EL MONTE UNION HIGH SCHOOL DISTRICT

Purchasing Department

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November 27, 2023

TO	:	All Bidders
FROM	:	El Monte Union High School District
BID #	:	Bid No. 2023-24(B6)
PROJECT	:	ARROYO HIGH SCHOOL MODERNIATION PACKAGE 1 PROJECT
SUBJECT	:	Addendum No. 3

The following changes, omissions, and/or additions to the Project Manual and/or Drawings shall apply to proposals made for and to the execution of the various parts of the work affected thereby, and all other conditions shall remain the same.

Careful note of the Addendum shall be taken by all parties of interest so that the proper allowances may be made in strict accordance with the Addendum, and that all trades shall be fully advised in the performance of the work which will be required of them.

Bidder shall acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

In case of conflict between Drawings, Project Manual, and this Addendum, this Addendum shall govern.

REVISIONS/CLARIFICATIONS TO BID DOCUMENTS

1. HMC Architects Addendum No. 3 attached.
2. Prebid RFI Nos. 1-3 attached.

END OF ADDENDUM NO. 3

HMC ARCHITECTS
633 W. 5th Street, Third
Floor Los Angeles, CA
90071

November 28, 2023

Arroyo High School Modernization
El Monte Union High School District
El Monte, CA

HMC # 3361-008-000

ADDENDUM NO. 3

The following changes, additions, deletions, or corrections shall become a part of the Contract Documents for the project named above and all other conditions shall remain the same. The bidders shall be responsible for transmitting this information to all affected subcontractors and suppliers prior to the closing of bids. Acknowledge receipt of this Addendum in spaces provided on the Bid Form. Failure to acknowledge will subject Bidder to disqualification.

PROJECT MANUAL

Item No. AD2.1: Reference Specification Sections

A. TABLE OF CONTENTS

ADD the following missing specification sections to the Tabel of Contents:

- Division 10 - EXISTING CONDITIONS
  - SECTION 10 51 13 - METAL LOCKERS

B. DIVISION 08 - OPENINGS

- 08 71 00 - DOOR HARDWARE, MODIFY the specification as noted per DELTA #AD 03.

DIVISION 10 - SPECIALTIES

- 10 51 13 - METAL LOCKERS, ADDED the specification as noted.

DIVISION 11 - EQUIPMENT

- 11 66 43 - INTERIOR SCOREBOARDS, ADDED the specification as noted.

ADDENDUM #03 NARRATIVE

DRAWINGS

Item No. AD2.2: Reference Drawing Sheets

A. The Following MODIFIED full-sized DRAWING SHEETS dated 11/28/2023 and clouded via DELTA #AD 02 are hereby issued.

ARCHITECTURAL

DRAWING SHEET A9.11 – DOOR SCHEDULE

- At Door Schedule, ADDED hardware group for door number K-01 and K-02 as noted.

HMC ARCHITECTS

By 

Virginia E. Marquardt, AIA
Principal In Charge

END OF ADDENDUM #3

TABLE OF CONTENTS

DIVISION 05 - METALS

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

DIVISION 08 - OPENINGS

DIVISION 09 - FINISHES

DIVISION 10 - SPECIALTIES

DIVISION 11 - EQUIPMENT

DIVISION 12 - FURNISHINGS

NOT APPLICABLE

DIVISION 13 - SPECIAL CONSTRUCTION

NOT APPLICABLE

DIVISION 14 - CONVEYING EQUIPMENT

NOT APPLICABLE

DIVISION 21 - FIRE SUPPRESSION

21 13 13 FIRE SUPPRESSION SPRINKLER SYSTEM

DIVISION 22 - PLUMBING

22 05 00 COMMON WORK RESULTS PLUMBING
22 05 13 BASIC PLUMBING MATERIALS METHODS
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22 07 00 PLUMBING INSULATION
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DIVISION 23 - HEATING, VENTILATING, AND AIR-CONDITIONING(HVAC)

23 01 30 HVAC AIR DUCT CLEANING
23 05 00 COMMON WORK RESULTS HVAC
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23 08 00 HVAC SYSTEMS COMMISSIONING
23 08 13 ENV CONTROLS EMS COMMISSIONING
23 09 23 ENV CONTROLS ENERGY MANAGEMENT SYSTEMS
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23 38 13 KITCHEN VENTILATION SYSTEM
23 70 00 AIR HANDLING UNITS
23 80 00 HEATING, VENTILATING AIR CONDITIONING EQUIPMENT
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DIVISION 25 - INTEGRATED AUTOMATION

NOT APPLICABLE

DIVISION 26 - ELECTRICAL

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26 05 13 BASIC ELECTRICAL MATERIALS AND METHODS
26 05 16 MEDIUM-VOLTAGE CABLES, SPLICES, TERMINATIONS
26 05 19 LOW-VOLTAGE WIRES
26 05 26 GROUNDING AND BONDING
26 05 33 RACEWAYS, BOXES, FITTINGS, SUPPORTS
26 08 00 - ELECTRICAL SYSTEMS COMMISSIONING
26 09 23 - LIGHTING CONTROL SYSTEMS

NOT APPLICABLE

DIVISION 43 - PROCESS GAS AND LIQUID HANDLING, PURIFICATION AND STORAGE EQUIPMENT

NOT APPLICABLE

DIVISION 44 - POLLUTION CONTROL EQUIPMENT

NOT APPLICABLE

DIVISION 45 - INDUSTRY-SPECIFIC MANUFACTURING EQUIPMENT

NOT APPLICABLE

DIVISION 46 - WATER AND WASTEWATER EQUIPMENT

NOT APPLICABLE

DIVISION 48 - ELECTRICAL POWER GENERATION

NOT APPLICABLE

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. 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 specific manufacturer’s product is named and accompanied by “No Substitute,” including make or model number or other designation, provide product specified. (Note: Certain products have been selected for their unique characteristics and particular project suitability.)

a. Where no additional products or manufacturers are listed in product category, requirements for “No Substitute” govern product selection.

2. 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. Automatic Operators: 2 years
c. Exit Devices:
1) Mechanical: 3 years.
2) Electrified: 1 year.

d. Locksets:
1) Mechanical: 3 years.
2) Electrified: 1 year.

e. Continuous Hinges: Lifetime warranty
f. Key Blanks: Lifetime

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

1.9 MAINTENANCE

A. Maintenance Tools:

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

1.10 REGULATORY REQUIREMENTS:

A. Locate latching hardware between 34 inches to 44 inches above the finished floor, per 2022 California Building Code, Section 11B-404.2.7.

1. Panic hardware: locate between 36 inches to 44 inches above the finished floor.

B. Handles, pull, latches, locks, other operable parts:

1. Readily openable from egress side with one hand and without tight grasping, tight pinching, or twisting of the wrist to operate. 2022 California Building Code Section 11B-309.4.
2. Force required to activate the operable parts: 5.0 pounds maximum, per 2022 California Building Code Section 11B-309.4.

C. Adjust doors to open with not more than 5.0-pounds pressure to open at exterior doors and 5.0-pounds at interior doors. As allowed per 2022 California Building Code Section 11B-404.2.9, local authority may increase the allowable pressure for fire doors to achieve positive latching, but not to exceed 15-pounds.

1. Exception: exterior doors' pressure-to-open may be increased to 8.5-pounds if: at a single location, and one of a bank of eight leafs or fraction of eight, and one leaf of this bank is fitted with a low- or high-energy operator.

D. Low-energy powered doors: comply with ANSI/BHMA A156.19. Reference: 2022 California Building Code Section 11B-404.2.9, Exception 2.

1. Where powered door serves an occupancy of 150 or more, provide back-up battery power or stand-by generator power, capable of supporting a minimum of 100 cycles.
2. Actuators, vertical bar type: minimum 2-inches wide, 30-inches high, bottom located minimum 5-inches above floor or ground, top located minimum 35-inches above floor or ground. Displays International Symbol of Accessibility, per 2022 California Building Code Section 11B-703.7.
3. Actuators, plate type: use two at each side of the opening. Minimum 4-inches diameter or 4-inches square. Displays International Symbol of Accessibility, per 2022 California Building Code Section 11B-703.7. Locate centerline of lower plate between 7- and 8-inches above floor or ground, and upper plate between 30- and 44-inches above floor or ground.
4. Actuator location: conspicuously located, clear and level floor/ground space for forward or parallel approach.

E. Adjust door closer sweep periods so that from an open position of 90 degrees, the door will take at least 5 seconds to move to a point 12 degrees from the latch, measured to the landing side of the door, per 2022 California Building Code Section 11B-404.2.8.

1. Spring hinges: adjust for 1.5 seconds minimum for 70 degrees to fully-closed.

F. Smooth surfaces at bottom 10 inches of push sides of doors, facilitating push-open with wheelchair footrests, per 2022 California Building Code Section 11B-404.2.10.

1. Applied kickplates and armor plates: bevel the left and right edges; free of sharp or abrasive edges.
2. Tempered glass doors without stiles: bottom rail may be less than 10 inches if top leading edge is tapered 60 degrees minimum.

G. Door opening clear width no less than 32 inches, measured from face of frame stop, or edge of inactive leaf of pair of doors, to door face with door opened to 90 degrees. Hardware projection not a factor in clear width if located above 30 inches and below 80 inches, and the hardware projects no more than 4 inches. 2022 California Building Code Section 11B-404.2.3.

1. Exception: In alterations, a projection of 5/8 inch (15.9 mm) maximum into the required clear width shall be permitted for the latch side stop.
2. Door closers and overhead stops: not less than 78 inches above the finished floor or ground, per 2022 California Building Code 11B-307.4.

H. Thresholds**:** floor or landing no more than 0.50 inches below the top of the threshold of the doorway, per 2022 California Building Code Section 11B-404.2.5. Vertical rise no more than 0.25 inches, change in level between 0.25 inches and 0.50 inches**:** beveled to slope no greater than 1**:**2 (50 percent slope). 2022 California Building Code Section 11B-303.2 & ~.3.

I. Floor stops**:** Do not locate in path of travel. Locate no more than 4 inches from walls, per DSA Policy #99-08 (Access).

J. Pairs of doors with independently-activated hardware both leafs**:** limit swing of right-hand or right-hand-reverse leaf to 90 degrees to protect persons reading wall-mounted tactile signage, per 2022 California Building Code Section 11B-703.4.2.

K. Door and door hardware encroachment: Doors, when fully open, shall not reduce the required width by more than 7 inches. Doors in any position shall not reduce the required width by more than one-half. 2022 California Building Code, Section 1005.7.1.

