCE
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC (COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL. OMIT WHERE PROVIDED BY SECURITY)	LGR	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		

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**DOOR HARDWARE**

**HARDWARE GROUP NO. CE208**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b>QTY</b>		<b>DESCRIPTION</b>	<b>CATALOG NUMBER</b>	<b>FINISH</b>	<b>MFR</b>
5	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 CON TW8	652	IVE
1	SET	AUTO FLUSH BOLT	FB31P/FB41P AS REQ	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE	LOCKNETICS NC450 (FAIL SECURE)	630	VON
		(PAIR DOORS)			
1	EA	LOCK GUARD	LG-1/LG-14 TYPE AS REQ.	US32D	IVE
1	EA	COORDINATOR	COR X FL X MB X HW PREPS X	628	IVE
		LENGTH AS REQUIRED			
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR &	689	LCN
		PLATE AS REQ			
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE WALL MAG	SEM7800 SERIES AS REQUIRED	689	LCN
1	EA	GASKETING	188S PSA H & J (USE SILENCERS @	BK	ZER
		NON-RATED DOORS)			
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS	AA	ZER
		REQUIRED (OMIT @ NON-RATED			
		DOORS)			
1	EA	HARNESS (TO POWER	CON-6P (CONNECTION LEADS)		SCH
		SUPPLY)			
1	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE &		SCH
		LENGTH AS REQ			
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER		
		SECTION			
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	MOTION SENSOR	SCANII 12/24 VDC	WHT	SCE
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC	LGR	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER		
		BY ANOTHER SECTION			

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DOOR HARDWARE

**HARDWARE GROUP NO. CE214**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b><u>QTY</u></b>		<b><u>DESCRIPTION</u></b>	<b><u>CATALOG NUMBER</u></b>	<b><u>FINISH</u></b>	<b><u>MFR</u></b>
5	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	ELECTRIC HINGE	5BB1HW 4.5 X 4.5 CON TW8	630	IVE
2	EA	MANUAL FLUSH BOLT	FB458-12"	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE (PAIR DOORS)	LOCKNETICS NC450 (FAIL SECURE)	630	VON
1	EA	LOCK GUARD	LG-1/LG-14 TYPE AS REQ.	US32D	IVE
1	EA	OH STOP	900S SERIES X SIZE & MOUNTING AS REQ (INACTIVE LEAF)	630	GLY
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ (ACTIVE LEAF)	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	GASKETING	188S PSA HEIGHT AS REQ (MOUNT ON ASTRAGAL)	BK	ZER
1	EA	RAIN DRIP	142A DW + 4"	AA	ZER
1	EA	MEETING STILE	328AA (2 PCS - 1 SET) HEIGHT AS REQUIRED	AA	ZER
1	EA	GASKETING	328AA H & J	AA	ZER
2	EA	DOOR SWEEP	8198AA LENGTH AS REQ	AA	ZER
1	EA	THRESHOLD	65A LENGTH AS REQ	A	ZER
1	EA	HARNESS (TO POWER SUPPLY)	CON-6P (CONNECTION LEADS)		SCH
1	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE & LENGTH AS REQ		SCH
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER SECTION		
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER BY ANOTHER SECTION		
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

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DOOR HARDWARE

**HARDWARE GROUP NO. CX710T**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

<b>QTY</b>		<b>DESCRIPTION</b>	<b>CATALOG NUMBER</b>	<b>FINISH</b>	<b>MFR</b>
8	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	DELAYED PANIC	CX9847-L-NL-CON LENGTH & HEIGHT	626	VON
		HARDWARE	AS REQ		
1	EA	DELAYED PANIC	CX9847-L-DT-CON LENGTH &	626	VON
		HARDWARE	HEIGHT AS REQ		
3	EA	SFIC EVEREST CORE	80-037	626	SCH
2	EA	MORTISE CYLINDER	20-061 ICX W/CONST. CORE	626	SCH
1	EA	SFIC RIM CYLINDER	80-159 W/CONST. CORE	626	SCH
2	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR &	689	LCN
			PLATE AS REQ		
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE
2	EA	HARNESS (IN DOOR)	ALLEGION CONNECT TYPE &		SCH
			LENGTH AS REQ		
2	EA	HARNESS (TO POWER	CON-6P (CONNECTION LEADS)		SCH
		SUPPLY)			
1	EA	CREDENTIAL READER	CREDENTIAL READER BY ANOTHER		
			SECTION		
2	EA	DOOR CONTACT	679-05 TYPE AS REQ	WHT	SCE
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC		VON
1	EA	POWER SUPPLY	POWER SUPPLY FOR CARD READER		
			BY ANOTHER SECTION		

**END OF SECTION**

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**DOOR HARDWARE**



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**DOOR HARDWARE**

**087100-70**

## **SECTION 09 3000**

### **TILING**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes: Modular tiles, membrane underlayments, setting materials, grouting materials, accessories, and supplementary items necessary for installation.

##### **1.2 DEFINITIONS**

- A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.
- B. Module Size: Actual tile size plus joint width indicated.
- C. Face Size: Actual tile size, excluding spacer lugs.
- D. Ceramic (Mosaic) Tile: Tile formed by either the dust-pressed or plastic method, usually 1/4 in to 3/8 in (6 mm to 10 mm) thick, and having a facial area of less than 6 sq in (3900 mm<sup>2</sup>). Ceramic mosaic tile may be of either porcelain or natural clay composition and they may be either plain or with an abrasive mixture throughout.
- E. LHT: Large and Heavy Tile. Tiles are typically larger than 8 in by 8 in (200 mm by 200 mm) or with at least one side greater than 15 in (375 mm) or weigh 5 psf (239 Pa) or heavier and have an ungauged thickness.
- F. Paver Tile: Glazed or unglazed porcelain or natural clay tile formed by dust-pressed method having a facial area of 6 sq in (3900 mm<sup>2</sup>) or more.
- G. Porcelain Tile: A ceramic tile or paver tile that is generally made by the dust-pressed method of a composition resulting in a tile that is dense, impervious, fine grained, and smooth with sharply formed face.
- H. Quarry Tile: Glazed or unglazed tile, made by extrusion process from natural clay or shale usually having a facial area of 6 sq in (3900 mm<sup>2</sup>) or more.
- I. Wall Tile: A glazed tile with a body that is suitable for interior use and which is usually non-vitreous and is not required nor expected to withstand excessive impact or be subject to freezing and thawing conditions.

