

**ADDENDUM
NO. 1**

February 10, 2025

**IPS: Joyce Kilmer New School 69
3421 N. Keystone Avenue
Indianapolis, IN 46218**

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications and the Drawings dated January 17, 2025, by Meticulous Design + Architecture. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 1-1 through ADD 1- 3, Guideline Schedule, and attached Meticulous Design + Architecture Addendum No 1, dated February 10, 2025, consisting of two (2) pages, Specification Sections Section 087100 Door Hardware, and Addendum No. 1 Drawings sheets.

A. SPECIFICATION SECTION 01 12 00 – MULTIPLE CONTRACT SUMMARY

1. Paragraph 3.03 Bid Categories

A. BID CATEGORY NO. 2 – GENERAL TRADES

Add the following Specification Sections:

32 94 43 - Tree Grates and Frames
11 68 00 - Playground Equipment
31 20 00 - Earth Moving
32 12 16 - Asphalt Paving
32 13 13 - Concrete Paving
32 13 73 - Concrete Paving Joint Sealants
32 31 19 - Decorative Metal Fences and Gates
32 18 16.13 - Playground Protective Surfacing

32 92 00 - Turf and Grasses
33 41 00 - Storm Utility Drainage Piping
33 44 19.15 - Stormwater Hydrodynamic Grit Separator

Delete the following Specification Section:

11 30 13 – Residential Appliances

Replace the following Specification Section:

Replace Specification Section 087100 - Door Hardware with attached herein
Specification Section 087100 - Door Hardware.

D. BID CATEGORY NO. 5 - ROOFING

Add the following Specification Section:

07 42 13.23 - Metal Composite Material Wall Panels

E. BID CATEGORY NO. 6 – ALUMINUM ENTRANCES AND STOREFRONTS

Replace the following Specification Section:

Replace Specification Section 087100 - Door Hardware with attached herein
Specification Section 087100 - Door Hardware.

I. BID CATEGORY NO. 10 – CASEWORK

Add the following Specification Section:

06 41 13 - Wood-Veneer-Faced Architectural Cabinets

J. BID CATEGORY NO. 11 – KITCHEN EQUIPMENT

Delete this Bid Category in its entirety.

L. BID CATEGORY NO. 13 – PLUMBING/HVAC

Add the following Specification Sections:

221313 - Facility Sanitary Sewers (Site)
238219 - Fan Coil Units
238236 - Finned-Tube Radiation Heaters
238219 - Fan Coil Units
238236 - Finned-Tube Radiation Heaters

M. BID CATEGORY NO. 14 – ELECTRICAL AND TECHNOLOGY

Add the following Specification Sections:

262413 - Switchboards

273125 - Voice Over Ip Telephone System

274116 - Integrated Audio-Video Systems and Equipment

N. BID CATEGORY NO. 15 – Earthwork/Site Utilities

Specification Section 224419.15 - Stormwater Hydrodynamic Grit Separator
should be 334419.15 - Stormwater Hydrodynamic Grit Separator.

B. **SPECIFICATION SECTION 01 32 00 – SCHEDULES AND REPORTS**

1. Guideline Schedule is attached herein this Addendum.

IPS 69 - Joyce Kilmer Elementary School

Project Administration

Early Demolition Bid Package

100% Bid Document Deliverables	0	15-Apr-24*	15-Apr-24
Bid Documents Available to Bidders	0	16-May-24	16-May-24
Pre-Bid Meeting	0	28-May-24	28-May-24
Public Bid Opening	1	13-Jun-24	13-Jun-24
Pre-Award Conference	1	14-Jun-24	14-Jun-24
Board Approval	0	29-Aug-24	29-Aug-24
Notice to Proceed	0	30-Aug-24	30-Aug-24
Substantial Completion	0	18-Dec-24	18-Dec-24

New Building Construction Bid Package

100% Bid Document Deliverables	0	20-Jan-25*	20-Jan-25
Bid Documents Available to Bidders	0	27-Jan-25	27-Jan-25
Pre-Bid Meeting	0	12-Feb-25*	
Public Bid Opening	1	04-Mar-25*	04-Mar-25
Pre-Award Conference	5	06-Mar-25*	12-Mar-25
Board Approval	0	24-Apr-25*	24-Apr-25
Notice to Proceed	0	25-Apr-25	
Substantial Completion	0	29-Jan-27*	29-Jan-27

Early Demolition Package

Site Mobilization and Logistics	5	16-Sep-24	20-Sep-24
Structure Demolition	40	23-Sep-24	15-Nov-24
Backfill	15	18-Nov-24	10-Dec-24
Clean-up and Demobilize	5	11-Dec-24	17-Dec-24

