SECTION 01 21 00
ALLOWANCES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Allowances which the Contractor shall provide for designated construction activities in the Work and in this bid.

1.02 RELATED DOCUMENTS

A. The Conditions of the Contract and other section of Division 01 apply to this section as fully as if repeated herein.

1.03 DESCRIPTION OF REQUIREMENTS

A. Definitions and Explanations: Certain requirements of the construction related to each allowance are indicated and specified. The allowance has been established by the County and represents selection by the County for designated portions of the Work specified and shown.

B. Types of allowance scheduled herein for the Work include lump sum cash allowances. Include all allowances in Contract sum, and identify all allowances in Schedule of Values as separate line items.

C. Selection and Purchase: At earliest feasible date after award of contract, advise the County or its representative of scheduled date when final selection and purchase of each product or system described by each allowance must be accomplished in order to avoid delays in performance of the Work.

1. Establish date by which the Contractor must enter into contract and coordinate with sub-contractor responsible for work defined by allowance.

2. Establish date by which final list of products must be established for purchase of products and systems as specifically selected by the County.

1.04 DEFINITIONS AND DESCRIPTION OF REQUIREMENTS

A. Cash Allowance Criteria

1. The Allowance is used only as directed by the County.

2. The Allowance is used exclusively for the County's purposes and for the defined Scope of Work.

3. The Contractor will prepare detailed breakdown of all costs associated with the work defined for the allowance. These amounts will be charged against the Allowance by Change Order, based on final detailed payment receipts and back-up as required by Architect and County or its representative, and will include all direct costs of work performed under the defined work scope.

   a. The Contractor shall obtain quotes for equipment from three separate vendors and present to County for consideration and selection.

4. The Contractor shall include in the base bid contract amount all cost of coordination, supervision, bond costs, overhead and profit, supervision, installation and all indirect project costs associated with the work defined. Where allowance amount is not exceeded, no general contractor costs will be permitted to be charged against the allowance amounts specified below.

    a. At project closeout, unused Cash Allowance amounts shall be credited to the County by Change Order.

    b. Changes that exceed the amount of each allowance will be processed as a Change Order per Contract Documents.

B. Material and Labor Allowance Criteria

1. Applies to all material and labor allowances identified in the contact documents.

2. The Allowance is used only as directed by the County.

3. The Allowance is used exclusively for the County's purposes and for the defined Scope of Work.

4. The Contractor will prepare detailed breakdown of all costs associated with the work defined for the allowance. These amounts will be charged against the Allowance by Change Order, based on final detailed payment receipts and back-up as required by Architect and County or its representative, and will include all direct costs of work performed under the defined work scope.

    a. Contractor shall obtain quotes for equipment from three separate vendors and present to County for consideration and selection.

5. The Contractor shall include in the base bid contract amount all cost of coordination, supervision, bond costs, overhead and profit, supervision, installation and all indirect project costs associated with the work defined. Where allowance amount is not exceeded, no general contractor costs will be permitted to be charged against the allowance amounts specified below.

    a. At project closeout, unused Material and Labor Allowances shall be credited to the County by Change Order based on the cash value established per Section 1.04.B.4.

    b. Changes that exceed the amount of each allowance will be processed as a Change Order per Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SCHEDULE OF CASH ALLOWANCES

Included in the Total Bid Amount are the Allowances identified below. Items covered by Allowances shall be provided for such amounts and by such persons or firms as the County may direct.

Building and Site Work

Allowance #	Description	Allowance Amount
1	Concrete: Structural & Site	$30,000
2	Roofing and Sheet Metal	$35,000
3	Mtl. Stud Framing, Drywall	$85,000
4	Finish Flooring	$20,000
5	Painting	$20,000
6	General Construction	$250,000
7	Fire Sprinkler (Bldg)	$20,000
8	Fire Sprinkler (Site)	$290,000
9	Plumbing: Site & Bldg.	$100,000
10	HVAC	$120,000
11	Electrical & Low Voltage	$160,000
12	Landscaping & Irrigation	$20,000
13	Windows	$25,000
14	Metals	$50,000

Contractor shall itemize the allowances listed above on the bid form in the designated areas for any additional effort, over and above contract work due to existing conditions, obstructions or unforeseen items encountered which are not readily discernible prior to construction. Allowance will also be used at the County's discretion for any required supplemental work.

END OF SECTION

SECTION 05 5513
METAL STAIRS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Steel stair framed of structural sections, with closed risers.

B. Products-Furnished But Not Installed Under this Section
   1. Section 03 3000 - Cast-In-Place Concrete: Placement of metal anchors and stairs.
   2. Section 05 5000 - Metal Fabrications: Placement of metal anchors in concrete.

C. Related Sections
   1. Section 03 3000 - Cast-In-Place Concrete: Concrete fill in stair pans and landings.
   2. Section 05500:- Bearing plates and angles for metal stairs, including anchorage.
   3. Section 05 5000 - Handrails and Railings: Handrails.
   4. Section 09900 - Painting: Paint finish.

1.02 REFERENCES

A. CAS/CAR - California Accessibility Statutes and California Accessibility Regulations, Books 1 and 2, Amendments CCR and 2022 CBC.

B. ASTM A36A/ 36M - Structural Steel.

C. ASTM A53 - Hot-Dipped, Zinc-coated Welded and Seamless Steel Pipe.

D. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

E. ASTM A283 - Carbon Steel Plates, Shapes, and Bars.

F. ASTM A307 - Carbon Steel Externally Threaded Standard Fasteners.

G. ASTM A325 - High Strength Bolts for Structural Steel Joints.

H. ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.

I. ASTM A501 - Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.

J. AWS A2.0 - Standard Welding Symbols.

K. AWS D1.1 - Structural Welding Code.

L. SSPC - Steel Structures Painting Council.

1.03 DESIGN REQUIREMENTS

A. Fabricate stair assembly to support live load of 100lb/sq ft with deflection of stringer or landing framing not to exceed 1/180 of span.

B. Railing assembly, wall rails, and attachments to resist lateral force of 100 lbs at any point without damage or permanent set.

1.04 SUBMITTALS

A. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.

1.05 QUALIFICATIONS

A. Prepare Shop Drawings under direct supervision of Professional Structural Engineer experience in design of this work and licensed in the State of California.

B. Welders' Certificates: Submit certificate certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.06 FIELD MEASUREMENTS

A. Verify field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Stairzone by PWI, Nappanee, IN

B. American Stair, Hammond, IN

C. Or equal as approved by Architect.

2.02 MATERIALS

A. Steel Sections: ASTM A36/36M.

B. Steel Tubing: ASTM A500, Grade B.

C. Plates: ASTM A283.

D. Pipe: ASTM A53, Grade B Schedule 40.

E. Concrete for Treads and Landings: Portland cement Type 1, 3000 pounds per square inch 28 day strength, 2 to 3 inch slump.

F. Tread and Landing Concrete Reinforcement: Mesh type, galvanized.

G. Bolts, Nuts, and Washers: ASTM A325 galvanized to ASTM A153 for galvanized components.

H. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; consistent with design or stair structure.

I. Welding Materials: AWS D1.1; type required for materials being welded.

J. Touch-Up Primer for Galvanized Surfaces: Zinc rich type.

K. Safety Stair Nosings: At steel pan stairs, Style B-41A, extruded aluminum, 4 inches wide manufactured by Barrycraft Pattern and Foundry, Inc., Birmingham, AL, or equal as approved in accordance substitutions. Provide contrasting colors at all nosings, provide a 2 inch. Color to be selected by Architect.

2.03 FABRICATION - GENERAL

A. Fit and shop assemble in largest practical sections, for delivery to site.

B. Fabricate components with joints tightly fitted and secured.

C. Continuously seal jointed pieces by continuous welds.

D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specially noted otherwise.

F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

G. Accurately form components required for anchorage of stairs and landings and railings to each other and to building structure.

2.04 FINISHES

A. Prepare surfaces to be primed in accordance with SSPC SP2.

B. Do not prime surfaces in direct contact with concrete or where field welding is required.

C. Prime paint items with one coat.

D. Galvanized items to minimum 2.0 ounces per square feet zinc coating accordance with ASTM A123.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

B. Beginning of installation means erector accepts existing conditions.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Supply items required to be cast into concrete [including nosings] or embedded in masonry with setting templates, to appropriate sections.

3.03 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Provide anchors, plates, angles, hangers, and struts required for connecting stairs to structure.

C. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

D. Field weld components indicated on shop drawings. Perform field welding in accordance with AWS D1.1.

E. Field bolt and weld to match shop bolting and welding. Conceal bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

F. Mechanically fasten joints butted tight, flush, and hairline. Grind welds smooth and flush.

G. Obtain Architect approval prior to site cutting or making adjustments not scheduled.

H. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

3.04 ERECTION TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

3.05 SCHEDULE

A. Items as scheduled or shown in drawings.

B. Steel pan stairs with reinforced concrete fill and nosings.

END OF SECTION

SECTION 06 4005

PLASTIC LAMINATE

PART 1 - GENERAL

1.1 SUMMARY

A. Products Furnished But Not Installed Under This Section:
   1. Casework.
   2. Wood Doors with plastic laminate finish.

B. Related Requirements:
   1. Section 06 2001: ‘Common Finish Carpentry Requirements’:
   2. Section 06 4001: 'Common Architectural Woodwork Requirements.
   3. Section 08 1429 Wood Doors

1.2 REFERENCES

A. Association Publications:
   1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada / Woodwork Institute, 46179 Westlake Drive, Suite 120, Potomac Falls, VA www.awinet.org.
      a. Architectural Woodwork Standards (AWS), 2nd Edition, 2014.

B. Definitions:
   1. Flame Spread: The propagation of flame over a surface.
      a. Flame Spread Index: The numerical value assigned to a material tested in accordance with ASTM E84 or UL 723.
   2. Grade: Unless otherwise noted, this term means Grade rules for Economy, Custom, and/or Premium Grade.
      a. Premium Grade: Highest Grade available in both material and workmanship where highest level of quality, materials, workmanship, and installation is required.
   3. High-Pressure Decorative Laminate (HPDL): Laminated thermosetting decorative sheets intended for decorative purposes. Also known as Plastic Laminate.
   4. Smoke-Developed Index: The numerical value assigned to a material tested in accordance with ASTM E84 or UL 723.

C. Reference Standards:
   1. ASTM International:
      a. ASTM E84-18, ‘Standard Test Method for Surface Burning Characteristics of Building Materials'.
      b. ASTM E162-15a, 'Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source'.
   2. Kitchen Cabinet Manufacturers Association:
      a. ASTM/KCMA A161.1-2012, 'Performance And Construction Standards For Kitchen And Vanity Cabinets'.
   3. National Electrical Manufacturer's Association / American National Standards Institute:
      a. ANSI/NEMA LD-3-2005, 'High Pressure Decorative Laminates'.
   4. Underwriters Laboratories, Inc.:
      a. UL 723: ‘Standard for Safety Test for Surface Burning Characteristics of Building Materials'; (10th Edition).

1.3 SUBMITTALS

A. Action Submittals:

1. Product Data:
    a. Color selections.
    b. Manufacturer's technical data sheet.

B. Informational Submittals:
1. Certificates:
    a. Provide Manufacturer's certification of compliance to ANSI/NEMA LD 3.
2. Test And Evaluation Reports:
    a. Test reports: Certified test reports showing compliance with specified performance characteristics and physical properties for Quality Assurance if requested by Owner or Architect.

C. Closeout Submittals:
1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
    a. Record Documentation:
        1) Manufacturers documentation:
            a) Manufacturer's literature for plastic laminate.
            b) Color selections.

1.4 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:
1. Fire-Test-Response Characteristics: Provide plastic laminate with surface burning characteristics as determined by testing identical products by qualified testing agency.
    a. Surface-Burning Characteristics:
        1) Plastic Laminate shall have Class A flame spread rating in accordance with ASTM E84 or UL 723 Type 1.
            a) Class A (Flame spread index 0-25; Smoke-developed index 0-450).
            b) Flash point: None.

1.5 WARRANTY

A. Manufacturer Extended Warranty:
1. Approved Fabricator’s written guarantee that all Goods and Services will be free from defects in materials and workmanship for a period of five (5) years from date of substantial completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Manufacturers:
1. Acceptable Manufacturers:
    a. Formica, Cincinnati, OH www.formica.com or Formica Canada Inc, St Jean sur Richelieu, PQ (450) 347-7541, all matte finish.
    b. Nevamar, Odenton, MD www.nevamar.com.
    c. Pionite Decorative Surfaces, Auburn, ME www.pionite.com.
    d. WilsonArt, Temple, TX www.wilsonart.com or WilsonArt International Inc, Mississuaga, ON (905) 565-1255.
    e. Equal as approved by Architect before bidding. See Section 01 6200.

B. Plastic Laminates:
1. Design Criteria:
    a. Casework
        1) Architectural Woodwork Standards (AWS), 2nd Edition, 2014
2. Assemblies:

a. Casework with plastic laminate veneer finish meet requirements per section 06 4001 Common Architectural Wood work Requirements.
b. Wood doors with plastic laminate meet requirements per section 08 1429 Wood Doors.
c. Adhesives for other than post-formed types shall be spray grade, high heat resistant, neoprene contact adhesive.

3. Color as selected and approved by Architect. Refer to Finish drawing sheets.

PART 3 - EXECUTION: Not Used

END OF SECTION

SECTION 08 3800
DOUBLE ACTING IMPACT TRAFFIC DOOR

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Double acting, self-closing, 1/4 inch thick ABS impact traffic door.