##### **1.3 ACTION SUBMITTALS**

- A. Product Data: Manufacturer's technical literature for each product and system indicated.
  - 1. Include manufacturer's specifications for materials, finishes, construction details, installation instructions, and recommendations for maintenance.

- B. Shop Drawings: Show details of fabrication and installation, including plans, elevations, sections, details of components and attachments to other work. Distinguish between shop and field-assembled work.
  - 1. Include plans of rooms and elevations of walls showing tile and patterns; include sections showing underlayments, setting materials, and grouting materials.
  - 2. Include details showing widths and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.
- C. Samples for Verification Purposes: Submit samples for each item listed below of size and construction indicated. Where products involve normal color and texture variations, include sample sets showing the full range of variations expected.
  - 1. Tile: Each type and composition of tile and for each color and finish required, at least 12 in (300 mm) square, mounted on rigid panel, and with grouted joints using product complying with specified requirements and in color approved for completed work.
  - 2. Tile Trim and Accessories: Full-size units of each type and for each color required.
  - 3. Metal Edge Strips: 6 in (150 mm) lengths of specified profile.

#### **1.4 INFORMATIONAL SUBMITTALS**

- A. List of Materials for Layered Mock-Up for Construction Quality Purposes:
  - 1. Product, material, and equipment names, model numbers, lot numbers, batch numbers, source of supply, and other information required to identify items used.
  - 2. Receipt of list does not constitute acceptance of deviations from Contract Documents, unless such deviations are specifically approved by Architect in writing.
- B. Master Grade Certificates: Submit for each shipment, type, and composition of tile, signed by tile manufacturer and installer.
- C. Product Test Reports: Written reports based on evaluation of comprehensive tests performed by qualified testing agency indicating that each product complies with requirements.
- D. Field Quality Control Reports: Written report of testing and inspection required by "Field Quality Control".
- E. Manufacturer's Project Acceptance Document: Certification by the manufacturer that its product(s) are approved, acceptable, suitable for use in specific locations, for specific details, and for applications indicated, specified, or required, and that a warranty will be issued.
- F. Warranty: Sample of warranty.
  - 1. Provide manufacturer's written warranty covering materials and installation (labor) stating obligations, remedies, limitations, and exclusions.

#### **1.5 CLOSEOUT SUBMITTALS**

- A. Maintenance Instructions: Include in operation and maintenance manual required by Division 01 Section "Closeout Requirements". Submit manufacturer's instructions for maintenance of installed work, including methods and frequency for maintaining optimum condition under anticipated use. Include precautions against cleaning materials and methods which may be detrimental to finishes and performance.

## **1.6 MAINTENANCE MATERIAL SUBMITTALS**

- A. Extra Materials: Furnish the following extra materials that match and are from same production runs as products installed, packaged with protective covering for storage and identified with labels describing contents:
1. Furnish quantity of full-size tile and trim units equal to 2 percent of amount installed, for each type, composition, color, pattern, and size.
  2. Furnish quantity of grout equal to 2 percent of amount installed for each type, composition, and color indicated.

## **1.7 QUALITY ASSURANCE**

- A. Mock-ups: Prior to fabrication and installation, build mock-up for each form of construction and finish required to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mock-up to comply with the following requirements, using materials indicated for the completed Work:
1. Build mock-up in the location and of the size indicated or, if not indicated, as directed by Architect. Contractor shall provide structural support framework.
    - a. Show typical components, attachments to building structure, and requirements of installation.
    - b. Build mock-ups in a layered fashion omitting tile in particular areas to reveal underlayment membranes and setting bed installation including but not limited to the following:
      - 1) Tiled floor conditions at thin-set mortar setting beds.
      - 2) Tiled floor conditions at LHT mortar setting beds.
      - 3) Tiled floor conditions at thick-set mortar setting beds.
      - 4) Movement joints at tiled floor conditions.
      - 5) Tiled shower stall including three walls, floor, curb, and threshold.
      - 6) Tiled wall conditions, including one interior corner.
  2. Notify Architect seven days in advance of the dates and times when mock-up will be installed.
  3. Obtain Architect's acceptance of mock-ups before starting fabrication or installation.
  4. Acceptance of mock-ups does not constitute acceptance of deviations from the Contract Documents contained in mock-ups unless such deviations are specifically noted by Contractor and accepted by Architect in writing.
  5. Demolish and remove mock-ups when directed by Architect unless accepted to become part of the completed Work.

## **1.8 PRE-INSTALLATION CONFERENCE**

- A. Pre-Installation Conference: Before Work begins, conduct conference at Project site.

## **1.9 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.
- B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.

- C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.
- D. Store liquid materials in unopened containers and protected from freezing.
- E. Handle tile that has temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

#### **1.10 PROJECT CONDITIONS**

- A. Environmental Limitations: Install tile only when construction in room is completed and ambient temperature and humidity conditions are being maintained to comply with referenced standards and manufacturer's written instructions.

#### **1.11 COORDINATION**

- A. Coordinate installation of products and systems with interfacing and adjoining construction to provide a successful installation without failure.

#### **1.12 WARRANTY**

- A. Installer's Warranty: Furnish installer's written workmanship warranty signed by an authorized representative using installer's standard form agreeing to provide labor required to repair or replace work which exhibits workmanship defects. "Defects" is defined to include but not limited to deterioration or failure to perform as required.

- 1. Warranty Period: Installer shall warrant the installation to be free from workmanship Defects for a period of 2 years from date of Substantial Completion.

### **PART 2 - PRODUCTS**

#### **2.1 MANUFACTURERS AND PRODUCTS**

- A. Acceptable Manufacturers: Subject to compliance with requirements of Contract Documents as judged by the Architect, provide product by one of manufacturers listed. If not listed, submit as substitution according to the Conditions of the Contract and Division 01 Section "Substitution Procedures".
- B. Basis of Design (Product Standard): Contract Documents are based on products and systems specified to establish a standard of quality. Other manufacturers offering products having equivalent characteristics may be considered, provided deviations are minor and comply with requirements of Contract Documents as judged by the Architect.
  - 1. Selections: As scheduled or as indicated in Design Selections.

#### **2.2 MATERIALS, GENERAL**

- A. Single Source Responsibility: Furnish each type of product from single manufacturer. Provide secondary materials only as recommended by manufacturer of primary materials.

1. Tile: For each tile, obtain of same color, finish, composition, and type, from same source and production run.
2. Setting and Grouting Materials: Obtain ingredients of uniform quality for each mortar and grout component from single manufacturer.