1. In I-2 occupancies, surface mounted latch release hardware is not permitted to project in the required egress width, regardless of its mounting height, per 2022 California Building Code, Section 1005.7.1 at Exception 1.

L. In groups I-2 or I-2.1 occupancies, doors serving as a means of egress where used for the movement of beds and stretcher patients shall provide a minimum clear opening width of 44 inches. At pair openings that includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 44 inches. 2022 California Building Code, Section 1010.1.1.

M. In group I-2 or I-2.1 occupancies, there shall be no projections into the clear width of doors used for the movement of beds and stretcher patients in the means of egress. 2022 California Building Code, Section 1010.1.1.1 at Exception 2.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Where “No Substitute” is noted, submittals and substitution requests for other products will not be considered.

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

C. Approval of products from manufacturers indicated in “Acceptable Manufacturers” is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer’s product.

D. 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.

E. 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: No Substitute

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 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.

2.5 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer: Ives

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.

2.6 COORDINATORS

A. Manufacturers:

1. Scheduled Manufacturer: Ives

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.

2.7 MORTISE LOCKS

A. Manufacturers and Products:

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

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.
g. UL Listed – 3 hour fire door

6. 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.

2.8 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Von Duprin 98 series
2. Acceptable Manufacturers and Products: No Substitute

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1, and UL listed for Panic Exit or Fire Exit Hardware. 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.

2.9 ELECTRONIC ACCESS CONTROL LOCKSETS AND EXIT DEVICE TRIM

A. Manufacturers:

1. Scheduled Manufacturer: To establish standard of quality and design intent, electronic access control locksets and exit device trim specifications have been based on Schlage. Products of other manufacturers meeting or exceeding design and performance requirements specified herein will be considered for substitution subject to compliance with provisions of Division 01 Section "Product Requirements."
2. Scheduled Manufacturer and Product: Schlage AD series.
3. Acceptable Manufacturers and Products: No substitute.

B. Product: Schlage AD-300-MS adaptable mortise-type electronic locksets.

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 field reversible for handing without opening case.
2. Backset: 2-3/4-inch (70 mm), nominal.
3. Latchbolt: 3-piece, beveled, stainless steel with 3/4-inch (19 mm) throw and anti-friction latch.
4. Deadbolt: Where deadbolt function is scheduled, provide stainless steel deadbolt interconnected with latch 1-5/8-inch (41 mm) high and 5/8-inch (16 mm) thick with 1-inch throw.
5. Chassis: ANSI/BHMA standard mortise lock prep for 1-3/4-inch (44 mm) doors

C. Product: Schlage AD-300-993 adaptable electronic exit device trim.

1. Provide exit device trim conforming to ANSI/BHMA A156.25, non-handed, field-reversible.
2. Exit Device Configurations: Exit device lever trim to retract latchbolt for following exit device applications:

    a. Rim

3. Exit Device Compatibility: Provide exit device trim with universal mounting plate enabling operation as required.

D. Requirements:

1. Provide adaptable electronic access control products that comply with the following requirements:

    a. Listed, UL 294 - The Standard of Safety for Access Control System Units.
    b. Compliant with ANSI/BHMA A156.25 Grade 1 Operation and Security.
    c. Certified to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAS 202 and TAS 203.
    d. Compliant with ASTM E330 for door assemblies.
    e. Compliant with ICC / ANSI A117.1, NFPA 101, NFPA 80, and Industry Canada IC.

2. Functions: Provide functions as scheduled that are field configurable without taking the adaptable electronic product off the door.
3. Emergency Override: Provide mechanical key override; cylinders: Refer to “KEYING” article, herein.
4. Levers:

    a. Vandal Resistance: Exterior (secure side) lever rotates freely while door remains locked, preventing damage to internal lock components from vandalism by excessive force.
    b. Provide non-handed lever trim that operates independently of non-locking levers.
    c. Style: Rhodes (06)
    d. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

5. Power Supply:

    a. Offline – access control rights stored on device and access control rights stored on magnetic stripe credential
        1) Adaptable electronic access control products powered by four AA batteries with options for eight AA batteries or a 12V or 24V DC power supply.
        2) Provide adaptable electronic access control products with the ability to communicate battery status.

    b. Networked – hardwired
        1) Adaptable electronic access control products powered by 12VDC or 24VDC power supply with max current draw not to exceed 250mA.

    c. Networked – wireless
        1) Adaptable electronic access control products powered by four AA batteries with options for eight AA batteries or a 12V or 24V DC power supply.
        2) Provide adaptable electronic access control products with the ability to communicate battery status and battery voltage level by means of a handheld programming device at door and remotely by Partner integrated software.

6. Features:

    a. Audible feedback that can be enabled or disabled.
    b. Tamper-Resistant Screws: Tamper torx screws on inside escutcheon for increased security.
    c. Offline – access control rights stored on device

1) Visual tri-colored LED indicators that indicate activation, additional PIN code credential required, operational systems status, system error conditions and low power conditions.
2) Visual bi-colored LED indicator on interior that is capable of indicating secured/unsecured status of device to occupants on interior.
3) Onboard processor with memory capacity of 5,000 users, 5,000 event audit history, up to 16 time zones and up to 32 calendar events.

d. Offline – access control rights stored on magnetic stripe credential
1) Visual tri-colored LED indicators that indicate activation, operational systems status, system error conditions and low power conditions.
2) Onboard processor with memory capacity of 10,000 event audit history, up to 16 time zones and up to 32 calendar events.

e. Networked – hardware and wireless
1) Ability to communicate unit's communication status.
2) Visual tri-colored LED indicators that indicate activation, additional PIN code credential required, operational systems status, system error conditions and low power conditions.
3) Visual bi-colored LED indicator on interior that is capable of indicating secured/unsecured status of device to occupants on interior.

7. Adaptability:

a. Field changeable Reader Modules: Adaptable electronic access control products to have the ability to change credential reader technologies without being removed from door.
b. Offline
1) Networking Capabilities: Network adaptable without removing device from door. Adaptable electronic access control products to have the ability to be upgraded in the field from a standalone battery powered configuration to a wireless networked configuration without being removed from the door.

c. Networked
1) Open Architecture: Adaptable electronic access control products manufactured with open architecture characteristics capable of handling new and existing access control software and credential reading technology.

8. Switches: Provide adaptable electronic access control products with the following switches, standard:

a. Door Position Switch
b. Interior Cover Tamper Guard
c. Mechanical Key Override
d. Request to Exit
e. Request to Enter
f. Lock/Unlock Status (Clutch Position).

9. Credential Reader:

a. Networked – hardwired
1) Credential Reader Configuration: Provide credential reader modules in the following configurations, as indicated in door hardware sets. Multi-tech

contactless reader shall be NFC-Compatible and read access control data from both 125 kHz and 13.56 MHz contactless smart cards. The multi-tech contactless reader shall be optimally designed for use in access control applications that require reading both 125 kHz proximity and 13.56 MHz contactless smart cards.
a) Proximity, Smartcard via Multi-Technology.
b) Proximity, Smartcard via Multi-Technology and keypad.

2) Credential Reader Capabilities: Provide credential readers capable of being configured at lockset with handheld programming device and remotely operated with the following integrated software partners.
a) 13.56 MHz Smart card credentials:
i. Secure section (Multi-Technology and Smartcard): Schlage MIFARE Classic, Schlage MIFARE DESFire EV1, PIV and PIV-I Compatible

ii. 13.56 MHz Serial number only (Multi-Technology and Smartcard): MIFARE, DESfire, HID iClass, MIFARE DESFire EV1

iii. 125 kHz Proximity card credentials: Schlage, XceedID, HID, GE/CASI ProxLite and AWID.

b) Multi-Technology readers that read both 13.56 MHz Smart Cards and 125 kHz Prox cards.
c) Dual credential reading capabilities credential card or fob and PIN.

10. Operation:

a. Networked – hardwired
1) Adaptable electronic access control product system interface:
a) Wiegand or Clock & Data via PIB300 (Panel Interface Board).
b) Directly via RS485.
2) Adaptable electronic access control products to have real-time bidirectional communication between access control system and lock.
3) Credential Verification Time: less than 1 second.
4) When Utilized with Partner Integrated Access Control Network Software With Remote Commanding Capability: Provide adaptable electronic access control product with the ability to be remotely locked down or unlocked within 10 seconds or less, without user interface at the device.
5) Upon Loss of Power to Device: Provide adaptable electronic access control product with the ability to manage access control offline in one of three methods below that can be configured in the field at lockset by handheld programming device and remotely by Partner integrated software:
a) Fail locked (secured)
b) Fail unlocked (unsecured)
c) Fail As-Is
6) Upon Loss of Communication Between Device and Network: Provide adaptable electronic access control product with the ability to manage access control offline in one of four methods below that can be configured in the field at device by handheld programming device and remotely by Partner integrated software:
a) Fail locked (secured)
b) Fail unlocked (unsecured)
c) Fail As-Is
d) Fail to Degraded/cache mode utilizing cache memory with following selectable options:
i. Grant access up to the last 1,000 unique previously accepted User IDs.

ii. Grant access up to the last 1,000 unique previously accepted facility/site codes.

iii. Remove from cache previously stored User IDs or facility/site codes that have not been presented to lock within the last 5 days.

7) Provide adaptable electronic access control product with the ability to be configured at door by handheld programming device and remotely by Partner integrated software the length of time device is unlocked upon access grant.
8) Provide adaptable electronic access control product with the ability to communicate identifying information such as firmware versions, hardware versions, serial numbers, and manufacturing dates by handheld programming device and remotely by Partner integrated software.

E. Components

1. Product: Schlage HHD series with Utility Software.

a. Provide Handheld Programming Device for adaptable electronic access control products capable of the following minimum requirements.
1) Capable of initializing lock and accessories using preloaded software.
2) Utilized to field configure electronic access control devices, to download firmware updates and door files to device, and to download audit files from device.

2. Product: Schlage PIB300-2D Panel Interface Board.

a. Provide Panel Interface Board for hardwired adaptable electronic access control products capable of the following minimum requirements.
1) Used to connect hardwired adaptable electronic access control products to the access control board or reader interface board, where Wiegand or Clock & Data protocol is required.
2) Applicable Standards:
a) Listed, UL 294 - The Standard of Safety for Access Control System Units.
b) Compliant with NEMA 1, 4, 4X, 6.
c) Certified to FCC Part15, Florida Building Code Standards.
d) Compliant to ASTM E3300 and IC (Canada).
3) Power Supply: 12VDC or 24VDC.
4) Status Indicators: 13 LEDs minimum.