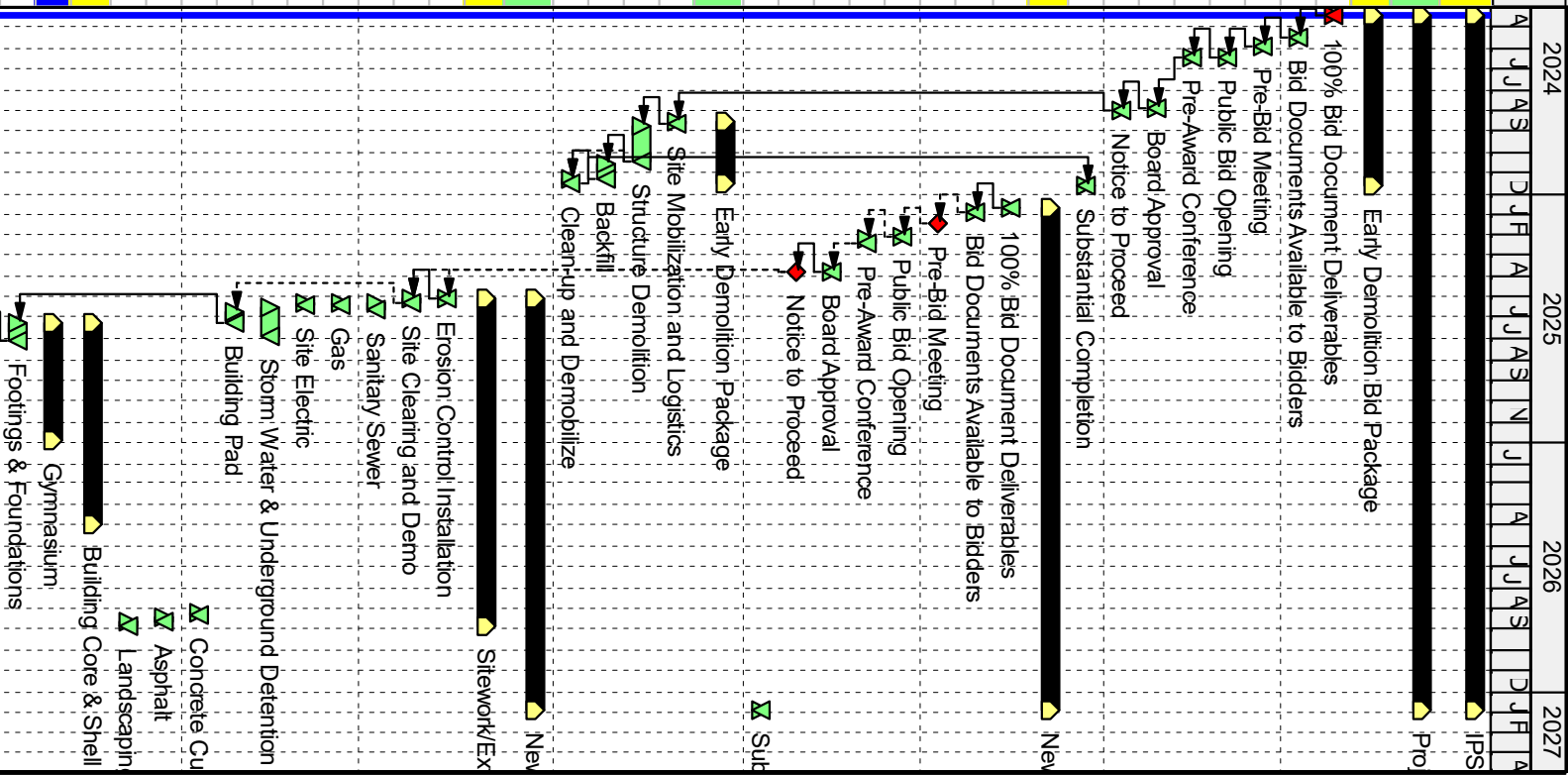
New Building Construction

Sitework/Exterior Improvements

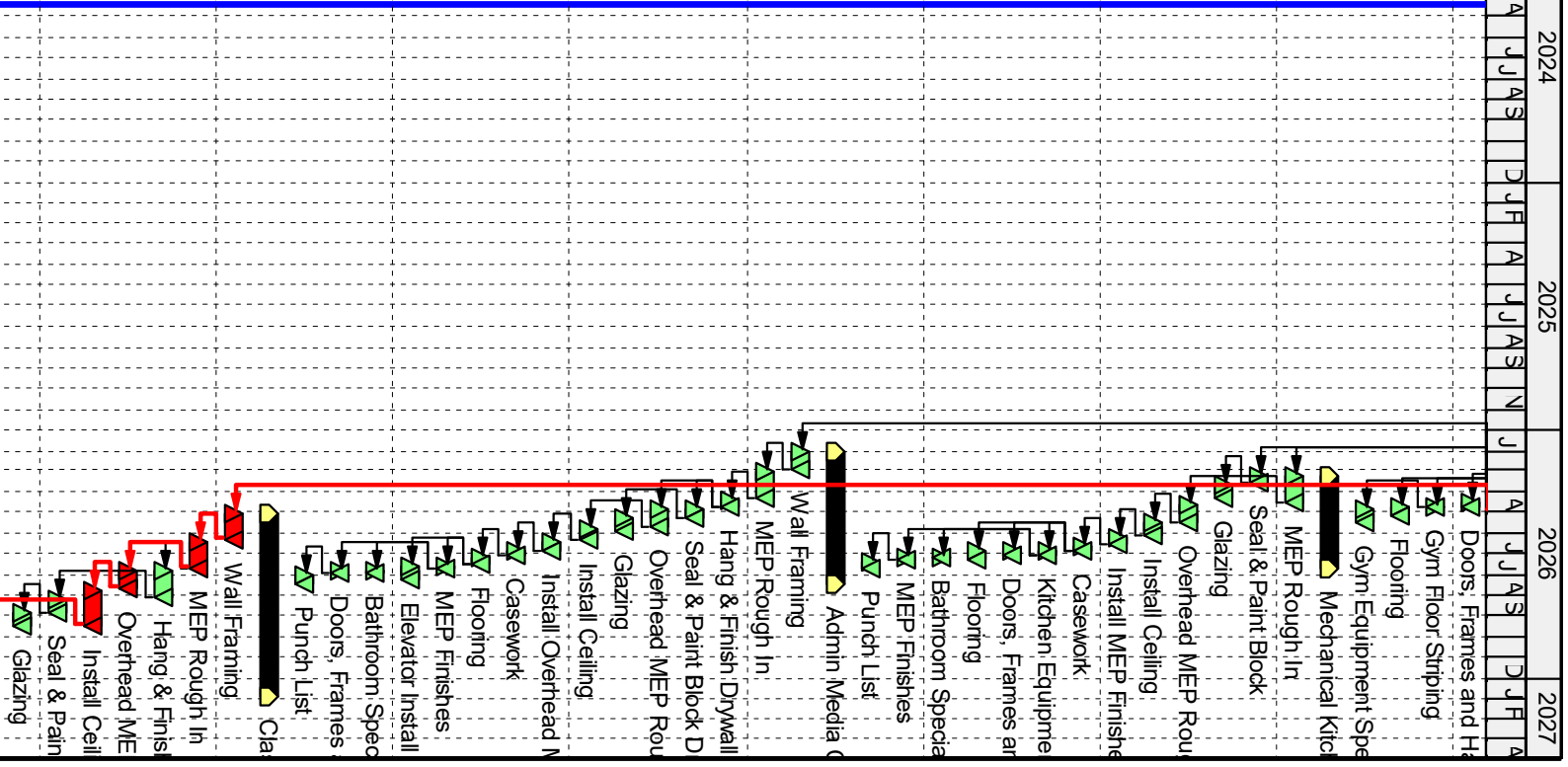
Erosion Control Installation	2	02-Jun-25*	03-Jun-25
Site Clearing and Demo	5	04-Jun-25*	10-Jun-25
Sanitary Sewer	10	09-Jun-25*	20-Jun-25
Gas	5	09-Jun-25*	13-Jun-25
Site Electric	5	09-Jun-25*	13-Jun-25
Storm Water & Underground Detention	30	16-Jun-25*	28-Jul-25
Building Pad	10	23-Jun-25*	07-Jul-25
Concrete Curbs	5	07-Sep-26*	11-Sep-26
Asphalt	5	14-Sep-26*	18-Sep-26
Landscaping	5	21-Sep-26*	25-Sep-26

Building Core & Shell

Gymnasium	120	08-Jul-25	26-Dec-25
Footings & Foundations	20	08-Jul-25	04-Aug-25



Activity Name	Original Duration	Start	Finish	2024			2025			2026			2027		
				A	J	J	A	J	J	A	J	J	A	J	J
Doors, Frames and Hardware	5	16-Apr-26	22-Apr-26												
Gym Floor Striping	2	23-Apr-26	24-Apr-26												
Flooring	10	23-Apr-26	06-May-26												
Gym Equipment Specialties Install	15	27-Apr-26	15-May-26												
Mechanical Kitcherr Cafeteria	100	09-Mar-26	24-Jul-26												
MEP Rough In	30	09-Mar-26	17-Apr-26												
Seal & Paint Block	10	09-Mar-26	20-Mar-26												
Glazing	15	23-Mar-26	10-Apr-26												
Overhead MEP Rough In	20	20-Apr-26	15-May-26												
Install Ceiling	15	18-May-26	05-Jun-26												
Install MEP Finishes	10	08-Jun-26	19-Jun-26												
Casework	5	22-Jun-26	26-Jun-26												
Kitchen Equipment Specialties Install	5	29-Jun-26	03-Jul-26												
Doors, Frames and Hardware	5	29-Jun-26	03-Jul-26												
Flooring	10	29-Jun-26	10-Jul-26												
Bathroom Specialties Install	3	06-Jul-26	08-Jul-26												
MEP Finishes	5	06-Jul-26	10-Jul-26												
Punch List	10	13-Jul-26	24-Jul-26												
Admin Media Center and Commons	140	02-Feb-26	14-Aug-26												
Wall Framing	20	02-Feb-26	27-Feb-26												
MEP Rough In	30	02-Mar-26	10-Apr-26												
Hang & Finish Drywall	10	13-Apr-26	24-Apr-26												
Seal & Paint Block Drywall	10	27-Apr-26	08-May-26												
Overhead MEP Rough In	20	27-Apr-26	22-May-26												
Glazing	15	11-May-26	29-May-26												
Install Ceiling	15	25-May-26	12-Jun-26												
Install Overhead MEP Finishes	10	15-Jun-26	26-Jun-26												
Casework	5	29-Jun-26	03-Jul-26												
Flooring	10	06-Jul-26	17-Jul-26												
MEP Finishes	5	20-Jul-26	24-Jul-26												
Elevator Install	15	20-Jul-26	07-Aug-26												
Bathroom Specialties Install	3	27-Jul-26	29-Jul-26												
Doors, Frames and Hardware	5	27-Jul-26	31-Jul-26												
Punch List	10	03-Aug-26	14-Aug-26												
Classroom Wing	195	04-May-26	29-Jan-27												
Wall Framing	30	04-May-26	12-Jun-26												
MEP Rough In	30	15-Jun-26	24-Jul-26												
Hang & Finish Drywall	30	27-Jul-26	04-Sep-26												
Overhead MEP Rough In	20	27-Jul-26	21-Aug-26												
Install Ceiling	40	24-Aug-26	16-Oct-26												
Seal & Paint Block Drywall	15	07-Sep-26	25-Sep-26												
Glazing	15	28-Sep-26	16-Oct-26												



IPS Joyce Kilmer 69 Addendum 1 Drawings and Specifications 2/11/25

Specifications

Delete the following Sections that are no longer needed:

- a. 074213.23 METAL COMPOSITE MATERIAL WALL PANELS

Replace the following Sections (see attached):

- a. 087100 DOOR HARDWARE (ADDENDUM 1)

Add the following Sections (see attached):

- a. 116800 PLAY FIELD EQUIPMENT AND STRUCTURES
- b. 321816.13 PLAYGROUND PROTECTIVE SURFACING
- c. 323119 DECORATIVE METAL FENCES AND GATES

Drawings

L2.00

- ADJUSTED ENLARGEMENT AREAS AND ADDED ONE ENLARGEMENT AT THE CAFETERIA.
- REVISED ENLARGEMENT CALLOUT.

L2.01-L2.02

- ADDED ADDITIONAL REFERENCE NOTES AND CALLOUTS

SHEET L3.01

- ADDED ADDITIONAL REFERENCE NOTES AND CALLOUTS
- RELOCATED FLAGPOLE ENLARGEMENT TO SHEET L3.02
- COMBINED THE PLAYGROUND CALLOUTS AND DIMENSIONS TO ONE ENLARGEMENT

SHEET L3.02

- ADDED ENLARGEMENT DETAILS FOR PLANTERS
- ADDED PLAYGROUND FEATURE DETAILS

SHEET L3.04

- TREE GRATE DETAILS RELOCATED TO THIS SHEET

SHEET L3.05

- ADDED DETAILS
- GATES
- FENCE
- BIKE RACK
- BOLLARD

TRANSMITTAL

A601 – DOOR AND FRAME SCHEDULE

- CLARIFICATIONS TO HARDWARE SET LOCATIONS

I-202A –INTERIOR SIGNAGE PLAN – AREA A

- ADDED PLAN NOTE 19 IN LOBBY 19, EAST WALL

I-131A – INTERIOR FINISH PLAN – AREA A

- ADD WOOD CASEWORK IN CLINIC

I-451 INTERIOR RENDERINGS

- DETAIL 3, ADJUSTED CEILING TAG

I-452 INTERIOR RENDERINGS

- DETAILS 4 AND 5, ADJUSTED CEILING TAG

I-454 – INTERIOR ELEVATIONS & DETAILS

- ADDED DETAIL 19
- REVISED DETAILS 8, 9, 13, AND 17

I-455 – INTERIOR ELEVATIONS & DETAILS

- ADJUSTED DETAIL 11

I-471 -- CASEWORK DETAILS

- REVISED NOTES THROUGHOUT, DETAILS 1,2,3,4,5,6,9,10,11,14, 15, 16, AND 17
- ADJUSTED GENERAL CASEWORK NOTES

I-601 – INTERIOR FINISH LEGEND, NOTES, AND TRANSITION DETAILS

- ADDED NOTES TO PLASTIC LAMINATE/WOOD CASEWORK AND EQUIPMENT GENERAL NOTES

I-911B –VISUAL DISPLAY BOARD & FURNITURE FLOOR PLAN – AREA B

- CLASSROOM 150: ADDED TAGS

**SECTION 087100
DOOR HARDWARE**

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components
3. Field verification, preparation and modification of existing doors and frames to receive new door hardware.

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors.