B. Related Sections:

1.2 SUBMITTAL

A. Reference Section 01 33 00–Submittal Procedures; submit the following items:
   1. Product Data.
   2. Shop Drawings: Show fabrication details and anchorage. Include door elevations, head, jamb and meeting stile details.
   3. Samples: Full range of manufacturer's standard color selections for facing material.
   4. Quality Assurance/Control Submittal:
      a. Manufacturer's Installation Instructions.
   5. Closeout Submittal:
      a. Cleaning and Maintenance instructions.
      b. Warranty

1.3 QUALITY ASSURANCE

A. Qualifications:
   1. Manufacturer Qualifications: Regular manufacturer of impact traffic doors for at least 5 years.

1.4 DELIVERY STORAGE AND HANDLING

A. Reference Section 01 6600–Product Storage and Handling Requirements.

B. Verify doors were shipped in upright position.
   1. Note specific doors shipped in other than upright position on bill of lading and contact manufacturer.

C. Store in an upright position and follow manufacturer's instructions printed on carton.

1.5 PROJECT/SITE CONDITIONS

A. Existing Conditions: Frames installed under other sections shall be level and plumb.

1.6 WARRANTY

A. Standard one year limited warranty (from date of shipment) against defects in materials and workmanship and is limited to the replacement on any part which prove to be defective.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturer: ALECO, A Division of ES ROBBINS; 2720 E. Avalon Ave.; Muscle Shoals, AL. Telephone: (800) 633-3120, (256) 248-2402. Fax: (800) 750-9616. Website:www.aleco.com
B. Model: Single Panel

2.2 DOOR COMPONENTS

A. Panel: 1/4 inch thick ABS plastic, 5,400 psi tensile strength, color as specified by Architect.
B. Back Strip: 1/4 inch thick ABS plastic, 6 inch wide, both sides of panel, full height with satin anodized aluminum channel cap.
C. EZ Hinge Offset Pivot Hardware: Stainless steel with 8-3/4 inch high jamb guard.
D. Vision Panel – 9 x14: Flush 3/16 inch thick polycarbonate, single glazed in rubber gasket with radius corners.

2.3 ACCESSORIES

A. Impact Wear Panels: 20 gauge stainless stee, height: 48 inch.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine opening in which door will be installed.

B. Coordinate with responsible entity to perform corrective work on unsatisfactory conditions.

C. Commencement of work by installer is acceptance of opening conditions.

3.2 INSTALLATION

A. Follow manufacturer’s instructions.

B. Install door with necessary anchors, hardware and accessories.

3.3 ADJUSTING

A. Follow manufacturer’s instructions as required to:
   1. Clean and lightly lubricate operating parts.
   2. Adjust to open and close smoothly and freely without binding.
   3. Check seals for proper fit.

3.4 CLEANING

A. Clean surfaces soiled by work as recommended by manufacturer.

B. Remove surplus materials and debris from the site.

END OF SECTION

SECTION 08 71 00
DOOR HARDWARE

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. Mechanical and electrified door hardware for:

a. Swinging doors.
b. Gates.

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

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors
6. Installation.
7. Rough hardware.
8. Conduit, junction boxes & wiring.
9. Folding partitions, except cylinders where detailed.
10. Sliding aluminum doors, except cylinders where detailed.
11. Access doors and panels, except cylinders where detailed.

C. Related Sections:

1. Division 01 Section “Alternates” for alternates affecting this section.
2. Division 07 Section “Joint Sealants” for sealant requirements applicable to threshold installation specified in this section.
3. Division 09 sections for touchup finishing or refinishing of existing openings modified by this section.
4. Division 26 sections for connections to electrical power system and for low-voltage wiring.
5. Division 28 sections for coordination with other components of electronic access control system.

1.3 REFERENCES

A. UL - Underwriters Laboratories

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

B. ANSI - American National Standards Institute

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

C. California Code of Regulations

1. Title 24: California Building Standards Code

1.4 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 requirements.

B. Action Submittals:

1. Product Data: Product data including manufacturers' technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:

a. Wiring Diagrams: For power, signal, and control wiring and including:
1) Details of interface of electrified door hardware and building safety and security systems.
2) Schematic diagram of systems that interface with electrified door hardware.
3) Point-to-point wiring.
4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample or sample installations of each type of exposed hardware unit in finish indicated, and tagged with full description for coordination with schedule.

a. Samples will be returned to supplier in like-new condition. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule: Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:

a. Door Index; include door number, heading number, and Architects hardware set number.
b. Opening Lock Function Spreadsheet: List locking device and function for each opening.
c. Type, style, function, size, and finish of each hardware item.
d. Name and manufacturer of each item.
e. Fastenings and other pertinent information.
f. Location of each hardware set cross-referenced to indications on Drawings.
g. Explanation of all abbreviations, symbols, and codes contained in schedule.
h. Mounting locations for hardware.
i. Door and frame sizes and materials.
j. Name and phone number for local manufacturer's representative for each product.
k. Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and access control components).

Operational description should include how door will operate on egress, ingress, and fire and smoke alarm connection.

1) Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work that is critical in Project construction schedule.

5. Key Schedule:

   a. Initiate and conduct meeting(s) with Owner representatives and hardware supplier to determine system keyway(s), keybow styles, structure, stamping, degree of physical security and degree of geographic exclusivity. Furnish Owner's written approval of the system; do not order keys or cylinders without written confirmation of actual requirements from the Owner.
   b. After Keying Conference, provide keying schedule listing levels of keying as well as explanation of key system's function, key symbols used and door numbers controlled.
   c. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
   d. 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.
   e. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
   f. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion.
      1) Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.

6. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory prepared for door hardware installation.

C. Informational Submittals:

1. Qualification Data: For Supplier and Installer.
2. Product Certificates for electrified door hardware, signed by manufacturer:

   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.

3. Certificates of Compliance:

   a. Electrified Hardware Coordination Conference Certification: Letter of compliance, signed by Contractor, attesting to completion of electrified hardware coordination conference, specified in "QUALITY ASSURANCE" article, herein.

4. Warranty: Special warranty specified in this Section.

D. Closeout Submittals:

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

   a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
   b. Catalog pages for each product.
   c. Name, address, and phone number of local representative for each manufacturer.
   d. Final approved hardware schedule, edited to reflect conditions as-installed.

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

1.5 QUALITY ASSURANCE

A. Product Substitutions: Comply with product requirements stated in Division 01 and as specified herein.

1. Where products indicate “acceptable manufacturers” or “acceptable manufacturers and products”, provide product from specified manufacturers, subject to compliance with specified requirements and “Single Source Responsibility” requirements stated herein.

B. Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project.

1. Scheduling Responsibility: Preparation of door hardware and keying schedules.
2. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
3. Coordination Responsibility: Coordinate installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.

a. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.

C. Installer Qualifications: Qualified tradesmen, skilled in application of commercial grade hardware with record of successful in-service performance for installing door hardware similar in quantity, type, and quality to that indicated for this Project.

D. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated.
2. Manufacturers that perform electrical modifications and that are listed by testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.

E. Fire-Rated Door Openings: Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

F. 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.

1. Air Leakage Rate: 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.

G. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

H. Means of Egress Doors: Latches do not require more than 5 lbs (67 N) to release latch. Locks do not require use of key, tool, or special knowledge for operation.

I. Accessibility Requirements: For door hardware on doors in an accessible route, comply with governing accessibility regulations cited in “REFERENCES” article, herein.

1. Provide operating devices that do not require tight grasping, pinching, or twisting of wrist and that operate with force of not more than 5 lbs (22.2 N).
2. Maximum opening-force requirements:

a. Interior, Non-Fire-Rated Hinged Doors: 5 lbs (22.2 N) applied perpendicular to door.
b. Sliding or Folding Doors: 5 lbs (22.2 N) applied parallel to door at latch.
c. Fire Doors: The minimum opening force allowable by the appropriate administrative authority, not to exceed 15 lbs (66.7N).

3. Bevel raised thresholds with slope of not more than 1:2. Provide thresholds not more than 1/2 inch (13 mm) high.
4. Adjust closer so that the time required to move the door from the 90 degree position to 12 degrees from the latch is 5 seconds minimum.

J. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01.

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Inspect and discuss preparatory work performed by other trades.
3. Inspect and discuss electrical roughing-in for electrified door hardware.
4. Review sequence of operation for each type of electrified door hardware.
5. Review required testing, inspecting, and certifying procedures.

K. Coordination Conferences:

1. Installation Coordination Conference: Prior to hardware installation, schedule and hold meeting to review questions or concerns related to proper installation and adjustment of door hardware.

a. Attendees: Door hardware supplier, door hardware installer, Contractor.
b. After meeting, provide letter of compliance to Architect, indicating when meeting was held and who was in attendance.

2. Electrified Hardware Coordination Conference: Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

a. Attendees: electrified door hardware supplier, doors and frames supplier, electrified door hardware installer, electrical subcontractor, Owner, Owner’s security consultant, Architect and Contractor.
b. After meeting, provide letter of compliance to Architect, indicating when coordination conference was held and who was in attendance.

1.6 DELIVERY, STORAGE, AND HANDLING

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

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.

1. Deliver each article of hardware in manufacturer's original packaging.

C. Project Conditions:

1. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
2. Provide secure lock-up for door hardware delivered to Project, but not yet installed. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

D. Protection and Damage:

1. Promptly replace products damaged during shipping.
2. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work.
3. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

E. Deliver keys and permanent cores to Owner by registered mail or overnight package service.

1.7 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

E. Existing Openings:

1. Prior to submittal, carefully inspect existing conditions to verify finish hardware required to complete Work, including sizes, quantities, existing hardware scheduled for re-use, and sill condition material. If conflict between the specified/scheduled hardware and existing conditions, submit request for direction from Architect. Include date of jobsite visit in the submittal.
2. Submittals prepared without thorough jobsite visit by qualified hardware expert will be rejected as non-compliant.

F. Direct shipments not permitted, unless approved by Contractor.

1.8 WARRANTY

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

1. Warranty Period: Years from date of Substantial Completion, for durations indicated.

a. Closers:
1) Mechanical: 30 years.

b. Exit Devices:
   1) Mechanical: 10 years
   2) Electrified: 3 years.

c. Locksets:
   1) Mechanical: 10 years.
   2) Electrified: 3 years.

d. Overhead Stops: 10 years
e. Continuous Hinges: Lifetime warranty

2. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

1.9 MAINTENANCE

A. Maintenance Tools:

1. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Approval of manufacturers and/or products other than those listed as “Scheduled Manufacturer” or “Acceptable Manufacturer” in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.

B. 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.

C. Hand of Door: Drawings show direction of slide, swing, or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.

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. Fasteners

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

4. Install hardware with fasteners provided by hardware manufacturer.

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

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

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

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

2.3 HINGES

A. Manufacturers and Products:

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

B. Requirements:

1. Provide five-knuckle ball bearing hinges conforming to ANSI/BHMA A156.1.
2. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:

   a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
   b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

3. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:

   a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

4. 2 inches or thicker doors:

   a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
6. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
7. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:

   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

8. Width of hinges: 4-1/2 inches (114 mm) at 1-3/4 inch (44 mm) thick doors, and 5 inches (127 mm) at 2 inches (51 mm) or thicker doors. Adjust hinge width as required for door, frame, and wall conditions to allow proper degree of opening.

9. Doors 36 inches (914 mm) wide or less furnish hinges 4-1/2 inches (114 mm) high; doors greater than 36 inches (914 mm) wide furnish hinges 5 inches (127 mm) high, heavy weight or standard weight as specified.
10. Provide hinges with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component.
11. Provide mortar guard for each electrified hinge specified.
12. Provide spring hinges where specified. Provide two spring hinges and one bearing hinge per door leaf for doors 90 inches (2286 mm) or less in height. Provide one additional bearing hinge for each 30 inches (762 mm) of additional door height.

2.4 CONTINUOUS HINGES

A. Aluminum Geared

1. Manufacturers:

a. Scheduled Manufacturer: Ives.
b. Acceptable Manufacturers: Markar, Stanley.

2. Requirements:

a. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
b. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum, with 0.25-inch (6 mm) diameter Teflon coated stainless steel hinge pin.
c. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
d. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
e. On fire-rated doors, provide aluminum geared continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
f. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
g. Install hinges with fasteners supplied by manufacturer.
h. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.5 ELECTRIC POWER TRANSFER

A. Manufacturers:

a. Scheduled Manufacturer: Von Duprin EPT-10

B. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires sufficient to accommodate electric function of specified hardware.

C. Locate electric power transfer per manufacturer’s template and UL requirements, unless interference with operation of door or other hardware items.

2.6 PIVOT SETS

A. Manufacturers:

1. Scheduled Manufacturer: Ives

B. Requirements:

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

2.7 FLUSH BOLTS

A. Manufacturers:

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

2.8 COORDINATORS

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Rockwood, 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 and surface vertical rod exit device strikes. Factory-prep coordinators for vertical rod devices if required.

2.9 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage L9000 series

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1 Operational, Grade 1 Security, and manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to “KEYING” article, herein.
2. 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.
3. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
4. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide a request to exit (RX) switch that is actuated with rotation of inside lever.
5. Provide motor based electrified locksets with electrified options as scheduled in the hardware sets and comply with the following requirements:

    a. Universal input voltage – single chassis accepts 12 or 24V DC 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. Request to Exit Switch (RX) –
        1) Modular Design – provide electrified locks capable of using, adding, or changing a modular RX switch without opening the lock case.
        2) Monitoring – where scheduled, provide a request to exit (RX) switch that detects rotation of the inside lever.

    f. Connections – provide quick-connect Molex system standard.

6. UL Listed – 3 hour fire door
7. 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: As scheduled.

2.10 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Von Duprin 98/35 series

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1, and UL listed for Panic Exit or Fire Exit Hardware. Cylinders: Refer to “KEYING” article, herein.
2. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.