2.10 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage or Von Duprin PS900 series

B. Requirements:

1. Provide power supplies, recommended and approved by manufacturer of electrified locking component, for operation of electrified locks, electrified exit devices, magnetic locks, electric strikes, and other components requiring power supply.
2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply , and UL class 2 listed.
4. Options:

a. Provide power supply, where specified, with internal capability of charging sealed backup batteries 24 VDC, in addition to operating DC load.

b. Provide sealed batteries for battery back-up at each power supply where specified.
c. Provide keyed power supply cabinet.

5. Provide power supply in an enclosure, complete, and requiring 120VAC to fused input.
6. Provide power supply with emergency release terminals, where specified, that allow release of all devices upon activation of fire alarm system complete with fire alarm input for initiating “no delay” exiting mode.

2.11 CYLINDERS

A. Manufacturers:

1. Scheduled Manufacturer: Schlage SFIC Everest RP
2. Acceptable Manufacturers: No Substitute

B. Requirements:

1. Provide permanent small format interchangeable core (SFIC) 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.
2. Acceptable Manufacturers and Products: No Substitute

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2-inch (38 mm) diameter piston with 5/8-inch (16 mm) diameter double heat-treated pinion journal. QR code with a direct link to maintenance instructions.

4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards. Provide snap-on cover clip, with plastic covers, that secures cover to spring tube.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck. Provide graphically labelled instructions on the closer body adjacent to each adjustment valve. Provide positive stop on reg valve that prevents reg screw from being backed out.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.15 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: No Substitute

B. Requirements:

1. Provide push plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick and beveled 4 edges. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
2. Provide push bars of solid bar stock, diameter and length as scheduled. Provide push bars of sufficient length to span from center to center of each stile. Where required, mount back to back with pull.
3. Provide offset pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
4. Provide flush pulls as scheduled. Where required, provide back-to-back mounted model.
5. Provide pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
6. Provide pull plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick, beveled 4 edges, and prepped for pull. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
7. Provide wire pulls of solid bar stock, diameter and length as scheduled.
8. Provide decorative pulls as scheduled. Where required, mount back to back with pull.

2.16 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: No Substitute

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: No Substitute

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

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 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. 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.

I. 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.

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

K. 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.

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

M. 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.

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

O. 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.

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

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

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

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

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

U. 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.

V. 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:

86524 OPT0311735 Version 3
HW SET: 01 AD-03

Door(s):

R-01A R-01B R-08A R-08B R-14A R-14B
R-18A R-18B

6	EA	HINGE	5BB1HW SH 4.5 X 4.5 NRP		630	IVE
2	EA	POWER TRANSFER	EPT10 FOR RX-LC WIRE FROM INACTIVE DOOR LEAF TO ACTIVE DOOR LEAF		689	VON
1	EA	REMOVABLE MULLION	KR4954 STAB		689	VON
2	EA	ELEC PANIC HARDWARE	RX-LC-PA-AX-98-EO		626	VON
1	EA	AD993 IPB RETROFIT KIT	47385857/47385858			SCH
1	EA	MULLION STORAGE KIT	MT54		689	VON
1	EA	ELEC EXIT DEVICE TRIM	**AD-400-993R-50-MT-RHO-B 4AA BATTERY		626	SCE
1	EA	SFIC MORTISE CYL.	80-132 GRN X K510-730		626	SCH
2	EA	SFIC EVEREST CORE	*80-037 EV29 R		626	SCH
1	EA	SFIC CONST. CORE	80-035 GRN			SCH
2	EA	OH STOP	100S		630	GLY
2	EA	SURFACE CLOSER	4040XP EDA ST-1944		689	LCN
2	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	SET	GASKETING	429AA-S		AA	ZER
1	EA	MULLION SEAL	8780NBK PSA		BK	ZER
2	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	102A OR AS DETAILED		A	ZER

* = CONSULT DISTRICT FOR KEYING DETAILS
** = AD-400 LOCKSET/EXIT DEVICE TRIM LISTED FOR TEMPLATING PURPOSES ONLY. LOCKSET/EXIT DEVICE TRIM SUPPLIED BY DIV. 28.
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 02

AD-03

Door(s):

R-14C R-18C

6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		652	IVE
2	EA	POWER TRANSFER	EPT10		689	VON
1	EA	REMOVABLE MULLION	KR4954 STAB		689	VON
2	EA	ELEC PANIC HARDWARE	RX-LC-PA-AX-98-EO		626	VON
1	EA	MULLION STORAGE KIT	MT54		689	VON
1	EA	ELEC EXIT DEVICE TRIM	**AD-400-993R-50-MT-RHO-B 4AA BATTERY		626	SCE
1	EA	SFIC MORTISE CYL.	80-132 GRN X K510-730		626	SCH
2	EA	SFIC EVEREST CORE	*80-037 EV29 R		626	SCH
1	EA	SFIC CONST. CORE	80-035 GRN			SCH
2	EA	OH STOP	100S		630	GLY
2	EA	SURFACE CLOSER	4040XP EDA		689	LCN
2	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	MULLION SEAL	8780NBK PSA		BK	ZER
1	EA	THRESHOLD	545A OR AS DETAILED		A	ZER

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** = AD-400 LOCKSET/EXIT DEVICE TRIM LISTED FOR TEMPLATING PURPOSES ONLY. LOCKSET/EXIT DEVICE TRIM SUPPLIED BY DIV. 28.
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 03 AD-03

Door(s):

R-14D R-14E R-18D R-18E

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		652	IVE
1	EA	ELEC PANIC HARDWARE	RX-LC-PA-AX-98-EO		626	VON
1	EA	AD993 IPB RETROFIT KIT	47385857/47385858			SCH
1	EA	ELEC EXIT DEVICE TRIM	**AD-400-993R-50-MT-RHO-B 4AA BATTERY		626	SCE
1	EA	SFIC EVEREST CORE	*80-037 EV29 R		626	SCH
1	EA	SFIC CONST. CORE	80-035 GRN			SCH
1	EA	OH STOP	100S		630	GLY
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	GASKETING	188SBK PSA		BK	ZER
1	EA	THRESHOLD	545A OR AS DETAILED		A	ZER

* = CONSULT DISTRICT FOR KEYING DETAILS
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VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 04 AD-03

Door(s):

R-06A R-06B

3	EA	HINGE	5BB1HW SH 4.5 X 4.5 NRP		630	IVE
1	EA	ELEC PANIC HARDWARE	RX-LC-PA-AX-98-EO		626	VON
1	EA	AD993 IPB RETROFIT KIT	47385857/47385858			SCH
1	EA	ELEC EXIT DEVICE TRIM	**AD-400-993R-50-MT-RHO-B 4AA BATTERY		626	SCE
1	EA	SFIC EVEREST CORE	*80-037 EV29 R		626	SCH
1	EA	SFIC CONST. CORE	80-035 GRN			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

* = CONSULT DISTRICT FOR KEYING DETAILS
** = AD-400 LOCKSET/EXIT DEVICE TRIM LISTED FOR TEMPLATING PURPOSES ONLY. LOCKSET/EXIT DEVICE TRIM SUPPLIED BY DIV. 28.
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 05

Door(s):

R-19A R-19B

3	EA	HINGE	5BB1HW SH 4.5 X 4.5 NRP	630	IVE
1	EA	CLASSROOM SECURITY	L9071HD 06A L283-711	626	SCH
2	EA	SFIC EVEREST CORE	*80-037 EV29 R	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

* = CONSULT DISTRICT FOR KEYING DETAILS
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 06

Door(s):

R-05

6	EA	HINGE	5BB1HW SH 4.5 X 4.5 NRP	630	IVE
1	SET	AUTO FLUSH BOLT	FB31P/FB41P	630	IVE
1	EA	DUST PROOF STRIKE	DP1/DP2 AS REQ'D	626	IVE
1	EA	CLASSROOM LOCK	L9070HD 06A 10-072 7/8" LIP	626	SCH
1	EA	SFIC EVEREST CORE	*80-037 EV29 R	626	SCH
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	689	IVE
1	EA	OH STOP	100S	630	GLY
2	EA	SURFACE CLOSER	4040XP EDA ST-1944	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS18S/FS18L	BLK	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

* = CONSULT DISTRICT FOR KEYING DETAILS
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 07

Door(s):

R-03 R-11 R-15 R-17

6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	SET	AUTO FLUSH BOLT	FB31P/FB41P	630	IVE
1	EA	DUST PROOF STRIKE	DP1/DP2 AS REQ'D	626	IVE
1	EA	CLASSROOM LOCK	L9070HD 06A 10-072 7/8" LIP	626	SCH
1	EA	SFIC EVEREST CORE	*80-037 EV29 R	626	SCH
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	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
2	EA	WALL STOP	WS401/402CCV REQUIRES BACKING IN WALL	626	IVE
1	EA	ASTRAGAL	44STST	STST	ZER
2	EA	SILENCER	SR64/SR65	GRY	IVE

* = CONSULT DISTRICT FOR KEYING DETAILS
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 08 AD-03

Door(s):

R-02 R-09

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM DEAD LOCK	L463HD XB11-720	626	SCH
1	EA	SFIC EVEREST CORE	*80-037 EV29 R	626	SCH
1	EA	PUSH PLATE	8200 4" X 16" CFC	630	IVE
1	EA	PULL PLATE	8303 10" 4" X 16" CFC 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	MOP PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/SR65	GRY	IVE

* = CONSULT DISTRICT FOR KEYING DETAILS
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 09

Door(s):

R-10

3	EA	HINGE	5BB1HW SH 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	L9080HD 06A	626	SCH
1	EA	SFIC EVEREST CORE	*80-037 EV29 R	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

* = CONSULT DISTRICT FOR KEYING DETAILS
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 10

Door(s):

R-12

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080HD 06A	626	SCH
1	EA	SFIC EVEREST CORE	*80-037 EV29 R	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	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER

* = CONSULT DISTRICT FOR KEYING DETAILS
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 11

Door(s):

R-04

3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	FIRE EXIT HARDWARE	PA-AX-98-L-NL-F-06		626	VON
1	EA	SFIC RIM CYLINDER	80-159 GRN		626	SCH
1	EA	SFIC EVEREST CORE	*80-037 EV29 R		626	SCH
1	EA	SURFACE CLOSER	4040XP EDA TBWMS		689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS401/402CCV REQUIRES BACKING IN WALL		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

* = CONSULT DISTRICT FOR KEYING DETAILS
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 12

Door(s):

K-01

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	CLASSROOM SECURITY	L9071HD 06A		626	SCH
2	EA	SFIC EVEREST CORE	*80-037 EV29 R		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	WS401/402CCV REQUIRES BACKING IN WALL		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

* = CONSULT DISTRICT FOR KEYING DETAILS
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

HW SET: 13

Door(s):

K-02

3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	OFFICE W/SIM RETRACT	L9056HD 06A L583-363 L283-722		626	SCH
1	EA	SFIC EVEREST CORE	*80-037 EV29 R		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	MOP PLATE	8400 4" X 1" LDW B-CS		630	IVE
1	EA	WALL STOP	WS401/402CCV REQUIRES BACKING IN WALL		626	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

* = CONSULT DISTRICT FOR KEYING DETAILS
VERIFY EXISTING CONDITIONS PRIOR TO ORDERING HARDWARE.