C. Related Sections:

1. Division 01 Section "Alternates" for alternates affecting this section.
2. Division 06 Section "Rough Carpentry"
3. Division 06 Section "Finish Carpentry"
4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:
 - a. "Metal Doors and Frames"
 - b. "Flush Wood Doors"
 - c. "Aluminum-Framed Entrances and Storefronts"
6. Division 09 sections for touchup, finishing or refinishing of existing openings modified by this section.
7. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
8. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

1.2 REFERENCES

A. UL LLC

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. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.3 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
 - a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
 - b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit 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 of requested door 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:
 - a. Submit 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 critical in Project construction schedule.
 - b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
 - c. Indicate complete designations of each item required for each opening, include:
 - 1) Door Index: door number, heading number, and Architect's hardware set number.
 - 2) Quantity, type, style, function, size, and finish of each hardware item.
 - 3) Name and manufacturer of each item.
 - 4) Fastenings and other pertinent information.
 - 5) Location of each hardware set cross-referenced to indications on Drawings.
 - 6) Explanation of all abbreviations, symbols, and codes contained in schedule.
 - 7) Mounting locations for hardware.
 - 8) Door and frame sizes and materials.
 - 9) Degree of door swing and handing.
 - 10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.
5. Key Schedule:
 - a. After Keying Conference, provide keying schedule that includes levels of keying, explanations 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. 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.

C. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
 - a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
 - b. Include warranties for specified door hardware.

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. Final approved hardware schedule edited to reflect conditions as installed.
 - d. Final keying schedule
 - e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
 - f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
 - a. Fire door assemblies, in compliance with NFPA 80.
 - b. Required egress door assemblies, in compliance with NFPA 101.

1.4 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: 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:
 - a. For door hardware: DHI certified AHC or DHC.
 - b. Can provide installation and technical data to Architect and other related subcontractors.
 - c. Can inspect and verify components are in working order upon completion of installation.
 - d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.
4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:

- a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
 - b. Provide only items of door hardware that are listed products tested by UL LLC, 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.
2. Smoke and Draft Control Door Assemblies:
 - a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
 - b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.
 3. Electrified Door Hardware:
 - a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.
 4. Accessibility Requirements:
 - a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.
- C. Pre-Installation Meetings
1. Keying Conference:
 - a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
 - 1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
 - 2) Preliminary key system schematic diagram.
 - 3) Requirements for key control system.
 - 4) Requirements for access control.
 - 5) Address for delivery of keys.
 2. Pre-installation Conference
 - a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Inspect and discuss preparatory work performed by other trades.
 - c. Inspect and discuss electrical roughing-in for electrified door hardware.
 - d. Review sequence of operation for each type of electrified door hardware.
 - e. Review required testing, inspecting, and certifying procedures.
 - f. Review questions or concerns related to proper installation and adjustment of door hardware.
 3. Electrified Hardware Coordination Conference:
 - a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.
- 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. Deliver each article of hardware in manufacturer's original packaging.
- C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
- D. 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.
- E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.
- F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.6 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.

1.7 WARRANTY

- A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.
 - 1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
 - 2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
 - a. Mechanical Warranty
 - 1) Locks: 10 Years
 - 2) Exit Devices: 10 Years
 - 3) Closers: 30 Years
 - b. Electrical Warranty

- 1) Locks: 3 Years
- 2) Exit Devices: 3 Years
- 3) Automatic Operators: 2 Years

1.8 MAINTENANCE

- A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.
- B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. The Owner requires use of certain products for their unique characteristics and project suitability to ensure 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.

2.2 MATERIALS

- A. Fabrication
 1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer's recognized installation standards for application intended.
 2. Finish exposed 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 wherever possible for hardware units exposed when door is closed. Coordinate with "Metal Doors and Frames", "Flush Wood Doors", "Stile and Rail Wood Doors" to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.
- 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.
 2. For closers and panic devices: Verify with Architect and/or Owner if thru-bolts are required at specific door materials.

2.3 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product.
 - a. Ives 5BB series
2. Acceptable Manufacturers and Products:
 - a. Hager BB series
 - b. McKinney TB series
 - c. Stanley (Best/Dormakaba) FBB series

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Provide five knuckle, ball bearing hinges.
3. Hinge Height:
 - a. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide: 4-1/2 inches (114 mm) high
 - b. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide: 5 inches (127 mm) high
 - c. 2 inches or thicker doors: 5 inches (127 mm) high, regardless of door width
4. Hinge Width: 4-1/2 inches (114 mm) wide typical. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
5. Hinge quantity: 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. 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
7. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

8. 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.

2.4 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Ives
2. Acceptable Manufacturers:
 - a. Select
 - b. Pemko

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
7. 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.
8. Adjust hinge model/width as required for door thickness or construction

2.5 ELECTRIC POWER TRANSFER

A. Manufacturers:

1. Scheduled Manufacturer and Product:
 - a. Von Duprin EPT-10
2. Acceptable Manufacturers and Products:
 - a. No Substitute

B. Requirements:

1. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
2. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.6 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Ives
2. Acceptable Manufacturers:
 - a. Rockwood
 - b. Trimco

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.

2.7 COORDINATORS

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Ives
2. Acceptable Manufacturers:
 - a. Rockwood
 - b. Trimco

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.

2.8 CYLINDRICAL LOCKS – GRADE 1

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. Schlage ND series
2. Acceptable Manufacturers and Products:
 - a. No Substitute

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 Rhodes (RHO).

2.9 MORTISE LOCKS AND DEADBOLTS (AT LOCKS WITH INDICATORS)

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. Schlage L9000 series
2. Acceptable Manufacturers and Products:
 - a. No Substitute

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
2. Indicators: Where specified, provide indicator window measuring a minimum 2-inch x 1/2 inch with 180-degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.
3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
5. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches.
7. Provide motor based electrified locksets that comply with the following requirements:
 - a. Universal input voltage – single chassis accepts 12 or 24VDC to allow for changes in the field without changing lock chassis.
 - b. Fail Safe/Fail Secure – changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case.
 - c. Low maximum current draw – maximum 0.4 amps to allow for multiple locks on a single power supply.
 - d. Low holding current – maximum 0.01 amps to produce minimal heat, eliminate “hot levers” in electrically locked applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
 - e. Connections – provide quick-connect Molex system standard.

8. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
 - a. Lever Design: Schlage 06B.

2.10 DEADBOLTS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. Schlage B6000 Series
2. Acceptable Manufacturers and Products:
 - a. No Substitute

B. Requirements:

1. Provide grade 1 deadbolt series conforming to ANSI/BHMA A156.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide deadbolts with standard 2-3/4 inches (70 mm) backset. Provide 2-3/8 inches (60 mm) where noted or if door or frame detail requires. Provide deadbolt with full 1-inch (25 mm) throw, constructed of steel alloy.
4. Provide manufacturer's standard strike.

2.11 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. Von Duprin 99 series
2. Acceptable Manufacturers and Products:
 - a. No Substitute.

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 grooved 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 exit devices with weather resistant components that can withstand harsh conditions of various climates and corrosive cleaners used in outdoor pool environments.
7. Provide flush end caps for exit devices.
8. Provide exit devices with manufacturer's approved strikes.
9. 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.

10. 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.
11. Provide cylinder or hex-key dogging as specified at non fire-rated openings.
12. 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.
13. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
14. Provide electrified options as scheduled.
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.

2.12 ELECTRIC STRIKES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. Von Duprin 6000 Series
2. Acceptable Manufacturers and Products:
 - a. No Substitute

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 that are tested to a minimum endurance test of 1,000,000 cycles.
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.

2.13 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. Schlage/Von Duprin PS900 Series
2. Acceptable Manufacturers and Products:
 - a. No Substitute

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.

2.14 CYLINDERS

A. Manufacturers:

1. Scheduled Manufacturer and Product:
 - a. Schlage
2. Acceptable Manufacturers and Products:
 - a. No Substitute

B. Requirements:

1. Provide 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.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
 - a. Match owner's existing system.
 - b. Cylinder/Core Type:
 - 1) Small Format Interchangeable Core (SFIC)
3. 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.
4. Verify with Owner where permanent cores are to be shipped to.

2.15 KEYING

A. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:

1. Provide keying system capable of multiplex masterkeying.
2. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.

- a. Master Keying system as directed by the Owner.
 - b. Match Owner's existing system.
 - c. (Great)Grand Master Key System: Cylinders/cores operated by change(day) keys and subsequent masters (including grand/great grand) keys.
3. Forward biting 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.
 4. Provide keys with the following features:
 - a. Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
 - b. Keyway Security Type:
 - 1) Restricted/Patented
 5. Identification:
 - a. Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
 - 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. Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
 6. Quantity: Furnish in the following quantities.
 - a. Change (Day) Keys: 3 per cylinder/core.
 - b. Permanent Control Keys: 3 (only applicable to interchangeable core).
 - c. Master Keys: 6/ea (per master).
 - d. Unused balance of key blanks shall be provided to Owner with cut keys.
 7. Verify with Owner where permanent keys are to be shipped to.

2.16 KEY CONTROL SYSTEM

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Telkee
2. Acceptable Manufacturers:
 - a. HPC
 - b. 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.

2.17 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. LCN 4040XP series
2. Acceptable Manufacturers and Products:
 - a. No Substitute

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 piston with 5/8-inch (16 mm) diameter double heat-treated pinion journal. QR code with a direct link to maintenance instructions.
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. Provide snap-on cover clip, with plastic covers, that secures cover to spring tube.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck. Provide graphically labelled instructions on the closer body adjacent to each adjustment valve. Provide positive stop on reg valve that prevents reg screw from being backed out.
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.