3. Touchpad: Extend minimum of one half of door width. Match exit device finish, stainless steel for US26, US26D, US28, US32, and US32D finishes; and for all other finishes, provide compatible finish to exit device. No plastic inserts are allowed in touchpads.
4. Provide exit devices with dead-latching feature for security and for future addition of alarm kits and/or other electrified requirements.
5. Provide flush end caps for exit devices.
6. Provide exit devices with manufacturer's approved strikes.
7. 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.
8. 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.
9. Provide cylinder dogging at non-fire-rated exit devices.
10. 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.
11. Where lever handles are specified as outside trim for exit devices, provide heavy-duty lever trims with forged or cast escutcheon plates. Provide vandal-resistant levers that will travel to 90-degree down position when more than 35 pounds of torque are applied, and which can easily be re-set.

    a. Lever Style: Match lever style of locksets.

12. Accessibility: Maximum 5lbs force to retract latch bolt per CBC Chapter 11B.

    "AX" feature: touchpad directly retracts the latchbolt with 5 lb or less of force. Provide testing lab certification confirming that the mechanical device is independent third-party tested to meet this 5 lb requirement.

13. Provide UL labeled fire exit hardware for fire rated openings.
14. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
15. Provide electrified options as scheduled.

2.11 CYLINDERS

A. Manufacturers:

1. Scheduled Manufacturer: Schlage

B. Requirements:

1. Provide permanent interchangeable cylinders/cores to match Owner's existing key system, compliant with ANSI/BHMA A156.5; latest revision, Section 12, Grade 1; permanent cylinders; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Replaceable Construction Cores.

    a. Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
        1) 3 construction control keys
        2) 12 construction change (day) keys.

    b. Owner or Owner's Representative will replace temporary construction cores with permanent cores.

2.12 KEYING

A. Provide cylinders/cores keyed into Owner's existing factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:

1. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.

    a. Master Keying system as directed by the Owner.

2. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements shall be cause for replacement of cylinders/cores involved at no additional cost to Owner.
3. Provide keys with the following features:

    a. Material: Nickel silver; minimum thickness of .107-inch (2.3mm)

4. Identification:

    a. Mark permanent cylinders/cores and keys with applicable blind code per DHI publication "Keying Systems and Nomenclature" for identification. Blind code marks shall not include 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. Failure to comply with stamping requirements shall be cause for replacement of keys involved at no additional cost to Owner.
    e. Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.

5. Quantity: Furnish in the following quantities.

    a. Change (Day) Keys: 3 per cylinder/core.
    b. Permanent Control Keys: 3.
    c. Master Keys: 6.

2.13 KEY CONTROL SYSTEM

A. Manufacturers:

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

B. Requirements:

1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.

    a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
    b. Provide hinged-panel type cabinet for wall mounting.

2.14 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: LCN 4040XP series.

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.

2.15 DOOR TRIM

A. Manufacturers:

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

B. Requirements:

1. Provide decorative pulls as scheduled. Where required, mount back to back with pull.
2. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.16 PROTECTION PLATES

A. Manufacturers:

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

B. Requirements:

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

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

2.17 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers: Glynn-Johnson

B. Requirements:

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

2.18 DOOR STOPS AND HOLDERS

A. Manufacturers:

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

B. Provide door stops at each door leaf:

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

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

A. Manufacturers:

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

B. Requirements:

1. Provide thresholds, weather-stripping (including door sweeps, seals, and astragals) and gasketing systems (including smoke, sound, and light) as specified and per architectural details. Match finish of other items.
2. Size of thresholds:

    a. Saddle Thresholds: 1/2 inch (13 mm) high by jamb width by door width
    b. Bumper Seal Thresholds: 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width

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.

2.20 SILENCERS

A. Manufacturers:

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

2.21 FINISHES

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

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. 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: BHMA 630 (US32D)
6. Door Closers: Powder Coat to Match
7. Wall Stops: BHMA 630 (US32D)
8. Latch Protectors: BHMA 630 (US32D)
9. Weatherstripping: Clear Anodized Aluminum
10. 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.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

D. Existing frames and doors to be retrofitted with new hardware**:**

1. Field-verify conditions and dimensions prior to ordering hardware. Fill existing hardware cut outs not being reused by the new hardware. Remove existing hardware not being reused, return to Owner unless directed otherwise.
2. Remove existing floor closers not scheduled for reuse, fill cavities with non-shrinking concrete and finish smooth.
3. Cut and weld existing steel frames currently prepared with 2.25 inch height strikes. Cut an approximate 8 inch section from the strike jamb and weld in a reinforced section to accommodate specified hardware's strike.
4. Patch and weld flush filler pieces into existing door hardware preparations in steel doors and frames, leave surfaces smooth.

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 door and frame 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. Mounting Heights: Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."

B. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

C. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

H. Intermediate Offset Pivots: Where offset pivots are indicated, provide intermediate offset pivots in quantities indicated in door hardware schedule but not fewer than one intermediate offset pivot per door and one additional intermediate offset pivot for every 30 inches (750 mm) of door height greater than 90 inches (2286 mm).

I. Lock Cylinders: Install construction cores to secure building and areas during construction period.

1. Replace construction cores with permanent cores as indicated in keying section.

J. Lead Protection: Lead wrap hardware penetrating lead-lined doors. Levers and roses to be lead lined. Apply kick and armor plates on lead-lined doors with adhesive as recommended by manufacturer.

K. Wiring: Coordinate with Division 26, ELECTRICAL sections for:

1. Conduit, junction boxes and wire pulls.
2. Connections to and from power supplies to electrified hardware.
3. Connections to fire/smoke alarm system and smoke evacuation system.
4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
5. Testing and labeling wires with Architect’s opening number.

L. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

M. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Closers shall not be visible in corridors, lobbies and other public spaces unless approved by Architect.

N. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

O. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

1. Coordination: Coordinate provision with the security systems provider to mitigate excessive or redundant purchase.
2. Configuration: Provide least number of power supplies required to adequately serve doors with electrified door hardware.

P. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

Q. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

R. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

S. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

T. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

U. Field-verify existing conditions and measurements prior to ordering hardware. Fill existing hardware cut outs not being used by the new hardware.

V. Remove existing hardware not being reused. Tag and bag removed hardware, turn over to Owner.

W. Where existing wall conditions will not allow door to swing using the scheduled hinges, provide wide-throw hinges and if needed, extended arms on closers.

X. Provide manufacturer’s recommended brackets to accommodate the mounting of closers on doors with flush transoms.

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 is allowed to 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 months after date of Substantial Completion, Installer shall examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.5 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items as necessary to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DEMONSTRATION

A. Provide training for Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

3.7 DOOR HARDWARE SCHEDULE

A. Locksets, exit devices, and other hardware items are referenced in the following hardware sets for series, type and function. Refer to the above-specifications for special features, options, cylinders/keying, and other requirements.

B. Do not order material until submittal has been reviewed, stamped, and signed by Architect’s door hardware consultant.

C. Hardware Sets:

Admin Building

106938 OPT0391365 Version 1
HW SET: 01

Door(s):

134 136B 138

2	EA	CONT. HINGE	112XY EPT		628	IVE
2	EA	POWER TRANSFER	EPT10		689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-3547A-EO 24 VDC		626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-3547A-NL-OP-388 24 VDC		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
2	EA	90 DEG OFFSET PULL	8190EZHD 12" A		630-316	IVE
2	EA	OH STOP	100S		630	GLY
2	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
2	EA	FLUSH CEILNG MTG PLATE	4040XP-18G SRT		689	LCN
1	SET	SEALS	BY DOOR/FRAME MFR			B/O
2	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC			VON
1			CARD READER - WORK OF DIVISION 28			
2			DOOR CONTACT(S) - WORK OF DIVISION 28			

MEDIUM STILE ALUMINUM DOOR.

HW SET: 02

Door(s):
106A 136A

1	EA	CONT. HINGE	112XY EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QELX-AX-35A-NL-OP-388	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	90 DEG OFFSET PULL	8190EZHD 12" A	630-316	IVE
1	EA	OH STOP	100S	630	GLY
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D	689	LCN
1	EA	FLUSH CEILNG MTG PLATE	4040XP-18G SRT	689	LCN
1	SET	SEALS	BY DOOR/FRAME MFR		B/O
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED	A	ZER
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC		VON
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		

MEDIUM STILE ALUMINUM DOOR.

HW SET: 03

Door(s):
143A

1	EA	CONT. HINGE	112XY EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QELX-AX-35A-NL-OP-388	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	90 DEG OFFSET PULL	8190EZHD 12" A	630-316	IVE
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D	689	LCN
1	EA	FLOOR STOP	FS18S/FS18L	BLK	IVE
1	SET	SEALS	BY DOOR/FRAME MFR		B/O
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED	A	ZER
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC		VON
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		

MEDIUM STILE ALUMINUM DOOR.

HW SET: 04

Door(s):
135A

1	EA	CONT. HINGE	112XY	628	IVE
1	EA	PANIC HARDWARE	CD-AX-35A-NL-OP-388	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	MORTISE CYLINDER	20-061 ICX XQ11-948 36-083	626	SCH
2	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	90 DEG OFFSET PULL	8190EZHD 12" A	630-316	IVE
1	EA	OH STOP	100S	630	GLY
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D	689	LCN
1	EA	FLUSH CEILNG MTG PLATE	4040XP-18G SRT	689	LCN
1	SET	SEALS	BY DOOR/FRAME MFR		B/O

MEDIUM STILE ALUMINUM DOOR

HW SET: 05

Door(s):

135B 137 143B

2	EA	CONT. HINGE	112XY		628	IVE
1	EA	PANIC HARDWARE	CD-3547A-EO-LBR		626	VON
1	EA	PANIC HARDWARE	CD-3547A-NL-OP-LBR-388		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
2	EA	MORTISE CYLINDER	20-061 ICX XQ11-948 36-083		626	SCH
3	EA	PRIMUS CORE	20-740-XP		626	SCH
2	EA	90 DEG OFFSET PULL	8190EZHD 12" A		630-316	IVE
2	EA	OH STOP	100S		630	GLY
2	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
2	EA	FLUSH CEILNG MTG PLATE	4040XP-18G SRT		689	LCN
1	SET	SEALS	BY DOOR/FRAME MFR			B/O

MEDIUM STILE ALUMINUM DOOR

HW SET: 06

Door(s):

208A 208B 208C

1	EA	CONT. HINGE	112XY		628	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	OH STOP	100S		630	GLY
1	EA	SURFACE CLOSER	4040XP ST-1630		689	LCN
1	EA	TOP JAMB MTG PLATE	4040XP-18TJ SRT		689	LCN
1	SET	SEALS	BY DOOR/FRAME MFR			B/O

HW SET: 07

Door(s):

121 210

HARDWARE BY DOOR MFR.

HW SET: 08

Door(s):
101

4	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	RX-AX-98-L-M996-17-FSE	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	SURFACE CLOSER	4040XP EDA ST-1944	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS18S/FS18L	BLK	IVE
1	SET	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED	A	ZER
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		
1			POWER SUPPLY - WORK OF DIVISION 28		

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 09

Door(s):
147A

4	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC FIRE EXIT HARDWARE	RX-AX-98-L-F-M996-17-FSE	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	SURFACE CLOSER	4040XP EDA ST-1944	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS18S/FS18L	BLK	IVE
1	SET	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED	A	ZER
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		
1			POWER SUPPLY - WORK OF DIVISION 28		

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 10

Door(s):
147B

4	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	ELEC FIRE EXIT HARDWARE	RX-AX-98-L-F-M996-17-FSE		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH ST-1595		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	SET	GASKETING	429AA-S		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 11

Door(s):
102 103 141 142 202 203

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PUSH PLATE	8200 4" X 16"		630	IVE
1	EA	PULL PLATE	8303 10" 4" X 16" I/L		630	IVE
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
3	EA	SILENCER	SR64/SR65		GRY	IVE

HW SET: 12

Door(s):

104 146A 204

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 13

Door(s):

106 107A 108A

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 14

Door(s):
105 145A

8	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	CONST LATCHING BOLT	FB51P/FB61P 24" TOP BOLT LENGTH		630	IVE
1	EA	DUST PROOF STRIKE	DP1/DP2		626	IVE
1	EA	EU MORTISE LOCK	L9092TEU 17A 10-072 7/8" LIP RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	COORDINATOR	COR X FL		628	IVE
2	EA	MOUNTING BRACKET	MB/MBF		689	IVE
2	EA	SURFACE CLOSER	4040XP EDA ST-1754		689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	GASKETING	188SBK PSA @ HEADER		BK	ZER
1	SET	GASKETING	328AA-S @ JAMBS		AA	ZER
2	EA	DOOR SWEEP	39A		A	ZER
1	EA	ASTRAGAL	44STST		STST	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1			CARD READER - WORK OF DIVISION 28			
2			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 15

Door(s):

107B 108B

3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 16

Door(s):

117 126 129 131 218

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 17

Door(s):
110

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP EDA		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 18

Door(s):
136C

3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	OH STOP	100S	630	GLY
1	EA	SURFACE CLOSER	4040XP ST-1630	689	LCN
1	EA	TOP JAMB MTG PLATE	4040XP-18TJ SRT	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		
1			POWER SUPPLY - WORK OF DIVISION 28		

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 19

Door(s):

109		116	207	215	216		
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 20

Door(s):

112		113	114	115	211	212	
213		214					
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	OFFICE/ENTRY LOCK	L9050T 17A L583-363		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 21

Door(s):

118 119 120 127 128 217

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	L9080T 17A		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 22

Door(s):

205 206

3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	L9080T 17A		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP ST-1630		689	LCN
1	EA	TOP JAMB MTG PLATE	4040XP-18TJ SRT		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 23