## **2.3 PERFORMANCE REQUIREMENTS**

### **A. Slip Resistance Requirements for Floor Tile:**

1. Standards: Products and installation shall comply with ANSI A137.1, and state and local accessibility standards.
2. Floor Tile Slip Resistance: For tile installed on walkway surfaces, provide products with the following value as determined by testing identical products by the DCOF AcuTest Method per ANSI A137.1:
  - a. Walkway Surfaces: Minimum 0.42.

## **2.4 CERAMIC TILE PRODUCTS**

- A. Material Quality Standard: ANSI A137.1 "Specifications for Ceramic Tiling" for types, compositions, and grades of tiling indicated.
  1. Furnish tiling complying with "Standard Grade" requirements, unless otherwise indicated.
- B. Ceramic Tile, General: Thin ceramic surfacing unit made from clay, porcelain, or mixture of ceramic materials, glazed or unglazed, fired above red heat to temperature sufficient to produce specific physical properties and characteristics specified.
- C. Factory Blending: For tile exhibiting color variations, blend tile in factory and package so that tile units taken from one package show the same range in colors as those taken from other packages and match approved samples.
- D. Mounting: Where factory-mounted tile is used, provide back- or edge-mounted tile assemblies as standard with manufacturer. Where tile is intended for installation in wet exposure areas, do not use factory mounted tile assemblies unless tile manufacturer states that this type of mounting is suitable for installation indicated.
- E. Factory-Applied Temporary Protective Coating for Epoxy Grout Installations: Where recommended by tile and grout manufacturer, protect exposed surfaces of tile against adherence of mortar and grout by pre-coating tile face surfaces with a continuous protective film that is easily removable without damaging tile or grout. Do not coat unexposed tile surfaces.

## **2.5 GLASS TILE PRODUCTS**

- A. General: Tile having an overall non-crystalline microstructure with Silica Dioxide as the primary constituent and manufactured by one or more of three primary processes: cast, fused or low-temperature coated.
- B. ANSI Glass Tile Standard: Provide glass tile that complies with ANSI A137.2 for types and other characteristics indicated.
  1. Furnish tiling complying with Standard grade requirements unless otherwise indicated.

## **2.6 STONE TILE PRODUCTS**

- A. Stone Tile, General: Natural quarried stone, pre-fabricated into modular tiles having uniform and consistent dimensional tolerances; with sawn backs.
- B. Material Quality Standard:
  - 1. Granite, ASTM C 615.
  - 2. Limestone, ASTM C 568.
  - 3. Marble, ASTM C 503.
  - 4. Slate, ASTM C 629.

## **2.7 WATERPROOF MEMBRANE UNDERLAYMENTS FOR INTERIOR APPLICATIONS**

- A. General: Manufacturer's standard product that complies with ANSI A118.10 and is acceptable to authorities having jurisdiction for use as shower pan waterproofing, as selected from one of the following available options. Include primer, pre-fabricated corners, seaming cement, detail tape, sealant, and other standard accessory products required for application provided by membrane manufacturer.
- B. Unfaced Plastic Waterproof Membrane Underlayments:
  - 1. Unfaced Chlorinated-Polyethylene (CPE):
    - a. Description: ASTM D 4068, non-plasticized, chlorinated polyethylene; minimum 0.040 in (1.0 mm) nominal thickness.
    - b. Manufacturer and Product: The Noble Company; Chloraloy.
  - 2. Unfaced Polyvinyl Chloride (PVC):
    - a. Description: ASTM D 4551, flexible polyvinyl chloride sheet; minimum 0.040 in (1.0 mm) nominal thickness.
    - b. Manufacturer and Product: Compotite Corporation; Composeal Blue Vinyl 40.
  - 3. Locations: Thick-set shower pan installations.
- C. Faced Plastic Waterproof Membrane Underlayments:
  - 1. Faced Chlorinated Polyethylene (CPE):
    - a. Description: Non-plasticized, chlorinated polyethylene faced on both sides with high-strength, nonwoven polyester fabric; minimum 0.030 in (0.75 mm) nominal thickness.
    - b. Manufacturers and Products:
      - 1) The Noble Company; Nobleseal TS.
      - 2) Laticrete; Hydro Ban Sheet Membrane.
  - 2. Faced Polyvinyl Chloride (PVC):
    - a. Description: ASTM D 4551, multiple layers of polyvinyl chloride sheet heat-fused together and to facings of bondable nonwoven polyester; minimum 0.040 in (1.0 mm) nominal thickness.

- b. Manufacturer and Product: Compotite Corporation; Composeal Gold.
- 3. Locations: Thin-set installations at floors, walls, and ceiling; including thin-set shower pan floor installations.

## **2.8 CRACK ISOLATION MEMBRANE UNDERLAYMENTS**

- A. General: Manufacturer's standard product that complies with ANSI A118.12 as selected from one of the following available options. Include primer, pre-fabricated corners, seaming cement, detail tape, sealant, and other standard accessory products required for application provided by membrane manufacturer.
- B. Fluid-Applied Crack Isolation Membrane Underlayment: Not permitted or allowed within shower and bathtub areas.
  - 1. Description: Manufacturer's proprietary system consisting of liquid applied component and synthetic fabric sheet reinforcement.
  - 2. Manufacturers and Products:
    - a. ARDEX Engineered Cements; Ardex 8 + 9 Waterproofing and Crack Isolation Membrane.
    - b. Custom Building Products; 9240 Waterproofing and Crack Isolation Membrane.
    - c. Laticrete International Inc.; Laticrete 9235 Waterproof Membrane.
    - d. Laticrete International Inc.; Blue 92 Anti-Fracture Membrane.
    - e. Mapei Corp.; Mapelastic 400.
- C. Faced Chlorinated Polyethylene (CPE) Crack Isolation Membrane Underlayment:
  - 1. Description: Non-plasticized, chlorinated polyethylene faced on both sides with high-strength, nonwoven polyester fabric; minimum 0.030 in (0.75 mm) nominal thickness.
  - 2. Manufacturer and Product: The Noble Company; NobleSeal CIS.

## **2.9 SETTING (MORTAR AND GROUT) MATERIALS**

- A. Material Quality Standards: ANSI A118 Series as indicated.
- B. Thick-Set Portland Cement Mortar:
  - 1. Material Quality Standard: ANSI A118.1, with the following physical properties:
    - a. Cleavage Membrane: One of the following:
      - 1) Any membrane underlayment product listed and designated by manufacturer to be suitable for thick-set applications.
      - 2) Polyethylene Sheeting: ASTM D 4397, minimum 4 mils (0.10 mm) thick.
    - b. Portland Cement: ASTM C 150, Type I, grey color. Use white color with light colored stone, translucent marble or light color grout as recommended by manufacturer.
    - c. Hydrated Lime: ASTM C 206, Type S or ASTM C 207, Type S.
    - d. Aggregate: ASTM C 144, washed clean and graded natural sand passing 16-mesh sieve.