2.18 ELECTRO-HYDRAULIC AUTOMATIC OPERATORS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
 - a. LCN 4600 series
2. Acceptable Manufacturers and Products:
 - a. No Substitute

B. Requirements:

1. Provide low energy automatic operator units with hydraulic closer complying with ANSI/BHMA A156.19.

2. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
3. Provide units with conventional door closer opening and closing forces unless power operator motor is activated. Provide door closer assembly with adjustable spring size, back-check, and opening and closing speed adjustment valves to control door
4. Provide units with on/off switch for manual operation, motor start up delay, vestibule interface delay, electric lock delay, and door hold open delay.
5. Provide drop plates, brackets, and adapters for arms as required for details.
6. Provide actuator switches and receivers for operation as specified.
7. Provide weather-resistant actuators at exterior applications.
8. Provide key switches with LED's, recommended and approved by manufacturer of automatic operator as required for function described in operation description of hardware group below. Cylinders: Refer to "KEYING" article, herein.
9. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
10. Provide units with vestibule inputs that allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.

2.19 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Ives
2. Acceptable Manufacturers:
 - a. Trimco
 - b. Rockwood
 - c. Hager

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.20 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Ives
2. Acceptable Manufacturers:
 - a. Trimco
 - b. Rockwood
 - c. Hager

B. Requirements:

1. Provide protection plates with a 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 kick and armor plates 1 1/2 inches (51 mm) less width of door on single doors, and 1 inch (25 mm) less width of door on pairs. Adjust width at doors with mullions, edge guards, gasketing or other conflicting hardware.
3. Size mop plates 1" less width of door. Adjust width as needed for edge guards or other conflicting hardware.
4. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.21 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:
 - a. Glynn-Johnson
2. Acceptable Manufacturers:
 - a. No Substitute

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.
2. Provide friction type at doors without closer and positive type at doors with closer.

2.22 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Ives
2. Acceptable Manufacturers:
 - a. Trimco
 - b. Rockwood

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button or thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

2.23 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Zero International

2. Acceptable Manufacturers:

- a. National Guard
- b. Reese
- c. Pemko

B. Requirements:

1. Provide thresholds, weather-stripping, and gasketing systems 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. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.24 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer:
 - a. Ives
2. Acceptable Manufacturers:
 - a. Rockwood
 - b. Trimco

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.

2.25 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:

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

B. FRP DOOR HARDWARE FINISH: BHMA 613/640 (US10B); EXCEPT:

1. Door Closers: Powder Coat to Match.
2. Weatherstripping: Dark Bronze Anodized Aluminum.

3. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.1 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. Verify doors, frames, and walls have been properly reinforced for hardware installation.
- 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. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Where on-site modification of doors and frames is required:
 - 1. Carefully remove existing door hardware and components being reused. Clean, protect, tag, and store in accordance with storage and handling requirements specified herein.
 - 2. Field modify and prepare existing doors and frames for new hardware being installed.
 - 3. When modifications are exposed to view, use concealed fasteners, when possible.
 - 4. Prepare hardware locations and reinstall in accordance with installation requirements for new door hardware and with:
 - a. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
 - b. Wood Doors: DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."
 - c. Doors in rated assemblies: NFPA 80 for restrictions on on-site door hardware preparation.

3.3 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. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
 - 4. Installation Guide for Doors and Hardware: DHI TDH-007-20
- B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

- C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.
- D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.
- E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
- F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
- H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.
- I. Lock Cylinders:
 - 1. Install construction cores to secure building and areas during construction period.
 - 2. Replace construction cores with permanent cores as indicated in keying section.
- J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY 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. Connections to panel interface modules, controllers, and gateways.
 - 6. Testing and labeling wires with Architect's opening number.
- K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
- L. 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.
- M. Closer/holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
- N. 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.
- O. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- P. 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.

- Q. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- R. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- S. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 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. ***Spring Hinges: Adjust to achieve positive latching when door can close freely from an open position of 30 degrees.
 - 2. ***Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
 - 3. 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, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.5 CLEANING AND PROTECTION

- A. 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. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.
- C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.
- D. Hardware Sets:

124354 OPT0400466 Version 1

Hardware Group No. 01

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	710	IVE
2	EA	DUMMY PUSH BAR	330	313	VON
2	EA	FLUSH PULL	BY DOOR MANUFACTURER		B/O
2	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	695	LCN
2	EA	MOUNTING PLATE	4040XP-18PA	695	LCN
2	EA	CUSH SHOE SUPPORT	4040XP-30	695	LCN
2	EA	BLADE STOP SPACER	4040XP-61	695	LCN
1	EA	WEATHERSTRIPPING	BY DOOR/FRAME MANUFACTURER		B/O

Hardware Group No. 02

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	710	IVE
1	EA	CONT. HINGE	224XY EPT	710	IVE
1	EA	POWER TRANSFER	EPT10	695	VON
1	EA	AUTO FLUSH BOLT	FB31T/FB41T (AS REQ'D)	613	IVE
1	EA	VANDL EU STOREROOM	ND96HDEU RHO CON 12V/24V DC	613	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	613	SCH
1	EA	COORDINATOR	COR X FL (MB AS REQ'D)	711	IVE
2	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	695	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	613	IVE
1	EA	RAIN DRIP	142D (IF EXPOSED ABOVE)	D	ZER
1	SET	GASKETING	328AA-S JAMB SEAL	D	ZER
1	EA	GASKETING	429AA -HEAD SEAL	D	ZER
2	EA	DOOR SWEEP, BRUSH W/ DRIP	8198D	D	ZER
1	EA	THRESHOLD, 1/2"	655D	D	ZER
2	EA	DOOR CONTACT	BY DIV 28		B/O
1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		B/O
1	EA	POWER SUPPLY	PS914 120/240 VAC		VON

VERIFY/COORDINATE PREPS ON EXISTING FRAMES. PROVIDE FIELD MODIFICATIONS AND/OR FILLERS TO EXISTING FRAMES AS NECESSARY TO ACCEPT NEW SPECIFIED HARDWARE.

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER, WILL UNLOCK OUTSIDE LEVER, ALLOWING ACCESS. DOOR REMAINS LOCKED WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

Hardware Group No. 03

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	OH STOP	450S	652	GLY
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 04

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 05

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP REG TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 06

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP EDA TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 07

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	OFFICE W/SIM RETRACT W/ OUTSIDE INDICATOR	L9056BDC 06B L583-363 OS-OCC	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP REG TBMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	MOP PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 08

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	STOREROOM LOCK	ND80BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	OH STOP	450S	652	GLY
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 09

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	STOREROOM LOCK	ND80BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 10

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	710	IVE
1	EA	VANDL STOREROOM LOCK	ND96BDC RHO	613	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	613	SCH
1	EA	ELECTRIC STRIKE	6400 FSE 12/24 VAC/VDC	630	VON
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC	695	LCN
2	EA	ACTUATOR	8310-818T	630	LCN
1	EA	WALL STOP	WS406/407CVX	613	IVE
1	EA	DOOR CONTACT	BY DIV 28		B/O
1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		B/O
1	EA	DESK MOUNT BUTTON	660-PB	628	SCE
1	EA	POWER SUPPLY	PS914 900-4R 120/240 VAC		VON

DOOR(S) NORMALLY CLOSED AND LOCKED AND EXTERIOR ACTUATOR DISABLED. PRESENTING VALID CREDENTIAL TO READER, OR PUSH BUTTON AT RECEPTION DESK, MOMENTARILY RELEASES ELECTRIC STRIKE AND ENABLES EXTERIOR ACTUATOR BUTTON. PUSHING ENABLED EXTERIOR ACTUATOR BUTTON SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. INTERIOR ACTUATOR ENABLED AT ALL TIMES. PUSHING THE INTERIOR ACTUATOR BUTTON RELEASES ELECTRIC STRIKE AND SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. ELECTRIC STRIKE ALSO CAPABLE OF BEING HELD IN AN RELEASED STATE (I.E. PUSH/PULL MODE) AS DESIGNATED BY ACCESS CONTROL SYSTEM SCHEDULE. ELECTRIC STRIKE LOCKS WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

Hardware Group No. 11

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	VANDL STOREROOM LOCK	ND96BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 12

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC LOCK	ND96HDEU RHO 12V/24V DC	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	DOOR CONTACT	BY DIV 28		B/O
1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		B/O
1	EA	POWER SUPPLY	PS914 120/240 VAC		VON

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER, WILL UNLOCK OUTSIDE LEVER, ALLOWING ACCESS. DOOR REMAINS LOCKED WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

Hardware Group No. 13

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	710	IVE
1	EA	CONT. HINGE	224XY EPT	710	IVE
1	EA	POWER TRANSFER	EPT10	695	VON
1	EA	AUTO FLUSH BOLT	FB31T/FB41T (AS REQ'D)	613	IVE
1	EA	VANDL EU STOREROOM	ND96HDEU RHO CON 12V/24V DC	613	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	613	SCH
1	EA	COORDINATOR	COR X FL (MB AS REQ'D)	711	IVE
2	EA	SURFACE CLOSER	4040XP HCUSH TBWMS	695	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	613	IVE
1	EA	RAIN DRIP	142D (IF EXPOSED ABOVE)	D	ZER
1	SET	GASKETING	328AA-S JAMB SEAL	D	ZER
1	EA	GASKETING	429AA -HEAD SEAL	D	ZER
2	EA	DOOR SWEEP, BRUSH W/ DRIP	8198D	D	ZER
1	EA	THRESHOLD, 1/2"	655D	D	ZER
2	EA	DOOR CONTACT	BY DIV 28		B/O
1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		B/O
1	EA	POWER SUPPLY	PS914 120/240 VAC		VON

VERIFY/COORDINATE PREPS ON EXISTING FRAMES. PROVIDE FIELD MODIFICATIONS AND/OR FILLERS TO EXISTING FRAMES AS NECESSARY TO ACCEPT NEW SPECIFIED HARDWARE.