Door(s):
118A

4	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	LOCK GUARD	LG1		630	IVE
1	EA	SURFACE CLOSER	4040XP EDA ST-1944		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS18S/FS18L		BLK	IVE
1	SET	GASKETING	429AA-S		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 24

Door(s):
144A

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		652	IVE
1	EA	FIRE EXIT HARDWARE	AX-98-L-F-17		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP EDA		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 25

Door(s):
144B

6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	FIRE EXIT HARDWARE	9847-EO-F-LBRAFL	626	VON
1	EA	FIRE EXIT HARDWARE	9847-L-F-LBR-17	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
4	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FLOOR STOP	FS436/FS438 AS REQ'D	626	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER
1	SET	MEETING STILE	328AA-S	AA	ZER

HW SET: 26

Door(s):
148

6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	CONST LATCHING BOLT	FB51T/FB61T	630	IVE
1	EA	STOREROOM LOCK	L9080T 17A	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	OH STOP & HOLDER	410F	630	GLY
4	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	SILENCER	SR64/SR65	GRY	IVE

HW SET: 27

Door(s):
145B

6	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
2	EA	POWER TRANSFER	EPT10		689	VON
1	EA	CONST LATCHING BOLT	FB51T/FB61T		630	IVE
1	EA	EU MORTISE LOCK	L9092TEU 17A 10-072 7/8" LIP RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	COORDINATOR	COR X FL		628	IVE
2	EA	MOUNTING BRACKET	MB/MBF		689	IVE
2	EA	SURFACE CLOSER	4040XP SHCUSH ST-2648 SPEC		689	LCN
4	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	ASTRAGAL	44STST		STST	ZER
2	EA	SILENCER	SR64/SR65		GRY	IVE
1			CARD READER - WORK OF DIVISION 28			
2			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

HW SET: 28

Door(s):
136D

1	EA	INVISIBLE HINGE	218IC			SOS
1	EA	INVISIBLE HINGE	218PT		626	SOS
1	EA	EU STOREROOM LOCK	ND80TDEU SPA RX CON 12V/24V DC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
3	EA	SILENCER	SR64/SR65		GRY	IVE
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

Buildings B and C

119306 OPT0391171 Version 1
HW SET: 01

Door(s):

7	10B	12	20	21	23E
26E	29	32A			

1	EA	CONT. HINGE	112XY EPT		628	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	ELEC PANIC HARDWARE	RX-QELX-AX-35A-NL-OP-388		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	90 DEG OFFSET PULL	8190EZHD 12" A		630-316	IVE
1	EA	OH STOP	100S		630	GLY
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	FLUSH CEILNG MTG PLATE	4040XP-18G SRT		689	LCN
1	SET	SEALS	BY DOOR/FRAME MFR			B/O
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC			VON
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			

MEDIUM STILE ALUMINUM DOOR.

HW SET: 02

Door(s):

24B 25B 30A 31A

1	EA	CONT. HINGE	112XY EPT		628	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	FLOOR STOP	FS18S/FS18L		BLK	IVE
1	SET	SEALS	BY DOOR/FRAME MFR			B/O
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

WIDE STILE ALUMINUM DOOR.

HW SET: 03

Door(s):

24A 25A 26A 28A 28B 30B
31B

1	EA	CONT. HINGE	112XY		628	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	SET	SEALS	BY DOOR/FRAME MFR			B/O

HW SET: 04

Door(s):
3

1	EA	PIVOT SET	7255 SET		626	IVE
2	EA	PUSH PLATE	1820		630	TRI
1	EA	CONCEALED CLOSER	6030 BUMP WMS PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	SET	SEALS	BY DOOR/FRAME MFR			B/O

WIDE STILE ALUMINUM DOOR

HW SET: 05

Door(s):
23A

1	EA	CONT. HINGE	112XY		628	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	SET	SEALS	BY DOOR/FRAME MFR			B/O

HW SET: 06

Door(s):

20A	20C	20D	23B	23C	23D
26B	26C	26D	32B	32C	32D

1	EA	MORTISE CYLINDER	20-061 ICX CAM TO SUIT		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH

BALANCE OF HARDWARE BY DOOR MFR.

HW SET: 07

Door(s):
41

1	EA	MORTISE CYLINDER	20-061 ICX CAM TO SUIT		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1			CARD READER - WORK OF DIVISION 28			

BALANCE OF HARDWARE BY DOOR MFR.

HW SET: 08

Door(s):
11B

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 09

Door(s):
18

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 10

Door(s):

1 2 4

3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	PUSH/PULL LATCH	HL6 9010 2 3/4" A		630	SCH
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 11

Door(s):

33 34

3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 12

Door(s):

14 27

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D	626	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		
1			POWER SUPPLY - WORK OF DIVISION 28		

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 13

Door(s):

5 10A 11A 16

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 14

Door(s):

8

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	OFFICE/ENTRY LOCK	L9050T 17A L583-363		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 15

Door(s):
15

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	L9080T 17A		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 16

Door(s):
40

3	EA	HINGE	5BB1HW 4.5 X 4.5		630	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	SET	GASKETING	328AA-S		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 17

Door(s):
6

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY LOCK W/ OUTSIDE INDICATOR	L9040 17A L583-363 OS-OCC		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 18

Door(s):
35

6	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	CONST LATCHING BOLT	FB51T/FB61T		630	IVE
1	EA	STOREROOM LOCK	L9080T 17A 10-072 7/8" LIP		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	COORDINATOR	COR X FL		628	IVE
2	EA	OH STOP & HOLDER	410F		630	GLY
4	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	ASTRAGAL	44STST		STST	ZER
2	EA	SILENCER	SR64/SR65		GRY	IVE

HW SET: 19

Door(s):
9

1	EA	PIVOT SET	7215 SET		626	IVE
1	EA	INTERMEDIATE PIVOT	7215 INT		626	IVE
1	EA	PASSAGE SET	L9010 17A XL11-515		626	SCH
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

Building D

119307 OPT0391368 Version 1
HW SET: 01

Door(s):
1

1	EA	CONT. HINGE	112XY EPT		628	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	ELEC PANIC HARDWARE	RX-QELX-AX-35A-NL-OP-388		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	90 DEG OFFSET PULL	8190EZHD 12" A		630-316	IVE
1	EA	OH STOP	100S		630	GLY
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	FLUSH CEILNG MTG PLATE	4040XP-18G SRT		689	LCN
1	SET	SEALS	BY DOOR/FRAME MFR			B/O
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC			VON
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			

MEDIUM STILE ALUMINUM DOOR.

HW SET: 02

Door(s):
2 4 6

1	EA	CONT. HINGE	112XY EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D	689	LCN
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D	626	IVE
1	SET	SEALS	BY DOOR/FRAME MFR		B/O
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		
1			POWER SUPPLY - WORK OF DIVISION 28		

WIDE STILE ALUMINUM DOOR.

HW SET: 03

Door(s):
21

1	EA	CONT. HINGE	112XY EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	OH STOP	100S	630	GLY
1	EA	SURFACE CLOSER	4040XP ST-1630 PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D	689	LCN
1	EA	TOP JAMB MTG PLATE	4040XP-18TJ SRT	689	LCN
1	SET	SEALS	BY DOOR/FRAME MFR		B/O
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		
1			POWER SUPPLY - WORK OF DIVISION 28		

WIDE STILE ALUMINUM DOOR.

HW SET: 04

Door(s):

3 5 7

1	EA	CONT. HINGE	112XY		628	IVE
1	EA	CORRIDOR LOCK W/ INSIDE INDICATOR	L9456T 17A L583-363 IS-LOC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP HW/PA PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	FLOOR STOP	FS18S/FS18L		BLK	IVE
1	SET	SEALS	BY DOOR/FRAME MFR			B/O
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER

WIDE STILE ALUMINUM DOOR

HW SET: 05

Door(s):

8 19 20

1	EA	CONT. HINGE	112XY		628	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	SET	SEALS	BY DOOR/FRAME MFR			B/O

WIDE STILE ALUMINUM DOOR

HW SET: 06

Door(s):

12 13

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	L9080T 17A		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 07

Door(s):

9A

3	EA	HINGE	5BB1HW 5 X 4.5		652	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 08

Door(s):

17A 17B 18A

3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

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HW SET: 09

Door(s):

9B 18B

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	ELEC PANIC HARDWARE	RX-AX-98-L-M996-17-FSE		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP EDA ST-1944		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS18S/FS18L		BLK	IVE
1	SET	GASKETING	429AA-S		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 10

Door(s):

10

3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	OH STOP & HOLDER	100HP		630	GLY
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 11

Door(s):
11

3	EA	HINGE	5BB1HW 4.5 X 4.5	630	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS18S/FS18L	BLK	IVE
1	SET	GASKETING	328AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED	A	ZER
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		
1			POWER SUPPLY - WORK OF DIVISION 28		

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 12

Door(s):
22

6	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	CONST LATCHING BOLT	FB51P/FB61P		630	IVE
1	EA	DUST PROOF STRIKE	DP1/DP2		626	IVE
1	EA	EU MORTISE LOCK	L9092TEU 17A 10-072 7/8" LIP RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	COORDINATOR	COR X FL		628	IVE
2	EA	MOUNTING BRACKET	MB/MBF		689	IVE
2	EA	SURFACE CLOSER	4040XP EDA ST-1754		689	LCN
4	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
2	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	ASTRAGAL	44STST		STST	ZER
1			CARD READER - WORK OF DIVISION 28			
2			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 13

Door(s):
14 16

3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX REQUIRES WALL BACKING		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR BOTTOM	355AA		AA	ZER
1	EA	THRESHOLD	545A OR AS DETAILED		A	ZER

HW SET: 14

Door(s):
15

3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	L9010 17A	626	SCH
1	EA	OH STOP	100S	630	GLY
1	EA	SURFACE CLOSER	4040XP ST-1630	689	LCN
1	EA	TOP JAMB MTG PLATE	4040XP-18TJ SRT	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER
1	EA	DOOR BOTTOM	355AA	AA	ZER
1	EA	THRESHOLD	545A OR AS DETAILED	A	ZER

HW SET: 15

Door(s):
23

4	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	L9080T 17A	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	LOCK GUARD	LG1	630	IVE
1	EA	SURFACE CLOSER	4040XP EDA ST-1944	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS18S/FS18L	BLK	IVE
1	SET	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED	A	ZER

Buildings E, F, G, H

120258 OPT0391370 Version 1
HW SET: 1

Door(s):

1A	2	6E	7B	8E	11
12A	13A				

1	EA	CONT. HINGE	112XY EPT		628	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	ELEC PANIC HARDWARE	RX-QELX-AX-35A-NL-OP-388		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	90 DEG OFFSET PULL	8190EZHD 12" A		630-316	IVE
1	EA	OH STOP	100S		630	GLY
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	FLUSH CEILNG MTG PLATE	4040XP-18G SRT		689	LCN
1	SET	SEALS	BY DOOR/FRAME MFR			B/O
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC			VON
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			

MEDIUM STILE ALUMINUM DOOR.

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 2

Door(s):

3A	3B	4	6A	8A	13B
13C					

1	EA	CONT. HINGE	112XY		628	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	SET	SEALS	BY DOOR/FRAME MFR			B/O

WIDE STILE ALUMINUM DOOR

HW SET: 3

Door(s):

7A

2	EA	CONT. HINGE	112XY	628	IVE
1	EA	CONST LATCHING BOLT	FB51P/FB61P	630	IVE
1	EA	DUST PROOF STRIKE	DP1/DP2	626	IVE
1	EA	PASSAGE SET	L9010 17A	626	SCH
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB/MBF	689	IVE
2	EA	SURFACE CLOSER	4040XP SCUSH ST-2648 PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D	689	LCN
1	SET	SEALS	BY DOOR/FRAME MFR		B/O

WIDE STILE ALUMINUM DOORS

HW SET: 4

Door(s):

1B	1C	1D	6B	6C	6D
8B	8C	8D	12B	12C	12D

1	EA	MORTISE CYLINDER	20-061 ICX CAM TO SUIT	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH

BALANCE OF HARDWARE BY DOOR MFR.

HW SET: 5

Door(s):

5 9

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		
1			POWER SUPPLY - WORK OF DIVISION 28		

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 6

Door(s):

10

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D	626	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		
1			POWER SUPPLY - WORK OF DIVISION 28		

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

Building I

120255 OPT0391371 Version 1
HW SET: 01

Door(s):
1A 1C

1	EA	MORTISE CYLINDER	20-061 ICX CAM TO SUIT		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH

BALANCE OF HARDWARE BY DOOR MFR.