- e. Reinforcing Wire Fabric: Galvanized, welded wire fabric, 2x2 W0.3/0.3 (2 in by 2 in, 16/16 wire) (50 mm by 50 mm MW2.0/2.0); comply with ASTM A 185 and ASTM A 82 except for minimum wire size.
- f. Suitable for use in thick set mortar beds up to 2 in (50 mm) thick.

C. LHT Latex-Portland Cement Mortar:

- 1. Material Quality Standard: ANSI A118.4, with the following physical properties:
  - a. Manufacturer's premium polymer modified LHT mortar product; gray color. Use white color with light colored stone, translucent marble or light color grout as recommended by manufacturer.
  - b. Integral antimicrobial product added during manufacturing to resist mold and mildew growth.
  - c. Non-sag capability.
  - d. Suitable for use in LHT mortar beds up to 1/2 in (12 mm) thick.
- 2. Manufacturers and Products - Floor Tiling:
  - a. ARDEX Engineered Cements; X 77 Microtec.
  - b. Custom Building Products; ProLite Tile & Stone Mortar.
  - c. Laticrete International, Inc.; Laticrete 255 MultiMax.
  - d. Mapei Corp.; Ultraflex LFT Mortar.

D. Thin-Set Latex-Portland Cement Mortar (For All Tile Types Except Glass):

- 1. Material Quality Standard: ANSI A118.4, with the following physical properties:
  - a. Manufacturer's premium polymer modified thin-set product; gray color. Use white color with light colored stone, translucent marble or light color grout as recommended by manufacturer.
  - b. Integral antimicrobial product added during manufacturing to resist mold and mildew growth.
  - c. Non-sag capability.
  - d. Suitable for use in thin set mortar beds up to 1/4 in (6 mm) thick.
- 2. Manufacturers and Products - Floor Tiling:
  - a. ARDEX Engineered Cements; X 77 Microtec.
  - b. Custom Building Products; ProLite Tile & Stone Mortar.
  - c. Laticrete International, Inc.; Laticrete 254 Platinum Thin-Set Mortar.
  - d. Mapei Corp.; Ultraflex 3 Mortar.
- 3. Manufacturers and Products - Wall Tiling:
  - a. ARDEX Engineered Cements; X 77 Microtec.
  - b. Custom Building Products; ProLite Tile & Stone Mortar.
  - c. Laticrete International, Inc.; Laticrete 255 MultiMax Multipurpose Thin-Set Mortar.
  - d. Mapei Corp.; Ultralite Mortar.

E. Thin-Set Mortar for Glass Tile:

- 1. Material Quality Standard: ANSI A118.4, manufacturer's premium, glass tile mortar.

2. Manufacturers and Products:

- a. ARDEX Engineered Cements; X 77 Microtec.
- b. Custom Building Products; Glass Tile Premium Thin-Set Mortar.
- c. Laticrete International, Inc.; Glass Tile Adhesive.
- d. Mapei Corp.; Mosaic & Glass Tile Mortar.

F. Epoxy Mortar:

1. Material Quality Standard: ANSI A118.3, with the following physical properties:

- a. 100 percent solids.
- b. Chemical-resistant, water-cleanable, multiple component product.
- c. Resistant to intermittent exposure to temperatures of up to 212 deg F. (100 deg C.).
- d. Rated extra heavy service according to ASTM C 627.
- e. Will not stain when used for stone tile, and acceptable to stone supplier.

2. Manufacturers and Products:

- a. ARDEX Engineered Cements; WA Epoxy Grout and Adhesive.
- b. Custom Building Products; EBM Lite Epoxy Bonding Mortar.
- c. Laticrete International, Inc.; Latapoxy 300.
- d. Mapei Corp.; Kerapoxy 410.

G. Latex-Portland Cement Grout for Tile Joints:

1. Unsanded Grout:

a. Material Quality Standard: ANSI A118.7, with following physical properties:

- 1) Manufacturer's premium polymer modified unsanded grout product.
- 2) Integral antimicrobial product added during manufacturing to resist mold and mildew growth.

b. Manufacturers and Products:

- 1) ARDEX Engineered Cements; FG-C Unsanded Grout.
- 2) Custom Building Products; Prism Surecolor Grout.
- 3) Laticrete International, Inc.; Permacolor Grout.
- 4) Mapei Corp.; Ultracolor Plus Grout.

c. Locations: Tile Joints less than 1/8 in (3 mm) wide.

2. Sanded Grout:

a. Material Quality Standard: ANSI A118.7, with following physical properties:

- 1) Manufacturer's premium polymer modified sanded grout product.
- 2) Integral antimicrobial product added during manufacturing to resist mold and mildew growth.

b. Manufacturers and Products:

- 1) ARDEX Engineered Cements; FL Rapid Set, Flexible, Sanded Grout.
- 2) Custom Building Products; Prism Surecolor Grout.
- 3) Laticrete International, Inc.; Permacolor Grout.
- 4) Mapei Corp.; Ultracolor Plus Grout.

c. Locations: Tile Joints 1/8 in (3 mm) wide and larger.

#### H. ~~Epoxy Grout:~~

~~1. Material Quality Standard: ANSI A118.3, with following physical properties:~~

- ~~a. 100 percent solids.~~
- ~~b. Chemical-resistant, water-cleanable, multiple-component product.~~
- ~~c. Resistant to intermittent exposure to temperatures of up to 212 deg F. (100 deg C.).~~
- ~~d. Mold and mildew resistant.~~

~~2. Manufacturers and Products:~~

- ~~a. ARDEX Engineered Cements; WA Epoxy Grout.~~
- ~~b. Custom Building Products; CEG-IG 100% Solids Industrial Grade Epoxy Grout.~~
- ~~c. Laticrete International, Inc.; Latapoxy 2000 Industrial Grout.~~
- ~~d. Mapei Corp.; Kerapoxy IEG CQ.~~

~~I. Proprietary Epoxy Grout: Proprietary high performance epoxy grout; provides high degree of stain resistance; cleanable to the original color.~~

~~1. Material Quality Standard: ANSI A118.3.~~

~~2. Manufacturers and Products:~~

- ~~a. Laticrete International, Inc.; SpectraLOCK PRO Grout.~~
- ~~b. Mapei Corp.; Kerapoxy CQ.~~

## 2.10 ELASTOMERIC SEALANTS

A. Sealant Colors: Match color of adjacent grout unless otherwise indicated.

B. Mildew-Resistant Floor or Wall Joint Sealant:

1. Material Quality Standard: ASTM C 920, Type S, Grade NS, Class 25, with following physical properties:

- a. Integral antimicrobial product added during manufacturing to resist mold and mildew growth.
- b. Intended for sealing interior ceramic tile joints and other nonporous substrates.
- c. Resistant to in-service exposures of high humidity and temperature extremes.