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER, WILL UNLOCK OUTSIDE LEVER, ALLOWING ACCESS. DOOR REMAINS LOCKED WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

Hardware Group No. 14

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	CYL X TURN DEAD LOCK	L460BDC 09-544	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	Cylinder Pull	1874	626	DON
1	EA	OH STOP	450S	652	GLY
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 15

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	VANDL STOREROOM LOCK	ND96BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP EDA TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 16

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	AUTO FLUSH BOLT	FB31T/FB41T (AS REQ'D)	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	COORDINATOR	COR X FL (MB AS REQ'D)	628	IVE
2	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 17

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	710	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	695	VON
2	EA	PANIC HARDWARE	LD-99-EO	626	VON
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	613	SCH
2	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	613	SCH
2	EA	FLUSH PULL	BY DOOR MANUFACTURER		B/O
1	EA	SURFACE CLOSER	4040XP EDA TBWMS	689	LCN
1	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	695	LCN
2	EA	MOUNTING PLATE	4040XP-18PA	695	LCN
2	EA	CUSH SHOE SUPPORT	4040XP-30	695	LCN
2	EA	BLADE STOP SPACER	4040XP-61	695	LCN
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	DOOR CONTACT	BY DIV 28		B/O

Hardware Group No. 18

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	710	IVE
1	EA	CONT. HINGE	112XY EPT	710	IVE
1	EA	POWER TRANSFER	EPT10	695	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	695	VON
1	EA	PANIC HARDWARE	LD-99-EO	313	VON
1	EA	ELEC PANIC HARDWARE	LX-QEL-99-NL-OP-110MD 24 VDC	313	VON
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	613	SCH
1	EA	RIM CYL HOUSING (SFIC)	80-159 (W/ KEYED CONST CORE)	613	SCH
2	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	613	SCH
2	EA	FLUSH PULL	BY DOOR MANUFACTURER		B/O
1	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	695	LCN
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC	695	LCN
1	EA	MOUNTING PLATE	4040XP-18PA	695	LCN
1	EA	CUSH SHOE SUPPORT	4040XP-30	695	LCN
1	EA	BLADE STOP SPACER	4040XP-61	695	LCN
2	EA	ACTUATOR	8310-853T	630	LCN
2	EA	MOUNT BOX	8310-867S		LCN
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	WEATHERSTRIPPING	BY DOOR/FRAME MANUFACTURER		B/O
2	EA	DOOR SWEEP, BRUSH W/ DRIP	8198D	D	ZER
1	EA	THRESHOLD, 1/2"	655D	D	ZER
2	EA	DOOR CONTACT	BY DIV 28		B/O
1	EA	POWER SUPPLY	PS914 900-4R 120/240 VAC		VON

DOOR(S) NORMALLY CLOSED AND LOCKED AND EXTERIOR ACTUATOR DISABLED. PRESENTING VALID CREDENTIAL TO READER RETRACTS EXIT DEVICE LATCH AND ENABLES EXTERIOR ACTUATOR. PUSHING ENABLED EXTERIOR ACTUATOR SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. INTERIOR ACTUATOR ENABLED AT ALL TIMES. PUSHING INTERIOR ACTUATOR RETRACTS LATCH AND SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. EXIT DEVICE LATCH ALSO CAPABLE OF BEING ELECTRONICALLY DOGGED DOWN (I.E. PUSH/PULL MODE) AS DESIGNATED BY ACCESS CONTROL SYSTEM SCHEDULE. EXIT DEVICE LATCHES AND LOCKS WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

Hardware Group No. 19

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	710	IVE
1	EA	CONT. HINGE	112XY EPT	710	IVE
1	EA	POWER TRANSFER	EPT10	695	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	695	VON
1	EA	PANIC HARDWARE	LD-99-EO	313	VON
1	EA	ELEC PANIC HARDWARE	QEL-99-NL-OP-110MD 24 VDC	313	VON
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	613	SCH
1	EA	RIM CYL HOUSING (SFIC)	80-159 (W/ KEYED CONST CORE)	613	SCH
2	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	613	SCH
2	EA	FLUSH PULL	BY DOOR MANUFACTURER		B/O
2	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	695	LCN
2	EA	MOUNTING PLATE	4040XP-18PA	695	LCN
2	EA	CUSH SHOE SUPPORT	4040XP-30	695	LCN
2	EA	BLADE STOP SPACER	4040XP-61	695	LCN
1	EA	RAIN DRIP	142D (IF EXPOSED ABOVE)	D	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	WEATHERSTRIPPING	BY DOOR/FRAME MANUFACTURER		B/O
2	EA	DOOR SWEEP, BRUSH W/ DRIP	8198D	D	ZER
1	EA	THRESHOLD, 1/2"	655D	D	ZER
2	EA	DOOR CONTACT	BY DIV 28		B/O
1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		B/O
1	EA	POWER SUPPLY	PS914 900-2RS 120/240 VAC		VON

DOOR(S) NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER RETRACTS EXIT DEVICE LATCH, ALLOWING ACCESS. EXIT DEVICE LATCH ALSO CAPABLE OF BEING ELECTRONICALLY DOGGED DOWN (I.E. PUSH/PULL MODE) AS DESIGNATED BY ACCESS CONTROL SYSTEM SCHEDULE. EXIT DEVICE LATCHES AND LOCKS WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

Hardware Group No. 20

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
2	EA	PANIC HARDWARE	LD-99-L-2-06	626	VON
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	626	SCH
2	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	626	SCH
2	EA	TTURN RIM CYLINDER	XB13-379	626	SCH
3	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
2	EA	SURFACE CLOSER (W/ DEAD STOP & HO)	4040XP HCUSH TBWMS	689	LCN
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 21

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	STOREROOM LOCK	ND80BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 22

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	VANDL STOREROOM LOCK	ND96BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP REG TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 23

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
2	EA	PANIC HARDWARE	LD-99-L-2-06	626	VON
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	626	SCH
2	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	626	SCH
2	EA	TTURN RIM CYLINDER	XB13-379	626	SCH
3	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
2	EA	SURFACE CLOSER	4040XP EDA TBWMS	689	LCN
2	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 24

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	VANDL OFFICE LOCK	ND91BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	OH STOP	90S	689	GLY
1	EA	SURFACE CLOSER	4040XP REG TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 25

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	PRIVACY LOCK (W/ COIN TURN & IND)	L9044 06B L583-363 OS-OCC	626	SCH
1	EA	OH STOP	450S	652	GLY
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 26

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	AUTO FLUSH BOLT	FB31T/FB41T (AS REQ'D)	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	COORDINATOR	COR X FL (MB AS REQ'D)	628	IVE
2	EA	SURFACE CLOSER	4040XP REG TBWMS	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CVX	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 27

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	FIRE RATED REMOVABLE MULLION	KR9954	689	VON
2	EA	FIRE EXIT HARDWARE	99-EO-F	626	VON
2	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	689	LCN
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER

Hardware Group No. 28

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	CONST LATCHING BOLT	FB51T	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
2	EA	OH STOP	90S	689	GLY
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 29

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	STOREROOM LOCK	ND80BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP REG TBMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Group No. 30

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	CONST LATCHING BOLT	FB51T	630	IVE
1	EA	STOREROOM LOCK	ND80BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	OH STOP	90S	689	GLY
1	EA	SURFACE CLOSER	4040XP EDA TBWMS	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 31

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	710	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	695	VON
2	EA	PANIC HARDWARE	LD-99-EO	626	VON
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	613	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	613	SCH
2	EA	FLUSH PULL	BY DOOR MANUFACTURER		B/O
2	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	695	LCN
2	EA	MOUNTING PLATE	4040XP-18PA	695	LCN
2	EA	CUSH SHOE SUPPORT	4040XP-30	695	LCN
2	EA	BLADE STOP SPACER	4040XP-61	695	LCN
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	DOOR SWEEP, BRUSH W/ DRIP	8198D	D	ZER
1	EA	THRESHOLD, 1/2"	655D	D	ZER
2	EA	DOOR CONTACT	BY DIV 28		B/O

Hardware Group No. 32

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	VANDL OFFICE LOCK	ND91BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 33

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	689	LCN
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 34

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	OH STOP & HOLDER	90H	689	GLY
1	EA	SURFACE CLOSER	4040XP REG TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 35

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	VANDL OFFICE LOCK	ND91BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP REG TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 36

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	VANDL STOREROOM LOCK	ND96BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER (W/ DEAD STOP)	4040XP CUSH TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 37

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	VANDL OFFICE LOCK	ND91BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP REG TBMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 38

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP REG TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 39

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	VANDL OFFICE LOCK	ND91BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	OH STOP	90S	689	GLY
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 40

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	710	IVE
1	EA	CONT. HINGE	112XY EPT	710	IVE
1	EA	POWER TRANSFER	EPT10	695	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	695	VON
1	EA	PANIC HARDWARE	LD-99-EO	313	VON
1	EA	ELEC PANIC HARDWARE	LX-QEL-99-NL-OP-110MD 24 VDC	313	VON
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	613	SCH
1	EA	RIM CYL HOUSING (SFIC)	80-159 (W/ KEYED CONST CORE)	613	SCH
2	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	613	SCH
2	EA	FLUSH PULL	BY DOOR MANUFACTURER		B/O
1	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	695	LCN
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC	695	LCN
1	EA	MOUNTING PLATE	4040XP-18PA	695	LCN
1	EA	CUSH SHOE SUPPORT	4040XP-30	695	LCN
1	EA	BLADE STOP SPACER	4040XP-61	695	LCN
2	EA	ACTUATOR	8310-853T	630	LCN
2	EA	MOUNT BOX	8310-867S		LCN
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	WEATHERSTRIPPING	BY DOOR/FRAME MANUFACTURER		B/O
2	EA	DOOR CONTACT	BY DIV 28		B/O
1	EA	POWER SUPPLY	PS914 900-4R 120/240 VAC		VON