HW SET: 02

Door(s):
21 23 26

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	LOCK GUARD	LG1		630	IVE
1	EA	SURFACE CLOSER	4040XP EDA ST-1944		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS18S/FS18L		BLK	IVE
1	SET	GASKETING	429AA-S		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 03

Door(s):

24 25

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC	626	SCH
1	EA	PRIMUS CORE	20-740-XP	626	SCH
1	EA	LOCK GUARD	LG1	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH ST-1595	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	SET	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED	A	ZER
1			CARD READER - WORK OF DIVISION 28		
1			DOOR CONTACT(S) - WORK OF DIVISION 28		
1			POWER SUPPLY - WORK OF DIVISION 28		

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 04

Door(s):

1B 1D 14A

3	EA	HINGE	5BB1HW 4.5 X 4.5		630	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	OH STOP	100S		630	GLY
1	EA	SURFACE CLOSER	4040XP ST-1630		689	LCN
1	EA	TOP JAMB MTG PLATE	4040XP-18TJ SRT		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	SET	GASKETING	328AA-S		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 05

Door(s):

16 18 20 21A 22

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS18S/FS18L		BLK	IVE
1	SET	GASKETING	328AA-S		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 06

Door(s):

2	2B	9A

6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
2	EA	POWER TRANSFER	EPT10		689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-9847-EO 24 VDC		626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-9847-NL-OP-110MD 24 VDC		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	DOOR PULL	VR910 DT SNB		630	IVE
1	EA	DOOR PULL	VR910 NL SNB		630	IVE
2	EA	SURFACE CLOSER	4040XP EDA ST-1944 SPEC		689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
2	EA	FLOOR STOP	FS18S/FS18L		BLK	IVE
1	SET	MEETING STILE	328AA-S		AA	ZER
1	SET	GASKETING	429AA-S		AA	ZER
2	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1			CARD READER - WORK OF DIVISION 28			
2			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 07

Door(s):
8

6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
2	EA	POWER TRANSFER	EPT10		689	VON
1	EA	ELEC PANIC HARDWARE	RX-9847-L-M996-06-FSE		626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-9847-EO 24 VDC		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
2	EA	SURFACE CLOSER	4040XP EDA ST-1944 SPEC		689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
2	EA	FLOOR STOP	FS18S/FS18L		BLK	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1	SET	MEETING STILE	328AA-S		AA	ZER
1	SET	GASKETING	429AA-S		AA	ZER
2	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER
1			CARD READER - WORK OF DIVISION 28			
2			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 08

Door(s):
3 7 27

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	L9080T 17A		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 09

Door(s):

9 10 11 12

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

HW SET: 10

Door(s):

14B

3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	OFFICE/ENTRY LOCK	L9050T 17A L583-363		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	OH STOP	100S		630	GLY
1	EA	SURFACE CLOSER	4040XP ST-1630		689	LCN
1	EA	TOP JAMB MTG PLATE	4040XP-18TJ SRT		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

Building J

120251 OPT0391374 Version 1

HW SET: 1

Door(s):

1		1A	1E	14A	14E		
1	EA	CONT. HINGE		112XY EPT		628	IVE
1	EA	POWER TRANSFER		EPT10		689	VON
1	EA	ELEC PANIC HARDWARE		RX-QELX-AX-35A-NL-OP-388		626	VON
1	EA	RIM CYLINDER		20-057 ICX		626	SCH
1	EA	PRIMUS CORE		20-740-XP		626	SCH
1	EA	90 DEG OFFSET PULL		8190EZHD 12" A		630-316	IVE
1	EA	OH STOP		100S		630	GLY
1	EA	SURFACE CLOSER		4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	FLUSH CEILNG MTG PLATE		4040XP-18G SRT		689	LCN
1	SET	SEALS		BY DOOR/FRAME MFR			B/O
1	EA	DOOR SWEEP		39A		A	ZER
1	EA	THRESHOLD		102A OR AS DETAILED		A	ZER
1	EA	POWER SUPPLY		PS902 900-2RS 120/240 VAC			VON
1				CARD READER - WORK OF DIVISION 28			
1				DOOR CONTACT(S) - WORK OF DIVISION 28			

MEDIUM STILE ALUMINUM DOOR.

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 2

Door(s):

1F 14F

1	EA	CONT. HINGE	112XY		628	IVE
1	EA	PASSAGE SET	L9010 17A		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ PROVIDE MTG BRKT, SPCR & PLATE AS REQ'D		689	LCN
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	SET	SEALS	BY DOOR/FRAME MFR			B/O

WIDE STILE ALUMINUM DOOR

HW SET: 3

Door(s):

1B 1C 1D 14B 14C 14D

1	EA	MORTISE CYLINDER	20-061 ICX CAM TO SUIT		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH

BALANCE OF HARDWARE BY DOOR MFR.

HW SET: 4

Door(s):

5

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/FS438 AS REQ'D		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

HW SET: 5

Door(s):

6 7

3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 17A RX CON 12/24 VDC		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIALS TO THE READER WILL MOMENTARILY UNLOCK THE DOOR, ALLOWING ACCESS. FREE EGRESS AT ALL TIMES. UPON LOSS OF POWER, THE DOOR WILL REMAIN LOCKED AND WILL CONTINUE TO ALLOW FREE EGRESS.

Site Gates

120251 OPT0391374 Version 1
HW SET: 01

Door(s):
GATE W/ CR

1	EA	GATE CLOSER	MAMMOTH-180-ZILV			LOX
1	EA	PANIC HARDWARE	AX-98-NL-OP-110MD-WH		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	PRIMUS CORE	20-740-XP		626	SCH
1	EA	ELECTRIC STRIKE	6300 FSE 12/24 VAC/VDC		630	VON
1	EA	DOOR PULL	VR910 NL SNB		630	IVE
1	EA	FLOOR STOP	FS18S/FS18L		BLK	IVE
1			CARD READER - WORK OF DIVISION 28			
1			DOOR CONTACT(S) - WORK OF DIVISION 28			
1			POWER SUPPLY - WORK OF DIVISION 28			

BALANCE OF HARDWARE BY GATE FABRICATOR.

HW SET: 02

Door(s):
GATE

1	EA	GATE CLOSER	MAMMOTH-180-ZILV			LOX
1	EA	PANIC HARDWARE	AX-98-L-BE-17-WH		626	VON
1	EA	FLOOR STOP	FS18S/FS18L		BLK	IVE

BALANCE OF HARDWARE BY GATE FABRICATOR.

END OF SECTION

SECTION 09 5423
LINEAR LAMINATE METAL CEILING SYSTEM

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Perforated and un-perforated laminate metal ceiling panels

2. Acoustical backing.

3. Suspension assemblies

4. Accessories; provide other necessary items including devices for attachment overhead construction, secondary members, splines, splices, connecting clips, wall connectors, wall angles required for a complete installation.

5. Supplemental support framing: Provide fully engineered secondary framing as required to meet code, conforming to layout shown in drawings, to support direct-hung metal ceilings suspension system.

6. Coordinate layout and installation of items penetrating or being installed in ceiling systems with responsible trades.

B. Related Sections / Work:

1. Sections 09 5323 METAL ACOUSTICAL SUSPENSION SYSTEM

C. This Section covers the general requirements only for Acoustical Laminate Metal Ceilings as shown on the drawings. The supplying and installation of additional accessory features and other items not specifically mentioned herein, but which are necessary to make a complete installation shall also be included or clarified accordingly.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. A641 -"Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire"

2. A653 - "Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc- Iron Alloy Coated (Galvannealed) by the Hot-Dip process"

3. B209 - "Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate"

4. B633 - "Standard Specification for Electrodeposited Coatings of Zinc on Iron or Steel"

5. C423 - "Sound Absorption and Sound Absorption Coefficients by Reverberation Room Method"

6. C635 - "Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay- in Panel Ceilings"

7. C636 - "Recommended Practice for Installation of Metal Ceiling Suspensions Systems for Acoustical and Lay-in Panels"

8. D1002 - "Practice for Adhesion Resistance"

9. D1044 - "Practice for Abrasion Resistance"

10. D1876 – “Peel Resistance of Adhesives”

11. E84 - "Standard Test Method for Surface Burning Characteristics of Building Materials"

12. E488 - "Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements"

13. E580 - "Standard Practice for Application of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Requiring Moderate Seismic Restraint"

14. E795 - "Standard Practices for Mounting Test Specimens during Sound Absorption Tests"

15. E1190 - "Standard Test Methods for Strength of Power Actuated Fasteners Installed in Structural Members"

16. E1264 - "Classification for Acoustical Ceiling Products"

17. E1477 - "Standard Test Method for Luminous Reflectance factor of Acoustical Materials by use of Integrating-Sphere Reflectometers"

C. American Architectural Manufacturers Association (AAMA) 620-02 - Voluntary Specifications for High Performance Organic Coatings on Coil Coated Aluminum Substrates.

D. Ceiling & Interior Systems Construction Association (CISCA) "Ceiling Systems Handbook".

1. Guidelines for Seismic Restraint

a. Acoustical Tile and Lay-in Panels – Zone 4.

b. Direct Hung Suspended Ceiling Assemblies – Zone 4.

E. Local Building Code- 2022 California Building Code (CBC).

1.4 SUBMITTALS

A. Product Data: Manufacturers product data for each type of product specified in this section.

B. Product Certification: Manufacturer's certifications that products comply with specified requirements and governing codes including product data, laboratory test reports and research reports showing compliance with specified standards, including ASTM E400 Octave Band Absorption Data.

C. Shop (Coordination) Drawings: Submit shop drawings for reflected ceiling plans (RCP's), drawn to scale, and coordinating penetrations and ceiling mounted items. Show the following details:

1. Reflected ceiling plan including joint patterns & details.

2. Metal ceiling suspension system plan with appropriate components, suggested hanger locations & details.

3. Method of attaching suspension system hangers to building structure.

4. Ceiling-mounted items including: light fixtures, air outlets and inlets, speakers, sprinklers, and other interfaces.

5. Special moldings at walls, column penetrations, and other junctures of acoustical ceilings with adjoining construction.

6. Framing and support details for work supported by ceiling suspension system.

7. List of materials, dimensions, hanger fastenings and any special details.

8. Minimum drawing scale: 1/8" = 1'-0".

9. Provide full scale drawings of perforation patterns. Provide minimum 1"=1'-0" scale layout for each panel type showing perforation layout and orientation as required.

D. Samples for Verification: Full-size units (or as specified below) of each type of ceiling assembly indicated; in sets for each color, texture, and pattern specified, showing the full range of variations expected in these characteristics. Submit samples for each type specified.

1. 12-inch square, (acoustical) laminate metal pan units.

2. 12-inch long samples of each exposed molding or trim.

3. 12-inch long samples of each suspension component.

E. Qualification Data: For firms and persons specified in "Quality Assurance" (Section 1.5). Provide documents to demonstrate their capabilities and experience. Include lists of at least 5 completed projects with project names and addresses, names and addresses of Architects and employers, and other information specified.

1.5 QUALITY ASSURANCE

A. Unless accepted otherwise by the Architect, use manufacturer and installers that employ a Quality Management System complying with the program described in ISO 9001-2008, or similar system.

B. Installer

1. To certify a minimum 5 years experience installing similar systems and scope to those specified.

2. Provide list of at least 5 successful installations with similar products and scope. Include names and contact numbers of Architect and employer for reference.

C. Manufacturer

1. To certify a minimum of 5 years experience as a manufacturing enterprise engaged in sales and production of similar products to those specified.

2. Provide support documentation including name and date of similar projects completed. Include names and contact numbers of Architect and employers for reference.

3. Manufacturer shall be single source and shall be the fabricator and supplier of appropriate major components.

D. Fire-Test-Response Characteristics: Provide acoustical laminate metal pan ceilings that comply with one of the following requirements:

1. The panels are made from a non-combustible aluminum core and tested in accordance with ASTM E84. A thin (no more than .025 inches), layer of veneer finish to bed applied. Surface-burning characteristics of acoustical metal pan ceilings per CBC Chapter 8 Section 803.

E. Mock-Ups: Before releasing acoustical laminate metal ceilings, if requested, construct mock-ups for each form of construction and finish required to verify selections made under sample submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mock-up to comply with the following minimum requirements, using materials indicated for completed work:

1. Locate mock-ups in the location and of the size indicated or, if not indicated, as directed by the Architect. Minimum mock-up size to be 10’x 10’ unless otherwise specified.

2. Notify Architect seven days in advance of the dates and times when mock-ups will be constructed.

3. Demonstrate the proposed range of aesthetic effects and workmanship.

4. Site Coordination Mock-up:

a. For approval of assembly, sequence of installation, coordination of trades involved, including ceiling panel types and shapes.

b. Sized large enough to include a minimum of 2 adjacent panels Demonstrating interface work of fire protection sprinklers, lighting,

mechanical diffusers, anchoring method at steel structure; adjacent vertical wall; skylight and fascia, trim and accessories.

5. Obtain Architect's approval of mock-ups before starting construction of acoustical composite metal wood pan ceilings. Submit detailed, ACAD shop drawing illustrating extent and scope of mock-ups. Do not proceed without approval of these drawings.

6. Maintain mock-ups during construction in an undisturbed condition as a standard for judging the completed work.

   a. When directed, demolish and remove mock-ups from project site

   b. Approved mock-ups in an undisturbed condition at the time of initial Acceptance may become part of the completed work, subject to Architect / Employer approval.

F. Pre-installation Conference: Conduct conference at Project site as directed by the project Architect.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical composite metal ceiling units and suspension system components in original, unopened packages clearly labeled with the following information: name of manufacturing source and location; product type, description and quantity; clients name and shipping address.

B. Store components in a fully enclosed space where they will be protected against physical damage from direct moisture, significant change in humidity, direct sunlight, significant change in temperature, surface contamination, and any other preventable cause.

C. Exercise care in handling components to prevent damage to the surfaces and edges and prevent distortion or other physical damage. Comply with prescribed stacking instructions to prevent damage to the components.

1.7 PROJECT CONDITIONS

A. Environmental Limitations

1. Do not install metal pan ceilings until after spaces are enclosed and weather tight and after wet work and work above ceilings is complete and accepted by project Architect. Do not store in unprotected space.

2. Maintain environmental conditions within limits recommended by manufacturer for optimum results.

   a. Maintain within a temperature range of 50-100 degrees.

   b. Maintain within a 20%-60% relative humidity.

3. Coordinate with other work supported by, adjacent to or penetrating through the ceiling system.

B. Do not install products in exterior space unless the system has been specifically designed and approved for exterior application.

C. If the project is located within range of moisture associated with large bodies of water (fresh or salt), necessary materials shall be finished with coatings appropriate to condition of use.

1.8 WARRANTY

A. Provide specified manufacturer warranty against defects in workmanship.

B. This warranty shall remain in effect for a minimum period of one (1) year from date of installation.

1.9 MAINTENANCE & EXTRA MATERIALS

A. Maintenance Instructions: Provide manufacturers standard maintenance and cleaning instructions for finishes provided.

B. Extra Materials: Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents. Only typical system components are included with attic stock.