2. Description: One-part mildew-resistant silicone sealant.

3. Manufacturers and Products:

- a. ARDEX Engineered Cements; SX.
- b. Custom Building Products; Commercial 100% Silicone Caulk.
- c. Dow Corning Corp.; 786.

- d. Laticrete International, Inc.; Latasil.
- e. Pecora Corp.; 898.
- f. Tremco Inc.; Tremsil 200.

C. Chemical Resistant Floor Joint Sealant:

- 1. Description: Two-part self-leveling epoxy sealant.
- 2. Manufacturers and Products:
  - a. BASF Construction Chemicals; MasterSeal CR 190 (Formerly Sonneborn Epolith-P).
  - b. Euclid Chemical Co.; Euco 800.
  - c. L&M Construction Chemical Inc.; Epoflex SL.

D. Backer Rods:

- 1. Material Quality Standard: ASTM C 1330, Type B.
- 2. Description: Non-gassing (when punctured), bi-cellular polyethylene or polyolefin foam rod with a surface skin, of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- 3. Manufacturers and Products:
  - a. BASF Construction Chemicals; MasterSeal 921 (Formerly Sonneborn Soft Backer Rod).
  - b. Nomaco Inc.; Sof Rod.

E. Backer Tape: Bond-breaking polyethylene or other plastic tape, self-adhesive where applicable, recommended by sealant manufacturer for preventing sealant from adhering to back of joint where such adhesion would result in sealant failure.

## 2.11 RELATED MATERIALS

- A. Cementitious Underlayments: Trowelable or self-leveling as required by conditions; pre-mixed, latex-modified, Portland cement based formulation provided by or specifically approved by setting material manufacturer; include primers if required for concrete substrate condition.
- B. Patching Compounds: Trowelable pre-mixed, latex-modified, Portland cement based formulation provided by or specifically approved by setting material manufacturer; include primers if required for concrete substrate condition.
- C. Metal Transition Strips (Tile to Adjacent Flooring Material):
  - 1. Schluter Systems LP; Schiene, stainless steel.
- D. Glass-Fiber Tape: Self-adhering, alkali-resistant, glass-fiber tape, 10 by 10 or 10 by 20 threads per 1 in (25 mm).; minimum 2 in (50 mm) wide.
- E. Tile Cleaner: Neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, provided by or specifically approved by tile and grout manufacturers.
- F. Grout Sealer: Manufacturer's standard silicone product for sealing grout joints and that does not change color or appearance of grout.

## **2.12 MIXING MORTARS AND GROUT**

### **A. General Procedures:**

1. Mix to comply with referenced quality standards and manufacturers' written instructions.
2. Add materials, water, and additives in accurate proportions.
3. Use type of mixing equipment, speeds, containers, time, and other procedures to produce uniform quality with optimum performance characteristics for installations indicated.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

#### **A. Acceptance of Surfaces and Conditions:** Examine substrate surfaces to which tile will be installed for compliance with requirements, installation tolerances, and other conditions affecting performance. Proceed only when unsatisfactory conditions have been corrected in a manner complying with the Contract Documents. Starting work within a particular area will be construed as acceptance.

1. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
2. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.

### **3.2 INSTALLATION, GENERAL**

#### **A. Installation Quality Standard:** In addition to standards listed elsewhere, perform tile work according to following, unless otherwise specified:

1. Respective manufacturer's written installation instructions.
2. Accepted submittals.
3. Contract Documents.
4. ANSI A108 installation method indicated.
5. TCNA installation method indicated.

#### **B. General Requirements:**

1. Extend tile into recesses and under or behind equipment and fixtures to form a complete covering without interruptions unless otherwise indicated.
2. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
3. Accurately form intersections and returns.
4. Perform cutting and drilling of tile without marring visible surfaces.
5. Grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints, to form smooth edges.
6. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so that plates, collars, or covers overlap tile by not less than 1/8 in (3 mm).

#### **C. Jointing Pattern:**

1. Unless otherwise indicated, lay tile in grid pattern.

2. Align joints when adjoining tiles on floor, base, walls, and trim are same size.
3. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting.
4. Provide uniform joint widths of size recommended by tile and grout manufacturer unless otherwise indicated.
5. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so that extent of each sheet is not apparent in finished work.

- D. Wainscots: Lay out tile to next full tile beyond dimensions indicated, and finish with bullnose shape.

### **3.3 PREPARATION**

- A. General: Comply with manufacturer's instructions, recommendations, and specifications for cleaning and surface preparation. Surfaces shall have no defects, contaminants, or errors which would result in poor or potentially defective installation or would cause latent defects in Work.
- B. Substrate Cleaning: Remove curing compounds, coatings, laitance, efflorescence, concrete dust, dirt, oil, gypsum board dust, paint, and other residue that would adversely affect or reduce bonding.
- C. Concrete Floor Preparation:
1. Prepare concrete floor substrates to comply with flatness tolerance of 1/4 in in 10 ft (6 mm in 3 m) as follows:
    - a. Fill cracks, holes and depressions with trowelable cementitious underlayments and patching compounds.
    - b. Remove concrete protrusions, bumps, and ridges by sanding or grinding.
  2. If substrate does not have fine broom finish, mechanically scarify concrete substrates to not less than ICRI CSP 4 finish.
  3. Where indicated, prepare substrates to receive waterproofing by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4 in per foot (1:50) toward drains.
- D. Substrate Joints, Gaps, Penetrations, and Different Substrates within Shower and Tub Enclosures: Prior to installing tile, seal the following joints, gaps, and spaces between differing materials as follows:
1. Base of Wall Joints within Shower and Tub Enclosures: Apply wall joint sealant at joint between Coated Glass-Mat Water Resistant Board (specified in Division 09 Section "Gypsum Board Assemblies") and Tub Enclosure or Prefabricated Shower Receptor, Thick-set Mortar Bed, or floor slab to create water resistant barrier in accordance with TCNA Installation B420.
  2. Penetrations: Apply wall joint sealant at penetrations through wall substrates to create water resistant barrier; especially at piping and valve penetrations.
  3. Toilet Accessories: Apply wall joint sealant at fastener penetrations and around perimeter of backing plates to create water resistant barrier.
  4. Joints and Corners: Apply glass-fiber tape to joints and corners of substrates within Showers and Tub Enclosures with thin-set mortar.