DOOR(S) NORMALLY CLOSED AND LOCKED AND EXTERIOR ACTUATOR DISABLED. PRESENTING VALID CREDENTIAL TO READER RETRACTS EXIT DEVICE LATCH AND ENABLES EXTERIOR ACTUATOR. PUSHING ENABLED EXTERIOR ACTUATOR SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. INTERIOR ACTUATOR ENABLED AT ALL TIMES. PUSHING INTERIOR ACTUATOR RETRACTS LATCH AND SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. EXIT DEVICE LATCH ALSO CAPABLE OF BEING ELECTRONICALLY DOGGED DOWN (I.E. PUSH/PULL MODE) AS DESIGNATED BY ACCESS CONTROL SYSTEM SCHEDULE. EXIT DEVICE LATCHES AND LOCKS WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

Hardware Group No. 41

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
2	EA	PANIC HARDWARE	LD-99-L-2-06	626	VON
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	626	SCH
2	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	626	SCH
2	EA	TTURN RIM CYLINDER	XB13-379	626	SCH
3	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP EDA TBWMS	689	LCN
1	EA	SURFACE CLOSER (W/ DEAD STOP & HO)	4040XP HCUSH TBWMS	689	LCN
1	EA	WALL STOP/HOLDER	WS40/WS40X	626	IVE
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 42

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY EPT	710	IVE
1	EA	POWER TRANSFER	EPT10	695	VON
1	EA	ELEC PANIC HARDWARE	LX-QEL-99-NL 24 VDC	313	VON
1	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	FLUSH PULL	BY DOOR MANUFACTURER		B/O
1	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	695	LCN
1	EA	RAIN DRIP	142D (IF EXPOSED ABOVE)	D	ZER
1	SET	GASKETING	328AA-S JAMB SEAL	D	ZER
1	EA	GASKETING	429AA -HEAD SEAL	D	ZER
1	EA	DOOR SWEEP, BRUSH W/ DRIP	8198D	D	ZER
1	EA	THRESHOLD, 1/2"	655D	D	ZER
1	EA	DOOR CONTACT	BY DIV 28		B/O
1	EA	CREDENTIAL READER	BY ACCESS CONTROL INTEGRATOR		B/O
1	EA	POWER SUPPLY	PS914 900-2RS 120/240 VAC		VON

DOOR(S) NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER RETRACTS EXIT DEVICE LATCH, ALLOWING ACCESS. EXIT DEVICE LATCH ALSO CAPABLE OF BEING ELECTRONICALLY DOGGED DOWN (I.E. PUSH/PULL MODE) AS DESIGNATED BY ACCESS CONTROL SYSTEM SCHEDULE. EXIT DEVICE LATCHES AND LOCKS WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

Hardware Group No. 43

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	710	IVE
1	EA	FIRE RATED REMOVABLE MULLION	KR9954	689	VON
2	EA	PANIC HARDWARE	LD-99-L-2-06	626	VON
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	626	SCH
2	EA	RIM CYL HOUSING (SFIC)	80-116 (W/ DISP CONST CORE)	626	SCH
2	EA	TTURN RIM CYLINDER	XB13-379	626	SCH
3	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
2	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	689	LCN
2	EA	MOUNTING PLATE	4040XP-18PA	695	LCN
2	EA	CUSH SHOE SUPPORT	4040XP-30	695	LCN
2	EA	BLADE STOP SPACER	4040XP-61	695	LCN
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	WEATHERSTRIPPING	BY DOOR/FRAME MANUFACTURER		B/O

Hardware Group No. 44

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	VANDL OFFICE LOCK	ND91BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 45

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	CONST LATCHING BOLT	FB51T	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
2	EA	OH STOP	90S	689	GLY
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 46

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	VANDL OFFICE LOCK	ND91BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP REG TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 47

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	710	IVE
1	EA	CONT. HINGE	112XY EPT	710	IVE
1	EA	POWER TRANSFER	EPT10	695	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	695	VON
1	EA	PANIC HARDWARE	LD-99-EO	313	VON
1	EA	ELEC PANIC HARDWARE	LX-QEL-99-NL-OP-110MD 24 VDC	313	VON
1	EA	MORTISE CYL HOUSING (SFIC)	80-110 (W/ DISP CONST CORE)	613	SCH
1	EA	RIM CYL HOUSING (SFIC)	80-159 (W/ KEYED CONST CORE)	613	SCH
2	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	613	SCH
2	EA	FLUSH PULL	BY DOOR MANUFACTURER		B/O
1	EA	SURFACE CLOSER (W/ SPRING STOP)	4040XP SCUSH	695	LCN
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC	695	LCN
1	EA	MOUNTING PLATE	4040XP-18PA	695	LCN
1	EA	CUSH SHOE SUPPORT	4040XP-30	695	LCN
1	EA	BLADE STOP SPACER	4040XP-61	695	LCN
2	EA	ACTUATOR	8310-853T	630	LCN
2	EA	MOUNT BOX	8310-867S		LCN
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	WEATHERSTRIPPING	BY DOOR/FRAME MANUFACTURER		B/O
2	EA	DOOR CONTACT	BY DIV 28		B/O
1	EA	DESK MOUNT BUTTON	660-PB	628	SCE
1	EA	POWER SUPPLY	PS914 900-4R 120/240 VAC		VON

DOOR(S) NORMALLY CLOSED AND LOCKED AND EXTERIOR ACTUATOR DISABLED. PRESENTING VALID CREDENTIAL TO READER RETRACTS OR PUSH BUTTON AT RECEPTION DESK, MOMENTARILY RELEASES EXIT DEVICE LATCH AND ENABLES EXTERIOR ACTUATOR. PUSHING ENABLED EXTERIOR ACTUATOR SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. INTERIOR ACTUATOR ENABLED AT ALL TIMES. PUSHING INTERIOR ACTUATOR RETRACTS LATCH AND SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. EXIT DEVICE LATCH ALSO CAPABLE OF BEING ELECTRONICALLY DOGGED DOWN (I.E. PUSH/PULL MODE) AS DESIGNATED BY ACCESS CONTROL SYSTEM SCHEDULE. EXIT DEVICE LATCHES AND LOCKS WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

Hardware Group No. 48

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 SIZE, QTY, NRP AS REQ'D (SEE SPECS)	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50BDC RHO	626	SCH
1	EA	PERMANENT CORE (SFIC EVEREST)	80-037 EV29 R	626	SCH
1	EA	SURFACE CLOSER	4040XP EDA TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

END OF SECTION 087100

SECTION 116800
PLAY FIELD EQUIPMENT AND STRUCTURES

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. This Section includes the following:
1. Freestanding playground equipment and structures.
 2. Composite playground equipment and structures.
- B. Related Sections include the following:
1. Division 03 Section "Cast-in-Place Concrete" for concrete footings.
 2. Division 32 Section "Playground Protective Surfacing" for protective surfacing under and around playground equipment.

1.3 DEFINITIONS

- A. Fall Height: According to ASTM F 1487, "the vertical distance between a designated play surface and the protective surfacing beneath it."
- B. HDPE: High-density polyethylene.
- C. IPEMA: International Play Equipment Manufacturers Association.
- D. LLDPE: Linear low-density polyethylene.
- E. MDPE: Medium-density polyethylene.
- F. Use Zone: According to ASTM F 1487, "the area beneath and immediately adjacent to a play structure that is designated for unrestricted circulation around the equipment and on whose surface it is predicted that a user would land when falling from or exiting the equipment."

1.4 ACTION SUBMITTALS

- A. Product Data with Shop Drawings:
1. Product Data: For each type of product indicated.

2. Shop Drawings: Show fabrication and installation details for playground equipment and structures.

B. Samples for Initial Selection: For each type of playground equipment and structure indicated.

1. Manufacturer's color charts.
2. Include similar Samples of playground equipment and accessories involving color selection.

1.5 INFORMATIONAL SUBMITTALS

A. Installer Certificates: Signed by manufacturers certifying that installers comply with requirements.

B. Maintenance Data: For playground equipment and finishes to include in maintenance manuals.

C. Warranty: Special warranty specified in this Section.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Safety Standards: Provide playground equipment complying with or exceeding requirements in the following:

1. ASTM F 1487.

C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.7 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of playground equipment that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

- a. Structural failures including <Insert type of failure>.
- b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
 2. Products: Subject to compliance with requirements, provide one of the products specified.
 3. Basis-of-Design Product: The design for each piece of playground equipment is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

2.2 FREESTANDING PLAYGROUND EQUIPMENT AND STRUCTURES

- A. For the playground, provide the following components or approved equal as listed below and shown on plans. Colors to be selected by Owner.
1. Basis-of-Design Manufacturer:
 - a. Kompan, 605 West Howard Lane Suite 101, Austin, TX 78753, (800) 426-9788
Recreation Insites, Melissa Guffey (317) 201-7056
 - b. Playworld, 1000 Buffalo Road, Lewisburg, PA 17837, (570) 522-9800
Recreation Insites, Melissa Guffey (317) 201-7056
 - c. Landscape Structures, 601 7th Street South, Delano, MN 55328, (888) 438-6574
 2. Equipment:
 - a. (QTY 3) Kompan Spinner Bowl: ELE400024
 - b. (QTY 1) Kompan Custom Swing: KSW926-CUSTOM_20326437
 - c. (QTY 1) Kompan Two Towers with Curved Bridge: PCM201031
 - d. (QTY 1) Kompan Stilts: NRO806
 - e. (QTY 1) Kompan Balance Post with Rope: NRO810
 - f. (QTY 1) Kompan Wobble Bridge: NRO810
 - g. (QTY 1) Kompan Denali with Roof: PCE410132
 - h.
 - i. (QTY 1) Playworld Tetherball: ZZXX1079
 3. Edging:
 - a. (LF 280) Landscape Structures Tuff Timbers:119214

2.3 CAST-IN-PLACE CONCRETE

- A. Concrete Materials and Properties: Comply with requirements in Division 03 Section "Cast-in-Place Concrete" to produce normal-weight[, air-entrained] concrete with a minimum 28-day compressive strength of 3000 psi, 3-inch slump, and 1-inch- maximum-size aggregate.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, site surface and subgrade drainage, and other conditions affecting performance.
 - 1. Do not begin installation before final grading required for placing protective surfacing is completed, unless otherwise permitted by Architect.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Verify locations of playground perimeter and pathways. Verify that playground layout and equipment locations comply with requirements for each type and component of equipment.