SECTION 10 51 13 - METAL LOCKERS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Knocked-down corridor lockers.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each color specified.

1.03 CLOSEOUT SUBMITTALS

A. Maintenance Data: For adjusting, repairing, and replacing locker doors and latching mechanisms to include in maintenance manuals.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: For lockers indicated to be accessible, comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and California Building Code, Chapter 11.

2.02 KNOCKED-DOWN CORRIDOR LOCKERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Lyon Workspace; 53123 - Five Tier Metal Lockers or comparable product by one of the following:
   1. AJW Architectural Products.
   2. Art Metal Products.
   3. ASI Storage Solutions; ASI Group.
   4. General Storage Systems Ltd.
   5. Hadrian Manufacturing Inc.
   6. List Industries Inc.
   7. Lyon Workspace Products, LLC.
   8. Olympus Lockers & Storage Products, Inc.
   9. Penco Products, Inc.
   10. Republic Storage Systems, LLC.
   11. Shanahan's Manufacturing Limited.
   12. Top Tier Storage Products.
   13. WEC Manufacturing LLC.

B. Doors: One piece; fabricated from 0.060-inch nominal-thickness steel sheet; formed into channel shape with double bend at vertical edges and with right-angle single bend at horizontal edges.
   1. Doors less than 12 inches wide may be fabricated from 0.048-inch nominal-thickness steel sheet.
   2. Doors for box lockers less than 15 inches wide may be fabricated from 0.048-inch nominal-thickness steel sheet.
   3. Reinforcement: Manufacturer's standard reinforcing angles, channels, or stiffeners for doors more than 15 inches wide; welded to inner face of doors.
   4. Stiffeners: Manufacturer's standard full-height stiffener fabricated from 0.048-inch nominal-thickness steel sheet; welded to inner face of doors.
   5. Door Style: Vented panel as follows:
      a. Louvered Vents: No fewer than three louver openings at top and bottom for double-tierlockers.

C. Body: Assembled by riveting or bolting body components together. Fabricate from unperforated steel sheet with thicknesses as follows:
   1. Tops, Bottoms, and Intermediate Dividers: 0.024-inch nominal thickness, with single bend at sides.
   2. Backs and Sides: 0.024-inch nominal thickness, with full-height, double-flanged connections.

D. Frames: Channel formed; fabricated from 0.060-inch nominal-thickness steel sheet; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral, full-height door strikes on vertical main frames.

E. Hinges:
   1. Knuckle Hinges: Steel, full loop, five or seven knuckles, tight pin; minimum 2 inches high. Provide no fewer than three hinges for each door more than 42 inches high.

F. Door Handle and Latch for Bo x Lockers: Stainless steel strike plate with integral pull; with steel padlock loop that projects through metal locker door.

G. Continuous Zee Base: Fabricated from 0.060-inch nominal-thickness steel sheet.
   1. Height: 4 inches.

H. Recess Trim: Fabricated from 0.048-inch nominal-thickness steel sheet.

I. Filler Panels: Fabricated from 0.036-inch nominal-thickness steel sheet.

J. Boxed End Panels: Fabricated from 0.060-inch nominal-thickness steel sheet.

K. Materials:

1. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B, suitable for exposed applications.

L. Finish: Baked enamel or powder coat.
1. Color: Dove Gray.

2.03 FABRICATION

A. Fabricate metal lockers square, rigid, without warp, and with metal faces flat and free of dents or distortion. Make exposed metal edges safe to touch and free of sharp edges and burrs.

B. Fabricate each metal locker with an individual door and frame; individual top, bottom, and back; and common intermediate uprights separating compartments.

C. Knocked-Down Construction: Fabricate metal lockers by assembling at Project site, using manufacturer's nuts, bolts, screws, or rivets.

D. Accessible Lockers: Fabricate as follows:
1. Locate bottom shelf no lower than 15 inches above the floor.
2. Where hooks, coat rods, or additional shelves are provided, locate no higher than 48 inches above the floor.

E. Continuous Zee Base: Fabricated in lengths as long as practical to enclose base and base ends; finished to match lockers.

F. Recess Trim: Fabricated with minimum 2-1/2-inch face width and in lengths as long as practical; finished to match lockers.

G. Filler Panels: Fabricated in an unequal leg angle shape; finished to match lockers. Provide slip-joint filler angle formed to receive filler panel.

H. Boxed End Panels: Fabricated with 1-inch- wide edge dimension, and designed for concealing fasteners and holes at exposed ends of nonrecessed metal lockers; finished to match lockers.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install lockers level, plumb, and true; shim as required, using concealed shims.
1. Anchor locker runs at ends and at intervals recommended by manufacturer, but not more than 36 inches o.c. Using concealed fasteners, install anchors through backup reinforcing plates, channels, or blocking as required to prevent metal distortion.
2. Anchor single rows of metal lockers to walls near top and bottom of lockers.
3. Anchor back-to-back metal lockers to floor.

B. Knocked-Down Lockers: Assemble with manufacturer's standard fasteners, with no exposed fasteners on door faces or face frames.

C. Trim: Fit exposed connections of trim, fillers, and closures accurately together to form tight, hairline joints, with concealed fasteners and splice plates.
   1. Attach recess trim to recessed metal lockers with concealed clips.
   2. Attach filler panels with concealed fasteners.
   3. Attach sloping-top units to metal lockers, with closures at exposed ends.
   4. Attach boxed end panels using concealed fasteners to conceal exposed ends of nonrecessed metal lockers.

END OF SECTION

SECTION 11 66 43 - INTERIOR SCOREBOARDS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Internally illuminated interior scoreboards.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:
   1. Include fabrication and installation details and attachments to other work.
   2. Show mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
   3. Show locations of electrical service connections.

C. Product Schedule: For scoreboards. Use same Designations indicated on Drawings or specified.

1.03 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For special warranty.

1.04 CLOSEOUT SUBMITTALS

A. Maintenance Data: For scoreboards to include in maintenance manuals.

1.05 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of scoreboards that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Deterioration of finishes beyond normal weathering.
   2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Structural Performance: Scoreboards and supporting elements shall withstand the effects of gravity and other loads within limits and under conditions indicated.
   1. Seismic Load: As indicated on Drawings and in accordance with ASCE-7.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.02 INTERIOR SCOREBOARDS

A. Interior Scoreboard: Scoreboard of hollow-box configuration; with smooth, uniform surfaces and support assembly; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:
   1. Basis-of-Design Products: Subject to compliance with requirements, provide the following:
      a. Main Gym: Daktronics; BB-2103 Scoreboard with the following options:
         1) Double bonus indicators.
         2) Radio control.
         3) Time Outs Left indicators.
         4) Team Name Message Center LED display.
      b. Small Gym: Daktronics; BB-2142 Scoreboard with the following options:
         1) Double bonus indicators.
         2) Radio control.
   2. Illuminated Scoreboard: Manufacturer's standard construction with LED lighting including transformers, insulators, and other accessories for operability, with provision for servicing and concealing connections to building electrical system. Use tight or sealed joint construction to prevent unintentional light leakage. Space lamps apart from each other and away from scoreboard surfaces as needed to illuminate evenly.
   3. Hollow-Box Scoreboard Frame: Entire perimeter framed with formed-aluminum sheet or extruded-aluminum, hollow-box-type frame with vertical edges attached to supports with aluminum fittings. Close top and bottom edges of panels with manufacturer's standard welded seams or extrusions.
      a. Hollow-Box Depth: 1-3/8 inches.
      b. Profile: Square.
      c. Corner Condition in Elevation: Square.
      d. Finish and Color: As selected by Architect from manufacturer's full range.
   4. Scoreboard-Frame Mounting: Surface.
   5. Scoreboard-Panel-Face Finish:
      a. Integral Aluminum Finish: As selected by Architect from full range of industry finishes.
      b. Baked-Enamel or Powder-Coat Finish and Graphics: Manufacturer's standard, in color as selected by Architect from manufacturer's full range.
      c. Painted Finish and Graphics: Manufacturer's standard, factory-applied interior-grade scoreboard paint, in color as selected by Architect from manufacturer's full range.
   6. Text and Typeface: Typeface as selected by Architect from manufacturer's full range.

2.03 SCORING CONSOLE

A. Control Console:
   1. Basis-of-Design Products: Subject to compliance with requirements, provide the following:
      a. Main Gym: Daktronics; All Sport 5000 Controller.
      b. Small Gym: Daktronics; All Sport 1600 Controller.
   2. Features:
      a. Scores multiple sports using changeable keyboard inserts.
      b. Controls multiple scoreboards and shot clocks, including other All Sport controlled scoreboards.
      c. Recalls clock, score, and period information if power is lost.
      d. Runs Time of Day and Segment Timer modes.

B. Console Fabrication:
   1. Aluminum enclosure.
   2. Sealed membrane water-resistant keyboard.
   3. 32-character backlit LCD to verify entries and recall information currently displayed.
   4. Power cord that plugs into a standard grounded outlet; 3 watts max.
   5. Hand-held switch for main clock start/stop and horn.

C. Accessories:
   1. Soft-sided carrying case.

2.04 MATERIALS

A. Aluminum Sheet and Plate: ASTM B209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

B. Aluminum Extrusions: ASTM B221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

C. Vinyl Film: UV-resistant vinyl film of nominal thickness indicated, with pressure-sensitive, permanent adhesive on back; die cut to form characters or images as indicated on Drawings and suitable for interior applications.

D. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

2.05 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of scoreboards, noncorrosive and compatible with each material joined, and complying with the following unless otherwise indicated:

1. Use concealed fasteners and anchors unless indicated to be exposed.

2.06 FABRICATION

A. General: Provide manufacturer's standard scoreboard assemblies according to requirements indicated.
   1. Preassemble scoreboards in the shop to greatest extent possible. Disassemble scoreboards only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in locations concealed from view after final assembly.
   2. Mill joints to tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
   3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed joints of flux, and dress exposed and contact surfaces.
   4. Conceal fasteners and anchors unless indicated to be exposed; locate exposed fasteners where they will be inconspicuous.
   5. Internally brace scoreboards for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.

2.07 GENERAL FINISH REQUIREMENTS

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

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

2.08 ALUMINUM FINISHES

A. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Verify that scoreboard-support surfaces are within tolerances to accommodate scoreboards.

C. Verify that electrical service is correctly sized and located to accommodate scoreboards.

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

3.02 INSTALLATION

A. General: Install scoreboards using installation methods indicated and according to manufacturer's written instructions.
   1. Install scoreboards level, plumb, and at locations and heights indicated, with scoreboard surfaces free of distortion and other defects in appearance.
   2. Before installation, verify that scoreboard components are clean and free of materials or debris that would impair installation.

3.03 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed scoreboards and scoreboards that do not comply with specified requirements. Replace scoreboards with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as scoreboards are installed.

C. On completion of installation, clean exposed surfaces of scoreboards according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain scoreboards in a clean condition during construction and protect from damage until acceptance by Owner.