- E. Blending: Verify tile has been factory blended and packaged as specified; if not, either return to manufacturer or blend tiles at site before installing.
- F. Field-Applied Temporary Protective Coating: Where needed to prevent grout from staining or adhering to exposed tile surfaces, pre-coat with continuous film of temporary protective coating, taking care not to coat unexposed tile surfaces.

### **3.4 WATERPROOF MEMBRANE UNDERLAYMENT INSTALLATION**

- A. Installation Quality Standard: ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness and bonded securely to substrate.
- B. General Requirements:
  - 1. If required by manufacturer, prime concrete substrate.
  - 2. Install to produce a continuous waterproof membrane of uniform thickness bonded securely to substrate, without wrinkles, bubbles, buckles or kinks.
  - 3. For sheets, overlap and seal seams.
  - 4. Turn membrane up wall at locations where tile is scheduled for wall or base.
  - 5. Roll installed sheet if required by manufacturer.
  - 6. Install tile after waterproofing has cured and been tested determined it is watertight.

### **3.5 CRACK ISOLATION MEMBRANE UNDERLAYMENT INSTALLATION**

- A. General Requirements:
  - 1. If required by manufacturer, prime concrete substrate.
  - 2. Install to produce a continuous crack isolation membrane of uniform thickness bonded securely to substrate, without wrinkles, bubbles, buckles, or kinks.
  - 3. For sheets, overlap and seal seams.
  - 4. For liquid applied products, brush or roll liquid uniformly over area in number of coats required and install reinforcing fabric.
  - 5. Roll installed sheet if required by manufacturer.
  - 6. After installation of tile, install floor joint sealant in tile joints recommended by manufacturer to coordinate with membrane strips.

### **3.6 TILE INSTALLATION**

- A. Comply with TCNA's "Handbook for Ceramic Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
- B. Installation Quality Standard: Install tile according to following standards:
  - 1. Thick-set Mortar: ANSI A108.1 and A108.5; for recessed subfloor.
  - 2. LHT Mortar: ANSI A108.5; for floor tiles larger than 8 in by 8 in (200 mm by 200 mm) or with at least one side greater than 15 in (375 mm) and where subfloor is not recessed.
  - 3. Thin-set Latex-Portland Cement Mortar: ANSI A108.5; for floor tiles 8 in by 8 in (200 mm by 200 mm) and smaller where subfloor is not recessed; and for interior wall tiles.
  - 4. Epoxy Mortar: ANSI A108.9.
  - 5. Latex-Portland Grout: ANSI A108.10, typical unless indicated otherwise.

6. Epoxy Grout: ANSI A108.9, where indicated.
- C. Back Buttering: For following installations, obtain minimum 95 percent mortar coverage as in referenced ANSI A108 series of installation standards:
    1. Exterior tile floors.
    2. Tile floors and ceilings in wet and limited water exposures.
    3. Tile floors installed with epoxy mortars.
    4. Tile floors composed of tiles 12 in by 12 in (300 mm by 300 mm) or larger.
    5. Tile floors composed of rib-backed tiles.
  - D. Grout Joint Widths: Install the respective types of tile with the following grout joint widths, unless otherwise recommended by tiling and grout manufacturers.
    1. Ceramic Mosaic Tile - Less than 6 sq in (3900 mm<sup>2</sup>): 1/16 in (1.5 mm).
    2. Paver Tile - 6 sq in (3900 mm<sup>2</sup>) or More: 1/4 in (6 mm).
    3. Quarry Tile - 6 sq in (3900 mm<sup>2</sup>) or More: 1/4 in (6 mm).
    4. Stone Tile: 1/4 in (6 mm).
  - E. Metal Trim: Install at locations indicated and where exposed edge of tile flooring meets carpet, wood, or other flooring that finishes flush with top of tile.
  - F. Grout Sealer: Apply grout sealer to cementitious grout joints in tile floors according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

### **3.7 MOVEMENT JOINTS**

- A. Movement Joints, General: Installation Quality Standard: In accordance with TCNA Movement Joint Design Essentials EJ171 and as specified below.
- B. Wall Joints: The following conditions shall not be grouted; install wall joint sealant and backer rod or backer tape:
  1. Gypsum board assembly control joints.
  2. Building expansion joints, unless scheduled for expansion joint cover.
  3. Interior corners of tiled walls, including shower and bathtub walls.
  4. Around substrates and tile at penetrations through tiled substrates.
  5. At one side of changes in direction or plane of wall.
  6. At joint closest and parallel to changes in substrates supporting tile between wall and floor.
- C. Floor Joints:
  1. General Requirements:
    - a. Where full coverage crack isolation membrane is not provided, continue construction, contraction (control), and expansion joints in building structure through tile work.
    - b. Isolate tile work that abuts a restraining structure or assembly.
    - c. When metal trim or sealant/backer is used for joint, width shall not be less than width of joint in building structure.
    - d. Tile shall not be placed over building expansion joints.



2. Schedule of Sealant Products and Locations:

- a. Latex-Portland Cement Grouted Floors: Install floor joint sealant with backer rod at horizontal joints in mortar and grout setting conditions.
- b. Epoxy Grouted Floors: Install chemical resistant floor joint sealant full depth without backer rod at horizontal joints in epoxy grout setting conditions.
- c. Epoxy Mortar and Grouted Floors: Install chemical resistant floor joint sealant full depth without backer rod at horizontal joints in epoxy mortar and grout setting conditions.

3. Interior Movement Joint Spacing: As indicated on Drawings and as specified below:

- a. Tile Exposed to Direct Sunlight or Moisture: 8 ft to 12 ft (2.4 m to 3.6 m) on center each way.
- b. Tile Not Exposed to Sunlight: 20 ft to 25 ft (6 m to 7.5 m) on center each way.

D. Interior Floor Joint Installation Schedule: Seal interior floor movement joints, as defined by TCNA, according to following schedule:

1. Construction Joints: Floor joint sealant and backer rod.
2. Contraction (Control) Joints: Floor joint sealant and backer rod.
3. Isolation Joints: Floor joint sealant and backer rod.
4. Tile Expansion Joints: Floor joint sealant and backer rod.
5. Perimeter Joints between Wall and Floors: Floor joint sealant with backer tape.