1. Metal Ceiling Pan Units: Full-size units equal to 1 percent (1%) of amount installed.

2. Ceiling Suspension System Components: Quantity of each grid and exposed component equal to 1 percent (1%) of amount installed.

PART 2 PRODUCTS – FINISH CEILING

2.1 MANUFACTURERS

A. Basis of design: USG/Ceilings Plus - “Planx / Mirra” – Perforated –Saranté finish
B. Location - 6711 E. Washington Blvd., Los Angeles, CA 90040. 800-822-3411– www.usg.com/ceilings/#sle.

B. Supply specified item or comply with Section 01 60 00 “Substitutions”. Specified manufacturer’s standard of quality and manufacturing tolerances shall be the criteria for evaluating “equivalent” products. Substitution shall be equal to or of better quality than the specified product in the opinion of the Architect and / or owner.

2.2 MATERIALS

A. Ceiling Type MCP-1- USG/Ceilings Plus “Planx / Mirra” – Perforated –Saranté finishto match Architect’s sample; or approved equal. USG Corporation; Planx Linear Metal Systems: www.usg.com/ceilings/#sle.

1. Panels are to be manufactured from single sheets of aluminum selected for surface flatness, smoothness and freedom from surface blemishes where exposed to view in a finished unit. Do not use material where the exposed

surface exhibit pitting, seam marks, roller marks, stains, discolorations, or variations in flatness exceeding those permitted by referenced standards for stretcher-leveled aluminum alloy sheets.

2. Panels to die formed with a 1-1/4" vertical with .3" minimum integral returns on panel sides. No fasteners of any kind shall be visible on exposed face surfaces of ceiling panels or support tees. Down light openings and other ceiling penetrations shall be factory precision cut whenever viable. Roll forming is not acceptable.

3. Panel material shall be primed aluminum sheet type 3105 series alloy that has up to 90% recycled content. It shall be machine stretcher-leveled and a minimum of .032" thickness, or greater if required, so that the panel deflection does not exceed L/360.

4. The panel finish shall be:

   "Saranté" PVC free, laminate that is permanently bonded to the aluminum sheet with formaldehyde free, water based adhesive of minimum bond strength of 425 psi @ 25 degrees C.

5. Linear member width shall as shown on drawings x 96" with a 13/16" reveal.

6. End Profile: Panel end joints are butt condition with integral splice unless specified otherwise. Integral panel end return shall be provided.

7. Perforation shall be selected by the Architect from Ceilings Plus' standard patterns. Perforation optional.

8. Sound-Absorptive Fabric Layer: Provide manufacturer's acoustic fabric sized to fit and laminated to concealed surface of panel. Material shall be both non-flammable and sound-absorptive.

   a. Fire Class shall be Class A, with surface-burning characteristics for flame-spread rating of 25 or less and smoke developed rating of 50 or less. Provide independent accredited lab test results showing compliance with Class A rating as per ASTM E84.

   b. Achieve absorption value of not less than .70 NRC. Provide independent accredited laboratory test results illustrating compliance with acoustical requirements as per ASTM E400.

      i. Option: Acoustical metal panel ceilings to provide recycled cotton, "Ultrasorb" in sufficient thickness to adhesive NRC rating specified.

      ii. Option: Acoustical metal panel ceilings to provide recycled "Soundtex" fiber fleece. Permanently laminate fleece (Install acoustical pads) to the backside of the perforated panels, unless otherwise directed by the Architect. Minimum NRC 0.70.

9. The plenum shall be 100% accessible.

10. Fire Tests: Complete system test including suspension, primed aluminum shall meet ASTM E 84 Class A.

11. Provide and install matching finish trim on each side of each suspended area (or as specified).

2.3 METAL SUSPENSION SYSTEMS. GENERAL

A. Metal Suspension Standard: Provide panel manufacturer's metal suspension systems of types, structural classifications, materials, and finishes indicated that comply with applicable ASTM C 635 requirements.

1. Main and cross runners to be Standard “Heavy Duty” tee bar (as per ASTM C635).

2. Face flange of main and cross runners to be factory finished matte black unless known otherwise.

3. Face flange of main runners to be slotted and factory formed to accept panel side flanges.

4. Provide suspension system made from steel sheet with an average recycled content such that post-consumer recycled content plus one half or pre consumer content is not less than 25 percent.

B. Suspension Systems: Provide complete suspensions systems with main runners, cross runners, hangers, trim molding, seismic retention clips, load resisting struts and other suspension components required to support ceiling and other ceiling supported construction (some of these parts may be supplied by the installer). This includes yokes to span elements such a recessed light fixtures.

C. Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, “Direct- Hung”, unless otherwise indicated (supplied by installer).

1. Provide anchor, for use in the particular application, as approved by the “Structural Engineer of record”.

2. Structural substrate, as indicated to support attachment device, also to be approved by the “Structural Engineer of record”.

3. Anchors specified must provide corrosion resistance as per metal type and application.

a. Anchors into Steel

i. Clip or Clamp

ii. Shot Pin

4. “Direct-Hung” Suspensions Systems: System composed of main runners supported by hangers attached directly to building structure.

5. “Indirect-Hung” Suspension Systems: System composed of main runners connected to carrying channels that are attached by hangers to building structure, and complying with the following requirements:

a. Hangers: Type and metal standard with ceiling system manufacturer, sized to comply with structural classification indicated.

b. Wire Hangers, where applicable, Braces, and Ties: Provide wires complying with the following requirements:

i. Zinc-Coated Carbon-Steel Wire: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper.

ii. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635, Table 1, Direct Hung) will be less than yield stress of wire, but provide not less than 2mm diameter wire.

iii. Extruded Aluminum members shall comply with ASTM B209.

c. Hanger Rods: Mild steel, zinc coated or protected with rust-inhibitive aint.

d. Flat Hangers: Mild steel, zinc coated or protected with rust-inhibitive paint.

e. Angle Hangers: Angles with legs not less than 22mm wide, formed with 1mm thick, galvanized steel sheet complying with ASTM A 653/A 653M, G90 coating designation, with bolted connections.

D. USG Logix Yoke: Provide manufacturer's metal yoke bracket at lineal light openings to lineal metal ceiling systems. Refer to drawing plans for locations and indicate assembly on shop drawings.

2.4 FINISHES, GENERAL

A. Comply with "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. Provide manufacturers standard factory-applied finish for type of system indicated unless specified otherwise.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipment.

C. Appearance of finished work: Painted or Anodized:

1. Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half range of approved samples.

2. Noticeable variation in same piece is not acceptable.

3. Variations in appearance of other components are acceptable if they are within range of approved samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and structural framing to which acoustical metal panels attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect installation and anchorage, and other conditions affecting performance of metal panel ceilings.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Coordination: Furnish layouts for cast-in-place anchors, clips, and other ceiling anchors whose installation is specified in other Sections.

B. Measure each ceiling area and establish layout of acoustical metal pan units to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width units at borders, and comply with layout shown on reflected ceiling plans.

C. Survey substrate for wall attachment to assure squareness and proper elevation for wall panel installation.

3.3 INSTALLATION

A. General: Install acoustical metal pan ceilings, per manufacturers shop drawings provided, per manufacturer's written instructions and to comply with publications referenced below.

1. ClSCA "Ceiling Systems Handbook.

2. Standard for Ceiling Suspension System Installations - ASTM C 636.

3. Standard for Ceiling Suspension Systems Requiring Seismic Restraint - ASTM E580

4. CBC standard for Seismic Zone for local area.

B. Suspend ceiling hangers from building's approved structural substrates and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.

2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.

3. Where width of ducts and other construction within ceiling plenum produce hanger spacings that interfere with location of hangers at spacing required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.

4. Where used secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure; that are appropriate for substrate; and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.

5. Space hangers not more than 48 inches on center, along each member supported directly from hangers, unless otherwise indicated; and provide hangers not more than 8 inches from ends of each member. Supply supporting calculations from licensed Structural Engineer verifying hanger spacing meets all requirements, when spacing exceed those recommended.

6. Fine level grid to 1/8 inch in 10 feet from specified elevation(s), square and true.

7. Adjust suspension system runners so they are square (within .5 degree from 90 degrees) and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

C. Secure bracing wires to ceiling suspension members and to supports acceptable to Architect / Engineer and or inspector. Suspend bracing from building's structural members and / or structural deck, as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs(unless directed otherwise).

D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical metal pan. Method of edge trim attachment and design of edge trims to be approved by Architect.

1. Screw attach moldings to substrate at intervals not more than 18” O.C. and not more than 6” from ends, leveling with ceding suspension system to a tolerance of 1/8” in 10’. Miter corners accurately and connect securely.

2. Do not use exposed fasteners, including pop rivets, on moldings and trim without prior written approval or unless detailed otherwise.

F. Scribe and cut acoustical metal panel units for accurate fit at penetrations by, other work through ceilings. Stiffen edges of cut units as required to eliminate evidence of buckling or variations in flatness exceeding referenced standards for stretcher-leveled metal sheet.

G. Install acoustical metal panel units in coordination with suspension system.

1. Align joints in adjacent courses to form uniform, straight joints parallel to room axis in both directions, unless otherwise indicated. Install directionally patterned or textured panels in directions indicated on approved shop drawings. Panel-joints shall flow smoothly and in a straight line within 1/8” in 10’. Intersections shall be continuous.

2. Fit adjoining units to form flush, tight joints. Scribe and cut units for accurate fit at borders and around construction penetrating ceiling.

3. Remove protective film from panels only when space is completely clean and free of airborne particles. Use white cotton gloves for final installation of panels into grid system.

3.4 ADJUSTING AND CLEANING

A. Adjust ceiling components to provide a consistent finish and appearance in conformity with established tolerances and requirements.

B. Clean exposed surfaces of acoustical metal panel ceilings and walls. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.

C. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage, including dented and bent units.

END OF SECTION

SECTION 09 6513.23

RESILIENT STAIR TREADS

PART 1 – GENERAL

1.1 SUMMARY

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications. Section includes: Resilient Stair Treads and Risers accessories.

1.2 DESCRIPTION OF WORK

A. **Work Included:** Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

i. Section 09 65 13.23 Rubber Stair Treads and accessories

B. References:

i. ASTM International (ASTM):

a. ASTM F2169, Standard Specification for Resilient Stair Treads
b. ASTM E662, Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
c. ASTM F386, Standard Test Method for Thickness of Resilient Flooring Materials Having Flat Sur- faces
d. ASTM F925, Standard Test Method for Resistance to Chemicals of Resilient Flooring
e. ASTM F1514, Standard Test Method for Measuring Heat Stability of Resilient Flooring by Color Change
f. ASTM D2240, Standard Test Method for Rubber Property—Durometer Hardness
g. ASTM D2047, Standard Test Method for Static Coefficient of Friction as Measured by the James Machine
h. ASTM D3389, Standard Test Method for Coated Fabrics Abrasion Resistance (Rotary Platform Abrader)
i. ASTM F1482, Standard Guide to Wood Underlayments products Available for Use Under Resilient Flooring

ii. National Fire Protection Association (NFPA):

a. NFPA 253, Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Energy Source
b. NFPA 258, Test Method for Specific Density of Smoke Generated by Solid Materials

1.3 SUBMITTALS

A. **General:** Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures.

B. **Product Data:** Submit manufacturer's technical data sheet, care & maintenance document, submittal and/or warranty for each material and accessory proposed for use.

C. **Samples:** Submit representative samples of each product specified for verification, in manufacturer's standard size samples of each resilient product color, texture and pattern required.

1.4 QUALITY ASSURANCE

A. **Manufacturer Qualifications:** Provide resilient stair treads and accessory materials manufactured in the United States of America by a firm with a minimum of 10 years' experience with resilient flooring materials of type equivalent to those specified.

i. Provide resilient stair tread products, including risers, stringers, and subfloor preparation products from one manufacturer to ensure color matching and compatibility.

ii. The manufacturer shall be capable of providing technical training and technical field service representation.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in labeled packages. Store and handle in strict compliance with manufacturer's recommendations. Protect from damage due to weather, excessive temperatures, and construction operations.

B. Deliver materials sufficiently in advance of installation to condition materials to the required temperature for 48- hours prior to installation.

1.6 PROJECT CONDITIONS

A. Install Rubber Stair Treads after other finishing operations, including painting, have been completed.

B. Maintain temperature at service levels and/or the ambient temperature must remain steady (± 10° F) between 65° F and 85° F for at least 48-hours prior to, during and until substantial completion.