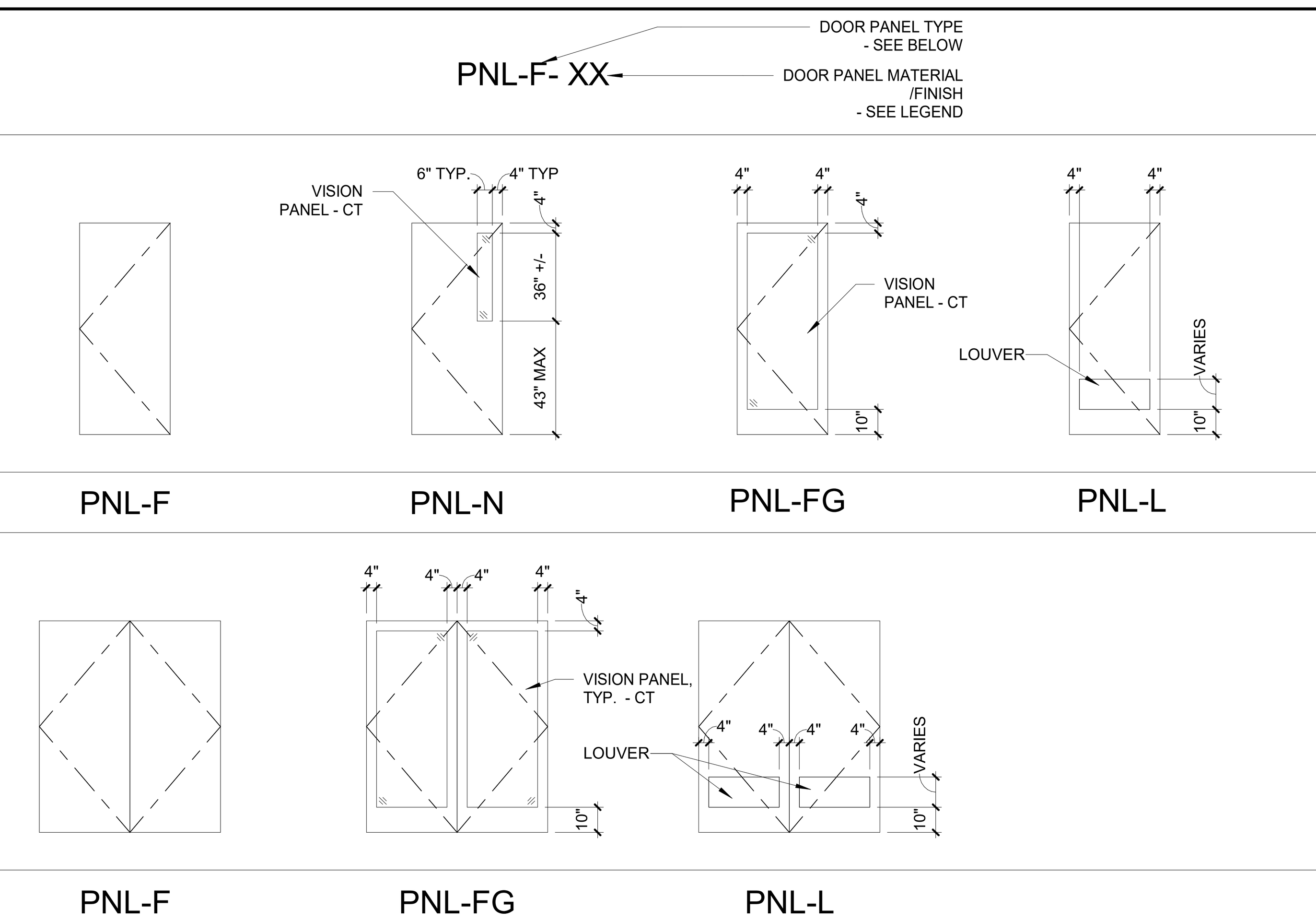
END OF SECTION

GENERAL NOTES

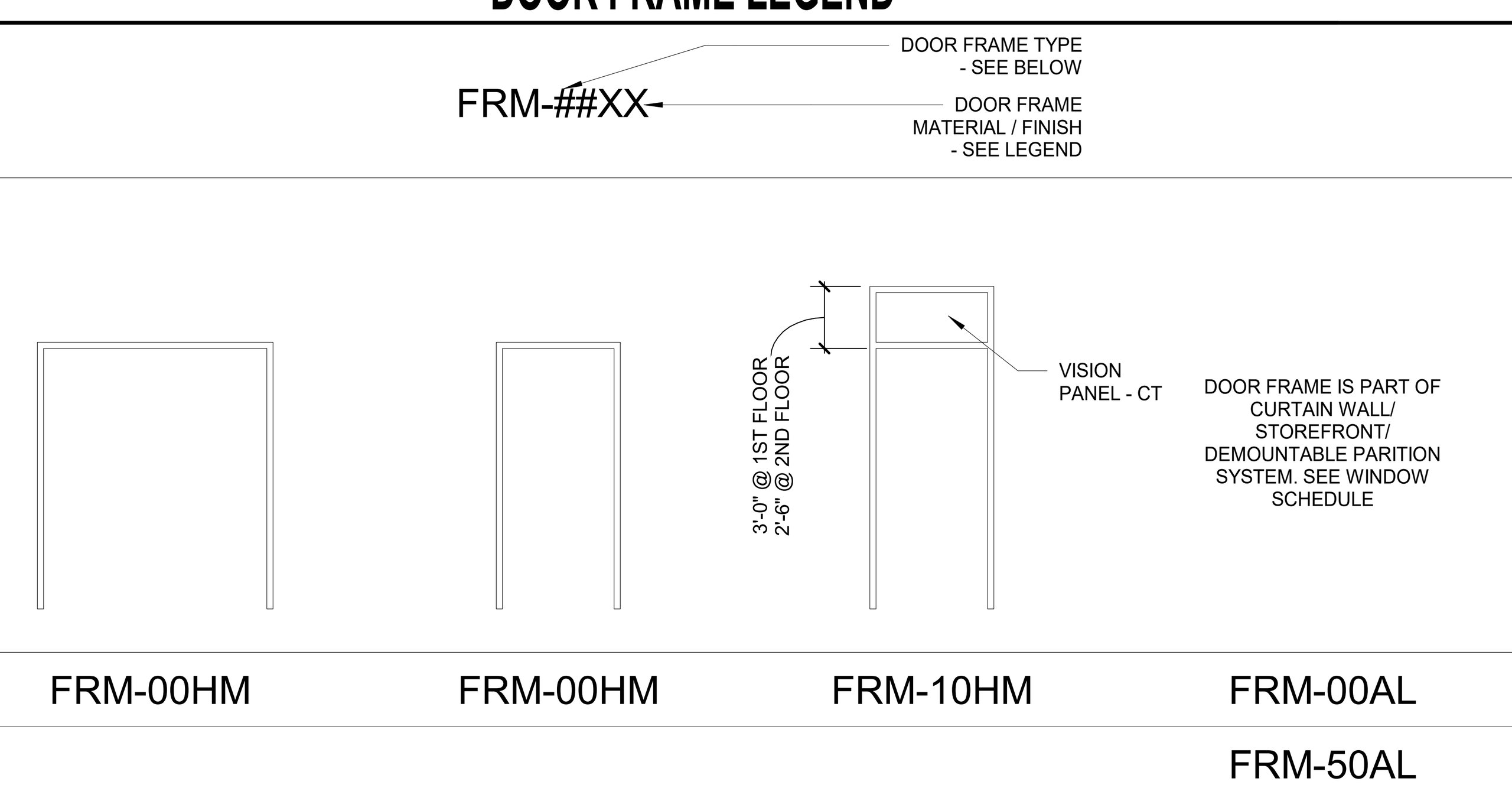
1. THE PURPOSE OF THIS SHEET IS TO DESCRIBE AND ILLUSTRATE DOOR TYPES. NOT ALL DOOR TYPES SHOWN ARE NECESSARILY USED. SEE DOOR SCHEDULE FOR DOOR TYPES USED.
2. FIRE DOORS, FIRE WINDOWS AND FIRE DAMPERS SHALL HAVE AN APPROVED LABEL OR LISTING MARK, INDICATING THE FIRE PROTECTION RATING WHICH IS PERMANENTLY AFFIXED AT THE FACTORY WHERE FABRICATION AND ASSEMBLY ARE DONE.
3. GLASS:
   A. INTERIOR DOORS:
      1. NON-RATED DOORS SHALL HAVE 1/4" CLEAR TEMPERED GLASS MIN, UNO.
      2. ALL RATED DOORS SHALL HAVE 1/4" CLEAR FIRE RATED GLASS MN, UNO.
   B. MAXIMUM GLASS IN FIRE RATED DOORS:
      1. 20 MINUTE DOORS: 1296 SQUARE INCHES MAXIMUM.
      2. 60 MINUTE DOORS: 100 SQUARE INCHES MAXIMUM.
      3. 90 MINUTE DOORS: 100 SQUARE INCHES MAXIMUM PER LITE.
4. GLAZING IN THE FOLLOWING LISTED AREAS SHALL BE DEEMED TO BE LOCATED IN HAZARDOUS LOCATIONS AND SUBJECT TO HUMAN IMPACT, AND AS SUCH SHALL BE REQUIRED TO BE COMPOSED OF SAFETY GLAZING:
   A. INGRESS AND EGRESS DOORS.
   B. FIXED PANELS IN SWINGING DOORS.
   C. GLAZING IN FIXED PANELS ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 24 INCH ARC OF EITHER VERTICAL EDGE OF THE DOOR ON A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE THE WALKING SURFACE.
   D. GLAZING IN INDIVIDUAL FIXED PANELS WHERE:
      1. THE EXPOSED AREA OF THE INDIVIDUAL PANE EXCEEDS 9 SQUARE FEET.
      2. THE EXPOSED BOTTOM EDGE IS LESS THAN 18 INCHES ABOVE THE FLOOR.
      3. THE EXPOSED TOP EDGE IS GREATER THAN 36 INCHES ABOVE THE FLOOR.
      4. ONE OR MORE WALKING SURFACES WITHIN 36 INCHES HORIZONTALLY OF THE PLANE OF THE GLAZING.
5. EACH LIGHT OF THE GLAZING SHALL BEAR THE MANUFACTURER'S LABEL DESIGNATING THE TYPE AND THICKNESS OF GLASS. WHEN APPROVED BY THE AGENCY, LABELS MAY BE OMITTED FROM OTHER THAN SAFETY GLAZING MATERIALS, PROVIDED AN AFFIDAVIT IS FURNISHED BY THE GLAZING CONTRACTOR CERTIFYING THAT EACH LIGHT IS GLAZED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. IDENTIFICATION OF GLAZING IN HAZARDOUS LOCATIONS AND SUBJECT TO HUMAN IMPACT SHALL BE ETCHED OR CERAMIC FIRED ON THE GLASS AND READABLE FROM THE INSIDE OF THE BUILDING AFTER INSTALLATIONS.
6. EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
7. PANIC HARDWARE SHALL COMPLY WITH THE REQUIREMENTS OF UBC STANDARD 10-4. THE ACTIVATING MEMBER SHALL BE MOUNTED AT A HEIGHT OF NOT LESS THAN 34 INCHES NOR MORE THAN 44 INCHES ABOVE THE FLOOR. THE UNLATCHING FORCE SHALL NOT EXCEED 15 POUNDS WHEN APPLIED IN THE DIRECTION OF TRAVEL.
8. DOOR ASSEMBLIES, APPROACHES AND FINISH HARDWARE SHALL BE IN COMPLIANCE WITH DISABLED ACCESS CONSTRUCTION STANDARDS.
9. THE MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED THE FOLLOWING:
   A. EXTERIOR DOORS = 5.0 POUNDS
   B. INTERIOR DOORS = 5.0 POUNDS
   C. FIRE DOORS = 15.0 POUNDS
10. DOOR OPENING LOCATIONS:
    A. IMMEDIATELY 6" FROM F.O.S. ADJACENT TO A FLANKING WALL U.N.O.
    B. DOOR OPENINGS IN OTHER LOCATIONS ARE LOCATED BY DIMENSIONS.
11. SEE SPECIFICATIONS FOR HARDWARE SCHEDULE
12. ALL DOOR FRAMES ARE WELDED FRAMES, UNLESS NOTED OTHERWISE FRAME DEPTH TO BE DETERMINED BY OVERALL WALL THICKNESS
13. FINISH FLOOR TRANSITIONS OCCUR AT CENTERLINE OF DOORS, UNLESS NOTED OTHERWISE
14. ALL INTERIOR DOORS WITH FIRE-RATINGS GREATER THAN 20 MINUTE SHALL HAVE A NONCOMBUSTIBLE SILL WITH AN UNDERCUT OF 3/8" MAXIMUM ABOVE THE SILL.
15. MIN. 32" CLEAR WIDTH: AT LEAST ONE ACTIVE LEAF TO MEET 32" CLEAR WIDTH.
16. THE BOTTOM 10 INCHES OF ALL DOORS AND GATES TO HAVE SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION (CBC. 11B-404.2.1.0).
17. DOOR THRESHOLD NOT TO EXCEED 1/2" WITH BEVELED SLOPE NOT MORE THAN 2:1 FOR THE UPPER 1/4" (CBC. 11B-303.3).
18. EACH LIGHT OF SAFETY GLAZING MATERIAL IN HAZARDOUS LOCATIONS AS DEFINED IN SECTION 2406 OF CHAPTER 24, "GLASS AND GLAZING," SHALL BE IDENTIFIED BY A LABEL WHICH WILL SPECIFY THE LABELER, WHETHER THE MANUFACTURER OR INSTALLER, AND STATE THAT SAFETY GLAZING MATERIAL HAS BEEN UTILIZED IN SUCH INSTALLATIONS. THE LABEL SHALL BE LEGIBLE AND VISIBLE FROM THE INSIDE OF THE BUILDING AFTER INSTALLATION AND SHALL SPECIFY THAT THE LABEL SHALL NOT BE REMOVED.
19. EACH PANE SHALL BEAR THE MANUFACTURER'S MARK DESIGNATING THE TYPE AND THICKNESS OF THE GLASS OR GLAZING MATERIAL. SAFETY GLAZING SHALL BE IDENTIFIED IN ACCORDANCE WITH CBC SECTION 2406.3. EACH PANE OF TEMPERED GLASS, EXCEPT TEMPERED SPANDREL GLASS, SHALL BE PERMANENTLY IDENTIFIED BY THE MANUFACTURER. THE IDENTIFICATION MARK SHALL BE ACID ETCHED, SAND BLASTED, CERAMIC FIRED, LASER ETCHED, EMBOSSED OR OF A TYPE THAT, ONCE APPLIED CANNOT BE REMOVED WITHOUT BEING DESTROYED. TEMPERED SPANDREL GLASS SHALL BE PROVIDED WITH A REMOVABLE PAPER MARKING BY THE MANUFACTURER.

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS SHEETS ORIGINAL PAGE SIZE

DOOR TYPE LEGEND



DOOR FRAME LEGEND



DOOR SCHEDULE

DOOR NUMBER	DOOR CONDITION	SIZE WIDTH PANEL 1	SIZE WIDTH PANEL 2	SIZE HEIGHT	DOOR TYPE	FRAME TYPE	FIRE RATING (MINUTES)	HARDWARE GROUP	PANIC HARDWARE	UNDERCUT	DETAIL HEAD	DETAIL JAMB	DETAIL SILL	COMMENTS
FLOOR 1														
K-01	(E) A#16527	3'-0"		7'-0"	PNL-F-WD	FRM-00HM1		12	No	0"			9/A10.12	
K-02	NEW	3'-0"		7'-0"	PNL-F-WD	FRM-00HM1		13	No	0"			9/A10.12	FOR DOOR SIGNAGE SEE 5/A10.12
R-01A	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		01	Yes	0"			15/A10.11	ELECTRONIC KEYLESS HARDWARE
R-01B	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		01	Yes	0"			15/A10.11	ELECTRONIC KEYLESS HARDWARE
R-02	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		08	No	0"			10/A10.11	
R-03	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		07	No	0"			EXISTING	
R-04	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		11	No	0"			EXISTING	
R-05	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		06	No	0"			EXISTING	
R-06A	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		04	Yes	0"			EXISTING	ELECTRONIC KEYLESS HARDWARE
R-06B	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		04	Yes	0"			EXISTING	ELECTRONIC KEYLESS HARDWARE
R-08A	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		01	Yes	0"			15/A10.11	ELECTRONIC KEYLESS HARDWARE
R-08B	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		01	Yes	0"			15/A10.11	ELECTRONIC KEYLESS HARDWARE
R-09	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		08	No	0"			10/A10.11	
R-10	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		09	No	0"			EXISTING	
R-11	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		07	No	0"			EXISTING	
R-12	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		10	Yes	0"			10/A10.11	
R-14A	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		01	Yes	0"			15/A10.11	ELECTRONIC KEYLESS HARDWARE
R-14B	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		01	Yes	0"			15/A10.11	ELECTRONIC KEYLESS HARDWARE
R-14C	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		02	Yes	0"			10/A10.11	ELECTRONIC KEYLESS HARDWARE
R-14D	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		03	Yes	0"			10/A10.11	ELECTRONIC KEYLESS HARDWARE
R-14E	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		03	Yes	0"			10/A10.11	ELECTRONIC KEYLESS HARDWARE
R-15	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		07	No	0"			EXISTING	
R-17	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		07	No	0"			EXISTING	
R-18A	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		01	Yes	0"			15/A10.11	ELECTRONIC KEYLESS HARDWARE
R-18B	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		01	Yes	0"			15/A10.11	ELECTRONIC KEYLESS HARDWARE
R-18C	(E) A#16527	3'-0"	3'-0"	7'-0"	PNL-F-HM	FRM-00HM1		02	Yes	0"			10/A10.11	ELECTRONIC KEYLESS HARDWARE
R-18D	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		03	Yes	0"			10/A10.11	ELECTRONIC KEYLESS HARDWARE
R-18E	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		03	Yes	0"			10/A10.11	ELECTRONIC KEYLESS HARDWARE
R-19A	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		05	No	0"			EXISTING	
R-19B	(E) A#16527	3'-0"		7'-0"	PNL-F-HM	FRM-00HM1		05	No	0"			EXISTING	