### 3.8 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Manufacturer's qualified technical representative shall periodically inspect Work to ensure installation is proceeding in accordance with manufacturer's designs, recommendations, instructions, and warranty requirements. Representative shall submit written reports of each visit indicating observations, findings, and conclusions of inspection.

1. Manufacturer's Technical Representative Qualifications: Direct employee of technical services department of manufacturer with experience in providing recommendations, observations, evaluations, and problem diagnostics.

### 3.9 TESTING

A. Shower Receptor Test: Where shower floors and receptors are made water-tight by the application of the waterproof membrane, the completed membrane installation shall be tested at each installation.

1. The pipe from the shower drain shall be plugged and the receptor area shall be filled with water to a depth of not less than 2 in (50 mm) measured at the threshold.
2. Where a threshold of adequate height does not exist a temporary threshold shall be constructed to retain the test water to the stated depth.
3. The water shall be retained for a test period of not less than 24 hours, and there shall not be evidence of leakage.
4. Report results of tests, both successful and unsuccessful. In addition to results, report shall include date of test, project name, list of products being applied and tested, name of applicator, name of Contractor, and conditions causing failure of waterproofing membrane in event of an unsuccessful test.

5. Materials and installations failing to meet specified requirements shall be replaced at Contractor's expense. Retesting of materials and installations failing to meet specified requirements shall be done at Contractor's expense

### **3.10 CLEANING**

#### **A. Cleaning:**

1. Acids are not permitted, nor will they be allowed.
2. Clean tile surfaces so they are free of foreign matter.
3. Remove grout residue from tile as soon as possible.
4. No sooner than 10 days after installation, clean grout smears and haze from tile according to tile and grout manufacturer's written instructions. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned.
5. Protect metal surfaces and plumbing fixtures from effects of cleaning.
6. Flush surfaces with clean water before and after cleaning.
7. Remove temporary protective coating by method recommended by coating manufacturer that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent it from clogging drains.

### **3.11 DEMONSTRATION**

- #### **A. Cleaning and Maintenance Training:** Provide instruction to Owner's personnel for cleaning and maintenance of installed work, including methods and frequency for maintaining optimum condition under anticipated use; include precautions against cleaning materials and methods which may be detrimental to finishes and performance.

### **3.12 PROTECTION**

- #### **A. Coverings:** When recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.
- #### **B. Traffic Restrictions:** Prohibit foot and wheel traffic from tiled floors for at least 7 days after grouting is completed.

### **3.13 INTERIOR TILE INSTALLATION SCHEDULE**

#### **A. Floors, Concrete Substrate - Recessed:**

1. TCNA Installation Method F111 (Cleavage Membrane) at Slabs-on-Grade: Thick-set reinforced Portland cement mortar bed over cleavage membrane over concrete subfloor; Latex-Portland Cement Grout.
2. TCNA Installation Method F121 (Waterproof Membrane) at Elevated Slabs: Thick-set reinforced Portland cement mortar bed over waterproof membrane over concrete subfloor; Latex-Portland Cement Grout.

#### **B. Floors, Kitchens, and Food Service Areas, Concrete Substrate - Recessed:**

1. TCNA Installation Method F114 (Cleavage Membrane) at Slabs-on-Grade: Thick-set reinforced Portland cement mortar bed over cleavage membrane over concrete subfloor; Epoxy Grout.
  2. TCNA Installation Method F114 (Waterproof Membrane) at Elevated Slabs: Thick-set reinforced Portland cement mortar bed over waterproof membrane over concrete subfloor; Epoxy Grout.
- C. Floors, Kitchens, and Food Service Areas, Concrete Substrate - LHT Mortar:
1. TCNA Installation Method F115 (Cleavage Membrane) at Slabs-on-Grade: Latex-Portland cement mortar bond coat over concrete subfloor; Epoxy Grout.
  2. TCNA Installation Method F115A (Waterproof Membrane) at Elevated Slabs: Latex-Portland cement mortar bond coat over concrete subfloor; Epoxy Grout.
- D. Floors, Concrete Substrate:
1. TCNA Installation Method F125-Full (Crack Isolation Membrane; full coverage): Thin-set Latex-Portland cement mortar over crack isolation membrane over concrete subfloor; Latex-Portland Cement Grout.
    - a. Location: Where scheduled in the Room Finish Schedule located on the drawings and in all thin-set tile locations which have neither waterproofing nor sound isolation scheduled.
  2. TCNA Installation Method F125-Partial (Crack Isolation Membrane; coverage only at visible cracks in substrate): Thin-set Latex-Portland cement mortar over crack isolation membrane over concrete subfloor; Latex-Portland Cement Grout.
    - a. Location: Where scheduled in the Room Finish Schedule located on the drawings and in all thin-set tile locations which have neither waterproofing nor sound isolation scheduled.
  3. TCNA Installation Method F122 (Waterproof Membrane): Thin-set Latex-Portland cement mortar over waterproof membrane over concrete subfloor; Latex-Portland Cement Grout.
    - a. Location: As scheduled in the Room Finish Schedule located on the drawings.
  4. TCNA Installation Method F122 (Sound Isolation Membrane): Thin-set Latex-Portland cement mortar over sound isolation membrane over concrete subfloor; Latex-Portland Cement Grout.
    - a. Location: As scheduled in the Room Finish Schedule located on the drawings.
- E. Floors, Elevator Car, Cementitious Backer Unit Substrate:
1. TCNA Installation Method F144: Thin-set Epoxy mortar over cementitious backer unit; Epoxy Grout.
- F. Walls, Gypsum Board Substrate:
1. TCNA Installation Method W243: Thin-set Latex-Portland cement mortar over coated-glass-mat gypsum board; Latex-Portland Cement Grout.

G. Walls, Concrete or Masonry Substrate:

1. TCNA Installation Method W202: Thin-set Latex-Portland cement mortar over concrete or masonry; Latex-Portland Cement Grout.

H. Walls, Gypsum Board Substrate, Bathtub / Shower Surfaces:

1. Walls, Including Tub Unit or Pre-Fabricated Shower Receptors: TCNA Installation Method B419 (Waterproof Membrane): Thin-set Latex-Portland cement mortar over waterproof membrane over coated-glass-mat gypsum board; Latex-Portland Cement Grout.
2. Shower Receptors: TCNA Installation Method B420 (Waterproof Membrane): Thin-set Latex-Portland cement mortar over waterproof membrane over coated-glass-mat gypsum board walls and concrete subfloors; Latex-Portland Cement Grout.