C. Maintain relative humidity at service levels, or between 40% and 65% RH.

D. Avoid conditions in which dew point causes condensation on the installation surface.

1.7 WARRANTY

A. Provide manufacturer's standard limited commercial warranty to cover manufacturing defects.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Basis-of-Design: American Stair Treads, 152 Rollins Avenue, Suite 102, Rockville, MD 20852. Phone (800) 762 - 9010

B. Mannington Commercial Color Scape Stair Treads, 1844 U.S. Highway 41 S. E. Calhoun, GA 90701. Phone (800) 241-2262.

C. Tarkett Commercial. Phone (800) 899-8914

D. Or equal as approved by Architect.

2.2 PRODUCTS

A. Orbitread Stair Treads
   i. Profile: Low 3/16” thick

   ii. Color Finish: Dark Brown

   iii. Edge; 1 ½” deep square nose.

   a. Solid, homogeneous, vulcanized rubber.

   b. Treads Reinforced with Kevlar fibers for Extreme Durability

   c. 25 Year Limited Warranty

   d. ASTM F2169, Standard Specification for Resilient Stair Treads; Complies, Type TS, Class 1 & Group 1 & 2, Grade 1

   e. ASTM E648, Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Ra- diant Heat Energy Source; Class I

   f. ASTM E662, Standard Test Method for Specific Optical Density of Smoke Generated by Solid Ma- terials; Pass <450

   g. ASTM F386, Standard Test Method for Thickness of Resilient Flooring Materials Having Flat Sur- faces, Passes

   h. ASTM F925, Standard Test Method for Resistance to Chemicals of Resilient Flooring; Passes

   i. ASTM F1514, Standard Test Method for Measuring Heat Stability of Resilient Flooring by Color Change; Passes

   j. ASTM D2240, Standard Test Method for Rubber Property—Durometer Hardness; Passes >85 Shore A

   k. ASTM D2047, Standard Test Method for Static Coefficient of Friction as Measured by the James Machine, >0.6

   l. ASTM D3389, Standard Test Method for Coated Fabrics Abrasion Resistance (Rotary Platform Abrader), Passes <1 gram loss.

   m. NFPA 258, Test Method for Specific Density of Smoke Generated by Solid Materials

2.3 INSTALLATION AND MAINTENANCE MATERIALS

A. **Moisture Mitigation:** Moisture testing is required for all Raised Design Rubber Stair Treads installations. Mitigation should be performed if results indicate high levels of moisture. Recommended Moisture Mitigation Product:

   i. Excelsior MM-100, Moisture Mitigation provided by Roppe

   a. Unit Size: 2.5 Gallons

   b. Coverage: 1000 square feet per unit with one coat

   c. MM-100 is a water, solvent and VOC free, polyurethane-based moisture mitigation product used to treat concrete slabs with excessive moisture levels

beyond what flooring adhesives allow.

d. MM-100 can block moisture up to 20 lbs. MVER or 99% RH.

e. MM-100 is a single component product, eliminating extensive mix times and concerns regarding pot life.

f. MM-100 does not require aggressive concrete preparation, such as shot blasting or diamond grinding.

g. MM-100 is a two coat system that is incredibly easy to apply and does not require any specialized equipment, its excellent coverage rates also make it incredibly cost effective.

h. Despite being a two coat system, MM-100 is incredibly fast drying.

i. Flooring or subsequent coatings can be installed in less than two hours.

j. Backed by a 10 year material and labor warranty, MM-100 is a fast and easy solution for the moisture issues that commonly plague flooring installations.

B. **Substrate Preparation Products:** Substrates should be prepared to properly receive the resilient flooring products being specified. Trowelable leveling and patching compounds that are latex-modified, Portland cement based or blended hydraulic cement based formulation. Recommended Substrate Preparation Products:

i. Excelsior NP-230, Non-Porous Substrate Primer:

a. Unit Size: 2.5 Gallons

b. Coverage: 1000 Square Feet per unit with one coat

c. Used over MM-100 to promote adhesion of cementitious materials

d. Single component and fast drying to allow for quick and easy installation

e. Contains an aggregate to provide mechanical bond for cementitious materials

ii. Excelsior CP-300, Cementitious Patch:

a. Unit Size: 10 lb. Pail

b. Coverage: 33 Square Feet per unit @ 1/8”

c. Doesn’t require primer over porous substrates

d. Install flooring in as little as 30 minutes

iii. Excelsior SU-310, Self-Leveling Underlayment:

a. Unit Size: 50 lb. Bag

b. 5500 PSI Compressive Strength after 28 days

c. Install flooring within 12 hours

d. Pumpable

C. **Adhesives:** Adhesives should be selected based on the site conditions and use of the space being installed. Recommended Adhesive Products:

i. Excelsior AW-510, Acrylic Wet-Set Adhesive:

a. Unit Size: 1 Gallon & 4 Gallon

b. Coverage: 150 Square Feet

c. Standard installations over porous and non-porous substrates

d. Hard set adhesive adding to dimensionally stable materials

e. Excellent sheer strength

f. Approved for Hill-Rom Beds

g. Installation Limits

(1) 90% RH, ASTM F2170

(2) 6 lbs.

MVER, ASTM F1869

(3) 7-10 pH

ii. Excelsior EN-610, Epoxy Nose Filler Adhesive:

a. Unit Size: 13.5 oz. Cartridge

b. Coverage: 25 linear feet with ½" bead / 50 linear feet with ¼" bead

c. Standard installations over porous and non-porous substrates

d. Directly install over concrete, metal or wood

e. Excellent sheer strength

f. Installation Limits

(1) 90% RH, ASTM F2170

(2) 6 lbs.

MVER, ASTM F1869

(3) 7-10 pH

iii. Excelsior C-630, Contact Adhesive:

a. Unit Size: 1 Quart

b. Coverage: 20 – 40 sq. ft.

120-140 lin. ft. per unit

c. Vertical or Horizontal installations over porous and non-porous substrates

d. Hard set adhesive adding to dimensionally stable materials

e. Superior sheer strength

f. Installation Limits

(1) 85% RH, ASTM F2170

(2) 6 lbs.

MVER, ASTM F1869

(3) 7-10 pH

g. Easy installations over porous and non-porous substrates

h. No Clean-up, Limited Waste

i. Superior sheer strength

j. Installation Limits

(1) 80% RH, ASTM F2170

(2) 5 lbs.

MVER, ASTM F1869

(3) 7-10 pH

D. **Accessories:** Items recommended for installation:

i. Risers

a. Height: 7” (177.8 mm)

b. Thickness: .100” (2.5 mm)

c. Toe Length: 9/16” (14.28 mm)

d. Specify Riser Length: Field verify.

e. Color Matched to Color Selected for Raised Design Rubber Treads

PART 3 – EXECUTION

3.1 GENERAL

A. General Contractor Responsibilities:

i. Supply a safe, climate controlled building and subfloor as detailed in Roppe Technical Data Sheets.

ii. Ensure substrate meets the requirements of ASTM F2169, Roppe Technical Data Sheets and Excelsior Technical Data Sheets.

iii. Provide a secure storage area that is maintained permanently or temporarily at normal operating tem- perature and humidity conditions between 65° F and 85° F and between 40% and 65% relative humidity, for at least 48-hours prior to and during the application of the flooring, so the flooring contractor can ac- climate the flooring materials per manufacturer’s instructions.

iv. Provide an installation area that is weather tight and maintained either permanently or temporarily at ambient service temperature and humidity. Normal operating temperature and humidity conditions are between 65° F and 85° F and between 40% and 65% relative humidity, for at least 48-hours prior to and during the application of the flooring per the manufacturer’s instructions.

v. Ensure areas with direct prolonged exposure to sunlight are protected with protective UVA/UVB restrictive coatings or films.

vi. Areas of the flooring that are subject to direct sunlight through doors or windows should have them covered using blinds, curtains, cardboard or similar for the time of the installation and 72-hours after the installation to allow the adhesive to cure. Note: These areas should be installed using wet adhesives only.

vii. Conduct initial maintenance prior to final usage per the Roppe Care & Maintenance Documents. Do not conduct initial maintenance until adhesive has cured per the adhesive technical data.

B. **Flooring Contractor Responsibilities**:

i. Provide trained installers that are professional, licensed, insured and acceptable to manufacturer of resilient stair tread materials.

ii. Ensure installers or installation teams meet one of the following requirements:

iii. Have completed INSTALL (International Standards & Training Alliance) or CFI (Certified Floorcovering In- stallers) training programs and/or are certified by INSTALL or CFI.

iv. Are being supervised by Project Managers or Field Supervisors that are INSTALL (International Standards & Training Alliance) certified, CFI (Certified Floorcovering Installers) Certified and/or an FCICA (The Floor- ing Contractors Association) CIM (Certified Installation Manager).

v. Follow all requirements in the appropriate Roppe and/or Excelsior Technical Data Sheets, Care & Mainte- nance Documents, Warranties and other technical documents or instructions.

3.2 EXAMINATION

A. **Verification of Conditions:** Inspect all substrates to ensure they are clean, smooth, permanently dry, flat, and structurally sound. Confirm all areas are properly sealed and acclimated per manufacturer's requirements.

B. **Verification of Products:** In accordance with manufacturer's installation requirements, visually inspect material for size, color or visual defects prior to installing. Any material that is incorrect or visually defective shall not be in- stalled.

3.3 SUBSTRATE PREPARATION

A. **General**: Follow guidelines laid out in Division 01, Section 01 71 00 – Examination and preparation. All work re- quired ensuring substrate or subfloor meets manufacturers' guidelines are the responsibility of the general con- tractor.

i. Ensure surface is troweled flush with surface of concrete.

ii. Follow material manufacturer's as well as adhesive manufacturer's instructions for installation.

B. **Preparation**: Ensure substrate meets the requirements of ASTM F710 for concrete substrates and ASTM F1482 for wood substrates and/or Roppe Technical Data Sheets and Excelsior Technical Data Sheets.

i. Substrates must be free of visible water or moisture, dust, sealers, paint, sweeping compounds, curing compounds, residual adhesives and adhesive removers, concrete hardeners or densifiers, solvents, wax, oil, grease, asphalt, visible alkaline salts or excessive efflorescence, mold, mildew and any other extrane- ous coating, film, material or foreign matter.

ii. Acclimate all products to be used during the installation and the installation environment prior to installa- tion according to the manufacturers written instructions.

C. **Wood Substrates:** wood substrates must have a minimum 18" (45.7 cm) of cross ventilated space beneath the joist.

i. Wood substrates must be a minimum 1" thick with a double layer construction.

ii. Wood substrates must be rigid and free of movement.

iii. Wood substrates must not be OSB (Oriented Strand Board), particle board, chipboard, lauan or composite type underlayments.

3.4 INSTALLATION

A. **General**: Follow all relevant guidelines detailed in Division 01, as well as flooring and adhesive manufacturer's technical data sheets.

B. **Resilient Rubber Treads:** Install material in accordance with manufacturer's recommendations.

i. Select the appropriate adhesive for the application and job site conditions.

ii. Install material is installed according to installation instructions.

iii. Ensure material is rolled appropriately into the adhesive.

C. **Resilient Rubber Risers:** Install in accordance with manufacturer's installation recommendations.

i. Dry fit Risers to the required lengths.

ii. Scribe glue line on back of riser and at edge of Riser material.

iii. Apply adhesive in full spread for complete coverage of the Riser material.

iv. Apply **Rubber Risers** to the prepared surface as level and straight as possible.

v. Hand roll Riser material onto wall and floor surface and remove excess adhesive.

D. **Interface with Other Work:** If caulking or sealing is required after installation, please contact the manufacturer for a suitable, color matching caulk.

3.5 CLEANING & MAINTENANCE

A. **General**: Clean up installation area and sweep, dust or wipe material to remove any dirt, dust or debris.

B. **Initial Maintenance**: Conduct initial maintenance per the manufacturer's recommended procedures stated in the Maintenance Documents. All documentation is available upon request or from the Roppe website. Excelsior Cleaning products and floor finishes are the recommended products for use. All can be found linked to the product on the Roppe website or at www.excelsiorproducts.net.

C. **Regular Maintenance**: Conduct maintenance on regular intervals as needed. Insufficient cleaning will reduce the wear life of the flooring and alter the dissipative properties of the tiles. The amount of maintenance depends directly upon the amount of dirt and particulates the floor is subjected to.

3.6 CLOSEOUT ACTIVITIES

A. **Protection**: Protect newly installed material with construction grade paper or protective boards, such as Masonite or Ram Board, to protect material from damage by other trades. Be sure all construction debris is swept up and removed prior to the protective material being installed and does not get trapped underneath. Limit usage and foot traffic according to the adhesive's requirements. When moving appliances or heavy furniture, protect the wall base from scuffing and tearing using temporary floor protection as well.

END OF SECTION

SECTION 13 4900

RADIATION PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: X-Ray radiation protection products:
   1. Lead sheet.
   2. Related accessories.

B. Related Sections:
   1. Section 06 1000 - Rough Carpentry.
   2. Section 08 1113 - Hollow-Metal Doors and Frames.
   3. Section 08 1416 - Flush Wood Doors.
   4. Section 09 22 16 - Non-Structural Metal Framing: Interior metal framing to receive radiation protection products.
   5. Section 09 29 00 - Gypsum Board: Joint taping and finishing of lead-laminated gypsum board.
   6. Section 09 91 00 - Painting: Field-applied primers and finish painting.

1.2 DEFINITIONS

A. Lead Equivalence: Thickness of lead that provides same attenuation (reduction of radiation passing through) as material in question under specified conditions. Lead equivalence specified for materials used in diagnostic X-Ray rooms is measured at 150 kV unless indicated otherwise.

1.3 REFERENCES

A. American National Standards Institute – ANSI:
   1. Fire Resistance Ratings – ANSI / UL 263.

B. American Society of Testing and Materials:
   1. ASTM B749 – Standard Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products.
   2. ASTM C 954: Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
   3. ASTM C 1002: Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
   4. ASTM C 1396 – Standard Specification for Gypsum Board.
   5. ASTM C 1629 – Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels.
   6. ASTM - D 3273 – Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
   7. ASTM E 119 – Fire Tests of Building Construction and Materials.

C. American Wood Products Association (AWPA) C27 – Fire Retardant Treatment by Pressure Processes.

D. Federal Specification QQL-201f, Grade B or Grade C.

E. Hollow Metal Manufacturers Association (HMMA) 840 – Installation and Storage of Hollow Metal Doors.

F. National Council on Radiation Protection and Measurements (NCRP):

1. NCRP Report No. 145 – Radiation Protection in Dentistry.
2. NCRP Report No. 147 – Structural Shielding for Medical X-Ray Imaging Facilities.
3. NCRP Report No. 151 – Structural Shielding Design and Evaluation for Megavoltage X- and Gamma Ray Radiotherapy Facilities.

G. Steel Door Institute (SDI)-100 – Recommended Specifications for Standard Steel Doors and Frames.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Meetings: Conduct pre-installation meeting to coordinate radiation protection survey and verify project requirements and substrate conditions.