AD-03

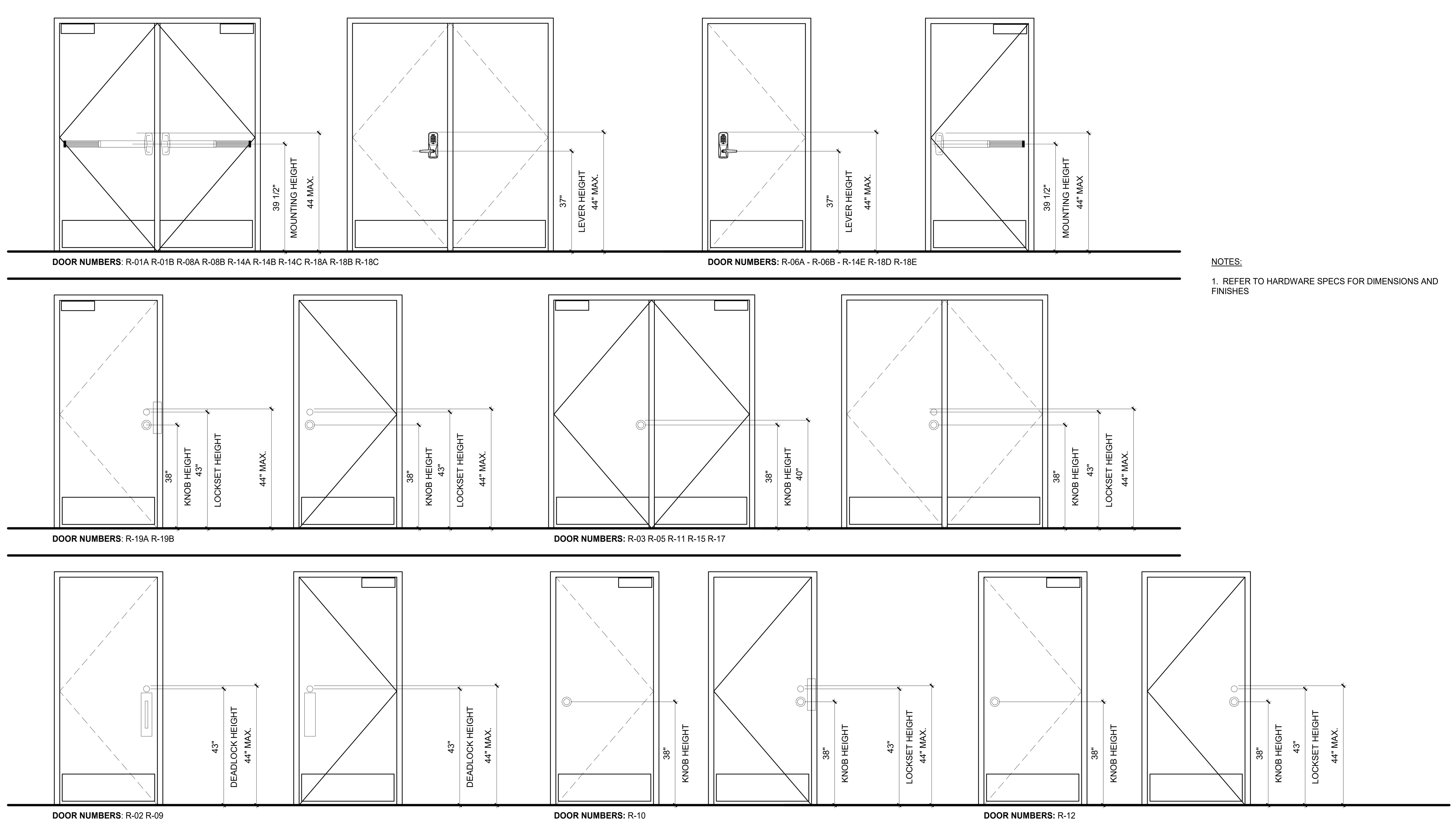
DOOR MATERIAL/FINISH LEGEND

A	ALARM CONTACT	KD	KNOCK DOWN FRAME	SPG	SPANDREL GLASS
AL	ALUMINUM			STL	STEEL
ADG-1	ACOUSTIC DOOR GASKET	LA	LOCAL ALARM	SM	SMOKE BARRIER SEAL (NON-RATED DOOR W/ TIGHT FITTING SMOKE GASKET)
AO	AUTOMATIC DOOR OPERATOR				
CA	CLEAR ANODIZED	M	MONITOR		
CL	COMBO LOCK	MG	MIRROR GLASS		
CR	CARD READER	MHO	MAGNETIC HOLD OPEN	UC	UNDERCUT
CT	CLEAR TEMPERED GLAZING	NR	NOT RATED	VP	VISION PANEL
CW	CURTAIN WALL				
DE	DOUBLE EGRESS	PB	PANIC BAR	WF	WELDED STEEL FRAME
		PL	PRIVACY LOCK	WG	WIRE GLASS
		PL#	PLASTIC LAMINATE	WD	WOOD
EB	"PUSH TO EXIT" EMERGENCY BUTTON	PP	PUSH PLATE (# OF PLATES)	WS	WAVE SENSOR
EL	ELECTRICAL LOCK	PT	PAINT (FACTORY FINISH ALL WOOD DOORS TYPICAL, FIELD PAINT H.M. DOOR AND FRAME		
ET	ENTRY TELEPHONE				
FF	FACTORY FINISHED	REX	REQUEST TO EXIT MOTION SENSOR		
FRG	FIRE RATED GLASS	RF	RF COPPER SHIELDED NON-FERROUS SYSTEM		
FRG/	FIRE RATED GLASS & FRAMING				
GL	GLASS				
HB	HELP BUTTON	S	STAIN GRADE WOOD VENEER		
HM	HOLLOW METAL	SC	SOLID CORE		
		SG	SAFETY GLASS		
IC	INTERCOM	SHD	SHIELDED DOOR FRAME / GLASS. LEAD REQUIREMENTS TO MATCH ADJACENT WALL U.O.N.		
IG	INSULATING GLASS				
IP	INFILL PANEL				

GATE SCHEDULE

NUMBER	SIZE WIDTH PANEL 1	SIZE WIDTH PANEL 2	SIZE HEIGHT	DOOR MATERIAL	FIRE RATING (MINUTES)	HARDWARE GROUP	PANIC HARDWARE	COMMENTS

FINISH HARDWARE



NOTES:

1. REFER TO HARDWARE SPECS FOR DIMENSIONS AND FINISHES

AGENCY APPROVAL:

HMC Architects

3361-008-000

633 W. 5TH STREET, THIRD FLOOR,
LOS ANGELES, CA, 90071
213 542 8300 / www.hmcarchitects.com

LICENSED ARCHITECT
VIRGINIA ELAINE MARQUARDT
No. C-33423
06/30/2023
STATE OF CALIFORNIA

ISSUE

Δ	DESCRIPTION	DATE
AD-03	ADDENDUM 03	11/28/23

KEYNOTES

NOTES

1. FOR DOORS INDICATED WITH "ADG-1" SEE ACOUSTIC DOOR GASKET SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

FACILITY:
ARROYO HIGH SCHOOL
4921 CEDAR AVE, EL MONTE, CA 91732

PROJECT:
ARROYO HIGH SCHOOL - MODERNIZATION

SHEET NAME:
DOOR SCHEDULE

ADDENDUM 03

DATE: **11/28/23** | CLIENT PROJ NO: **3361-008-000**

SHEET:
A9.11

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PLEASE RECYCLE

PRE-BID CLARIFICATION FORM (For Contractor's Use)

PROJECT NAME:	Arroyo High School Modernization Package 1 Project		
PROJECT NUMBER:	Bid No. 2023-24(B6)		
TO:	**Margarita Sanchez**, Director of Purchasing; **Norma Macias**, Director of FMOT; **Virginia Marquardt**, HMC Architects	EMAIL:	Margarita.sanchez@emuhsd.org, norma.macias@emuhsd.org, Virginia.Marquardt@hmcarchitects.com

DATE:	11-16-2023		
FROM:	Chalmers Construction Services Inc.	EMAIL:	manuel@chalmerscs.com vince@chalmerscs.com
DOCUMENT/DIVISION NUMBER:	Division 07	DRAWING NUMBER:	

REQUESTED CLARIFICATION:

On Table of Contents For Division 07 Thermal & Moisture Protection is mentioned as Not Applicable, Where as We have Specs for Roofings.

Please advise.

RESPONSE TO CLARIFICATION:

- Refer to specification section 07 54 19 - POLYVINYL-CHLORIDE (PVC) ROOFING in addendum #02

Gilmar Campos / HMC 11.21.23

Attach additional numbered sheets as necessary; however, only one (1) request shall be contained on each submitted form.

PRE-BID CLARIFICATION FORM (For Contractor's Use)

PROJECT NAME:	Arroyo High School Modernization Package 1 Project		
PROJECT NUMBER:	Bid No. 2023-24(B6)		
TO:	**Margarita Sanchez**, Director of Purchasing; **Norma Macias**, Director of FMOT; **Virginia Marquardt**, HMC Architects	EMAIL:	Margarita.sanchez@emuhsd.org, norma.macias@emuhsd.org, Virginia.Marquardt@hmcarchitects.com

DATE:	11/20/2023		
FROM:	The Nazerian Group	EMAIL:	greg@nazerian.net
DOCUMENT/DIVISION NUMBER:	116643	DRAWING NUMBER:	

REQUESTED CLARIFICATION:

The projects specification's table of contents indicate 116643 Interior Scoreboard, yet no specifications for this section are found within the specifications.

Within the drawings there is a call out for new scoreboard.

If this section applies to the project please provide these specifications.

Thank you

RESPONSE TO CLARIFICATION:

- See attached spec section 11 66 43 for new scoreboard information
- This section will be incorporated into addendum #03 package

Gilmar Campos / HMC 11.22.23

Attach additional numbered sheets as necessary; however, only one (1) request shall be contained on each submitted form.

SECTION 11 66 43 - INTERIOR SCOREBOARDS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Internally illuminated interior scoreboards.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:
   1. Include fabrication and installation details and attachments to other work.
   2. Show mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
   3. Show locations of electrical service connections.

C. Product Schedule: For scoreboards. Use same Designations indicated on Drawings or specified.

1.03 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For special warranty.

1.04 CLOSEOUT SUBMITTALS

A. Maintenance Data: For scoreboards to include in maintenance manuals.

1.05 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of scoreboards that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Deterioration of finishes beyond normal weathering.
   2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Structural Performance: Scoreboards and supporting elements shall withstand the effects of gravity and other loads within limits and under conditions indicated.
   1. Seismic Load: As indicated on Drawings and in accordance with ASCE-7.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.02 INTERIOR SCOREBOARDS

A. Interior Scoreboard: Scoreboard of hollow-box configuration; with smooth, uniform surfaces and support assembly; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:
   1. Basis-of-Design Products: Subject to compliance with requirements, provide the following:
      a. Main Gym: Daktronics; BB-2103 Scoreboard with the following options:
         1) Double bonus indicators.
         2) Radio control.
         3) Time Outs Left indicators.
         4) Team Name Message Center LED display.
      b. Small Gym: Daktronics; BB-2142 Scoreboard with the following options:
         1) Double bonus indicators.
         2) Radio control.
   2. Illuminated Scoreboard: Manufacturer's standard construction with LED lighting including transformers, insulators, and other accessories for operability, with provision for servicing and concealing connections to building electrical system. Use tight or sealed joint construction to prevent unintentional light leakage. Space lamps apart from each other and away from scoreboard surfaces as needed to illuminate evenly.
   3. Hollow-Box Scoreboard Frame: Entire perimeter framed with formed-aluminum sheet or extruded-aluminum, hollow-box-type frame with vertical edges attached to supports with aluminum fittings. Close top and bottom edges of panels with manufacturer's standard welded seams or extrusions.
      a. Hollow-Box Depth: 1-3/8 inches.
      b. Profile: Square.
      c. Corner Condition in Elevation: Square.
      d. Finish and Color: As selected by Architect from manufacturer's full range.
   4. Scoreboard-Frame Mounting: Surface.
   5. Scoreboard-Panel-Face Finish:
      a. Integral Aluminum Finish: As selected by Architect from full range of industry finishes.
      b. Baked-Enamel or Powder-Coat Finish and Graphics: Manufacturer's standard, in color as selected by Architect from manufacturer's full range.
      c. Painted Finish and Graphics: Manufacturer's standard, factory-applied interior-grade scoreboard paint, in color as selected by Architect from manufacturer's full range.
   6. Text and Typeface: Typeface as selected by Architect from manufacturer's full range.