**3.14 TILE FINISH SCHEDULE**

- A. See Interior Finish Legend on the drawings.

**END OF SECTION**





**SECTION 096566**  
**RESILIENT ATHLETIC FLOORING**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. Section Includes:
  - 1. Interlocking, rubber floor tile.
- B. Related Requirements:
  - 1. Section 096513 "Resilient Base and Accessories" for wall base and accessories installed with resilient athletic flooring.

**1.3 COORDINATION**

- A. Coordinate layout and installation of flooring with floor inserts for gymnasium equipment.

**1.4 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
- B. Shop Drawings: Show installation details and locations of the following:
  - 1. Border tiles.
  - 2. Floor patterns.
  - 3. Layout, colors, widths, and dimensions of game lines and markers.
  - 4. Locations of floor inserts for athletic equipment installed through flooring.
  - 5. Seam locations for sheet flooring.

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Childers Architect  
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**RESILIENT  
ATHLETIC  
FLOORING**

- C. Samples: For each exposed product and for each type, color, and pattern specified, [6-inch- (150-mm-)] <Insert dimension> square in size and of the same thickness indicated for the Work.
  - 1. Game-Line- and Marker-Paint Samples: Include Sample sets showing game-line- and marker-paint colors applied to flooring.
  - 2. Seam Samples: For each vinyl sheet flooring color and pattern required; with seam running lengthwise and in center of [6-by-9-inch (150-by-230-mm)] <Insert dimensions> Sample applied to a rigid backing and prepared by Installer for this Project.
- D. Samples for Initial Selection: For each type of resilient athletic flooring.
  - 1. Game-Line and Marker Paint: Include charts showing available colors and glosses.
- E. Samples for Verification: For each type, color, and pattern of flooring specified, [6-inch- (150-mm-)] <Insert dimension> square in size and of same thickness and material indicated for the Work.
  - 1. Game-Line- and Marker-Paint Samples: Include Sample sets showing game-line- and marker-paint colors applied to flooring.

## **1.5 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For sheet vinyl flooring Installer.

## **1.6 CLOSEOUT SUBMITTALS**

- A. Maintenance Data: For resilient athletic flooring to include in maintenance manuals.

## **1.7 MAINTENANCE MATERIAL SUBMITTALS**

- A. Furnish extra materials[, from the same product run,] that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Floor Tile: Furnish no fewer than 1 box for each 50 boxes or fraction thereof, of each type, color, pattern, and size of floor tile installed.



## **1.8 QUALITY ASSURANCE**

- A. Sheet Vinyl Flooring Installer Qualifications: An experienced installer who has completed sheet vinyl flooring installations using seaming methods indicated for this Project and similar in material, design, and extent to that indicated for this Project; who is acceptable to manufacturer; and whose work has resulted in installations with a record of successful in-service performance.

## **1.9 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storing.
- B. Store materials to prevent deterioration.
  - 1. Store tiles on flat surfaces.

## **1.10 FIELD CONDITIONS**

- A. Install flooring after other finishing operations, including painting, have been completed.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. PLITEQ
- B. Basis of Design (Product Standard): Contract Documents are based on products and systems specified to establish a standard of quality. Other manufacturers offering products having equivalent characteristics may be considered, provided deviations are minor and comply with requirements of Contract Documents as judged by the Architect.
  - 1. Selections: GenieMat FIT70.
- C. Material: Recycled-rubber compound
- D. Color and Pattern: As selected by Architect from manufacturer's full range.
- E. Border: Interlocking tiles.
  - 1. Border Color and Pattern: Matching floor tile

## **2.2 ACCESSORIES**

- A. Game-Line and Marker Paint: Complete system including primer, if any, compatible with flooring and recommended in writing by flooring and paint manufacturers for use indicated.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances, moisture content, and other conditions affecting performance of the Work.
  - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.2 PREPARATION**

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of flooring.
- B. Concrete Substrates: Prepare according to ASTM F710.
  - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
- C. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended in writing by manufacturer. Do not use solvents.
- D. Use trowelable leveling and patching compound to fill cracks, holes, and depressions in substrates.
- E. Move flooring and installation materials into spaces where they will be installed at least 48 hours in advance of installation unless manufacturer recommends a longer period in writing.

1. Do not install flooring until it is the same temperature as space where it is to be installed.
- F. Sweep and vacuum clean substrates to be covered by flooring immediately before installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, and dust. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.3 FLOORING INSTALLATION, GENERAL**

- A. Comply with manufacturer's written installation instructions.
- B. Scribe, cut, and fit flooring to butt neatly and tightly to vertical surfaces, equipment anchors, floor outlets, and other interruptions of floor surface.
- C. Extend flooring into toe spaces, door reveals, closets, and similar openings unless otherwise indicated.
- D. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating subfloor markings on flooring. Use nonpermanent, nonstaining marking device.

### **3.4 FLOOR TILE INSTALLATION**

- A. Lay out tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
  1. Lay tiles in pattern indicated.
- B. Discard broken, cracked, chipped, or deformed tiles.
- C. Tile Matching: Match tiles for color and pattern by selecting tiles from cartons in same sequence as manufactured and packaged if so numbered.
  1. Lay tiles in pattern of colors and sizes indicated.
- D. Adhered Floor Tile: Adhere products to substrates using a full spread of adhesive applied to substrate to comply with adhesive and flooring manufacturers' written instructions, including those for trowel notching, adhesive mixing, and adhesive open and working times.

1. Provide completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.
- E. Free-Lay Tile: Place flooring at locations indicated with units securely interconnected and fully seated on substrate to form a smooth, level surface.

### **3.5 GAME LINES AND MARKERS**

- A. ~~Mask flooring at game lines and markers, and apply paint to produce sharp edges. Where crossing, break minor game line at intersection; do not overlap lines.~~
- B. ~~Apply game lines and markers in widths and colors according to requirements indicated on Drawings~~

### **3.6 CLEANING AND PROTECTION**

- A. Perform the following operations immediately after completing flooring installation:
1. Remove adhesive and other blemishes from flooring surfaces.
  2. Sweep and vacuum flooring thoroughly.
  3. Damp-mop flooring to remove marks and soil after time period recommended in writing by manufacturer.
- B. Protect flooring from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods recommended in writing by manufacturer.
1. Do not move heavy and sharp objects directly over flooring. Protect flooring with plywood or hardboard panels to prevent damage from storing or moving objects over flooring.

### **END OF SECTION**