3.3 FIELD QUALITY CONTROL

- A. All items must be protected from staining, cracking, chipping vandalism and other damages during progress of the work and left in first-class condition upon completion.
- B. Arrange for playground equipment manufacturer's technical personnel to inspect playground and playground equipment and components[during installation and] at final completion and to certify compliance with the following:
 - 1. ASTM F 1487
- C. Notify Architect 48 hours in advance of date and time of final inspection.

END OF SECTION

**SECTION 321816.13
PLAYGROUND PROTECTIVE SURFACING**

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. This Section includes the following:

1. Organic loose-fill surface.

- B. Related Sections include the following:

1. Division 31 Section "Earth Moving" for drainage course, drainage/separation geotextiles and subbase courses.
2. Division 33 Section "Subdrainage" for playground subdrainage system.

1.3 DEFINITIONS

- A. Critical Height: Standard measure of shock attenuation. According to CPSC No. 325, this means "the fall height below which a life-threatening head injury would not be expected to occur."
- B. SBR: Styrene-butadiene rubber.

1.4 PERFORMANCE REQUIREMENTS

- A. Impact Attenuation: According to ASTM F 1292.
- B. Accessibility of Surface Systems: According to ASTM F 1951.

1.5 ACTION SUBMITTALS

- A. Product Data with Shop Drawings:

1. Product Data: For each type of product indicated.
2. Shop Drawings: Show the following:
 - a. Installation details for curbs, ramps, and accessories.
 - b. Location of wear mats in organic loose-fill surfaces.

- c. Location of drainage accessories.
 - B. Samples for Verification: For each type of playground surface system indicated.
 - 1. Minimum 1-quart loose-fill surface sealed in a container.
- 1.6 INFORMATIONAL SUBMITTALS
- A. Qualification Data: For Installer.
 - B. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
 - 1. Organic loose-fill surface.
 - C. Maintenance Data: For playground surface system to include in maintenance manuals.
 - D. Warranty: Special warranty specified in this Section.
- 1.7 QUALITY ASSURANCE
- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.
- 1.8 PROJECT CONDITIONS
- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit playground surface system installation to be performed according to manufacturers' written instructions and warranty requirements.
- 1.9 COORDINATION
- A. Coordinate installation of playground surface systems with installation of playground equipment specified in Division 31 Section "Play Field Equipment and Structures."
- 1.10 WARRANTY
- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of playground surface system that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Reduction in impact attenuation.
 - b. Deterioration of surface and other materials beyond normal weathering.

Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
 2. Products: Subject to compliance with requirements, provide one of the products specified.
 3. Basis-of-Design Product: The design for each product is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

2.2 ORGANIC LOOSE-FILL SURFACE

- A. Wood Chips: Random-sized wood chips per IPS Standards.

2.3 LOOSE-FILL ACCESSORIES

- A. Edgings: Anchored-in-place, weather-resistant containment barrier designed to minimize sharp edges, protrusions, and tripping hazards; formed by interconnected, modular units.
1. Basis-of-Design Manufacturer:
 - a. Landscape Structures; TuffTimbers
- B. Stabilizing Mats: Manufacturer's standard, water-permeable PVC or rubber mats tested for impact attenuation according to ASTM F 1292, and rated for use in the following locations[, with anchoring system designed to anchor mat securely to subgrade through engineered wood]:
1. Location: At excessive wear areas and as follows:
 - a. On top of loose-fill surface.
 - b. Below top of loose-fill surface.
 - c. On subgrade below loose-fill surface.
 - d. Under and in front of slide exits.
 - e. Under and around swings.
 - f. At finished grade around transfer stations at accessible perimeter.
 - g. At high-traffic areas and playground equipment where indicated.
 - h. Where indicated.
 2. Size: 72 by 48 inches.
 3. Color: Black.

PART 3 - EXECUTION

3.1 PREPARATION

- A. General: Prepare substrates to receive surfacing products according to playground surface system manufacturer's written instructions. Verify that substrates are sound and without high spots, ridges, holes, and depressions.

3.2 INSTALLATION, GENERAL

- A. General: Comply with playground surface system manufacturer's written installation instructions. Install playground surface system over area and in thickness indicated.

3.3 INSTALLATION OF LOOSE-FILL PLAYGROUND SURFACE SYSTEMS

- A. Loose-Fill Edgings: Place as indicated, and permanently secure in place and attach to each other according to edging manufacturer's written instructions.
- B. Loose Fill: Place playground surface system materials [including manufacturer's standard amount of excess material for compacting naturally with time] [including manufacturer's standard amount of excess material for compacting mechanically] to required depths after installation of playground equipment support posts and foundations.
- C. Stabilizing Mats: Coordinate installation of mats and mat anchoring system with placing[and compacting] of loose-fill.
- D. Finish Grading: Hand rake to a smooth finished surface and to required elevations.

3.4 FIELD QUALITY CONTROL

- A. Ensure all surface depths are accurate and per the provided drawings with depth marker.

END OF SECTION

**SECTION 323119
DECORATIVE METAL FENCES AND GATES**

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. Decorative aluminum fences.
2. Swing gates.
3. Horizontal-slide gates.
4. Gate operators, including controls.

B. Related Requirements:

1. Section 033053 "Miscellaneous Cast-in-Place Concrete" for concrete bases for gate operators, drives, and controls and post concrete fill.
2. Section 281500 "Access Control Hardware Devices" for access control devices installed at gates and provided as part of a security system.
3. Division 26 Sections for electrical service and connections for system disconnect switches and powered devices including, but not limited to, motor operators, controls, and limit switches.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at the Project site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: For fencing and gates.

1. Include plans, elevations, sections, gate locations, post spacing, and mounting attachment and grounding details.
2. Gate Operator: Show locations and details for installing operator components, switches, and controls. Indicate motor size, electrical characteristics, drive arrangement, mounting, and grounding provisions.
3. Wiring Diagrams: Include diagrams for power, signal, and control wiring.

- C. Samples: For each fence material and for each color specified.
 - 1. Provide Samples 12 inches in length for linear materials.

1.5 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.
- B. Product Test Reports: For decorative metallic-coated-steel tubular picket fences, including finish, indicating compliance with referenced standard.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For gate operators to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of products.
- B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.
 - 1. Include (2) sections of fence complying with requirements.
 - 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Wind Loading:
 - 1. Fence Height: 0 to 15 feet.
- B. Lightning-Protection System: Maximum grounding-resistance value of 25 ohms under normal dry conditions.
- C. Comply with ASTM A 153/A 153M.
- D. Finish: Powder coating.

2.2 DECORATIVE ALUMINUM FENCES

- A. Decorative Aluminum Fences: Fences made from aluminum extrusions.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Amerifence
 - b. K and K Fence
 - c. North Indy Fence & Rail
 - d. Superiro Fence and Rail, Inc.
 - B. Posts: Square extruded tubes.
 1. Line Posts: 2 by 2 inches 0.093-inch wall thickness.
 2. End and Corner Posts: 3 by 3 inches 0.100-inch wall thickness.
 3. Swing Gate Posts: 3 by 3 inches with 0.125-inch wall thickness.
 4. Horizontal-Slide Gate Post, Openings up to 12 Feet: 3 by 3 inches with 0.125-inch wall thickness.
 5. Horizontal-Slide Gate Post, Openings Wider Than 12 Feet: 4 by 4 inches with 0.250-inch wall thickness.
 6. Guide Posts for Class 1 Horizontal-Slide Gates: 3 by 3 inches with 0.125-inch wall thickness; installed adjacent to gate post to permit gate to slide in space between.
 - C. Post Caps: Aluminum castings that cover entire top of posts.
 - D. Rails: Extruded-aluminum channels, 1 by 1-1/2 inches, with 0.082-inch- thick sidewalls and 0.055-inch- thick top.
 - E. Pickets: Extruded-aluminum tubes, 3/4 inch square, with 0.050-inch wall thickness.
 1. Terminate tops of pickets at top rail for flush top appearance.
 2. Picket Spacing: 4 inches clear, maximum.
 - F. Fasteners: Manufacturer's standard concealed fastening system.
 - G. Fasteners: Manufacturer's standard tamperproof, corrosion-resistant, color-coated fasteners matching fence components with resilient polymer washers.
 - H. Fabrication: Assemble fences into sections by fastening pickets to rails.
 1. Fabricate sections with clips welded to rails for field fastening to posts.
 2. Drill clips for fasteners before finishing.
 - I. Finish exposed welds to comply with NOMMA Guideline 1, Finish #2 - completely sanded joint, some undercutting and pinholes.
 - J. Finish: Baked enamel or powder coating.
- 2.3 SWING GATES
- A. For the gates, provide the following components or approved equal.