2.03 SCORING CONSOLE

A. Control Console:
   1. Basis-of-Design Products: Subject to compliance with requirements, provide the following:
      a. Main Gym: Daktronics; All Sport 5000 Controller.
      b. Small Gym: Daktronics; All Sport 1600 Controller.
   2. Features:
      a. Scores multiple sports using changeable keyboard inserts.
      b. Controls multiple scoreboards and shot clocks, including other All Sport controlled scoreboards.
      c. Recalls clock, score, and period information if power is lost.
      d. Runs Time of Day and Segment Timer modes.

B. Console Fabrication:
   1. Aluminum enclosure.
   2. Sealed membrane water-resistant keyboard.
   3. 32-character backlit LCD to verify entries and recall information currently displayed.
   4. Power cord that plugs into a standard grounded outlet; 3 watts max.
   5. Hand-held switch for main clock start/stop and horn.

C. Accessories:
   1. Soft-sided carrying case.

2.04 MATERIALS

A. Aluminum Sheet and Plate: ASTM B209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

B. Aluminum Extrusions: ASTM B221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

C. Vinyl Film: UV-resistant vinyl film of nominal thickness indicated, with pressure-sensitive, permanent adhesive on back; die cut to form characters or images as indicated on Drawings and suitable for interior applications.

D. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

2.05 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of scoreboards, noncorrosive and compatible with each material joined, and complying with the following unless otherwise indicated:

1. Use concealed fasteners and anchors unless indicated to be exposed.

2.06 FABRICATION

A. General: Provide manufacturer's standard scoreboard assemblies according to requirements indicated.
   1. Preassemble scoreboards in the shop to greatest extent possible. Disassemble scoreboards only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in locations concealed from view after final assembly.
   2. Mill joints to tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
   3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed joints of flux, and dress exposed and contact surfaces.
   4. Conceal fasteners and anchors unless indicated to be exposed; locate exposed fasteners where they will be inconspicuous.
   5. Internally brace scoreboards for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.

2.07 GENERAL FINISH REQUIREMENTS

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

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

2.08 ALUMINUM FINISHES

A. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Verify that scoreboard-support surfaces are within tolerances to accommodate scoreboards.

C. Verify that electrical service is correctly sized and located to accommodate scoreboards.

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

3.02 INSTALLATION

A. General: Install scoreboards using installation methods indicated and according to manufacturer's written instructions.
   1. Install scoreboards level, plumb, and at locations and heights indicated, with scoreboard surfaces free of distortion and other defects in appearance.
   2. Before installation, verify that scoreboard components are clean and free of materials or debris that would impair installation.

3.03 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed scoreboards and scoreboards that do not comply with specified requirements. Replace scoreboards with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as scoreboards are installed.

C. On completion of installation, clean exposed surfaces of scoreboards according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain scoreboards in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION

PRE-BID CLARIFICATION FORM (For Contractor's Use)

PROJECT NAME:	Arroyo High School Modernization Package 1 Project		
PROJECT NUMBER:	Bid No. 2023-24(B6)		
TO:	**Margarita Sanchez**, Director of Purchasing; **Norma Macias**, Director of FMOT; **Virginia Marquardt**, HMC Architects	EMAIL:	Margarita.sanchez@emuhsd.org, norma.macias@emuhsd.org, Virginia.Marquardt@hmcarchitects.com

DATE:	11/20/2023		
FROM:	The Nazerian Group	EMAIL:	greg@nazerian.net
DOCUMENT/DIVISION NUMBER:	N/A	DRAWING NUMBER:	A7.01

REQUESTED CLARIFICATION:

Project drawings indicate new lockers, but no specifications regarding the lockers are found.

Please provide specification for the lockers.

Thank you

RESPONSE TO CLARIFICATION:

- See attached spec section 10 51 13 for lockers
- This section will be incorporated into addendum #03 package

Gilmar Campos / HMC 11.21.23

Attach additional numbered sheets as necessary; however, only one (1) request shall be contained on each submitted form.

SECTION 10 51 13 - METAL LOCKERS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Knocked-down corridor lockers.

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each color specified.

1.03 CLOSEOUT SUBMITTALS

A. Maintenance Data: For adjusting, repairing, and replacing locker doors and latching mechanisms to include in maintenance manuals.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: For lockers indicated to be accessible, comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and California Building Code, Chapter 11.

2.02 KNOCKED-DOWN CORRIDOR LOCKERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Lyon Workspace; 53123 - Five Tier Metal Lockers or comparable product by one of the following:
   1. AJW Architectural Products.
   2. Art Metal Products.
   3. ASI Storage Solutions; ASI Group.
   4. General Storage Systems Ltd.
   5. Hadrian Manufacturing Inc.
   6. List Industries Inc.
   7. Lyon Workspace Products, LLC.
   8. Olympus Lockers & Storage Products, Inc.
   9. Penco Products, Inc.
   10. Republic Storage Systems, LLC.
   11. Shanahan's Manufacturing Limited.
   12. Top Tier Storage Products.
   13. WEC Manufacturing LLC.

B. Doors: One piece; fabricated from 0.060-inch nominal-thickness steel sheet; formed into channel shape with double bend at vertical edges and with right-angle single bend at horizontal edges.
   1. Doors less than 12 inches wide may be fabricated from 0.048-inch nominal-thickness steel sheet.
   2. Doors for box lockers less than 15 inches wide may be fabricated from 0.048-inch nominal-thickness steel sheet.
   3. Reinforcement: Manufacturer's standard reinforcing angles, channels, or stiffeners for doors more than 15 inches wide; welded to inner face of doors.
   4. Stiffeners: Manufacturer's standard full-height stiffener fabricated from 0.048-inch nominal-thickness steel sheet; welded to inner face of doors.
   5. Door Style: Vented panel as follows:
      a. Louvered Vents: No fewer than three louver openings at top and bottom for double-tierlockers.

C. Body: Assembled by riveting or bolting body components together. Fabricate from unperforated steel sheet with thicknesses as follows:
   1. Tops, Bottoms, and Intermediate Dividers: 0.024-inch nominal thickness, with single bend at sides.
   2. Backs and Sides: 0.024-inch nominal thickness, with full-height, double-flanged connections.

D. Frames: Channel formed; fabricated from 0.060-inch nominal-thickness steel sheet; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral, full-height door strikes on vertical main frames.

E. Hinges:
   1. Knuckle Hinges: Steel, full loop, five or seven knuckles, tight pin; minimum 2 inches high. Provide no fewer than three hinges for each door more than 42 inches high.

F. Door Handle and Latch for Bo x Lockers: Stainless steel strike plate with integral pull; with steel padlock loop that projects through metal locker door.

G. Continuous Zee Base: Fabricated from 0.060-inch nominal-thickness steel sheet.
   1. Height: 4 inches.

H. Recess Trim: Fabricated from 0.048-inch nominal-thickness steel sheet.

I. Filler Panels: Fabricated from 0.036-inch nominal-thickness steel sheet.

J. Boxed End Panels: Fabricated from 0.060-inch nominal-thickness steel sheet.

K. Materials:

1. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B, suitable for exposed applications.

L. Finish: Baked enamel or powder coat.
1. Color: Dove Gray.

2.03 FABRICATION

A. Fabricate metal lockers square, rigid, without warp, and with metal faces flat and free of dents or distortion. Make exposed metal edges safe to touch and free of sharp edges and burrs.

B. Fabricate each metal locker with an individual door and frame; individual top, bottom, and back; and common intermediate uprights separating compartments.

C. Knocked-Down Construction: Fabricate metal lockers by assembling at Project site, using manufacturer's nuts, bolts, screws, or rivets.

D. Accessible Lockers: Fabricate as follows:
1. Locate bottom shelf no lower than 15 inches above the floor.
2. Where hooks, coat rods, or additional shelves are provided, locate no higher than 48 inches above the floor.

E. Continuous Zee Base: Fabricated in lengths as long as practical to enclose base and base ends; finished to match lockers.

F. Recess Trim: Fabricated with minimum 2-1/2-inch face width and in lengths as long as practical; finished to match lockers.

G. Filler Panels: Fabricated in an unequal leg angle shape; finished to match lockers. Provide slip-joint filler angle formed to receive filler panel.

H. Boxed End Panels: Fabricated with 1-inch- wide edge dimension, and designed for concealing fasteners and holes at exposed ends of nonrecessed metal lockers; finished to match lockers.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install lockers level, plumb, and true; shim as required, using concealed shims.
1. Anchor locker runs at ends and at intervals recommended by manufacturer, but not more than 36 inches o.c. Using concealed fasteners, install anchors through backup reinforcing plates, channels, or blocking as required to prevent metal distortion.
2. Anchor single rows of metal lockers to walls near top and bottom of lockers.
3. Anchor back-to-back metal lockers to floor.

B. Knocked-Down Lockers: Assemble with manufacturer's standard fasteners, with no exposed fasteners on door faces or face frames.

C. Trim: Fit exposed connections of trim, fillers, and closures accurately together to form tight, hairline joints, with concealed fasteners and splice plates.
   1. Attach recess trim to recessed metal lockers with concealed clips.
   2. Attach filler panels with concealed fasteners.
   3. Attach sloping-top units to metal lockers, with closures at exposed ends.
   4. Attach boxed end panels using concealed fasteners to conceal exposed ends of nonrecessed metal lockers.

END OF SECTION