1.5 ACTION SUBMITTALS

A. Submit under provisions of “Section 01 33 00 - Submittal Procedures.”

B. Product Data: Manufacturer's data sheets on each product to be used.

C. Shop Drawings:
1. Indicate layout of radiation-protected areas.
2. Indicate details, dimensions, finishes, and interface with adjoining work.
3. Indicate lead thickness or lead equivalencies of components.

D. Initial Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (152 mm) square, representing actual product, color, and patterns.

1.6 INFORMATIONAL SUBMITTALS

A. Manufacturer’s Certificates:
1. Certificate that leaded glazing capabilities meet or exceed specified requirements.
2. Certificate of compliance with applicable provisions of the National Council of Radiation Protection (NCRP).

B. Manufacturer's Instructions:
1. Preparation and installation instructions and recommendations.
2. Storage and handling requirements and recommendations.

C. Qualification Statements:
1. Manufacturer.
2. Installer.
3. X-ray physicist.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: Cleaning instructions for leaded and acrylic glass.

B. Record Documentation: Record Drawings, with dimensions, showing locations of radiation protection.

C. Radiation Protection Survey: Record copy of physicist’s Radiation Protection Survey indicating measurements and evaluation of measurements of installed radiation shielding materials.

D. Manufacturer’s Certification: Upon completion of radiation protection work, Manufacturer and Installer shall furnish a certificate of compliance that all materials are in accordance with the specifications and physicist’s radiation protection survey.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company with minimum of five (5) years successful experience specializing in manufacturing radiation protection products similar to those specified in the section.

B. Installer Qualifications: Company specializing in performing the work of this section with minimum five (5) years documented experience.

C. Radiation Protection Work: Comply with National Council of Radiation Protection (NCRP) Report No. 049 - Structural Shielding Design and Evaluation for Medical Use of X-Rays and Gamma Rays of Energies up to 10 MeV.
   1. Comply with requirements of local regulatory agencies where local standards and criteria exceed requirements of NCRP Report Nos. #145, #147 and #151.

D. Single Source Responsibility: Obtain radiation protection materials and accessories produced or distributed as standard products from single manufacturer regularly engaged in production of X-Ray shielding materials, equipment, and accessories.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturer's instruction for receiving, handling, storing, and protecting materials.

B. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Store materials in original packaging, protected from exposure to harmful environmental conditions, including static electricity, and at temperature and humidity conditions recommended by manufacturer.

D. Exercise care to prevent edge damaged materials.

1.10 FIELD CONDITIONS

A. Ambient Conditions: Maintain temperature, humidity, and ventilation condition within limits recommended by manufacturer for optimum results. Do not install products under ambient conditions outside manufacturer's absolute limits.

B. Lead-Laminated Gypsum Board:
   1. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
   2. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
   3. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
      a. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
      b. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

1.11 COORDINATION

A. Coordinate the work of this Section with the respective trades responsible for installing interfacing work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: **SANTA ROSA LEAD PRODUCTS**, Toll-Free: 800-916-5323
TEL: 707-431-7757, FAX: 707-431-1749, Email: sales@santarosalead.com,
Web: http://www.santarosalead.com
1. Or equal as approved by Architect.

2.2 RADIATION PROTECTION SYSTEM DESCRIPTION

A. Design Requirements:
1. Provide materials and workmanship, including joints and fasteners, that maintain continuity of radiation protection at all points and all directions equivalent to materials specified in thicknesses and locations indicated.
a. Employ a physicist knowledgeable in radiation protection for medical facilities to determine thicknesses and configurations of lead-lined materials.
2. Lead-Lined Assemblies: Provide lead thickness in gypsum board, plywood, doors, door frames, window frames, and other items located in lead-lined assemblies, not less than that indicated for assemblies in which they are installed unless indicated otherwise.

2.3 LEAD SHEET

A. Lead Sheet: 99.5 percent or better pure unpierced virgin lead, free from dross, oxide inclusions, scale, laminations, blisters, and cracks.
1. Sheet Lead shall meet or exceed the Federal Specification QQL-201f, Grade B or Grade C, and ASTM B749-03 Standard Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products, see NCRP reports #145, #147 and #151.
2. Thickness: As determined by Radiation Protection Survey, but not less than 1/16 inch (1.5 mm) if not indicated.
3. Variation in Sheet Thickness: Not to exceed five (5) percent.

2.4 LEAD-LAMINATED GYPSUM BOARD, GENERAL

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by UL (Underwriter's Laboratories Inc.) or other independent testing agency.

2.5 LEAD-LAMINATED GYPSUM BOARD

A. Lead-Laminated Gypsum Board: Single unpierced layer of sheet lead laminated to back of gypsum board.
1. Fire-Resistance Rated Gypsum Board: Type X, ASTM C 1396.
a. Core: Fire-resistant rated gypsum core
b. Surface paper: 100% recycled content paper on front, back and long edges
c. Long Edges: Tapered
d. Thickness: 5/8 inch

2. Fire-Resistance Rated Gypsum Board With Enhanced Mold And Mildew: Type X, ASTM C 1396.
a. Core: Mold and moisture resistant, fire-resistance rated gypsum core
b. Surface paper: 100% recycled content moisture/mold/mildew resistant paper on front, back and long edges.
c. Long Edges: Tapered
d. Thickness: 5/8 inch
e. Mold/Mildew Resistance: 10 when tested in accordance with ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber

2.6 FINISHES

A. Field Painted Surfaces: As specified in Section 09 9123.
   1. Colors: As selected.

2.7 ACCESSORIES

A. Lead Discs: 5/16 inch (8 mm) diameter lead discs for use with screw heads.

B. Lead Strips: 2 inches (51 mm) wide, unless indicated otherwise, by same thickness as sheet lead laminated on gypsum board.

C. Lead Angles: Leak-proof, lead angle system providing complete coverage of gamma rays used in lieu of lead strips and lead discs where sheet lead thickness is greater than 1/8 inch (3 mm) thick.

D. Gypsum Board Fasteners:
   1. Screw Fasteners for Metal Framing: Type S, bugle head drill screws complying with ASTM C 954, length as required, for applying lead-laminated gypsum board to light gage metal framing having thickness of 0.033 to 0.112 inch [0.84 to 2.84 mm] thick.
   2. Screw Fasteners for Metal Framing - Self Tapping: Type S, bugle head self-piercing tapping screws complying with ASTM C 1002, length as required, for applying lead-laminated gypsum board to light gage metal framing having thickness of 0.033 to 0.112 inch [0.84 to 2.84 mm] thick.
   3. Screw Fasteners for Wood Framing: Type W, bugle head screws complying with ASTM C 1002, length as required, for applying lead-laminated gypsum board to wood framing and furring.

E. Adhesive: Acceptable to radiation protection product manufacturer and capable of adhering lead sheets where required.

F. Tie Wire: Leaded steel, annealed.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that existing framing, surfaces and substrates are ready to receive work and opening dimensions are as indicated on Shop Drawings or as instructed by the manufacturer.

B. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF LEAD-LAMINATED GYPSUM BOARD

A. Comply with manufacturer's recommendations.

B. Shim studs and other framing members as necessary to provide flat, flush finished surfaces.

C. Install lead angles per manufacturer's recommendations.

D. Install lead-laminated gypsum board on framing with screws spaced not more than 8 inches (203 mm) on center along edges of board and 12 inches (305 mm) on center in field of board.

E. Adhere lead discs to fastener heads. In each case, use method that provides continuous radiation shielding.

F. Where lead-laminated gypsum board is final substrate, apply joint treatment on fasteners and

joints per “Section 09 29 00 - Gypsum Board.”

G. Where second layer of gypsum board occurs over lead-laminated gypsum board, comply with “Section 09 29 00 - Gypsum Board” for application of second layer.

3.3 INSTALLATION OF PENETRATING ITEMS

A. At penetrations of lead linings; provide lead shields to maintain continuity of protection.

B. Provide lead linings, sleeves, shields, and other protection in thickness not less than that required in assembly being penetrated.

C. Cut wall penetration covers from lead sheet of equal or greater thickness than backing on adjacent wall panels. Cut wall penetration covers to size required to cover wall penetrations with laps 1 inch (25 mm) minimum wide as indicated on penetration detail drawings.

D. Adhesive-apply lead sheet penetration covers on penetrating boxes and raceways and return penetration covers to backside of lead-backed wall panels with 1 inch (25 mm) minimum laps.
1. Do not use penetrating fasteners unless indicated otherwise.

E. Outlet Boxes and Conduit: Install between studs using steel telescoping mounting brackets. Cover or line with lead sheet lapped over adjacent lead lining at least 1 inch (25 mm). Wrap conduit with lead sheet for 10 inches (250 mm) in from box.

3.4 INSTALLATION OF WALL PENETRATION COVERS

A. Duct Penetrations With 8 PSF or Less Lead Sheet:
1. Wrap ducts with wall penetration covers, lapping lead joints 1 inch (25 mm) minimum.
2. Secure lead sheet in place with 1 inch (25 mm) minimum width steel bands spaced not more than 12 inches (305 mm) on center.
3. Do not cut into lead sheet with tightening steel bands.

B. Duct Penetrations with Greater than 8 psf Lead Sheet and Where Duct Shielding Exceeds 24 Inches (610 mm) in Width:
1. Laminate wall penetration covers to plywood or other similar structural panels conforming to shape of duct, lapping lead joints 1 inch (25 mm) minimum.
2. Secure lead laminated panels to ducts with mechanical fasteners located at duct seams and corners.
3. Where necessary to prevent lead laminated panels from overloading duct supports, independently suspend panels from hangers secured to overhead building structure.
4. Cover fastener heads with lead sheet matching thickness of adjacent lead.

C. Piping: Unless indicated otherwise, wrap piping with lead sheet for 10 inches (250 mm) from point of penetration.

3.5 ACCESSORY INSTALLATION

A. Comply with manufacturer's recommendations.

B. Wherever lead protection is penetrated, cut, or punctured, assure continuity of shielding by use of sheet lead, lead plugs or other approved method.

C. Install sheet lead lining within steel door frames to provide radiation protection to levels indicated or levels required to match adjacent wall protection.

D. Wrap electrical outlet boxes, view window frames, and other penetrations through lead barrier material with sheet lead to provide radiation protection to levels indicated or levels required to match adjacent wall protection.

3.6 FIELD QUALITY CONTROL

A. Radiation Protection Survey: Employ a registered X-Ray physicist, certified by American Board of Radiology, for testing specified radiation protective Work and to conduct radiation protection survey of facility after radiation shielding materials are installed.
   1. Take radiation measurements and indicate evaluation of measurements in report. Submit report to Architect and Owner upon completion of report.
   2. Take radiation measurements in locations indicated by Architect.

B. Correct deficiencies in, or remove and replace, radiation protection Work that testing indicates does not comply with specified requirements.

3.7 ADJUSTING

A. Check and readjust operating hardware items, leaving doors and frames undamaged and in proper operating condition.

3.8 CLEANING

A. Remove excess materials from site and leave Work areas broom clean.

B. Leave exposed surfaces ready for site finishing.

3.9 PROTECTION

A. Lock radiation-protected rooms once door hardware is installed. Limit access to only those persons performing Work in radiation-protected rooms or as directed by Owner.

B. Tape temporary paper signs on radiation-resistant walls with the following text:
   1. “Do not mount equipment on this wall without covering penetrating fasteners with lead sheet of thickness required by Contract Documents."

END OF SECTION

SECTION 32 3119
DECORATIVE METAL FENCE 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. Rolling steel gates (“wrought iron”).
2. Steel fencing .

B. Related Sections:

1. Section 03 3000 - Cast-in-Place Concrete for cast-in-place concrete post footings.

2. Section 32 3119 – Electric Gate Operators and accessories.

1.3 REFERENCES

ASTM A 653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

ASTM A 787 - Standard Specification for Electric-Resistance-Welded Metallic- Coated Carbon Steel Mechanical Tubing.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include plan layout, construction details, material descriptions, dimensions of individual components and profiles, and finishes for gates.

1. Gates and hardware.
2. Fence components and fasteners.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.1 FENCE FRAMING

A. Pickets: 1” X 1” x 16 GA 5” on center

B. Perimeter Grate Frame: 3” x 3” x 11 GA

C. Gate Post: 4” X 4” 11 GA

D. Gate Post Footing: 12” X 30”

E. Gate Guide: Continuous 4” w X 1/4" steel plate w/ in 12” deep #4 hooks 12” o.c. alternating sides set in continuous concrete base.

F. Cantilever Pinch Rollers 2 ea. top and bottom: UHMW plastic with sealed roller bearings. Provide inverted channel track full length of gate run and overrun. Continuous 4” w X 1/4" steel plate w/ in 12” deep #4 hooks 12” o.c. alternating sides set in continuous concrete base.

G. Paint: Color as selected, shop primer & field applied alkyd-based electrostatic paint system.

H. Manufacture: Hoover Fence Company, Newton Falls, OH: (330) 358-2335 or equal by Local Fabricator.

2.2 GROUT AND ANCHORING CEMENT

A. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water

exposure without needing protection by a sealer or waterproof coating and that is recommended in writing by manufacturer, for exterior applications.

PART 3 - EXECUTION

3.1 PREPARATION

A. Stake locations of fence lines, gates, and terminal posts. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.2 INSTALLATION, GENERAL

A. Install fencing to comply with ASTM F 567 and more stringent requirements indicated.

3.3 POST INSTALLATION

A. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.

B. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.

1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.

a. Exposed Concrete: Extend 2 inches above grade; shape and smooth to shed water.
b. Posts Set into Concrete in Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.

c. Posts Set into Voids in Concrete: Form or core drill holes not less than 5 inches deep and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.

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 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.

END OF SECTION