1. Basis-of-Design Manufacturer:
 - a. Amerifence, 4447 North Franklin Road, Indianapolis, IN 46226, (463) 946-0449
- B. Gate Configuration: Single leaf.
 1. Type: Cantilever slide, with roller assemblies.
- C. Gate Frame Height: As indicated.
- D. Gate Opening Width: As indicated.
- E. Aluminum Frames and Bracing: Fabricate members from square extruded-aluminum tubes 1-1/2 by 1-1/2 inches with 0.125-inch wall thickness.
- F. Frame Corner Construction: Welded.
- G. Additional Rails: Provide as indicated, complying with requirements for fence rails.
- H. Infill: Comply with requirements for adjacent fence.
- I. Hardware: Latches permitting operation from both sides of gate, hinges, and keepers for each gate leaf more than 5 feet wide. Provide center gate stops and cane bolts for pairs of gates. Fabricate latches with integral eye openings for padlocking; padlock accessible from interior as indicated on details.
- J. Spring Hinges: BHMA A156.17, Grade 1, suitable for exterior use.
 1. Function: Gate spring pivot hinge. Fixed tension.
 2. Material: Malleable iron; galvanized.
- K. Hinges: BHMA A156.1, Grade 1, suitable for exterior use.
 1. Function: 39 - Full surface, triple weight, antifriction bearing.
 2. Material: Wrought steel, forged steel, cast steel, or malleable iron; galvanized.
- L. Rim Locks: BHMA A156.5, Grade 1, suitable for exterior use.
 1. Function: 626 - Interlocking deadbolt operated by key from either side.
 2. Mounting Plate: Configuration necessary for mounting locks. Fabricate from 1/8-inch-thick, steel plate; galvanized.

2.4 HORIZONTAL-SLIDE GATES

- A. For the gates, provide the following components or approved equal.

1. Basis-of-Design Manufacturer:

- a. Amerifence, 4447 North Franklin Road, Indianapolis, IN 46226, (463) 946-0449

- B. Gate Configuration: Single leaf.

1. Type: Cantilever slide, with roller assemblies.
- C. Gate Frame Height: As indicated.
- D. Gate Opening Width: As indicated.

2.5 GATE OPERATORS

A. Gate Operators:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Amazing Gates of America LLC.
 - b. AutoGate, Inc.
 - c. Begley Automated Gate Systems.
 - d. Byan Systems, Inc.
 - e. CAME Americas Automation LLC.
 - f. Chamberlain Group, Inc. (The).
 - g. DoorKing, Inc.
 - h. Eagle Access Control Systems, Inc.
 - i. FAAC USA.
 - j. Gates That Open, LLC.
 - k. HySecurity.
 - l. Nice Apollo.
 - m. Tymetal Corp.
 - n. USAutomatic Inc.
 - o. Viking Access Systems.

B. Provide factory-assembled automatic operating system designed for gate size, type, weight, and operation frequency. Provide operation control system with characteristics suitable for Project conditions, with remote-control stations, safety devices, and weatherproof enclosures; coordinate electrical requirements with building electrical system.

1. Provide operator designed so motor may be removed without disturbing limit-switch adjustment and without affecting auxiliary emergency operator.
2. Provide operator with UL approved components.
3. Provide electronic components with built-in troubleshooting diagnostic feature.
4. Provide unit designed and wired for both right-hand/left-hand opening, permitting universal installation.

C. Comply with NFPA 70.

D. UL Standard: Manufacturer and label gate operators to comply with UL 325.

E. Emergency Access Requirements: Comply with requirements of authorities having jurisdiction for automatic gate operators on gates that must provide emergency access.

- F. Motor Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, within installed environment, with indicated operating sequence, and without exceeding nameplate rating or considering service factor. Comply with NEMA MG 1 and the following:
1. Voltage: NEMA standard voltage selected to operate on nominal circuit voltage to which motor is connected.
 2. Horsepower: Not less than 1/3.
 3. Enclosure: Manufacturer's standard.
 4. Duty: Continuous duty at ambient temperature of 105 deg F and at altitude of 3300 feet above sea level.
 5. Service Factor: 1.15 for open dripproof motors; 1.0 for totally enclosed motors.
 6. Phase: One.
- G. Gate Operators: Concrete base mounted and as follows:
1. Mechanical Slide Gate Operators:
 - a. Duty: Medium duty, commercial/industrial.
 - b. Gate Speed: Minimum 45 feet per minute.
 - c. Maximum Gate Weight: 600 lb.
 - d. Frequency of Use: 10 cycles per hour.
 - e. Operating Type: Roller chain with manual release.
 - f. Drive Type: Enclosed worm gear and chain-and-sprocket reducers, roller-chain drive.
- H. Operating Features:
1. Digital Microprocessor Control: Electronic programmable means for setting, changing, and adjusting control features with capability for monitoring and auditing gate activity. Provide unit that is isolated from voltage spikes and surges.
 2. System Integration: With controlling circuit board capable of accepting any type of input from external devices.
 3. Master/Slave Capability: Control stations designed and wired for gate pair operation.
 4. Automatic Closing Timer: No automatic closing timer.
 5. Open Override Circuit: Designed to override closing commands.
 6. Reversal Time Delay: Designed to protect gate system from shock load on reversal in both directions.
 7. Maximum Run Timer: Designed to prevent damage to gate system by shutting down system if normal time to open gate is exceeded.
 8. Clock Timer: 24-hour programmable for regular events.
- I. Accessories:
1. Warning Module: Audio and light alarm sounding three to five seconds in advance of gate operation and continuing until gate stops moving; compliant with the United States Access Board's ADA-ABA Accessibility Guidelines.
 2. Battery Backup System: Battery-powered drive and access-control system, independent of primary drive system.
 - a. Fail-Safe: Gate opens and remains open until power is restored.
 - b. Fail-Secure: Gate cycles on battery power, then fail-safe when battery is discharged.

3. External electric-powered solenoid or magnetic lock with delay timer allowing time for lock to release before gate operates.
4. Fire box.
5. Fire strobe sensor.
6. Intercom System: TBD.
7. Instructional, Safety, and Warning Labels and Signs: Manufacturer's standard for components and features specified.
8. Equipment Bases/Pads: Precast concrete, depth not less than 12 inches, dimensioned and reinforced according to gate operator component manufacturer's written instructions and as indicated on Drawings.

2.6 ALUMINUM

- A. Aluminum, General: Provide alloys and tempers with not less than the strength and durability properties of alloy and temper designated in paragraphs below for each aluminum form required.
- B. Extrusions: ASTM B 221, Alloy 6063-T5.
- C. Tubing: ASTM B 429/B 429M, Alloy 6063-T6.
- D. Plate and Sheet: ASTM B 209, Alloy 6061-T6.
- E. Die and Hand Forgings: ASTM B 247, Alloy 6061-T6.
- F. Castings: ASTM B 26/B 26M, Alloy A356.0-T6.

2.7 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
 1. For aluminum, provide type and alloy as recommended by producer of metal to be welded and as required for strength and compatibility in fabricated items.
- B. Concrete: Normal-weight, air-entrained, ready-mix concrete complying with requirements in Section 033000 "Cast-in-Place Concrete" with a minimum 28-day compressive strength of 3000 psi, 3-inch slump, and 1-inch maximum aggregate size.
- C. Nonshrink Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M and specifically recommended by manufacturer for exterior applications.

2.8 GROUNDING MATERIALS

- A. Comply with requirements of Section 260526 "Grounding and Bonding for Electrical Systems."
- B. Grounding Conductors: Size as indicated on Drawings. Bare, solid wire for No. 6 AWG and smaller; stranded wire for No. 4 AWG and larger.

1. Material above Finished Grade: [**Copper**] [**Aluminum**].
2. Material on or below Finished Grade: Copper.
3. Bonding Jumpers: Braided copper tape, 1-5/8 inch wide and 1/16 inch thick, woven of No. 30 AWG bare copper wire, terminated with copper ferrules.

C. Grounding Connectors and Grounding Rods: Comply with UL 467.

1. Connectors for Below-Grade Use: Exothermic-welded type.
2. Grounding Rods: Copper-clad steel.
 - a. Size: 5/8 by 96 inches.

2.9 ALUMINUM FINISHES

- A. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 2 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
1. Color and Gloss: Black.

2.10 STEEL FINISHES

1. Color and Gloss: Black.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, construction layout, and other conditions affecting performance of the Work.
- B. Do not begin installation before final grading is completed unless otherwise permitted by Architect.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.
 1. Construction layout and field engineering are specified in Section 017300 "Execution."

3.3 DECORATIVE FENCE INSTALLATION

- A. Install fences according to manufacturer's written instructions.

3.4 GATE INSTALLATION

- A. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.5 GATE OPERATOR INSTALLATION

- A. General: Install gate operators according to manufacturer's written instructions, aligned and true to fence line and grade.

3.6 GROUNDING AND BONDING

- A. Comply with Section 260526 "Grounding and Bonding for Electrical Systems."
- B. Bonding to Lightning-Protection System: If fence terminates at lightning-protected building or structure, ground the fence and bond the fence grounding conductor to lightning-protection down conductor or lightning-protection grounding conductor, complying with NFPA 780.

3.7 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
 1. Grounding-Resistance Tests: Subject completed grounding system to a megger test at each grounding location. Measure grounding resistance not less than two full days after last trace of precipitation, without soil having been moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural grounding resistance. Perform tests by two-point method according to IEEE 81.
 2. Excessive Grounding Resistance: If resistance to grounding exceeds specified value, notify Architect promptly. Include recommendations for reducing grounding resistance and a proposal to accomplish recommended work.
 3. Report: Prepare test reports of grounding resistance at each test location certified by a testing agency. Include observations of weather and other phenomena that may affect test results.

3.8 ADJUSTING

- A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

- B. Automatic Gate Operators: Energize circuits to electrical equipment and devices. Adjust operators, controls, safety devices, alarms, and limit switches.
 - 1. Hydraulic Operators: Purge operating system, adjust pressure and fluid levels, and check for leaks.
 - 2. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
 - 3. Test and adjust controls, alarms, and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Lubricate hardware, gate operators, and other moving parts.

3.9 DEMONSTRATION

- A. Engage a factory-authorized service representative to train or provide training for Owner's personnel to adjust, operate, and maintain gates.

END OF SECTION